United States Patent [19]

Hughes et al.

[11] **3,722,737**

[45] **Mar. 27, 1973**

[54] CARRIER FOR CONTAINERS

[75] Inventors: **Robert G. Hughes,** Rexdale, Ontario; **Lloyd B. Ruetz,** Cooksville, Ontario, both of Canada

[73] Assignee: **Continental Can Company of Canada Limited**

[22] Filed: **Aug. 17, 1970**

[21] Appl. No.: **64,268**

[52] **U.S. Cl.**.....**220/113,** 229/52 BC, 229/DIG. 9

[51] **Int. Cl.** **B65d 5/48**

[58] **Field of Search** ..220/113, 114, 115; 229/52 BC, 229/28 BC, DIG. 9

[56] **References Cited**

UNITED STATES PATENTS

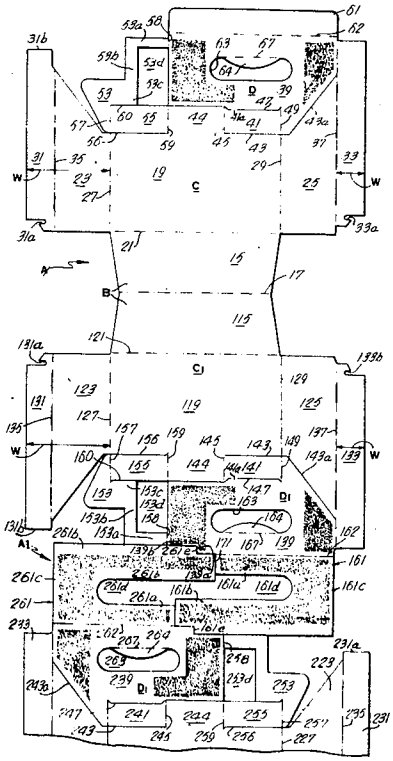
2,765,100	10/1956	De Maria	220/113
2,755,960	7/1956	Kramer	220/113
2,692,700	10/1954	Kowal	220/113
3,187,938	6/1965	Holmes	220/113
3,054,527	9/1962	Goldring	220/113
3,101,865	8/1963	Levkoff et al.	220/113
3,166,213	1/1965	Holmes	229/28 BC

Primary Examiner—Leonard Summer
Assistant Examiner—Stephen Marcus
Attorney—Alan Swabey

[57] **ABSTRACT**

A carrier for bottles or the like made from a single blank of paperboard by cutting, creasing, folding and gluing. The carrier has an open-top structure made of base, side and end walls and a central upstanding handle extending between the end walls and connected to the side walls by spaced apart straps. The handle is a sandwich structure of parts juxtaposed and adhered together and made up of main outer panels integrally connected at one end to spine-forming panels integral with and extending from the middle of the end walls and adhered at the other end to the free ends of similar spine-forming panels integral with the end walls. The handle is reinforced by a reinforcing flap integrally connected to one of the handle panels and inturned and sandwiched between the respective handle panels. A fold-in flap is integrally connected to the ends of each handle panel opposite the integrally connected spine-forming flap and inturned into juxtaposition therebetween. Each fold-in flap is desirably provided with a window reducing the thickness of the sandwich structure at that zone and allowing access for the end of a spine-forming flap through the windows to an adhesive connection with the underlying main handle panel. The manufacture of the carrier is completed "in the flat" and it is set-up by pulling out the sides and pushing up the base into a locking structure.

