United States Patent

[11] 3,572,545

[72] Inventor **James T. Stout**
Doraville, Ga.

[21] Appl. No. **838,961**
[22] Filed **July 3, 1969**
[45] Patented **Mar. 30, 1971**
[73] Assignee **The Mead Corporation**

[54] **ARTICLE CARRIER HAVING IMPROVED BRACING KEEL**
4 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **220/113**
[51] **Int. Cl.** **B65d 75/00**
[50] **Field of Search** 220/110, 111, 112, 113, 115

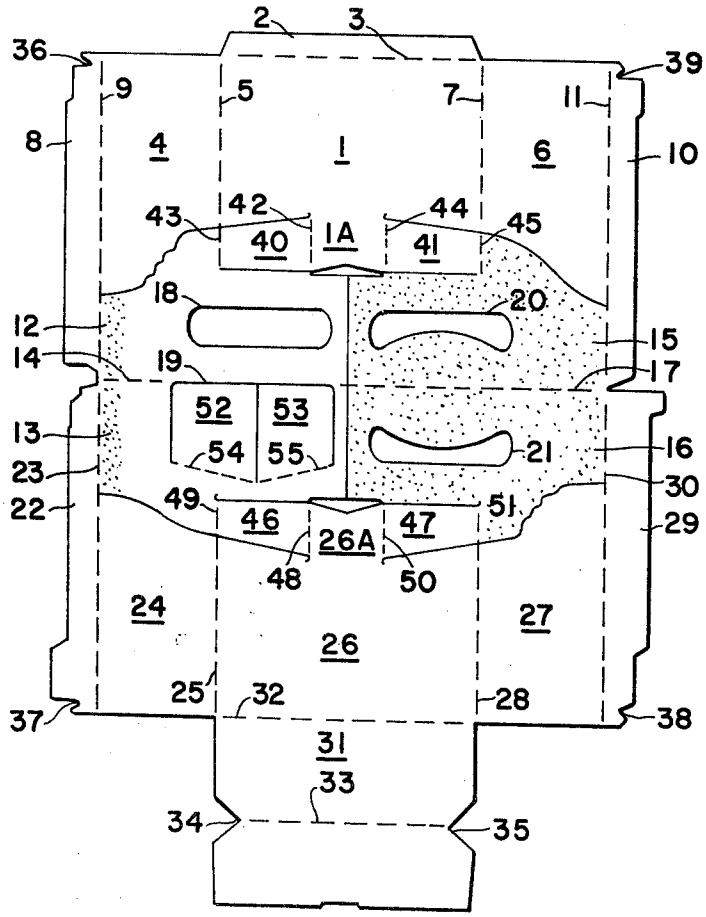
[56] **References Cited**

UNITED STATES PATENTS

3,283,948	11/1966	Forrer	220/113
3,334,783	8/1967	Plaxico	220/113
3,469,737	9/1969	Forrer	220/115

Primary Examiner—Joseph R. Leclair
Assistant Examiner—James R. Garrett
Attorney—Walter M. Rodgers

ABSTRACT: A collapsible basket-style article carrier having a bottom panel, sidewalls foldably joined to the side edges of the bottom panel, end panels foldably joined to the end edges of the sidewalls, riser panels foldably joined to the inner edges of the end panels, and a multi-ply handle adjoined to the riser panels and disposed medially of the carrier is provided with an improved keel arrangement wherein a pair of bracing struts are struck from one ply of the handle and folded downwardly and outwardly along upwardly divergent fold lines and into positions of flat face contacting overlapped relationship with the riser panels at each end of the carrier respectively.



