July 24, 1956 J. KRAMER 2,755,960

TWIN-COMPARTMENTED ARTICLE CARRIERS

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Fig. 2

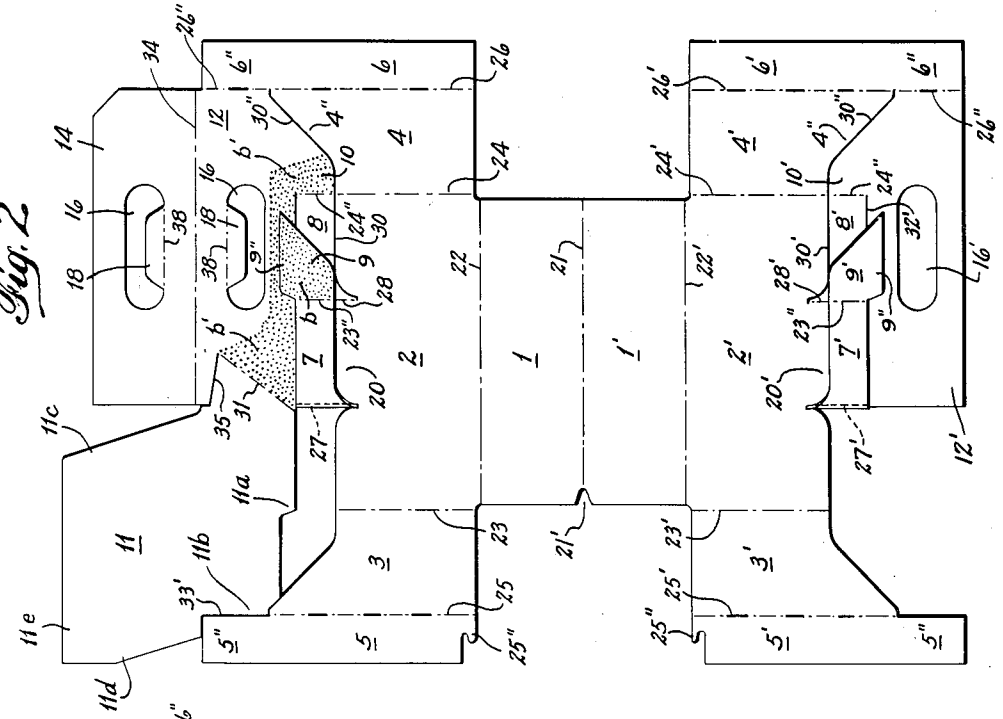
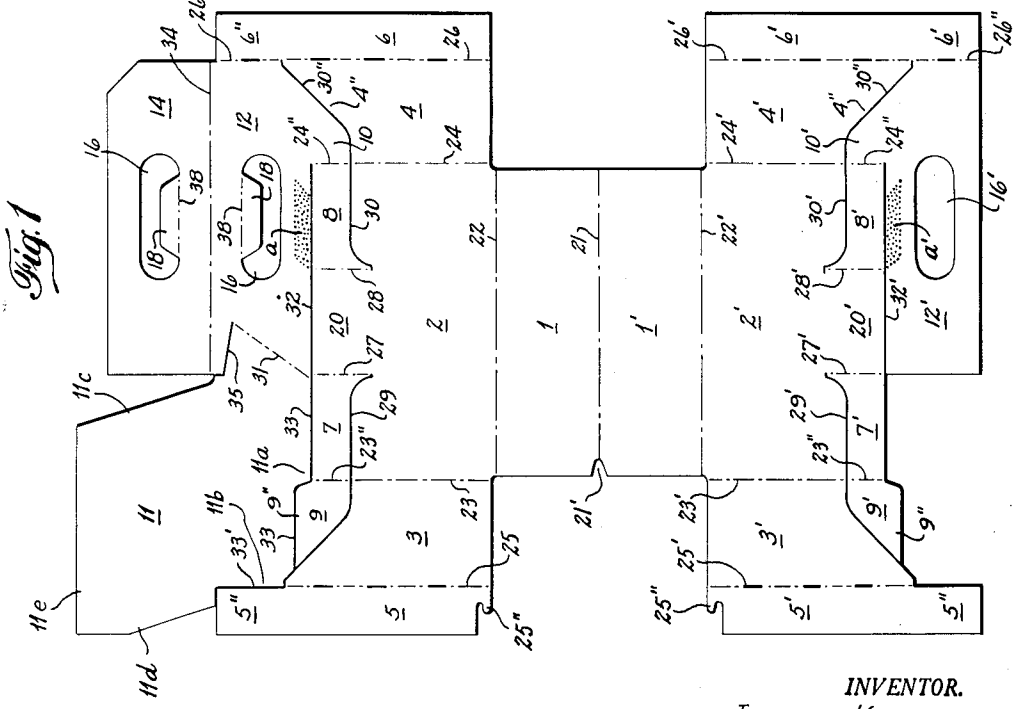


