Feb. 28, 1967 P. J. WOOD 3,306,485

ARTICLE CARRIER

Filed July 27, 1964 3 Sheets-Sheet 1

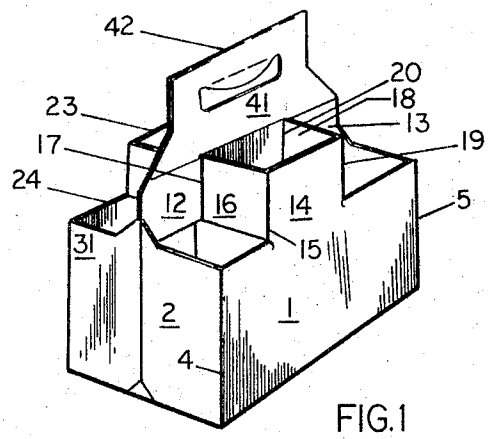

FIG. 1

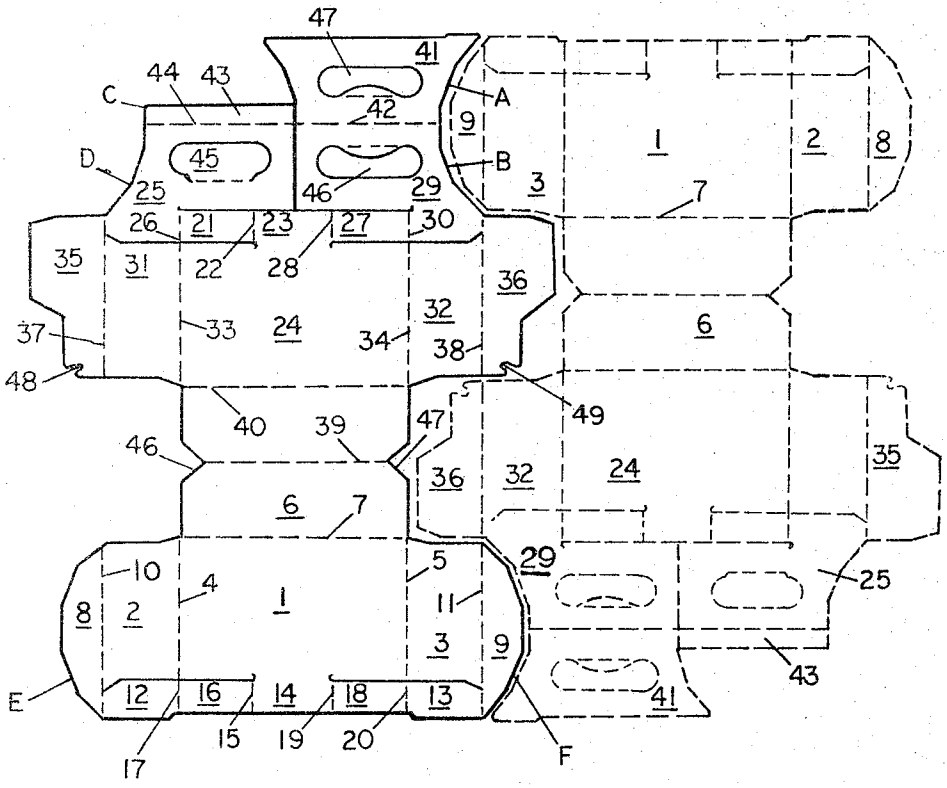

FIG. 2

INVENTOR.
PRENTICE J. WOOD
BY Walter M. Rodgers
ATTORNEY

Feb. 28, 1967 P. J. WOOD 3,306,485

ARTICLE CARRIER

Filed July 27, 1964 3 Sheets-Sheet 2

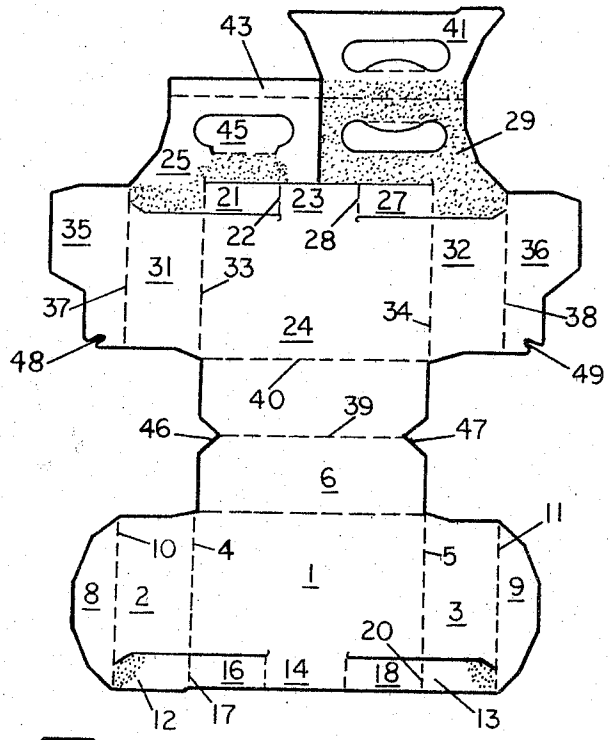

FIG. 3

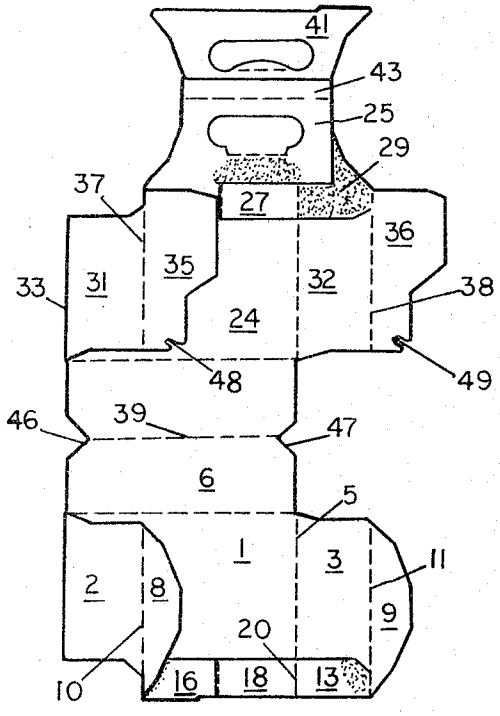

FIG. 4

INVENTOR.
PRENTICE J. WOOD
BY Walter M. Rodgers
ATTORNEY

Feb. 28, 1967 P. J. WOOD 3,306,485

ARTICLE CARRIER

Filed July 27, 1964 3 Sheets-Sheet 3

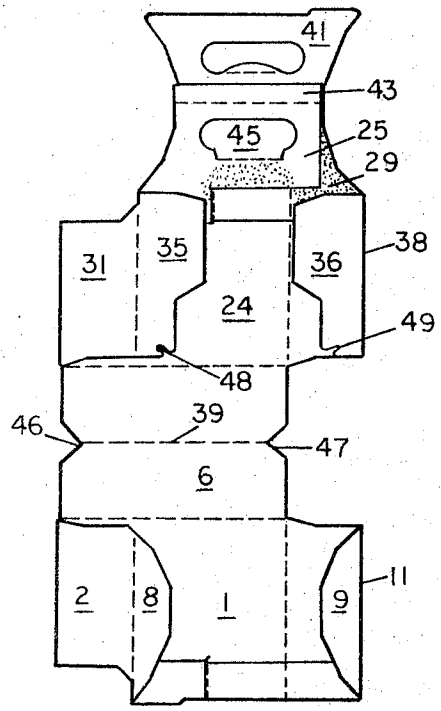

FIG. 5

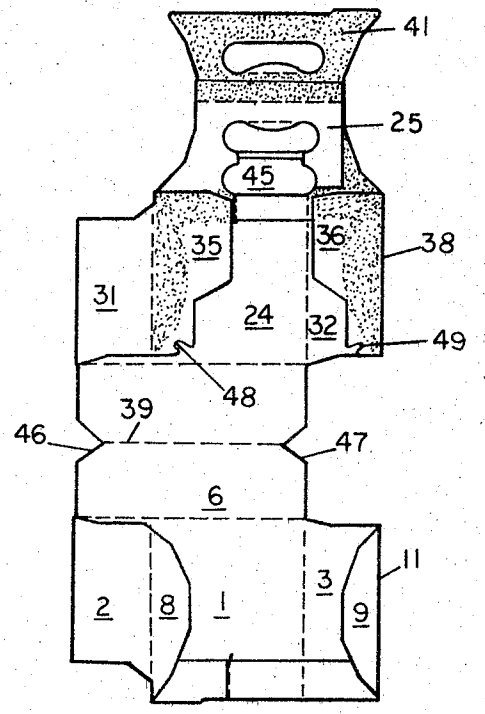

FIG. 6

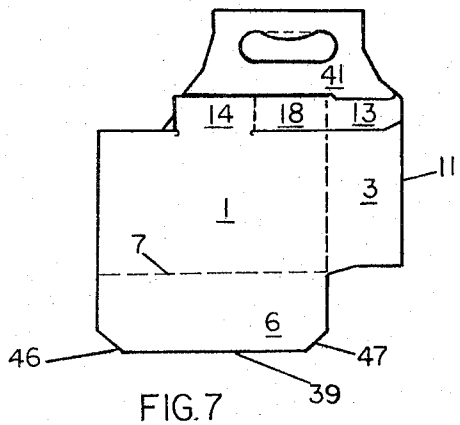

FIG. 7

INVENTOR.
PRENTICE J. WOOD
BY Walter M. Rodgers
ATTORNEY

United States Patent Office

3,306,485
Patented Feb. 28, 1967

3,306,485

ARTICLE CARRIER

Prentice J. Wood, Jonesboro, Ga., assignor to The Mead Corporation, a corporation of Ohio

Filed July 27, 1964, Ser. No. 385,330
4 Claims. (Cl. 220—113)

This invention relates to article carriers and more particularly to carriers of the type wherein a multi-ply handle is disposed medially of the carrier and wherein a plurality of article receiving cells are disposed in a row on each side of the handle. The invention is directed primarily to a carrier wherein various panels from which the carrier is formed are constructed and arranged so as to provide a carrier of substantial structural strength and wherein a minimum of material is utilized.