23 Claims, 7 Drawing Figures

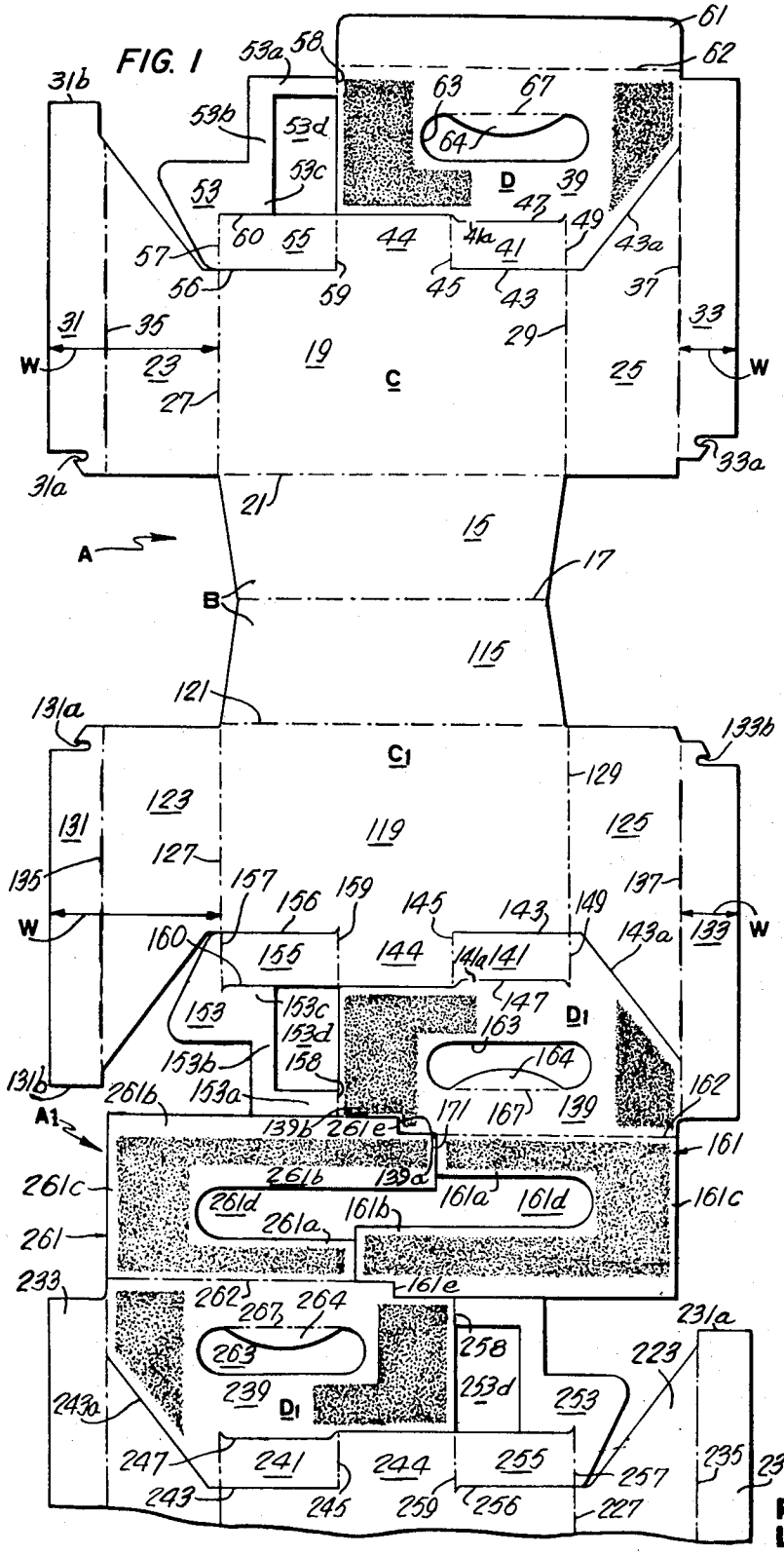


PATENTED MAR 27 1973

3,722,737

SHEET 1 OF 3

FIG. 1



INVENTORS
Robert G. HUGHES
Lloyd B. RUETZ

Allan Scobey
ATTORNEY

FIG. 2

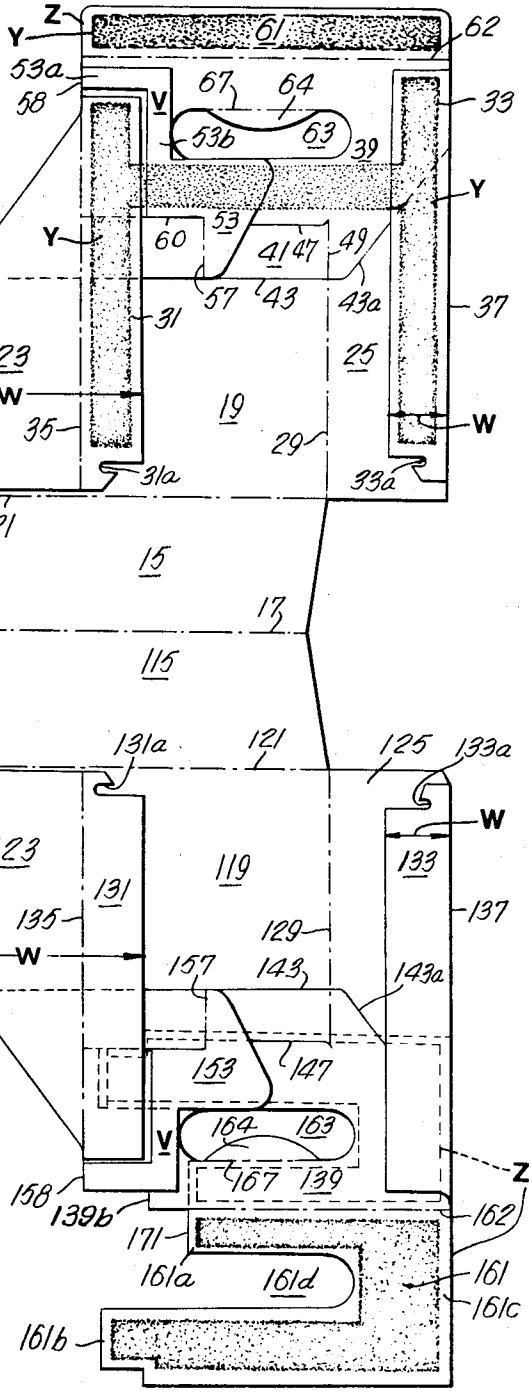


FIG. 6

INVENTORS
Robert G. HUGHES
Lloyd B. RUETZ

Allan Sivley

ATTORNEY

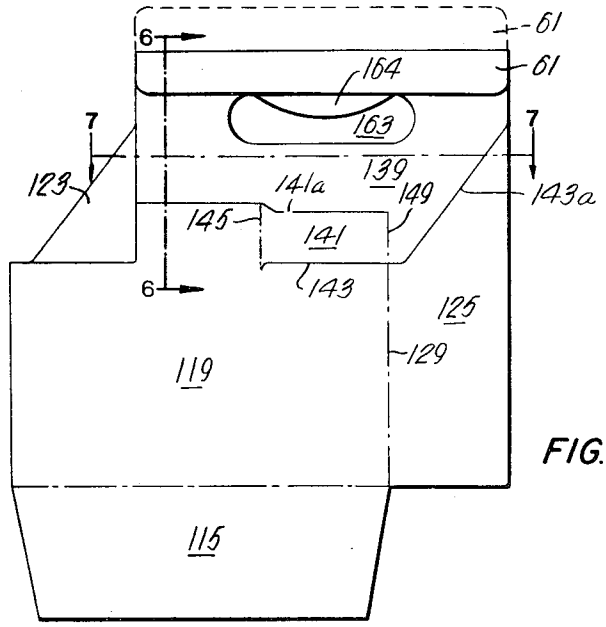


FIG. 3

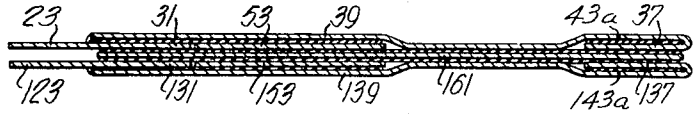


FIG. 7

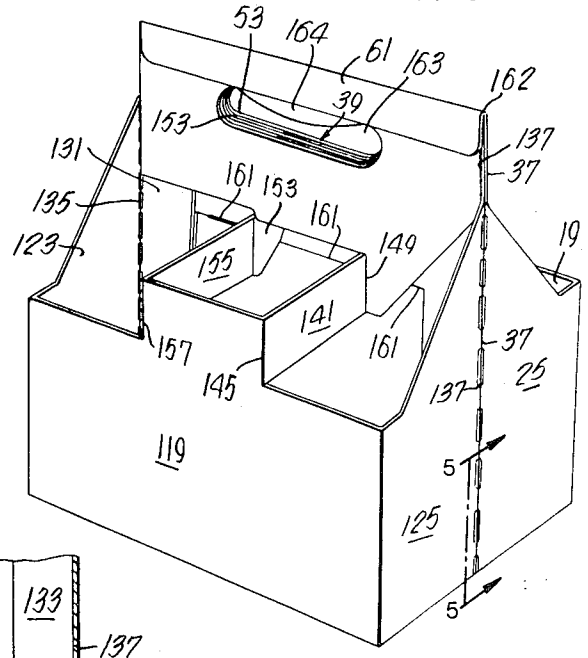


FIG. 4

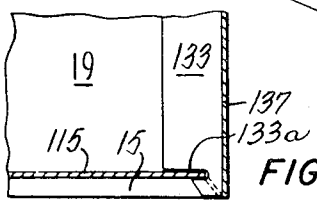


FIG. 5

INVENTORS
Robert G. HUGHES
Lloyd B. RUETZ

Alan Swabey

ATTORNEY

CARRIER FOR CONTAINERS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to a carrier for bottles or the like of a type made from a single blank of foldable sheet material and to the blank itself.

More specifically, this type of carrier is a one-piece structure including a body made up of spaced-apart side walls, end walls and a bottom or base. Each end wall is made up of a pair of panels one extending from each side wall and joined at the center line of the carrier by a spine formed from inturned integral flaps. A handle is connected to the body by the ends of the spines and a pair of connecting straps spaced from the end walls and from each other and extending between the handle and side walls to define bottle-receiving compartments. The handle is a multi-ply panel above the body between the side walls and connected to the body by the ends of the spines and the straps.

The carrier as manufactured from a single blank of sheet material cut and creased to provide the various parts is progressively folded and glued so that the carrier "as manufactured" is in flat knocked-down condition suitable for shipping. The carrier is set up into carrying position merely by pulling out the side walls and pushing up the base between the walls to engage a catch structure on the spines which locks the carrier in set-up position.

2. Description of the Prior Art

