United States Patent [19]

Wood

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[45] **Nov. 4, 1975**

[54] **ARTICLE CARRIER**

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[73] Assignee: **The Mead Corporation,** Dayton, Ohio

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[21] Appl. No.: **491,153**

[52] **U.S. Cl.** **206/187;** 206/191

[51] **Int. Cl.²** **B65D 75/00**

[58] **Field of Search** 206/170, 173, 175, 180, 206/187, 188, 191

[56] **References Cited**

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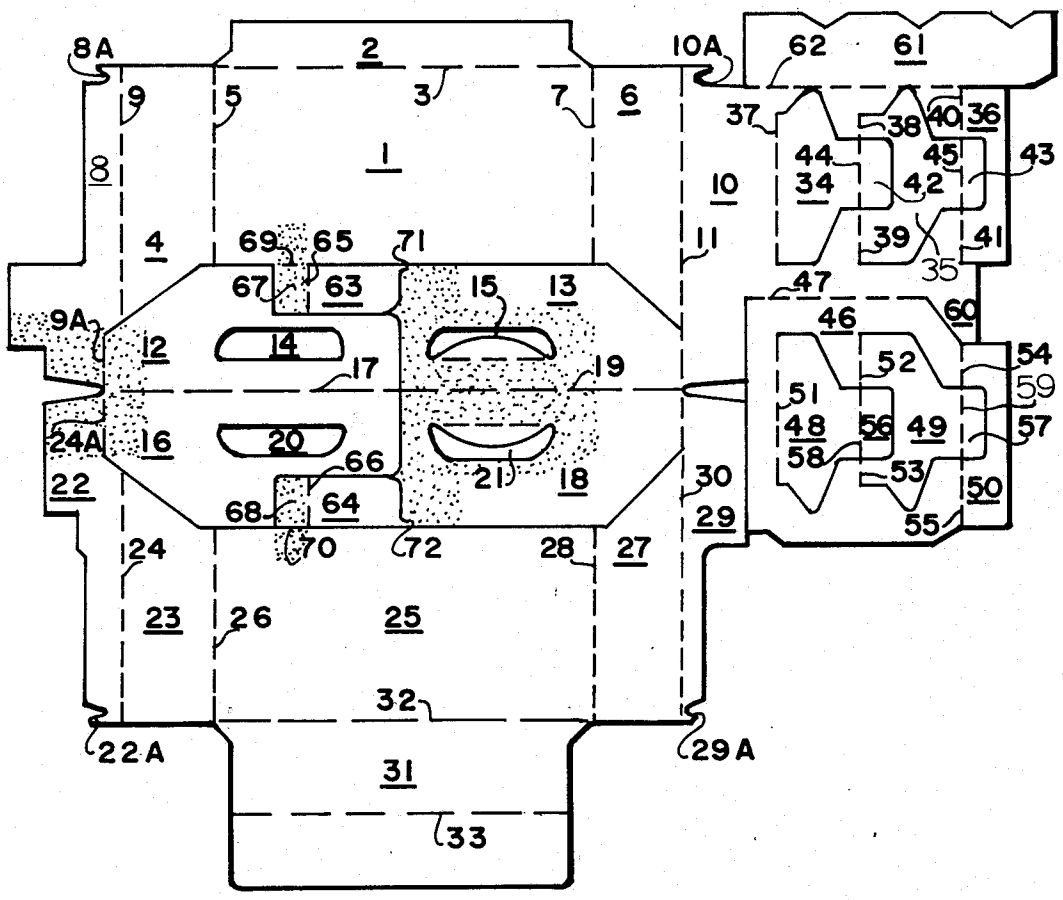
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Primary Examiner—William I. Price
Assistant Examiner—Stephen Marcus
Attorney, Agent, or Firm—Walter M. Rodgers