Carriers of the type disclosed and claimed in United States Patent 2,537,452 owned by the assignee of this invention, incorporate a multi-ply handle which extends the full length of the carrier. Carriers of the type disclosed in the aforementioned patent are characterized by a high degree of ruggedness, by excellent merchandising appearance, and are economical to manufacture. For instance the blanks for such carriers nest in staggered fashion along a continuous web with but small wastage of material. However, such blanks cannot be nested economically on the usual rectangular sheet of material because the length of the bottom panels is equal to the combined widths of the adjacent end and riser panels. Thus when staggered is nested relation unused areas necessarily are wasted at each end edge of each sheet.

In accordance with one established presently used practice, carriers of the type disclosed in Patent 2,537,452 may be modified in such a way as to reduce the amount of material required by a special nesting of the blanks from which the carriers are formed without appreciably impairing the strength or merchandising function of the carrier. An example of such practice is that disclosed and claimed in U.S. patent application Ser. No. 305,454, filed August 30, 1963, now Patent No. 3,203,585, and owned by the assignee of this invention.

According to the present invention, carriers of the type disclosed in U.S. patent application Ser. No. 305,454 are provided wherein the side walls are adjoined to the bottom panels by a fold line rather than by a glue flap and a particular blank is arranged with respect to an adjacent blank from which the carriers are made with the so-called riser panel of one blank nested into the recessed handle panels of an adjacent blank. By this means the bottom of the finished carrier is integral with the side walls thereby rendering the carrier unusually sturdy and in addition the glue flap is eliminated at a point of substantial stress in the carrier. Of course elimination of the glue flap effects a saving of material and also eliminates the gluing operation at the bottom of the carrier.

The principal object of this invention is to provide an improved article carrier which is particularly characterized by a high degree of mechanical strength and which also is characterized by a minimum of material and in which the bottom of the carrier is integrally formed with the side walls along fold lines.

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 constructed according to the invention; FIG. 2 is a plan view of one form of blank from which the carrier depicted in FIG. 1 is formed and wherein dotted lines are utilized to illustrate one nesting arrangement; FIG. 3 is a plan view of a blank similar to that depicted in FIG. 2 and to which stippling has been applied to indicate an application of glue; and in which FIGS. 4, 5, 6 and 7 represent succesive stages through which the blank depicted in FIG. 2 is glued and folded to produce the finished collapsed carrier depicted in FIG. 7.