Patented March 30, 1971 3,572,545

2 Sheets-Sheet 1

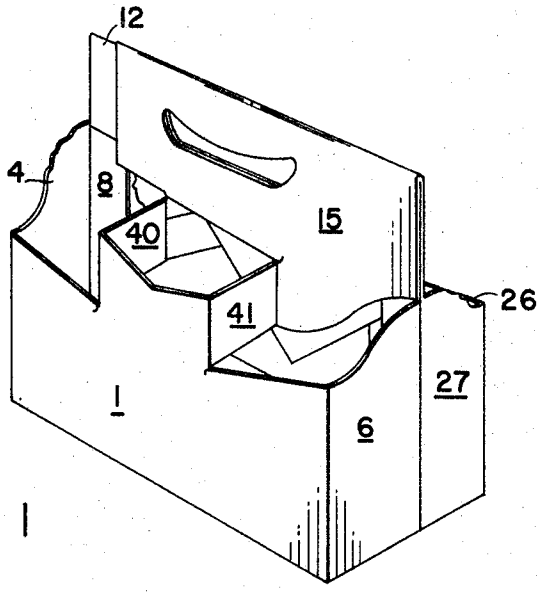


FIG. 1

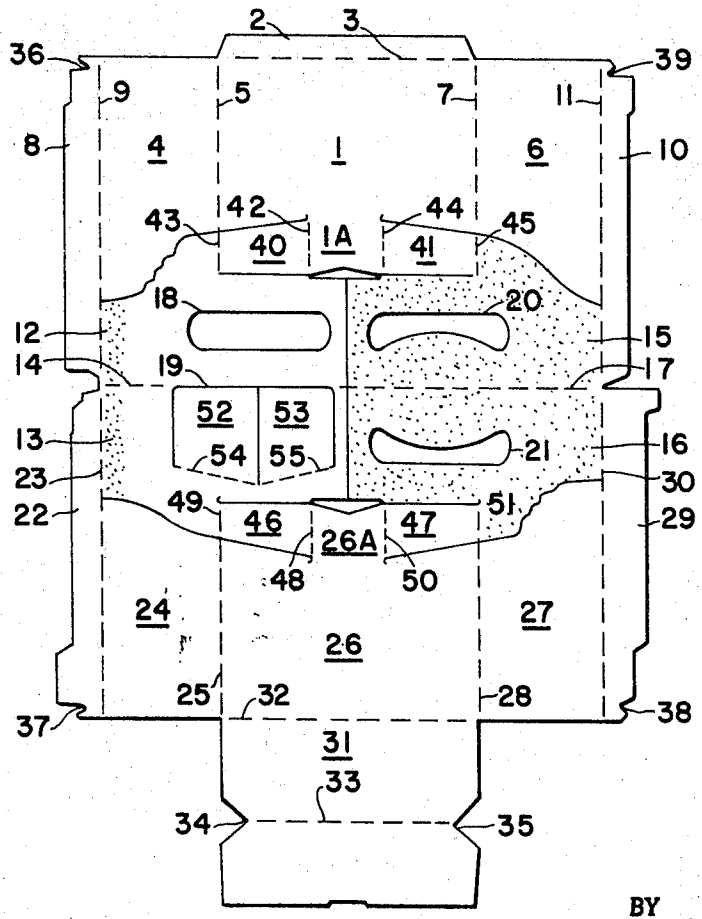


FIG. 2

INVENTOR.
JAMES T. STOUT
BY Walter M. Ridgers
ATTORNEY

2 Sheets-Sheet 2

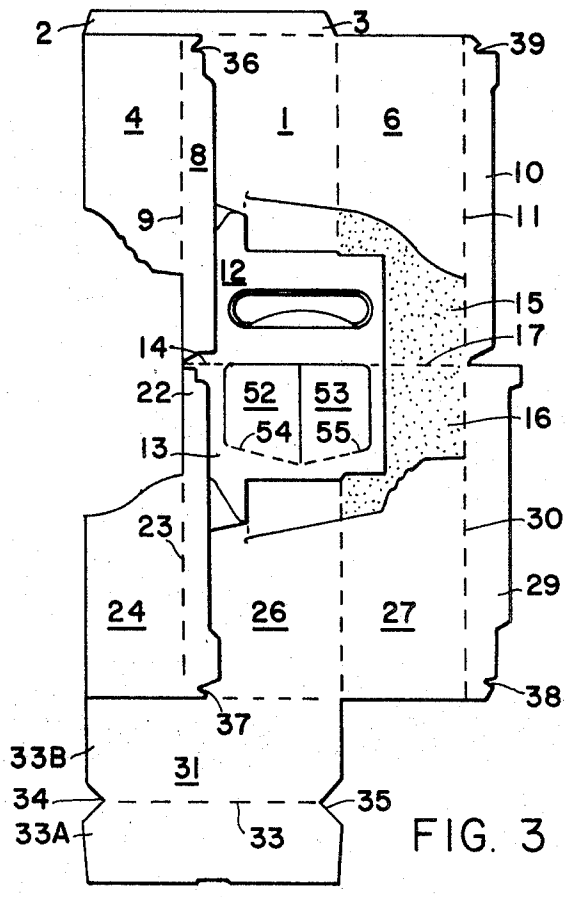


FIG. 3

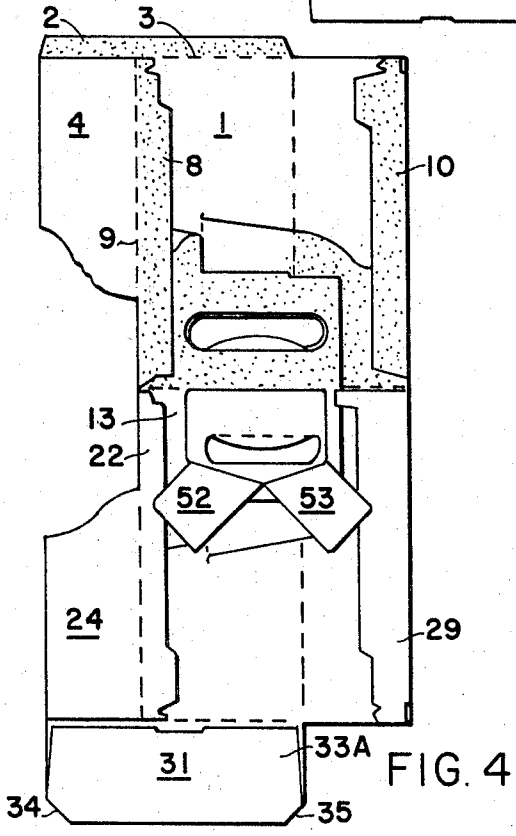


FIG. 4

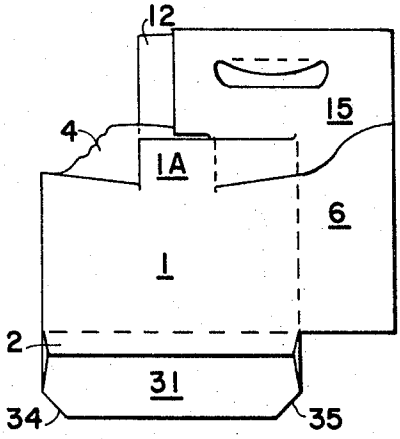


FIG. 5

INVENTOR.
JAMES T. STOUT
BY Walter M. Rodgers
ATTORNEY

ARTICLE CARRIER HAVING IMPROVED BRACING KEEL

Basket-style article carriers are known in which multi-ply handle panels are secured together in flat face contacting relationship and wherein the ends of the handle are secured to upstanding riser panels disposed medially of the carrier at the ends thereof. Ordinarily such handle structures incorporate various panels which may be arranged to reinforce the overall handle structure and which form portions of partitions whereby articles in the carrier are separated from each other.

According to this invention a pair of bracing struts are struck from one ply of the handle and are folded downwardly along upwardly divergent fold lines to occupy positions of overlapping face contacting relationship with the riser panels at the ends of the carrier. Thus by the invention the strength of the handle structure medially of the carrier is greatly increased and the overall strength of the carrier is substantially enhanced. Furthermore the bracing struts constitute partition elements whereby adjacent articles in the carrier on opposite sides of the handle are separated from each other.