This type of carrier is in wide use and is generally satisfactory both in manufacture and use. However, it does have a weakness in the handle structure, making it desirable to use heavier sheet stock than might otherwise be needed as a safety factor against rupturing at the handle during use. It is an aim of the present invention to provide an improved handle construction which does not have this inherent weakness, making it possible to make the carrier from a lighter caliber sheet material.

SUMMARY OF THE INVENTION

In accordance with the invention, the multi-ply handle is improved by one or more of the features, and preferably a combination of the several features, described as follows. One feature is a special reinforcing flap integrally connected to one of the handle-forming panels and infolded between these panels in a sandwich structure, which also includes at one end of the carrier, the tops of the spine-forming panels, which are integrally connected to the handle panels and infolded between them and adhered to them and to preferably the end of the special reinforcing flap. At the other end, the sandwich structure incorporates the free upper ends of the spine-forming flaps and a pair of infolded connecting flaps. Another feature is to provide one or both infolded connecting flaps with a cut-out part or window, enabling the overlying end of the adjacent spine-forming flap to be adhered through the window to the underlying exposed area of the main handle panel. So, in the preferred construction, there is at one end of the handle structure, a sandwich of the main handle panels, the integrally connected spine-forming panels and the end of the reinforcing flap, all adhesively connected together. At the other end of the handle there is a sandwich structure made up of the main handle panel, the spine-forming flaps, the reinforcing flap, and the inturned connecting flaps. The cut-out parts or windows of the connecting flaps, where present, reduce the thickness by two plies at that position making way for the thickness of the spine-forming flaps and the special reinforcing flap, without undue bulking.