Fig. 1



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Fig. 4

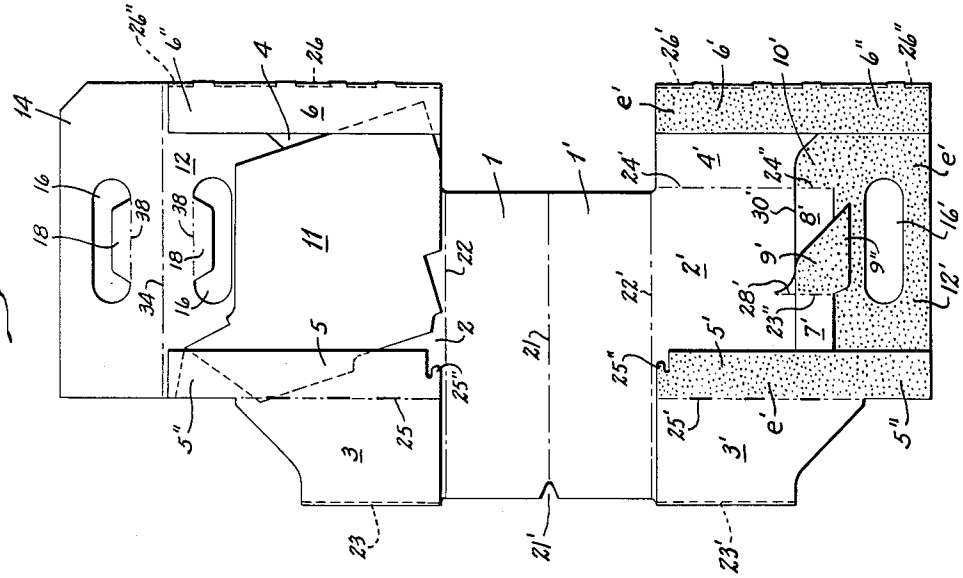
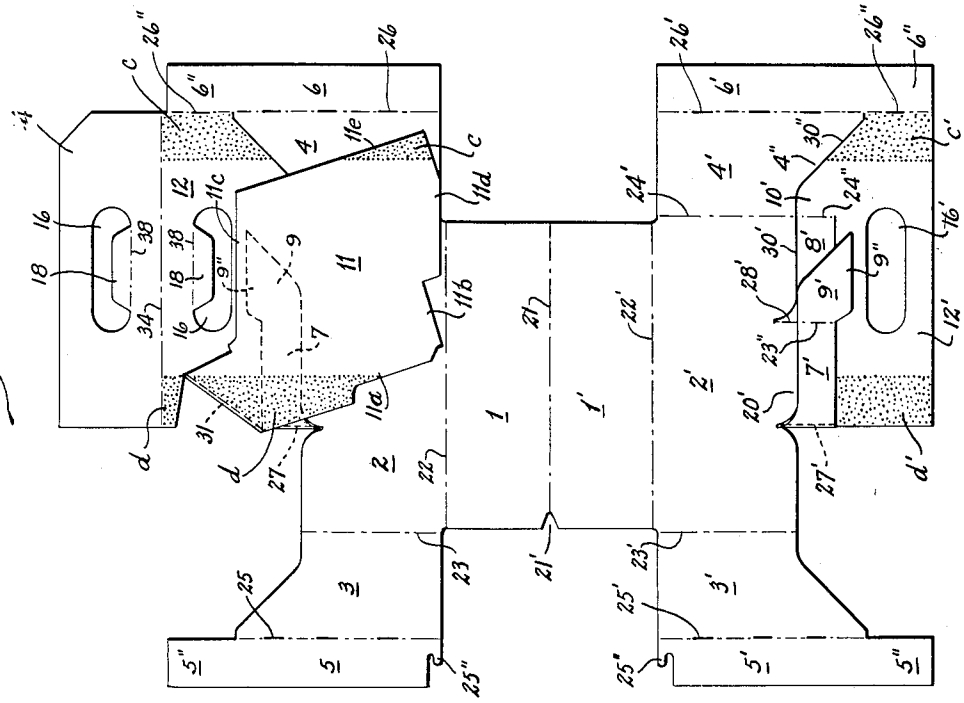