[57] **ABSTRACT**

A basket style article carrier having medial and transverse partitions is formed from a single blank and is characterized by economy in the use of material, the carrier including a bottom wall, side walls joined to the side edges of the bottom wall, end wall panels joined to the end edges of the side walls, riser panels joined to the inner edges of the end wall panels at one end of the carrier and extending medially inward of the carrier, a riser panel joined to the inner edge of one end wall panel at the other end of the carrier and extending medially inward of the carrier, a pair of medial partition panels foldably joined in face contacting relationship one of which is foldably joined to the other end wall panel at the other end of the carrier and extending medially inward of the carrier, a multiple-ply handle including a pair of inner handle panels and a pair of outer handle panels secured to the upwardly extending ends of the riser panels and to one of the medial partition panels, a plurality of transverse partitions at least some of which are of a composite construction including a transverse partition tab as a component, a pair of nicks each connecting an outer handle panel to a transverse partition tab, and a longitudinal partition panel foldably joined to one of the medial partition panels and adhered to at least one of the riser panels at each end of the carrier.

2 Claims, 8 Drawing Figures



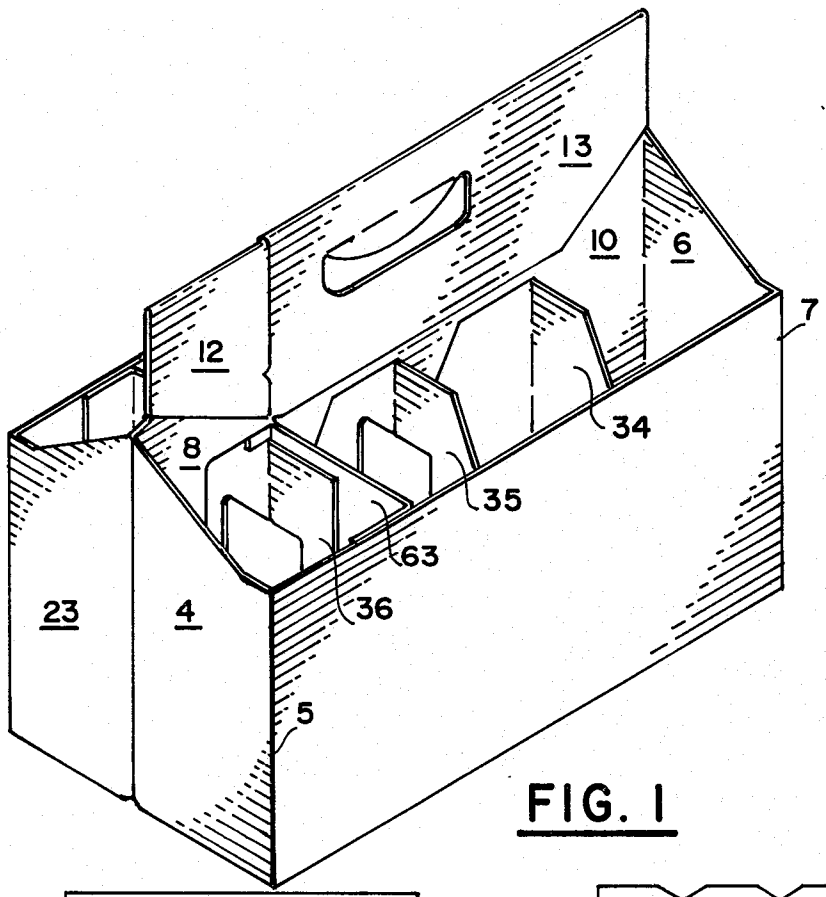

13
10
6
7
12
34
8
35
63
36
23
4
5

FIG. 1

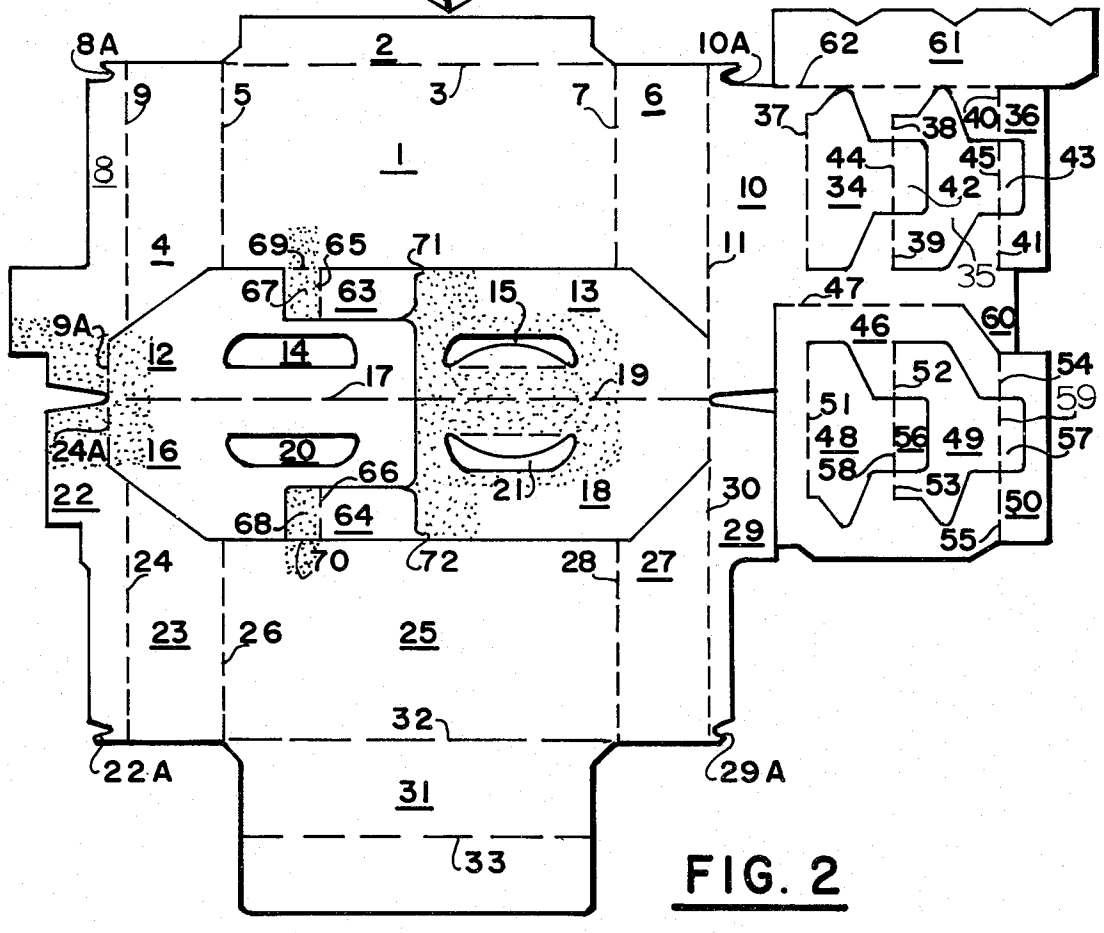

8A
2
10A
62
61
9
5
3
7
6
37
38
40
36
1
44
45
43
8
10
34
42
4
69
65
71
11
39
41
35
67
63
15
13
47
9A
12
14
46
60
17
19
52
54
59
51
24A
16
20
48
56
49
57
58
66
53
22
21
18
30
50
68
64
29
55
70
72
28
27
24
23
26
25
32
22A
29A
31
33