The blank for forming the carrier is a flat piece of foldable sheet material cut and died to provide the shape of the parts and the creases between them defining the various panels, flaps and straps of the finished carrier, which fall into place and are appropriately adhered together in certain areas, as the blank is progressively folded according to the scheme of the invention. This will be apparent from the detailed description to follow.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention has generally been described and it will now be referred to in more detail by reference to the accompanying drawings, which illustrate a preferred embodiment and, in which:

FIG. 1 is a plan view of the reverse side (unfinished side of the board) of a paperboard blank cut and died with creases to form the various parts of a preferred form of carrier, showing part of an interlocked adjoining blank;

FIG. 2 is a plan view of the blank after preliminary folding operations showing a subsequent folding operation (of the handle-reinforcing flap) in dash lines;

FIG. 3 is a view of the carrier formed from the blank of the previous figures in flat (knocked-down or shipping) condition, after assembly from the blank and before being erected to carrying condition;

FIG. 4 is a perspective view showing the finished carrier in set-up position;

FIG. 5 is a fragmentary cross-section along the line 5—5 of FIG. 4 showing the interlock between the base panels and the spine of the carrier;

FIG. 6 is a greatly enlarged fragmentary cross-section along the line 6—6 of FIG. 3, showing the sandwich structure of the handle; and

FIG. 7 is a greatly enlarged cross-section along the line 7—7 of FIG. 3.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

As a basis for understanding the details of the preferred form of the invention illustrated, there will first be described a blank as shown in FIG. 1, which, by cutting from a sheet of paperboard and creasing includes the various panels, flaps and straps making up the structure of the finished carrier.

Generally speaking, the blank A, of which the reverse or unfinished side of the paperboard is shown, is made up of a base section, indicated generally by B, flanked on one side by a body section C, and on the other by a similar body section C1. Creases 21, 121, respectively, intervene the base and body sections. To each body section C, C1 is attached a handle section D, D1. Connecting structure lies between each handle section D, D1 and the adjoining body section C, C1.

The base section B is made up of relatively narrow base panels 15 and 115 joined at a median line of the blank by a crease 17.

An understanding of the structure of the similar body section C, C1 at respective sides of the base section B will be clear from the following description of one of these sections C. Similar numbers (tens and digits) have for this reason been given to parts at the other side of the base panel section B except that the numbers on the other side C1 have been raised by 100. The same applies to the handle sections D, D1.

The body section C has a side panel **19** connected through the crease **21** to the bottom panel **15**. End panels **23** and **25** are connected to the respective ends of the side panels **19** through creases **27** and **29** respectively. The end panels **23** and **25** are provided with flaps **31** and **33** hingedly connected through creases **35** and **37**, respectively, each provided with spaced apart cuts to facilitate folding. The inner end of the flap **31** is provided with a catch structure including a notch **31***a*. Likewise, inner end of the flap **33** is provided with a catch structure including a notch **33***a*. The particular shape of the end flaps and their function will be discussed later.

The structure of both the handle sections D, D1 will be clear from the following description of the section D. Connected partly to the side panel **19**, and partly to the end panel **25** is a main handle-forming panel **39**. The panel **39** is connected to the panel **19** by a strap **41** separated from the panel **19** by a cut **43** and hinged to a rectangular projecting part or post **44** of the panel **19** by a crease **45**. The panel **39** is separated from the strap **41** by a cut **47** interrupted by a small temporary bridge **41a**, serving to hold the parts together during assembly and before being broken, when the carrier is set up. The panel **39** is hinged to the strap **41** by a crease **49** parallel to the crease **45**, and lined up with the crease **29**. The side panel **25** is separated from the panel **39** by a cut **43***a* forming an extension of the cut **43** and which extends outwardly briefly from the panel **19** then diagonally away from this panel to end at the crease **37**. The panel **39** is hinged to the flap **33** by a continuation of the crease **37**.

At the opposite end, the panel **39** is connected to a fold-over flap **53** whose shape is of special importance in the structure of the finished carrier. The flap **53** is made up of a relatively narrow strip **53***a* extending endwise from a crease **58** joining it to the panel **39** then inwardly of the blank towards the panel **19** in a narrow strip **53***b* to meet a wider foot part **53***c* connected to the strap **55** by crease **57** lined up with the crease **27**. A cut **60** separates the foot **53***c* from the strap **55**. The strap **55** in turn is connected to the extension **44** of the panel **19** by a crease **59** lined up with the crease **58**. For purposes to be described, the flap **53** has a cut-out part or "window" **53***d* framed by the parts **53***a*, **53***b*, **53***c* and the edge of the panel **39** and strap **55**.

The panel **39** is provided with a hand-hole opening **63** into which projects a flap **64** articulated to the panel **39** by a crease **67**. The panel **39** is also provided with a narrow terminal flap **61** connected to it at the crease **62**.

At the other side of the blank, the structures of the body and handle sections C1, D1 are generally similar (with an exception to be described) and any part may be readily identified by adding 100 to the number identifying the similar part of the section C or D, as the case may be.