Fig. 3



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TWIN-COMPARTMENTED ARTICLE CARRIERS

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Fig. 5

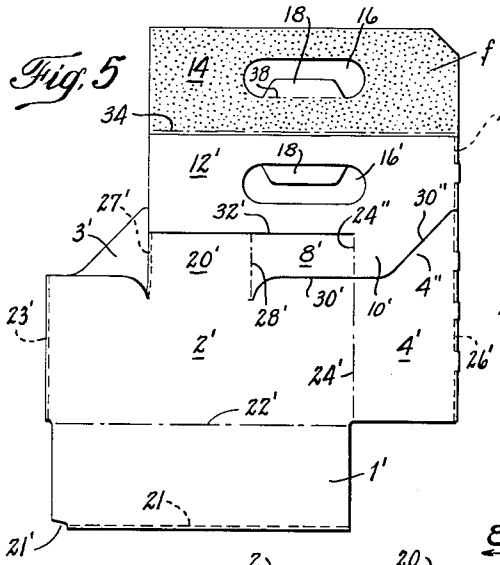
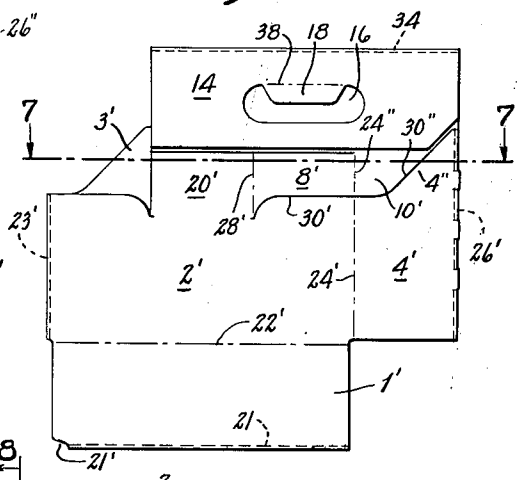


Fig. 6



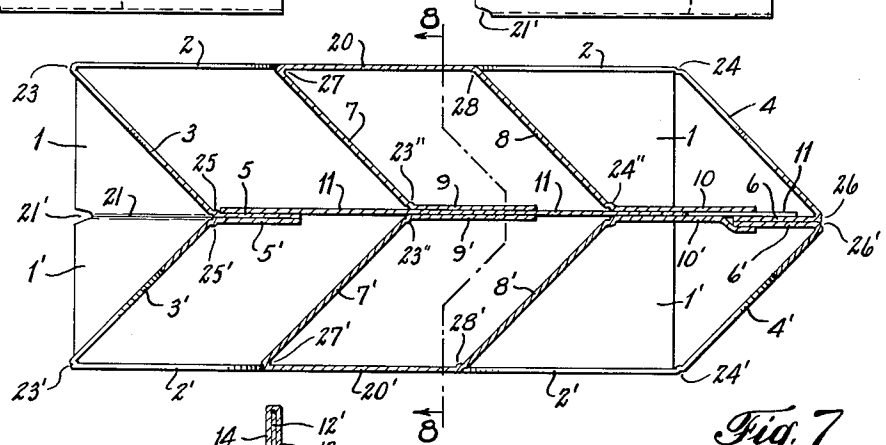


Fig. 7

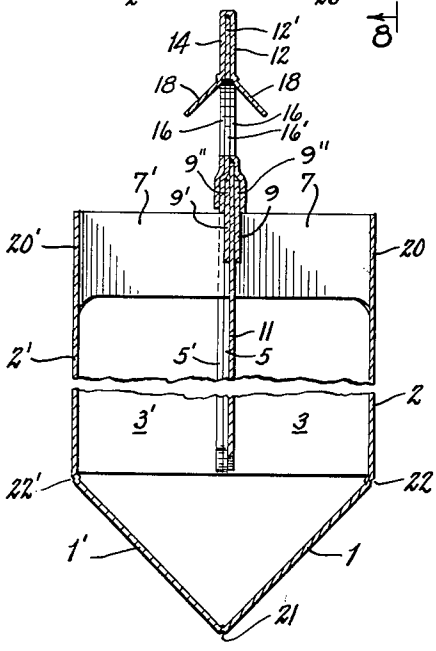


Fig. 8

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TWIN-COMPARTMENTED ARTICLE CARRIERS