FIG. 2

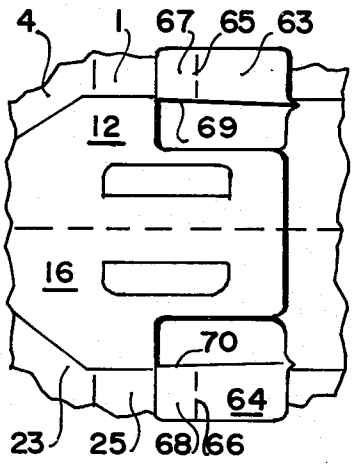


FIG. 3

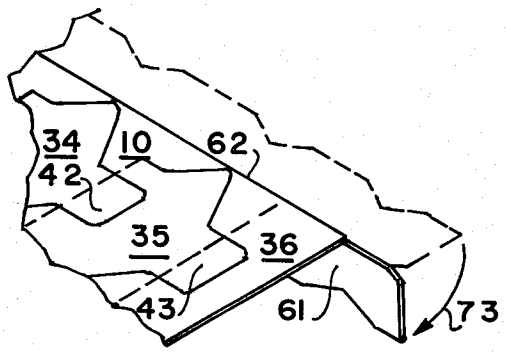


FIG. 5

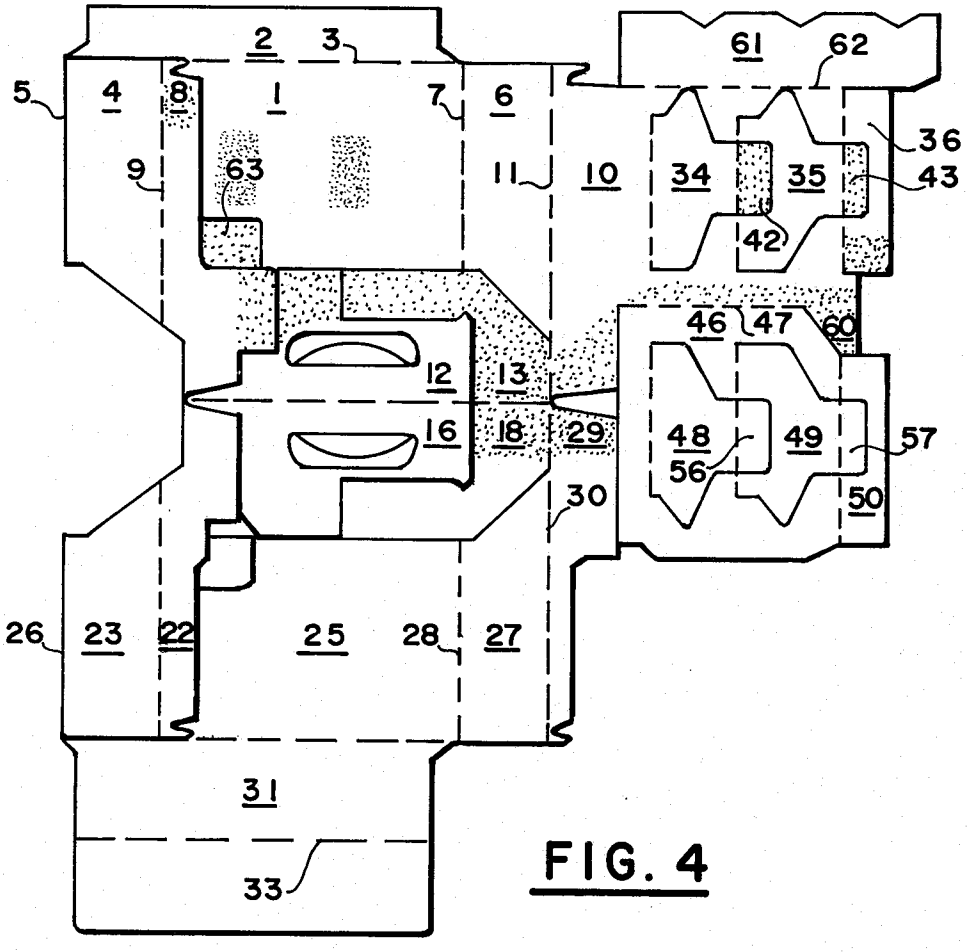


FIG. 4

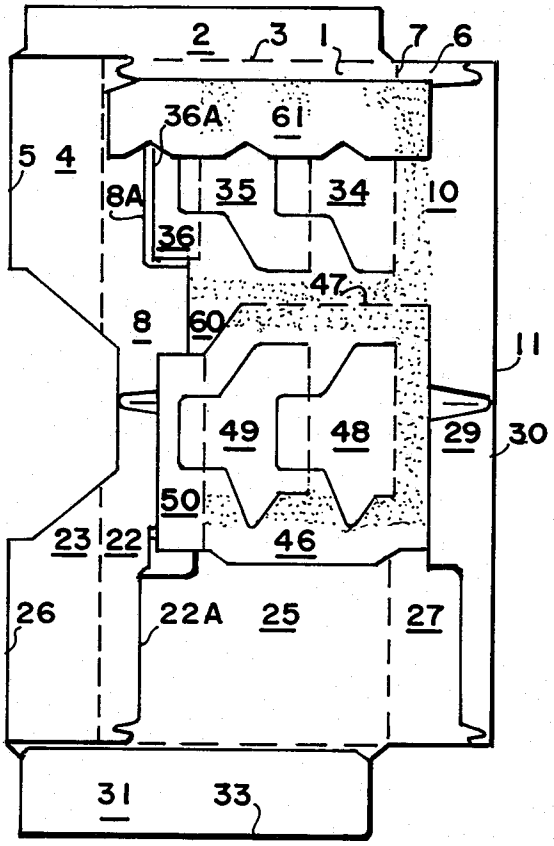


FIG. 6

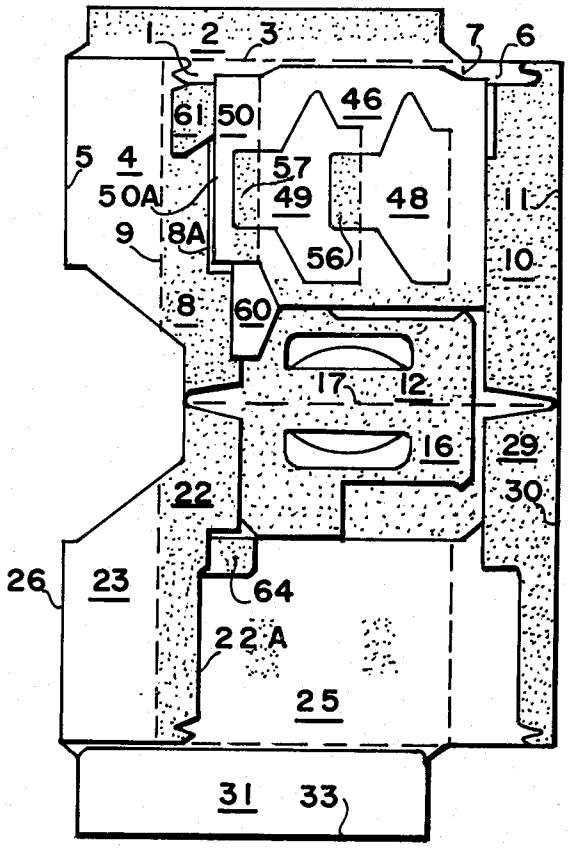


FIG. 7

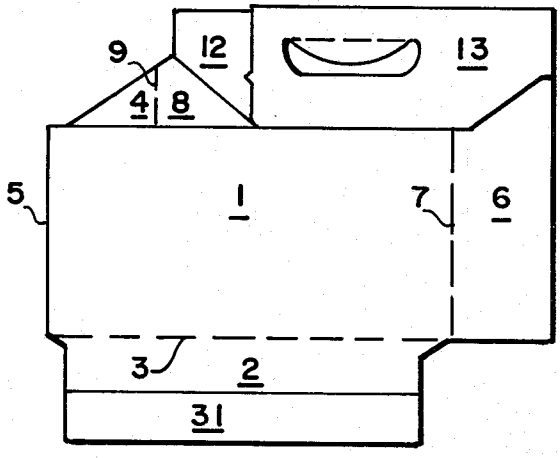


FIG. 8

ARTICLE CARRIER

Article carriers are known in which one medial partition panel is foldably joined to an end wall panel at one end of a carrier along with a second medial partition panel foldably joined in flat face contacting relation with the first medial partition panel. It is also known that a longitudinal partition panel may be positioned between two medial partition panels and foldably joined to one of the medial partition panels and also may be connected to the riser panels at the opposite end of the carrier. Although the longitudinal partition panel affords bottle separation and serves to stengthen the carrier, such carriers are not adapted to rapid machine manipulation due to the entrapment of certain of the partition elements between the riser panels during folding and gluing operations.