For a better understanding of the invention, reference may be had to the following detailed description taken in conjunction with the accompanying drawings in which FIG. 1 is a perspective view of a setup carrier constructed according to this invention; FIG. 2 is a plan view of a unitary blank from which the carrier of FIG. 1 is formed; FIGS. 3, 4 and 5 depict stages through which the blank of FIG. 1 is manipulated in order to form the collapsed and completed carrier as depicted in FIG. 5.

In the drawings the numeral 1 designates a sidewall of the carrier to the bottom edge of which a glue flap 2 is foldably joined along fold line 3. An end panel 4 is foldably joined along fold line 5 to one end of the sidewall 1 while a similar end panel 6 is foldably joined along fold line 7 to the other end of sidewall 1. A riser panel 8 is foldably joined to one edge of end wall 4 along fold line 9 and a similar riser panel 10 is foldably joined to one edge of end panel 6 along fold line 11. A first handle panel 12 is foldably joined to a second handle panel 13 along medial fold line 14 and to riser panel 8 along fold line 9.

At the other end of the carrier a second pair of handle panels designated by the numerals 15 and 16 are foldably joined together along medial fold line 17. Handle panel 15 is foldably joined to riser panel 10 along fold line 11. Hand gripping apertures 18 and 19 are formed in the first pair of handle panels 12 and 13 while similar hand gripping apertures 20 and 21 are formed respectively in the second pair of handle panels 15 and 16.

The opposite side of the carrier is similar in construction to those portions of the carrier blank described above and comprises a riser panel 22 foldably joined along fold line 23 to end panel 24 and to handle panel 13. End panel 24 is foldably joined along fold line 25 to sidewall 26. In like fashion, end panel 27 is foldably joined to the other end of sidewall 26 along fold line 28 and riser panel 29 is foldably joined to an edge 30 of end panel 27 and of handle panel 16. Bottom panel 31 is foldably joined along fold line 32 to the bottom edge of the sidewall 26 and the bottom panel is provided with a medial fold line 33 at the ends of which a pair of notches 34 and 35 are formed.

For the purpose of cooperating with the notches 34 and 35 and thereby to maintain the carrier in setup condition, a plurality of locking notches 36, 37, 38 and 39 are formed in riser panels 8, 22, 29 and 10 respectively.

In order to provide transverse separating means for articles disposed on either side of the handle structure, a plurality of straps are provided and in the drawings straps on one side of the carrier are designated by the numerals 40 and 41. Strap 40 is foldably joined to high center portion 1A of sidewall 1 along a fold line 42 and to the handle panel 12 along the short fold line 43. In like fashion transverse partitioning strap 41 is foldably joined at one end to high center portion 1A of the sidewall 1 along fold line 44 and the other end of strap 41 is foldably joined to handle panel 15 along short fold line 45.

The partitioning straps on the opposite side of the carrier are similarly constructed and designated by the numerals 46 and 47. Strap 46 is foldably joined at one end along fold line 48 to the high center portion 26A of sidewall 26 and at the other end strap 46 is foldably joined to handle panel 13 along the fold line 49. Transverse partitioning strap 47 is foldably joined along fold line 50 to the high center portion 26A of sidewall 26 at one end of the strap and at the other end thereof the strap is joined to handle panel 16 along fold line 51.

The aperture designated by the numeral 19 which is formed in handle panel 13 is of a different construction that are the apertures 18, 20 and 21. According to this invention and as is apparent from FIG. 4, a pair of bracing struts 52 and 53 are struck out of handle panel 13 and are foldably joined thereto along upwardly divergent fold lines 54 and 55 respectively. As is best shown in FIG. 4 these diagonal bracing struts 2 and 53 are folded downwardly and at the outer corners thereof overlap and are captured between the riser panels. For example, strut 52 is captured between riser panels 8 and 22 at the outer corner thereof while bracing strut 53 is captured between riser panels 10 and 29 when the carrier is formed. These struts substantially increase the strength and sturdiness of the carrier particularly in the region below the handle. While it ordinarily is preferable to arrange the struts 52 and 53 so that the lower outer portions thereof are disposed between the riser panels as shown and described, this disposition is not essential and it may be desirable to place the struts 52 and 53 so that they are disposed against the outer surface of one or the other of the riser panels at one or both ends of the carrier.