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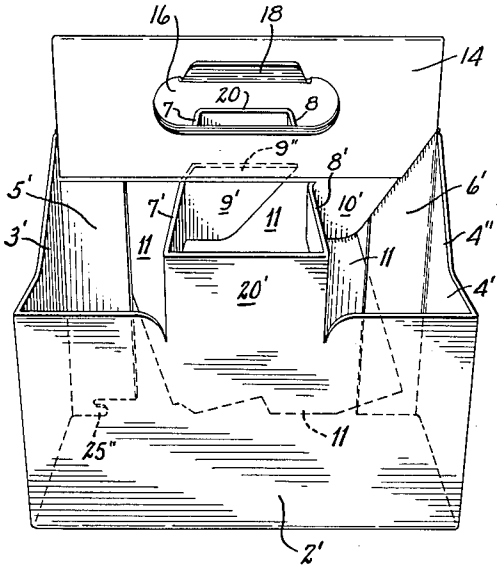


Fig. 9

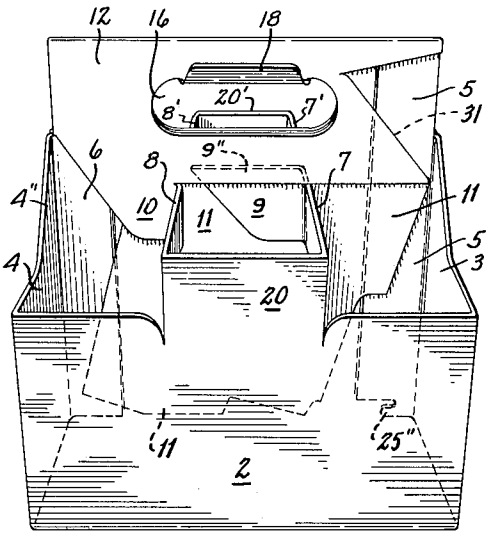


Fig. 10

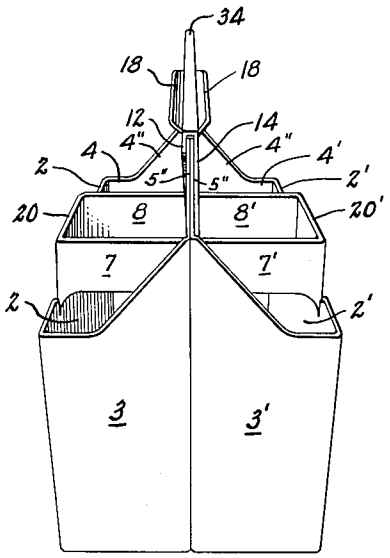


Fig. 11

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TWIN-COMPARTMENTED ARTICLE CARRIERS

Joseph Kramer, Reading, Ohio, assignor to The Gardner Board & Carton Co., Middletown, Ohio, a corporation of Ohio

Application March 6, 1953, Serial No. 340,748

8 Claims. (Cl. 220—113)

This invention relates to twin-compartmented article carriers each formed from a single blank of sheet material designed to be rapidly assembled in an economical manner to provide an article carrier which is featured by a strong and sturdy center partition structure and associated handle part.

This improved article carrier is particularly designed to provide six cells for the convenient transportation of beverage bottles. The blanks from which these carriers are formed can be cut from fiberboard or paperboard stock sheets previously imprinted on one side thereof only with little waste in cutting. As assembled, these carriers present a collapsible bottom panel having side panels foldably connected thereto, and end panel sections foldably connected to the side panels and terminating in inturned cross partition flaps. The three ply handle part is formed by a pair of handle sections foldably connected at one end thereof to end extensions of adjacent center partition securing flaps and a handle facing flap foldably connected to the top edge of one of the handle sections and adhesively secured to the other handle section.

An important feature of this invention is the provision of a center divider panel which is foldably connected to one of said handle sections along a diagonal score and is downfolded to extend down to the erected bottom panel. The center divider panel is secured along the side edges thereof to the inturned center partition flaps, and its upper edge portion is sandwiched between the handle sections, to thereby provide a strong and sturdy center partition structure for the carrier.

Each of the twin compartments of the carrier may be divided into article receiving cells by a pair of cross partition straps foldably connected at one end thereof to a raised center section associated with the adjacent side panel. One of the cross partition straps may be foldably connected at the inner end thereof to a lug portion extending downwardly from the adjacent handle section, the lug portion being adhesively secured to the center divider panel. The other cross partition strap has a head extension foldably connected to the inner end thereof, the head extension being adhesively secured to the adjacent center divider panel and is additionally overlapped by and secured to the adjacent handle section to thereby provide strong and sturdy cross partitions for the carrier.