In the drawings the numeral 1 is used to designate one side wall of the carrier to which the end panels 2 and 3 are foldably joined along fold lines 4 and 5, respectively. A bottom panel 6 is foldably joined along the bottom edge 7 of side wall 1.

A pair of riser panels 8 and 9 are foldably joined respectively to the end panels 2 and 3 along fold lines 10 and 11. A pair of handle panel elements 12 and 13 are foldably joined respectively to the riser panels 8 and 9 along the fold lines 10 and 11.

For the purpose of providing article receiving cells on the side of the carrier adjacent to side wall 1, the side wall is provided with a high center section generally designated by the numeral 14. Foldably joined at one end to high center section 14 along fold line 15 is a partition strip 16 which is foldably joined to handle panel 12 along fold line 17. In similar fashion, partition strip 18 is foldably joined to the high center section 14 along fold line 19 and is foldably joined to handle panel 13 along fold line 20.

For the purpose of providing article receiving cells on the side of the carrier opposite from side wall 1, partition strip 21 is foldably joined along fold line 22 to the high center section 23 of side wall 24. Partition strip 21 is foldably joined to handle panel 25 along fold line 26. In like fashion, partition strip 27 is foldably joined to the high center section 23 of side wall 24 along fold line 28 and is foldably joined to handle panel 29 along fold line 30.

The end panels 31 and 32 are foldably joined to side wall 24 along fold lines 33 and 34, respectively. Riser panels 35 and 36 are foldably joined to end panels 31 and 32 respectively along fold lines 37 and 38. Bottom panel 6 having a medial fold line 39 is foldably joined to side wall 24 along fold line 40.

Handle panel 41 is foldably joined to handle panel 29 along a medial fold line 42 while a lap panel 43 is foldably joined to handle panel 25 along a fold line 44.

In accordance with a feature of this invention, and as is best shown in FIG. 2 the blank there depicted is constructed so that the handle panels 29 and 41 are recessed inwardly from fold lines 11 and 38 along their outer edges as generally designated by the letters A and B. In like fashion, the outer end edges of handle panel 25 and of lap panel 43 are recessed inwardly from fold lines 10 and 37 as designated generally by the letters C and D. The riser panels such for example as 8 and 9 may have their edges E and F configured so that such edges generally conform to the edges A and B of panels 29 and 41. Thus riser panels such as 8 and 9 by suitable nesting are in effect taken from the handle panels of an adjacent blank and one blank may be nested alongside an adjacent similar blank with a minimum of waste. In FIG. 2 the blank on the left is depicted in solid lines whereas the outline of a blank on the right is depicted in dotted lines. Stated otherwise, the blank on the left depicted in FIG. 2 may be nested with the blank on the right by simply arranging the blank on the right in reversed side-by-side relation so that the edge F of riser panel 9 of the left hand blank lies in complementary relation to the edges A and B of handle panels 29 and 41 of the right hand blank and so that the bottom edge of end panel 3 of the right hand blank coincides with the top edge of riser panel 36 of the left hand blank. Thus in accordance with one feature of the invention, material is in effect taken from the right hand end of the handle panels 29 and 41 of one blank and is utilized to form at least a part of the riser panel 9 of

an adjacent similar blank. By this means substantial economy of material is effected.

An auxiliary panel 45 is formed in handle panel 25 and is held in place by a fold line along its lower edge as viewed in FIG. 2. Handle panels 29 and 41 are provided with hand gripping apertures 46 and 47 respectively.

In order to manipulate the blank depicted in FIG. 2 in such a way as to form a finished carrier as depicted in FIG. 1, it is only necessary to fold the blank through the stages depicted in FIGS. 4–7, inclusive, after glue is applied initially as indicated in FIG. 3 by stippling. Stated otherwise, a carrier constructed according to this invention is formed substantially as disclosed in the aforementioned U.S. Patent 2,537,452. For the sake of completeness, a brief description of the gluing and folding operations is here included.