By this invention a carrier is provided which is well adapted to machine production and according to one form of this invention, a basket style article carrier having bottom, side and end walls, partition structure including a pair of face contacting medial partition panels one of which is foldably joined to one end wall, a pair of riser panels at the end of the carrier opposite from the partition structure, a multiple-ply handle, a longitudinal partition panel extending substantially the length of the carrier and adjacent the bottom of the carrier is constructed so that at least one transverse partition panel forms a portion of said one of said medial partition panels and so that the length of said medial partition panel is less than the length of the carrier by a distance at least as great as the width of the pair of riser panels. In like fashion the inner edge of the other medial partition panel is spaced from the adjacent end wall by a distance at least as great as the adjacent riser panel when the carrier is collapsed.

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 set-up carrier formed according to the invention; FIG. 2 is a plan view of a blank from which the carrier shown in FIG. 1 is formed; FIGS. 3, 4, 5, 6 and 7 depict intermediate stages through which the blank of FIG. 2 is manipulated in order to form a complete and collapsed carrier as shown in FIG. 8.

In the drawings the numeral 1 represents a side wall of the carrier to the bottom edge of which a glue flap 2 is foldably joined along fold line 3. End wall panel 4 is foldably joined to an end edge of side wall 1 along fold line 5 while end wall panel 6 is foldably joined to the opposite end edge of side wall 1 along the fold line 7. Riser panel 8 is foldably joined to end wall panel 4 along fold line 9 while medial partition panel 10 is foldably joined to end wall panel 6 along fold line 11. Riser panel 8 and medial partition panel 10 are formed with locking notches 8A and 10A respectively.

Inner handle panel 12 is foldably joined to riser panel 8 along fold line 9A while outer handle panel 13 is foldably joined to medial partition panel 10 along fold line 11. Hand gripping apertures 14 and 15 are formed in handle panels 12 and 13 respectively.

On the other side of the blank inner handle panel 16 is foldably joined to inner handle panel 12 along medial fold line 17 while outer handle panel 18 is foldably joined to outer handle panel 13 along medial fold line 19. Hand gripping apertures 20 and 21 are formed in handle panels 16 and 18 respectively. Riser panel 22 is foldably joined to inner handle panel 16 along fold line 24A and is provided with locking notch 22A. End wall panel 23 is foldably joined to riser panel 22 along fold line 24. Side wall 25 is joined to end wall panel 23 along fold line 26 and end wall panel 27 is foldably joined to side wall 25 along fold line 28. Riser panel 29 is foldably joined to both outer handle panel 18 and to end wall panel 27 along fold line 30. Locking notch 29A is formed in riser panel 29.

The bottom of the carrier includes a bottom wall 31 which is foldably joined to side wall 25 along fold line 32 and includes a medial fold line 33.

For strengthening the carrier and for providing medial separation between the articles, partition structure is provided and includes medial partition panel 10. Formed in medial partition panel 10 are transverse partition panels 34, 35 and 36. Transverse partition panel 34 is joined to medial partition panel 10 along fold line 37 and transverse partition panel 35 is foldably joined to medial partition panel 10 along vertically coincidental fold lines 38 and 39. In like manner, transverse partition panel 36 is foldably joined to medial partition panel 10 along vertically coincidental fold lines 40 and 41. Anchoring flaps 42 and 43 are joined to transverse partition panels 34 and 35 along fold lines 44 and 45 respectively.

Also included in the carrier partition structure is medial partition panel 46 which is foldably joined to medial partition panel 10 along fold line 47. Similar to medial partition panel 10, medial partition panel 46 is provided with transverse partition panels 48, 49 and 50. Specifically transverse partition panel 48 is foldably joined to medial partition panel 46 along fold line 51 while transverse partition panel 49 is joined to medial partition panel 46 along vertically coincidental fold lines 52 and 53. Transverse partition panel 50 is joined to medial partition panel 46 along vertically coincidental fold lines 54 and 55. Transverse partition panels 48 and 49 are provided with anchoring flaps 56 and 57 which are foldably joined thereto along fold lines 58 and 59 respectively. Additionally auxiliary flap 60 is struck from medial partition panel 46.