The exception is in the difference between the terminal flap **161** which is a special handle-reinforcing flap and the terminal flap **61**. The flap **161** extends from an edge lined up with the crease **137** and terminates at the other side short of the end of the panel **139**. The flap **161** is of an eccentric arch shape having a leg **161***a* joined by a crease **162** to the panel **139** and a longer opposed leg **161***b* connected to the leg **161***a* by a margin-adjoining part **161***c*. The legs **161***a* and **161***b* are spaced apart by a cut-out part **161***d*. Looking clockwise, the flap **161** is bound by the crease **162**, by the edge of the part **161***c* is inset slightly from the crease **137**, by the edge of the part **161***b* parallel to the crease **162** and by the end of the leg **161***b* which stops just short of a line parallel to the crease **158** and the end of the leg **161***a* which ends just inside a line parallel to the crease **145**.

The end of another blank A1 is shown interlocking with the blank A to illustrate how respective blanks interlock when cut from a sheet. Similar parts of the blank A1 have been numbered with similar numbers but raised by 200 as compared with the numbers on the blank A. The shaded areas on the blanks are those on which glue is initially applied for the assembly of the blank into a carrier.

The panel **139** has a cut-out step **139***a* providing an inwardly stepped edge **139***b*, of which the edge of the part **153***a* forms a continuation. This is to provide a material-saving interlock with the flap **261** of the adjoining blank A1, the end of whose leg **261***b* is provided with a step **261***e*. Likewise, the leg **161***b* has a step **161***e*.

The presence of the step **139***a* requires the window **153***d* to be smaller than the window **53***d* at the other end of the carrier, so that the strip **153***a* may remain at the same width as the strip **53***a*, thus not to reduce the length and strength of the connecting crease **158**. The length of the flap **131** is also reduced, as compared with the flap **31**, so that its edge **131***b* falls within the window **153***d* when the carrier is assembled. For symmetry, the length of the flap **133** is also reduced to correspond with that of the flap **131**.

The windows **53***d* and **153***d* have been shown rectangular and the ends of the flaps **31** and **131** have been shown rectangular. The windows **53***d* and **153***d* could be rounded, for example, circular or oval or the corners rounded off and the ends of the flaps **31** and **131** could be rounded off if desired. However, the rectangular construction gives more gluing area.

When the blank is set up to form the carrier, the operations are as follows, the main steps being identified on the drawings and as follows by the letters V, W, X and Y.

V. Glue is applied (in a first gluing operation) to the areas of the blank shown in FIG. **1** and flaps **53** and **153** and straps **55** and **155** are folded inwards about the creases **58** and **59**, **158** and **159**, respectively, and juxtaposed to the adjacent areas of the panels **39**, **19** and **139**, **119**, respectively, to the position shown in FIG. **2**. The parts **53***a*, **53***b* and **53***c* contact and are adhered to a glue-covered area of the panel **39**. Likewise the parts **153***a*, **153***b* and **153***c* contact and are adhered to a glue-covered part of the panel **139**. The cut-out parts or windows **53***d*, **153***d*, respectively, leave areas of the panel **39** and **139** uncovered and exposed.

W. The flaps 33 and 133 are folded inwards about the creases 37 and 137 to the positions shown in FIG. 2. Simultaneously, the panels 23 and 123 and their flaps 31, 131 are infolded to the position shown in FIG. 2, so that they overlie areas of the panels 19, 119, the flaps 53, 153 and the exposed glue-carrying areas of the panels 39, 139 with the ends of the flaps 31, 131 being adhered to such exposed glue carrying areas of the panels 39, 139 through the windows provided in the flaps 53, 153. The flap 161 is folded inwards about the crease 162 to the position shown in dash lines in FIG. 2 so that its glued area is juxtaposed and adheres to the areas of the flap 133, panel 139, flap 153 and the end of the flap 131 which is already glued to the exposed area of the flap 139.

X. Glue is then applied (in a second gluing operation) to the faces of the flaps 53, 31 and 33 and to the reverse side of flap 61 and exposed area of panel 39, as shown in FIG. 2, the blank A folded inwards at its center line 17 so that its respective sides are juxtaposed to the position shown in FIG. 3, except that the flap 61 remains in the position shown in dotted lines awaiting a final infolding operation. The glued face of the flap 33 is juxtaposed and adhered to the face of the flap 133 and to the end of the handle-reinforcing flap 161 where the latter covers the flap 133. The glued face of the flap 31 is juxtaposed and adhered to the face of the flap 131 and to the end of the leg 161*b* where the latter overlaps the flap 131. The face of the flap 161 is juxtaposed and adhered to exposed areas of the reverse of the panel 39, to the faces of the flaps 33 and 31 and to the face of the part 53*c*.

Y. Finally, the flap 61 is folded inwards over the top of the handle structure formed by the previous juxtaposition of the flaps from the respective sides of the blank, the glued area of the reverse face of the flap 61 being adhered to the face of the panel 139, above the handle opening 63.

The handle parts from both ends of the blank have been collected together and glued into a composite "sandwich" structure while the flaps 33, 133 and 31, 131 at opposite sides of the carrier respectively form a spine projecting inward from the respective ends of the carrier while the straps 41, 55 and 141, 155 extend between the handle structure and the side walls respectively to provide compartments.

The carrier is assembled by machinery which automatically glues and folds the blank A, as well understood in the art. The construction of the handle, employing the fold-in flaps 53, 153 with the windows 53*d*, 153*d* reduces the bulk in such a way that gluing operations are facilitated since there is not the bulking which could take place without the windows reducing the thickness at that particular part of the handle structure.