The carrier forming blank is shaped and scored in a manner to permit high speed gluing and folding thereof in a continuous pass through a substantially standard gluing and folding machine and can thus be produced at a very low cost. The assembled carriers are attractive in appearance, present flat wall surfaces of substantial area for the reception of advertising decoration, can be shipped and stored in collapsed form and can be readily erected as required.

Other objects and advantages of this invention will become apparent as the disclosure proceeds.

Although the characteristic features of this invention will be particularly pointed out in the claims, the invention itself and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part hereof, in which

Fig. 1 is a plan view of the inside face of the prepared blank from which my improved article carrier is formed, this view showing spots of adhesive applied to certain areas of the blank preliminary to executing the first folding operation;

Fig. 2 is a plan view of the blank shown in Fig. 1 as the same appears after the first folding operation has been executed, this view also showing adhesive applied to additional areas of the blank;

Fig. 3 is a plan view of the blank shown in Fig. 2 after the second folding operation has ben executed thereon, this view also showing further areas of adhesive applied to certain parts of the blank;

Fig. 4 is a plan view of the blank shown in Fig. 3 as it would appear after the third folding operation has been executed thereon, this view showing adhesive applied to still further areas of the blank;

Fig. 5 is a plan view of the blank as it would appear after the fourth folding operation has been executed on the blank shown in Fig. 4, this view also showing adhesive applied to the handle facing flap thereof;

Fig. 6 is a plan view of the carrier as fully assembled in collapsed form and as produced after execution of the final folding operation upon the partly assembled carrier shown in Fig. 5;

Fig. 7 is a horizontal cross section of the carrier as it would appear when undergoing erection expansion and viewed along line 7—7 of Fig. 6;

Fig. 8 is a transverse cross section of the partially erected carrier as the same would appear when viewed along line 8—8 of Fig. 7;

Fig. 9 is a perspective view of the carrier as fully erected and as it would appear when viewed from one side thereof;

Fig. 10 is another perspective view of the fully erected carrier as it would appear when viewed from the opposite side thereof; and

Fig. 11 is a perspective view of the fully assembled carrier as it would appear when viewed from one end thereof.

Similar reference characters refer to similar parts throughout the several views of the drawings and specification.

Article carriers constructed in accordance with this invention may be made from a one-piece blank of selected paperboard or fiberboard material cut from stock sheets which need be imprinted on one side thereof only. The carrier blank as shown in Fig. 1 may be cut and scored ready for assembly into carrier form in a single pass of the imprinted stock sheet through a cutting and scoring machine with little resultant waste of stock sheet material.

The carrier blank as shown in Fig. 1 presents a pair of similar bottom sections **1** and **1'** foldably connected by a bottom collapsing score **21** and having a pair of side panels **2** and **2'** foldably connected to the opposite side edges thereof along substantially parallel extending scores **22** and **22'**. A pair of end panel sections **4** and **4'** are foldably connected along vertically extending aligned scores **24** and **24'** to adjacent ends of the side panels **2** and **2'**. Center partition flaps **6** and **6'** are foldably connected to the paired end wall sections **4** and **4'** along aligned vertically extending scores **26** and **26'**. A similar pair of end wall sections **3** and **3'** are foldably connected along aligned and vertically extending scores **23** and **23'** to the other end of the side panels **2** and **2'**. A pair of center partition flaps **5** and **5'** are also foldably connected

along aligned and vertically extending scores 25 and 25' to the end panel sections 3 and 3'.

A pair of cross partition straps 7 and 7' are foldably connected along aligned scores 27 and 27' to the adjacent end edges of center sections 20 and 20' integral with and projecting upwardly from the central portion of the side panels 2 and 2'. Head extensions 9 and 9' are foldably connected to the adjacent cross partition straps 7 and 7' along aligned scores 23'' which are substantially in alignment with the end panel defining scores 23 and 23' as the blank is formed. The cross partition straps 7 and 7' and their associated head extensions 9 and 9' are partly separated from the side panels 2 and 2' and fully separated from the adjacent end panel sections 3 and 3' by generally horizontal cuts 29 and 29' as indicated in Fig. 1. The head extensions 9 and 9' are designed to be adhesively secured to the center partition structure of the assembled carrier as hereafter more fully explained. Another pair of cross partition straps 8 and 8' are foldably connected at one end thereof by aligned scores 28 and 28' to the other side edge of the raised center sections 20 and 20' of the side panels 2 and 2' and are partially separated from the side panels 2 and 2' by generally horizontal cuts 30 and 30'.