Another major element of the partition structure comprises longitudinal partition panel 61 which is foldably joined to medial partition panel 10 along fold line 62 and which extends beyond the free ends of transverse partition panels 36 and 50.

It will be noted that transverse partition panels 36 and 50 are of a width less than the distance between the handle structure and the side walls in the assembled carrier. In order to anchor the transverse partition panels 36 and 50 to their respective side walls, transverse partition tabs 63 and 64 are provided and are folded along fold lines 65 and 66 respectively and constitute parts of the composite partitions. To form portions of composite transverse partitions, transverse partition tabs 63 and 64 are folded along fold lines 65 and 66 respectively to anchoring flaps 67 and 68. Anchoring flaps 67 and 68 are joined to side walls 1 and 25 along fold lines 69 and 70 respectively.

To facilitate a smooth folding operation, nick 71 provides a connection between transverse partition tab 63 and outer handle panel 13. Similarly nick 72 provides a connection between transverse partition tab 64 and outer handle panel 18.

In order to form a completed carrier from the blank shown in FIG. 2, an application of glue is first made to the anchoring flaps 67 and 68 and to the adjacent por-

tions of the side walls as shown by stippling in FIG. 2. Thereafter anchoring flaps 67 and 68 are elevated and folded along their respective fold lines 69 and 70 into positions of flat face contacting relation with the inner surfaces of side walls 1 and 25 respectively. This folding operation of course causes the transverse partition tabs 63 and 64 to fold into generally flat face contacting relation with their associated side walls 1 and 25. Upon completion of this folding operation these parts occupy the positions depicted in FIG. 3 which is a fragmentary view of the center portion of the blank of FIG. 2.

Thereafter an application of glue is made to the riser panels 8 and 22 and to all the handle panels 12, 13, 16 and 18 as indicated by stippling in FIG. 2. Following this application of glue, the end wall panels 4 and 23 are elevated and folded toward the right along fold lines 5 and 26. Simultaneously handle panels 12 and 16 are folded along fold lines 9A and 24A and when this folding operation is completed the blank appears as shown in FIG. 4 with the inner handle panels 12 and 16 adhered to the inner surfaces of outer handle panels 13 and 18 and with the riser panels 8 and 22 secured to the inner surfaces of inner handle panels 12 and 16 respectively.

With the parts in the positions shown in FIG. 4, longitudinal partition panel 61 is folded downwardly along fold line 62 into flat face contacting relationship with medial partition panel 10 as indicated by arrow 73 in FIG. 5.

Thereafter an application of glue is made to the inner surfaces of handle panels 12, 13 and 18, transverse partition tab 63, riser panels 8 and 29, medial partition panel 10, transverse partition panel 36, anchoring flaps 42 and 43, side wall 1, and auxiliary flap 60 as indicated by stippling in FIG. 4. Then medial partition panel 10 and riser panel 29 are elevated and folded toward the left along fold lines 11 and 30 respectively and when this folding operation is completed the parts appear as depicted in FIG. 6. The medial partition panel 10 is thus secured to the handle panels 12 and 13. Also anchoring flaps 42 and 43 are adhered to side wall 1, transverse partition panel 36 is adhered to transverse partition tab 63, and auxiliary flap 60 is adhered to riser panel 8 and to handle panel 12.

Then an application of glue is made to medial partition panels 10 and 46, and to longitudinal partition panel 61 as indicated by stippling in FIG. 6 and medial partition panel 46 is elevated and folded along fold line 47 thereby becoming secured to medial partition panel 10 and longitudinal partition panel 61 as shown in FIG. 7.

Thereafter the bottom panel 31 is folded along its medial fold line 33. An application of glue is then applied to the blank as shown in FIG. 7 by stippling. More specifically glue is applied to riser panels 8, 22 and 29, transverse partition tab 64, the inner surfaces of handle panels 12 and 16, longitudinal partition panel 61, anchoring flaps 56 and 57, auxiliary flap 60, medial partition panels 10 and 46, side wall 25, and glue flap 2. Then the portions of the blank disposed above the fold line 17 as viewed for example in FIG. 7 are elevated and folded into the position depicted in FIG. 8 which represents the completed carrier in collapsed condition.