The carrier as manufactured is in folded condition, as shown in FIG. 3. It is set-up by drawing apart the side panels 19, 119 into the position shown in FIG. 4. This extends the panels 19, 119 into spaced-apart parallel side walls as shown in FIG. 4 and also extends the straps 141, 155 and 41, 55 at respective sides of the carrier, breaking the temporary retaining bridges 41*a*, 141*a*. By this action, the base panels 115, 15 are also extended and drawn upwards below the side and end walls. By pushing these panels further upwards into the position shown in FIG. 5, their respective ends are forced into the catch-notches 31*a*, 131*a*, 33*a*, 133*a* provided at the lower ends of the juxtaposed pairs of spine flaps 137, 37 and 123, 23, respectively, thus locking the carrier in set-up position.

Unusual strength is provided in the "sandwich" construction of the handle and its connection to the body of the carrier, without excessive build up of plies which would interfere with machine assembly. This "sandwich" structure is shown specially in the enlarged cross-sections of FIGS. 6 and 7. The special reinforcing flap 161 contributes extra strength by providing, with the panels 39, 139, a third ply in the main area of the handle section around and particularly above the hand opening 63, 163. The cut-out parts 53*d*, 153*d* or windows in the fold-in connecting flaps 53, 153 reduce the bulk of the sandwich structure by two plies in this area. This permits the addition of the ply added by the end of the leg 161*b*. This leg 161*b* juts into the area of the windows 53*d*, 153*d* and forms a part of the handle construction which is connected to the body by adhesion to the ends of both spine-forming flaps 31, 131 in a five-ply structure including the ends of the panels 39, 139. At the same time, the flap 161 combines with the panels 39, 139 and the terminal flap 61 to provide a four-ply bridge across the top of the hand opening.

The preferred container includes, in the handle structure, the reinforcing flap 161, in combination with the fold-in flaps 53 and 153, with the special windows 53*d* and 153*d* and the end of the leg 161b overlying the area of the windows. The flap 161 could be omitted and one or both windows 53*d*, 153*d* still employed to reduce bulking and still provide an improvement over existing carriers. The windows 53*d*, 153*d* could be omitted and the flap 161 employed to provide strength and still provide an improved carrier. Or, the end of the leg 161*b* could be shortened so as not to overlie the window area and thus avoid an extra ply over that area. However, the preferred structure includes all the features since together they provide a special combination of advantages. The finishing flap 61, which is an old feature in containers of this type, could be omitted, specially with the added strength provided by reinforcing flap 161. However, the finishing flap 61 is desirable not only for added strength but to give the carrier a finished appearance.

Reference has been made to "side wall" or "panels," "end walls" or "panels" and to "top" and "bottom." It is understood that this is for the purpose of identifying the various parts. It could be that in certain structures, what might be called side walls would really be end walls and the word "top" or "bottom" would not be appropriate. However, the sense of these definitions in context is believed clear.

In the finished container, the margins of the parts adjacent the cuts, as for example, the cuts 43, 43*a*, 143, 143*a* become the edges of the walls and so on. These numbers are therefore used to identify these edges. The handle flaps 64 are for the purpose, when spread out, of giving a wider base which will not cut into the fingers.

A certain variety of prior art cartons of the same general style of carrier not embodying the improvement of the present invention, usually employ paperboard stock having a caliper of about 0.025 inch. Comparatively speaking, the present invention makes it feasible to use stock having a lesser caliper down to about 0.022 inch and even down to 0.020 inch.

The specific form of the invention has been described as being made from paperboard. It will be understood that there may be employed other sheet material having the necessary qualities of stiffness and foldability and others well understood by those working in this art.

It should also be mentioned that, if one or both windows **53***d*, **153***d* is omitted, there would have to be a change in the glue pattern. For example, looking at FIG. **1**, for the window **53***d*, additional glue would have to be applied on flap **31** of about the same area as the window **53***d* and lined up with the position that window would normally assume. Similar changes to the glue pattern would have to be made if the window **153***d* were omitted, glue being applied to the flap **131** over an area to match with the window **153***d* and in a position which would register with the position of the window **153***d*, were it present. Further, if the flap **61** is omitted, naturally there would be no glue application in that area. Further, the flap **161** might be shortened at its end **161***c* so as to clear the turned in flap **133** and, in this event, the glue application would be modified on the flap **161**.

We claim:

1. A blank of foldable sheet material for making a carrier for bottles or the like comprising,

a centrally located base,

at each side of the base a similar body structure having a side wall panel and end wall panels, each provided with an integral spine-forming flap,

a handle structure and means connecting it to the body structure,

a pair of connecting straps forming part of said connecting means and extending between each side wall and the handle structure and being means for defining compartments,

each handle section being made up of a main panel having a handle opening and directly integrally connected at one end to an end of one of said spine-forming flaps by fold means for effecting said one spine-forming flaps to be infolded and juxtaposed thereto, and at the other end integrally connected to a fold-in flap by other fold means for effecting said fold-in flap to be folded in and juxtaposed thereto,

each fold-in flap having a part extending inwards of the blank and having a direct integral connection with one of said straps,

the spine-forming flaps at the other side of the blank from said one spine-forming flaps having ends free and defining means for connection with said handle panel, and

a reinforcing flap integrally connected to the extreme outer margin of one handle panel and having fold means for effecting the same to be folded in over said one handle panel to lie between it and the other handle panel and to extend above beside and below the handle openings,

the reinforcing flap having means at one end for juxtapositioning relative to the spine-forming flaps integrally connected to the handle panels and means at the other end for juxtapositioning relative to the free end of each spine-forming flap which in turn is positioned to overlie one of the fold-in flaps.