In order to form the collapsed carrier depicted in FIG. 5 from the blank depicted in FIG. 2 an application of glue is made to the blank as indicated by stippling in FIG. 2. Thereafter, the first pair of handle panels 12 and 13 are elevated and swung toward the right simultaneously with the folding of the end panels 4 and 24 upwardly and toward the right along the fold lines 5 and 25 respectively. Simultaneously, the riser panels 8 and 22 are folded upwardly and toward the right along the fold lines 9 and 23, respectively, so that the inner ends of the riser panels 8 and 22 become adhered to the stippled portion at the left-hand ends of the first pair of handle panels 12 and 13. Of course, the parts following this folding operation occupy positions as depicted in FIG. 3 The folding action as described thus far is well known in the art.

In order to transform the carrier from the condition depicted in FIG. 3 to that depicted in FIG. 4, the bottom panel 31 is folded along the medial fold line 33 by simply folding the lower portion 33A thereof upwardly and over into flat face contacting relation with the upper portion 33B thereof as depicted in FIG. 4. Simultaneously, the riser panel 10 is folded upwardly and toward the left along the fold line 11 so that its inner end is secured in flat face contacting relation to the handle panel 15. Likewise, the riser panel 29 is folded upwardly and toward the left along fold line 30 so that the inner end thereof is affixed to the right hand end of handle panel 16. The bracing struts 52 and 53 are folded downwardly along their respective fold lines 54 and 55. The blank then appears as depicted in FIG. 4.

In order to complete the carrier an application of glue is made to the blank as indicated by stippling in FIG. 4. Thereafter, the side wall 1, glue flap 2, end panels 4 and 6, riser panels 8 and 10 and handle panels 12 and 15 are folded upwardly and forwardly along the fold lines 14, 17 into flat face contracting relation with the remaining portions of the blank to occupy positions as depicted in FIG. 5, i.e., to form the completed carrier in collapsed condition.

In order to set up the carrier from its collapsed condition as depicted in FIG. 7, it is simply necessary to press inwardly on the end panels 6 and 27 at the fold line 11, 30 while urging the sidewalls 1 and 26 toward the right. This action causes the locking notch 34 to engage the notch 36, 37.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

I claim:

1. An article carrier comprising a bottom panel, opposed sidewalls foldably joined to opposite side edges of said bottom panel and extending upwardly therefrom, end panels foldably joined to the upstanding ends of said sidewalls and extending transversely inward therefrom, medial riser panels foldably joined to said end panels respectively along their innermost upstanding edges, the riser panels at each end of the carrier being secured together in face contacting relation, a medial multi-ply handle connected at each end to said riser panels, at least one bracing strut struck out of one ply of said handle and foldably joined thereto along a diagonal fold line disposed to cause a part of said strut to overlap the riser panels at one end of the carrier when said strut is folded into flat face contacting relation therewith, and means for securing the free end of said strut to at least one riser panel at said one end of the carrier.

2. A carrier according to claim 1 wherein a pair of struts are struck from a single ply of said handle and secured respectively to the riser panels at opposite ends of the carrier and wherein the fold lines for said struts are divergent from each other in an upward direction.

3. A carrier according to claim 1 wherein said strut is interposed between the riser panels at said one end of the carrier.

4. carrier according to claim 1 wherein said handle is provided with a hand gripping aperture formed in the plys thereof and wherein the aperture defined by said bracing strut coincides at least in part with said hand gripping aperture.