A pair of handle forming extensions 12 and 12' having a length substantially equal to the longitudinal length of the carrier are hinged at one end thereof to the adjacent end extensions 6'' of the center partition flaps 6 and 6' along aligned vertically extending scores 26'' which are substantially in alignment with the scores 26 and 26' as shown in Fig. 1. The paired handle forming flaps 12 and 12' are separated from the upper edges 4'' of the adjacent end panel sections 4 and 4' by a cut continuation 30'' of the adjacent horizontal cuts 30 and 30'. The adjacent cross partition straps 8 and 8' are also foldably connected to lug portions 10 and 10' extending downwardly from the handle sections 12 and 12' by aligned scores 24'' which are substantially in alignment with the end panel defining scores 24 and 24' as the blank is formed. The handle sections 12 and 12' are separated by longitudinally extending cuts 32 and 32' from the upper edge of the adjacent cross partition straps 8 and 8' and the raised center sections 20 and 20'.

A handle facing flap 14 having a length which is substantially equal to the longitudinal length of the carrier is foldably connected along a longitudinally extending score 34 to the upper edge of the handle section 12. The handle facing flap 14 and the handle section 12 may be provided with suitable finger insertion cutouts 16 which fall into aligned registry when the carrier is assembled. Handle edging flaps 18 may be captured from material normally removed as waste in cutting the finger insertion cutouts 16, the handle edging flaps 18 being foldably connected by horizontal scores 38 to the hand grip portion of the handle facing flap 14 and handle section 12. The handle section 12' is also provided with a finger insertion cutout 16' which falls into registry with the finger insertion cutouts 16 of the handle facing flap 14 and the handle section 12 when the carrier is assembled.

An important feature of this improved blank is the provision of an offside and downfolding center divider panel 11 which is substantially entirely captured from material which would otherwise be removed as waste in the area between the upper extension 5'' of the center partition flap 5 and the adjacent end edge of the handle facing flap 14 and handle section 12. The center divider panel 11 is designed to provide a center partition panel which separates the intermediate cells of the carrier and extends down to the flattened bottom panel of the erected carrier. The center divider panel 11 is foldably connected to the adjacent end of the handle section 12 by a diagonally extending score 31, the score 31 being diagonally inclined so that when the center divider panel 11 is downfolded, the free edge 11*d* thereof will be closely adjacent the bottom panel of the fully erected carrier.

In the blank as formed, the upper portion of the handle section 12 is separated from the center divider panel 11 by a laterally extending cut 35 which joins the upper terminus of the diagonal score 31. The edge 11*a* of the center divider panel 11 is separated from the upper edge of the adjacent cross partition strap 7 and its associated head extension 9 by a generally longitudinally extending cut 33, with the cut extension 33' separating the edge 11*b* of the center divider panel 11 from the end extension 5'' of the center partition flap 5 and the upper edge 3'' of the adjacent end panel section 3 as shown in Fig. 1.

The edge portion 11*c* of the center divider panel 11 as shown in Fig. 1 is designed to be sandwiched between and adhesively secured to the lower portion of the handle sections 12 and 12' when the carrier is fully assembled. The edge portion 11*a* of the center divider panel is designed to be adhesively secured to the center partition flap 5 and its associated end extension 5'', and the edge portion 11*e* is designed to be adhesively secured to the center partition flap 6 when the carrier is fully assembled, thereby providing a strong and sturdy center partition structure for the assembled carrier.

In assembling the blank shown in Fig. 1 to provide the completed carrier, spots *a* and *a'* of adhesive are applied to the upper edge portions 9'' of the head extensions 9 and 9' or to a corresponding area of the handle sections 12 and 12' directly below the finger insertion cutouts 16 therein as indicated in Fig. 1. The cross partition straps 7 and 7' are then folded along the aligned scores 27 and 27' so as to place the upper portions 9'' of the head extensions 9 and 9' in secured relation to the lower edge portions of the handle sections 12 and 12'. As thus folded the head extensions 9 and 9' will partly overlie but will be unsecured to the cross partition straps 8 and 8' and the cross partition straps 7 and 7' will overlie but will be unsecured to the raised center sections 20 and 20' of the side panels 2 and 2' as shown in Fig. 2.