After glue is applied to the blank as indicated by stippling in FIG. 3, riser panels 35, and 8 are folded over against handle panel 25 and handle panel element 12 respectively along the upper portions of their respective fold lines 37 and 10. This operation causes the riser panels to be affixed to the handle panel 25 and to handle panel element 12. Simultaneously with this folding operation the end panels 31 and 2 are swung over along their respective fold lines 33 and 4 and the handle panel 25 and handle panel element 12 are thus elevated and swung over so that the auxiliary panel 45 coincides generally with the hand gripping aperture 46 and handle panel 29. In like fashion, lap panel 43 swings over into face contacting relation with handle panel 41. This folding operation causes the partition strip 21 to swing over along fold line 26 so that the partition strip 21 lies flat against the center portion 23 of side wall 24. Simultaneously partition strip 16 folds over along fold line 15 so that the strip lies flat against the high center portion 14 of side wall 1. Upon completion of this folding operation the blank appears as indicated in FIG. 4.

In order to perform the next operation, the riser panels 36 and 9 are swung over along their respective fold lines 38 and 11 so that the riser panels lie flat against the end panels 32 and 3 and so that the inner ends of the riser panels 36 and 9 are affixed securely to the right hand portions of handle panel 29 and of handle panel element 13 respectively. Upon completion of this operation the blank appears as depicted in FIG. 5.

With glue applied as indicated by stippling in FIG. 6, and with auxiliary panel 45 folded down the blank is then folded along the medial fold lines 39 so that the riser panel 35 comes into flat face contacting relation to the riser panel 8 and so that the riser panel 36 is secured in flat face contacting relation to the riser panel 9. Simultaneously, the inner surface of handle panel 41 and lap panel 43 are affixed to the outer surface of handle panel 25 so that upon completion of this folding operation the completed carrier appears in collapsed form as depicted in FIG. 7. During this folding operation the auxiliary panel 45 is securely affixed between the handle panels 41 and 25 and adds substantial reinforcement to the composite multi-ply handle of the carrier.

For the purpose of maintaining the carrier depicted in FIG. 7 in set-up condition as shown in FIG. 1, locking notches 46 and 47 are formed at the ends of fold line 39 in bottom panel 6. These notches cooperate with notches 48 and 49 formed in riser panels 35 and 36 respectively in known manner.

While a particular embodiment of the invention has been shown and described, it will be understood that the invention is not limited thereto and that changes and modifications may be made without departing from the true spirit and scope of the invention.

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

1. An article carrier formed from a blank adapted for side-by-side nesting with a reversed adjacent blank, each blank comprising a pair of handle panels foldably joined together along a medial fold line, a first riser panel foldably joined to one of said handle panels along a fold line generally normal to said medial fold line, an end panel foldably joined to said riser panel along a fold line which is aligned with the fold line between said first riser panel and said one handle panel, a first side wall panel foldably joined to said end panel along an edge thereof remote from said first riser panel, a bottom panel foldably joined to said first side wall along an edge thereof generally normal to the fold line between said first side wall and said first end panel, a second side wall panel foldably joined to said bottom panel along an edge thereof which is opposite the said first side wall panel, a second end panel foldably joined to an end edge of said second side wall panel which is generally aligned with the fold line between said first end panel and said first side wall, and a second riser panel foldably joined to said second end wall panel along an edge thereof remote from said second end panel, the end edges of said handle panels adjacent said first riser panel being recessed inwardly from the fold line between said first riser panel and said one of said handle panels sufficiently to receive at least a substantial portion of a riser panel of an adjacent nested blank.

2. An article carrier according to claim 1 wherein the recessed edges of said handle panels are configured to conform at least generally with the outer edge of the nested riser panel of the adjacent blank.

3. An article carrier according to claim 1 wherein the recessed edges of the handle panels are recessed sufficiently to receive a riser panel and a portion of the adjacent end panel of the adjacent blank.

4. An article carrier according to claim 1 wherein the recessed edges of the handle panels of one blank receive at least a portion of the second riser panel of an adjacent substantially identical nested blank.

References Cited by the Examiner

UNITED STATES PATENTS

Re. 23,912	12/1954	Arneson	220—111
2,389,318	11/1945	Lebold	229—52
2,529,725	11/1950	Currie	229—52
2,688,421	9/1954	Forrer	220—111
2,756,919	7/1956	Davidson	229—14
2,987,176	6/1961	Ringler	206—65
3,203,585	8/1965	Wood	220—115

GEORGE O. RALSTON, *Primary Examiner*.