From FIG. 6, it is apparent that the edge 36A of transverse partition panel 36 is spaced slightly from the edge 8A of riser panel 8. From FIG. 7, it is apparent that edge 50A of transverse partition panel 50 is also spaced a short distance from edge 8A of riser panel 8. Edges 36A and 50A also are spaced slightly from edge 22A of riser panel 22. By this arrangement transverse partition panels are free to swing into perpendicular relation to the handle, riser panels and side walls when the carrier is set up. This relationship is possible due to the short width and composite nature of panels 36 and 50. Stated otherwise the length of medial partition panel 10 including panel 36 is less than the length of side wall 1 by a distance at least as great as the width of riser panel 8 and the inner edge 50A of medial partition panel 46 is spaced from the end wall panels 4 and 23 by a distance at least as great as the width of riser panel 22 when the carrier is collapsed.

In order to set the carrier up from its collapsed condition shown in FIG. 8 into the set-up condition shown in FIG. 1, it is simply necessary to secure the side walls 1 and 25 against movement toward the left and to apply a force toward the left to the medial edges of end wall panels 6 and 27. This expands the carrier and moves the side walls apart. Simultaneously the bottom wall 31 folds into a flat plane. The carrier is maintained in set-up condition by cooperation between the locking notches made up of notches 8A, 22A, 10A and 29A and the ends of bottom wall 31. The carrier then appears as shown in FIG. 1.

Therefore by this invention an article carrier having a medial partition panel is adapted to be manipulated on modern high speed machinery as opposed to manual folding and gluing which has been necessary in connection with known article carriers. The essence of this invention embodies an article carrier having at least one of its transverse partition panels on each side of the handle formed so that its width is less than the distance between the handle and one side wall and being of composite construction. This allows the medial partition panels such as 10 and 46 to be folded during the various stages of manufacture of the carrier without overlap between the extreme inner edge of a medial partition panel and its corresponding riser panel either 8 or 22. While the embodiment described in detail above shows a portion of the composite transverse partition forming an end of the medial partition panel, this element of the transverse partition structure along with the other element constituting the composite structure may form any one of the transverse partitions. In addition both elements of the composite structure may be struck from the area of the handle.

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

1. An article carrier blank comprising a bottom wall, a first side wall foldably joined to a side edge of said bottom wall, a first pair of end wall panels foldably joined respectively to the end edges of said first side wall, a pair of riser panels foldably joined respectively to said first pair of end wall panels along the edges thereof remote from said first side wall, a first pair of handle panels foldably joined respectively to said pair of riser panels, a second pair of handle panels foldably joined respectively to the top edges of said first pair of handle panels, a third riser panel foldably joined to one of said second pair of handle panels along an end edge thereof, a third end wall panel foldably joined to said third riser panel along the inner edge thereof, a second side wall foldably joined to said third end wall panel along an edge thereof remote from said third riser

panel, a fourth end wall panel foldably joined to said second side wall remote from said third end wall panel, a first medial partition panel foldably joined to said fourth end wall panel along an edge thereof remote from said second side wall and including at least one transverse partition panel struck therefrom, and a second medial partition panel having at least one transverse partition panel struck therefrom and being foldably joined to said first medial partition panel along the top edge thereof and disposed alongside but detached from the adjacent one of said pair of riser panels, the longitudinal dimension of each of said medial partition panels plus the longitudinal dimension of the complementary portion of the corresponding riser panels being no greater than the longitudinal dimension of a side wall, and the free end portions of said medial partition panels respectively forming substantially identical transverse partition panels.

2. An article carrier blank according to claim **1** wherein a longitudinal partition panel is foldably joined to said first medial partition panel along a bottom edge thereof, the free end of said longitudinal partition panel extending beyond the free ends of said medial partition panels.

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