In the following operation, an area of adhesive *b* is applied to the exposed face of the head extension 9 as shown in Fig. 2 and an area *b'* of adhesive is applied to the lower portion of the handle section 12 which is to be covered by the center divider panel 11 when downfolded. The center divider panel 11 is then downfolded along its diagonally extending hinging score 31 so as to place the edge portion 11*c* thereof into adhesively secured relation to the lower portion of the handle section 12 and its associated lug extension 10, and in adhesively secured relation to the head extension 9 as shown in Fig. 3. As thus downfolded, the center divider panel 11 remains unsecured to the cross partition straps 7 and 8, but the upper portion 9'' of the head extension 9 will be adhesively secured and sandwiched between the lower portion of the handle section 12 and the center divider panel 11, with the result that the inner end of the cross partition strap 7 is strongly secured to the handle section 12 and the center divider panel 11.

Spots *c* of adhesive are then applied to the lower portion of the side edge 11*e* of the center divider panel 11 and to the adjacent edge portion of the handle section 12 as shown in Fig. 3, care being taken to apply no adhesive to the exposed area of the end panel section 4. Spots *d* of adhesive are similarly applied to the opposite edge of the handle section 12 and the adjacent end edge of the center divider panel 11 as shown in Fig. 3. Spots *c'* of adhesive are also applied to an area of the end edge of the handle section 12' which is to be covered by the infolded end extension 6'' of the center partition flap 6', care being taken to apply no adhesive to the end panel section 4'. A spot *d'* of adhesive is also applied to the opposite end of the handle section 12', care being taken to apply no adhesive to the adjacent cross partition strap 7'. The center partition flaps 6 and 6' are then folded

along the aligned vertical scores 26 and 26' so as to adhesively secure the end extensions 6'' thereof to the corresponding glued areas *c* and *c'* of the handle sections 12 and 12', and to also secure the lower end of the center partition flap 6 to the adjacent side edge 11*e* of the center divider panel 11 as shown in Fig. 4. In substantially the same operation, the end panel sections 3 and 3' are folded along the aligned scores 23 and 23' so as to adhesively secure the center partition flap 5 to the glued areas *d* of the handle section 12 and the adjacent side edge 11*a* of the center divider panel 11 as shown in Fig. 4, and to also secure the end extension 5'' of the center partition flap 5' to the glued area *d'* of the handle section 12'. As thus glued and folded, the partially assembled carrier will appear as shown in Fig. 4.

In the next operation areas *e'* of adhesive are applied to the entire length of the center partition flaps 5' and 6', to the entire exposed face of the handle section 12' and its associated lug extension 10', and to the entire face of the head extension 9' of the cross partition strap 7' as shown in Fig. 4. The thus glued blank as shown in Fig. 4 is then folded along the bottom collapsing score 21 so as to place the center partition flaps 5' and 6' into adhesively secured relation to the center partition flaps 5 and 6, to place the glued area of the handle section 12', its lug extension 10' and the head extension 9' into adhesively secured relation to the handle section 12 and the upper edge portion 11*c* of the center divider panel as shown in Fig. 5. In the final operation, adhesive *f* is applied to the entire inside face of the handle facing flap 14 as shown in Fig. 5, and the handle facing flap 14 is then folded along its longitudinally extending score 34 and into adhesively secured relation to the handle section 12', thereby completing the assembly of the carrier in collapsed form as shown in Fig. 6.

The collapsed carrier assembled as shown in Fig. 6 may be readily expanded by shifting the center partition structure laterally so that the end panel sections 3—3' and 4—4' will extend substantially at right angles to the side panels 2 and 2'. To maintain the carrier in erected form, hook portions 25' may be formed in the lower ends of the center partition flaps 5 and 5' which are shaped to engage in a notch 21' formed in the adjacent end of the bottom panel at the terminus of the bottom collapsing score 21.

Article carriers as thus constructed from blanks cut and scored as generally illustrated in Fig. 1 present a strong and sturdy center partition structure which extends down to the erected bottom panel and thus completely separates the articles placed in the twin compartments of the carrier. The center divider panel 11 is secured along the side edges 11*a* and 11*b* thereof to the inturned center partition flaps 5—5' and 6—6' to thereby provide a strong backbone structure for the carrier. The upper edge 11*c* of the center divider panel 11 as well as the end extensions 5'' and 6'' of the inturned center partition flaps 5—5' and 6—6' are adhesively secured and sandwiched between the handle sections 12—12' to further strengthen and rigidify the center partition structure of the carrier. The handle part is of three ply thickness as formed from the full length handle sections 12 and 12' and the full length handle facing flap 14.