2. A blank, as defined in claim **1**, in which at least one of the fold-in flaps is provided with window means for leaving exposed an area of the handle panel to which it is integrally connected when juxtaposed thereto.

3. A blank, as defined in claim **1**, in which each fold-in flap is provided with window means for leaving exposed an area of the handle panel when juxtaposed thereto.

4. A blank, as defined in claim **1**, having finishing flap means integral with a main handle panel for folding over the top of the handle structure and for adhering to the face of the opposite panel.

5. A blank of foldable sheet material for making a carrier for bottles or the like, comprising,

a centrally located base,

at each side of the base a similar body structure, having a side wall panel, and end wall panels,

a handle structure and means connecting it to the body structure,

a pair of connecting straps forming part of said connecting means and extending between each side wall and the handle structure and being means for defining compartments,

each handle section being made up of a main panel having a handle opening and directly integrally connected at one end to a spine flap by fold means for effecting said spine flap to be infolded and juxtaposed thereto, and at the other end integrally connected to part of a fold-in flap by other fold means for effecting said fold-in flap to be folded in an juxtaposed thereto, at least one of said fold-in flaps being provided with window means for leaving exposed an area of the handle panel when juxtaposed thereto,

each fold-in flap having a part extending inwards of the blank and having a direct integral connection with one of said straps.

6. A blank, as defined in claim **5**, in which both of the folded flaps are provided with said window means.

7. A blank, as defined in claim **5**, having a finishing flap integral with a main handle panel and adapted to be folded over the top of the handle and adhered to the face of the opposite panel.

8. A blank, as defined in claim **5**, in which

the fold-in flap is made up of a narrow strip hingedly connected to a side margin of the main handle panel by said other fold means and extending outwardly therefrom to meet a strip extending parallel to the margin of the handle panel and spaced therefrom which, in turn, is connected to a foot part extending outwardly and downwardly,

the straps and foot parts framing said window means and a major area thereof being adapted to be adhered to the handle panel, and the foot part having a part projecting beyond a lower margin of the main handle panel for hinged connection with a connecting strap by said direct integral connection.

9. A blank of foldable sheet material for making a carrier for bottles or the like comprising,

a centrally located base,

at each side of the base a similar body structure having a side wall panel and end wall panels, each provided with an integral spine-forming flap,

a handle structure and means connecting it to the body structure,

a pair of connecting straps forming part of said connecting means and extending between each side wall and the handle structure and being means for defining compartments,

each handle section being made up of a main panel having a handle opening and directly integrally connected at one end to an end of one of said spine-forming flaps by fold means for effecting said one spine-forming flaps to be infolded and juxtaposed thereto, and at the other end integrally connected to a fold-in flap by other fold means for effecting said fold-in flap to be folded in and juxtaposed thereto,

each fold-in flap having a part extending inwards of the blank and having a direct integral connection with one of said straps,

a spine-forming flaps at the other side of the blank from said one spine-forming flaps having ends free and defining means for connection with said handle panel, and

a reinforcing flap integrally connected to the extreme outer margin of one handle panel remotest from said base and having fold means for effecting the same to be folded in over said one handle panel to lie between it and the other handle panel and to extend above beside and below the handle openings.

10. A carrier for bottles or the like made from a blank of flexible sheet material, comprising,

a body structure having a base, side walls, and end walls, and a multi-ply handle structure connected to the side and end walls.

said handle structure being connected to the body structure by juxtaposed spine flaps extending inwardly from the center of each of the end walls and projected upwardly beyond them and forming a part of the handle structure

the spine flaps at one end of the container being directly integrally connected to said handle structure and at the other end the spine flaps having initially free ends adhesively connected to the handle structure,

a pair of connecting straps spaced from each other and from the end walls and extending between each side wall and the handle structure to define compartments.

the handle structure being made up of main outer panels each directly integrally connected at one end to the spine flaps doubled thereunder and at the other end adhesively connected to the initially free ends of the spine flaps and to a fold-in connecting flap directly hingedly connected thereto and doubled thereunder,

and a reinforcing flap integral with one of said handle panels at the extreme outer margin thereof remote from said base and folded between the handle panels and having a continuous structure extending along a major length of the top of, beside and along a major length of the bottom of the handle opening, said continuous structure being adhered to areas of the respective main outer panel.

11. A carrier, as defined in claim **10**, in which the reinforcing flap has a part sandwiched between the spine-forming flaps at at least one end of the handle.

12. A carrier, as defined in claim **10**, in which the reinforcing flap has a part sandwiched between the spine-forming flaps at both ends of the carrier.

13. A carrier, as defined in claim **10**, in which the reinforcing flap has a part overlying the fold-in flaps which are adhered at their other surface to the reinforcing panel.

14. A carrier, as defined in claim **10**, in which the reinforcing flap has a portion which stops short of the spine-forming flaps at each end of the handle.

15. A carrier, as defined in claim **10**, in which at least one fold-in flap has a cut-out part constituting a window, and the free end of one spine-forming flap extends through said window and is directly adhered to the exposed area of the main handle panel.

16. A carrier, as defined in claim **10**, in which each fold-in flap has a cut-out part constituting a window, and the free ends of the spine-forming flaps at that end of the handle extend through said windows and are adhered to the underlying exposed area of the respective main handle panels.

17. A carrier, as defined in claim **10**, in which one of the main handle panels is provided with a narrow finishing flap which is folded over the top of the carrier and adhered to the exposed face of the opposite main handle panel.

18. A carrier for bottles or the like made from a blank of flexible sheet material, comprising,

a body structure having side walls and end walls, and a multi-ply handle structure connected to the side and end walls,

said handle structure being connected to the body structure by juxtaposed spine flaps extending inwardly from the center of each of the end walls and projected upwardly beyond them and forming a part of the handle structure,

the spine flaps at one end of the container being directly integrally connected to said handle structure and at the other end the spine flaps having initially free ends adhesively connected to the handle structure,

a pair of connecting straps spaced from each other and from the end walls and extending between each side wall and the handle structure to define compartments,

a handle structure being made up of main outer panels each directly integrally connected at one end to the spine flaps doubled thereunder and at the other end adhesively connected to the initially free ends of the spine flap and to a fold-in connecting flap directly hingedly connected thereto and doubled thereunder,

at least one of said fold-in flaps having a cut-out part constituting a window therein exposing an underlying area of the main handle panel, each fold-in flap having a part extending below the main panel to a direct integral connection with one of said straps, and one spine-forming flap having its initially free end extending through said window and adhered directly to the exposed area of the main handle panel.

19. A carrier, as defined in claim **18**, in which each flap is provided with a window and the initially free end of the respective spine-forming flap extends through each window and directly adheres to the respective main handle panel.

20. A blank of foldable sheet material for making a carrier for bottles or the like comprising,
a centrally located base,
at each side of the base a similar body structure, having a side wall panel, and end wall panels,
a handle structure and means connecting it to the body structure,
a pair of connecting straps forming part of said connecting means and extending between each side wall and the handle structure and adapted to define compartments,
each handle section being made up of a main panel having a handle opening and integrally connected at one end to a spine flap adapted to be infolded and juxtaposed thereto, and at the other end integrally connected to part of a fold-in flap adapted to be folded in and juxtaposed thereto, at least one of said fold-in flaps being provided with a window adapted to leave exposed an area of the handle panel when juxtaposed thereto,
each fold-in flap having a part extending inwards of the blank from its panel to an integral connection with one of said straps,
the fold-in flap being made up of a narrow strip hingedly connected to a side margin of the main handle panel and extending outwardly therefrom to meet a strip extending parallel to the margin of the handle panel and spaced therefrom which in turn is connected to a foot part extending outwardly and downwardly,
the straps and foot parts framing said window and a major area thereof being adapted to be adhered to the handle panel, and the foot part having a part projecting beyond a lower margin of the main handle panel for hinged connection with a connecting strap.

21. A blank of foldable sheet material for making a carrier for bottles or the like, comprising,
a centrally located base,
at each side of the base a similar body structure having a side wall panel and end wall panels, each provided with an integral spine-forming flap,
a handle structure and means connecting it to the body structure,
a pair of connecting straps forming part of said connecting means and extending between each side wall and the handle structure and adapted to define compartments,
each handle section being made up of a main panel having a handle opening and integrally connected at one end to an end of one of said spine-forming flaps adapted to be infolded and juxtaposed thereto, and at the other end integrally connected to a fold-in flap adapted to be folded in and juxtaposed thereto,
each fold-in flap having a part extending inwards of the blank from its panel to an integral connection with one of said straps,
the spine-forming flaps at one side of the panel each having an integral connection to a handle panel, the spine-forming flaps at the other side of the blank having ends free for connection with said handle panel,
a reinforcing panel integrally connected to the outer margin of one handle panel and adapted to be folded in over said one handle panel to lie between it and the other handle panel and to extend above beside and below the handle openings,
the fold-in flap being made up of a narrow strip hingedly connected to a side margin of the main handle panel and extending outwardly therefrom to meet a strip extending parallel to the margin of the handle panel and spaced therefrom which, in turn, is connected to a foot part extending outwardly and downwardly,
the straps and foot parts framing a window and a major area thereof being adapted to be adhered to the handle panel, the foot part having a part projecting beyond a lower margin of the main handle panel for hinged connection with a connecting strap.

22. A blank assembly for forming two carriers for bottles and the like, said blank assembly comprising sheet material having arranged thereon and formed therefrom two identical blanks with like ends in opposing contacting relation each of said blanks including panel means including remotely disposed handle panels, one handle panel of each blank having a reinforcing panel integrally connected to an outer margin thereof, and said reinforcing panels being disposed on said sheet material in overlapping relation between said blanks whereby a minimum of said sheet material is required.

23. The blank assembly of claim 22 wherein said reinforcing panels are also disposed in interlocking relation.

* * * * *

UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 3,722,737 Dated March 27, 1973

Inventor(s) ROBERT G. HUGHES and LLOYD B. RUETZ

It is certified that error appears in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Please read on the Abstract Page the following:

Foreign Application Priority Data

Jan. 14, 1970 Canada Serial No. 072,157.

Signed and sealed this 1st day of January 1974.

(SEAL)
Attest:

EDWARD M.FLETCHER,JR.
Attesting Officer

RENE D. TEGTMEYER
Acting Commissioner of Patents

USCOMM-DC 60376-P69
* U.S. GOVERNMENT PRINTING OFFICE : 1969 O—366-334.