The inner ends of the cross partition straps 7 and 7' are strongly braced and secured to the center divider panel 11 by their associated head extensions 9 and 9', with the upper portions 9'' of the head extensions overlapped and adhesively secured to the lower edge portions of the adjacent handle sections 12 and 12'. The cross partition straps 8 and 8' are also strongly secured to the center divider panel 11 by the lug extensions 10 and 10' associated with the handle sections 12 and 12'.

This improved article carrier presents flat side wall surfaces and flat end wall surfaces of substantial area for the reception of advertising decoration. The exterior surfaces of the handle part as provided by the exposed faces of the handle section 12 and the handle facing flap 14 also present substantial surface areas for the reception of decorative advertising. This improved article carrier is economical in the use of paperboard, is formed from blanks which can be scored and cut from stock sheet material at high production speeds, and the blanks can be glued and assembled on substantially standard gluing and folding machines at a high production rate to provide a carrier which is strong and serviceable in use, attractive in appearance and producible at economical cost.

While certain novel features of this invention have been disclosed herein and are pointed out in the claims, it will be understood that various omissions, substitutions and changes may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. A twin-compartmented article carrier formed from a single blank of sheet material and having a bottom panel, side panels foldably connected to the opposite side edges of the bottom panel, end panel sections foldably connected to the side panels, and a center partition structure formed by inturned center partition flaps foldably connected to the end panel sections, a center divider panel secured to and spanning the space between said inturned center partition flaps, and a pair of handle sections spanning the space between and secured to end extensions of said inturned center partition flaps, said center divider panel being foldably connected to one of said handle sections along a diagonal score with the upper edge portion of said center divider panel sandwiched between said handle sections.

2. A twin-compartmented article carrier formed from a single blank of sheet material and having a bottom panel, side panels foldably connected to the opposite side edges of the bottom panel, end panel sections foldably connected to the side panels, and a center partition structure formed by inturned center partition flaps foldably connected to the end panel sections, a center divider panel secured to and spanning the space between said inturned center partition flaps, a pair of handle sections spanning the space between and secured to end extensions of said inturned center partition flaps, said handle sections being foldably connected at one end thereof to an adjacent pair of said end extensions, and a facing flap foldably connected to the upper end of one of said handle sections and secured in overlying relation to the outside face of the other handle section, said center divider panel being foldably connected to one of said handle sections along a diagonal score with the upper edge portion of said center divider panel sandwiched between said handle sections.

3. A twin-compartmented article carrier formed from a single blank of sheet material and having a bottom panel, side panels foldably connected to the opposite side edges of the bottom panel, end panel sections foldably connected to the side panels, inturned center partition flaps foldably connected to the end panel sections, a center divider panel secured to and spanning the space between said inturned center partition flaps, a pair of handle sections spanning the space between and secured to end extensions of said inturned center partition flaps, said handle sections being foldably connected at one end thereof to an adjacent pair of said end extensions, said center divider panel being foldably connected to one of said handle sections along a diagonal score with the upper edge portion of said center divider panel sandwiched between said handle sections, a pair of cross partition straps each foldably connected at one end thereof to a raised center section of the adjacent side panel, and a head extension foldably connected to each of said cross partition straps and secured to the outer face of said center divider panel and the inside face of the adjacent handle section.

4. A twin-compartmented article carrier formed from a single blank of sheet material and having a bottom panel formed by a pair of foldably connected bottom sections, side panels foldably connected to the opposite

side edges of the bottom panel, end panel sections foldably connected to the side panels, inturned center partition flaps foldably connected to the end panel sections, a center divider panel secured to and spanning the space between said inturned center partition flaps, a pair of handle sections spanning the space between and secured to end extensions of said inturned center partition flaps, said handle sections being foldably connected at one end thereof to an adjacent pair of said end extensions, a facing flap foldably connected to the upper end of one of said handle sections and secured in overlying relation to the outside face of the other handle section, said center divider panel being foldably connected to one of said handle sections along a diagonal score with the upper edge portion of said center divider panel sandwiched between said handle sections, a pair of cross partition straps each foldably connected at one end thereof to a raised center section of the adjacent side panel, and a head extension foldably connected to each of said cross partition straps and secured to the outer face of said center divider panel and the inside face of the adjacent handle section.

5. A one-piece article carrier forming blank presenting a bottom panel, side panels foldably connected to the opposite side edges of the bottom panel, an end panel section foldably connected to each end of both of said side panels, a center partition flap foldably connected to each of said end panel sections, a pair of handle sections foldably connected at one end thereof to end extensions of adjacent center partition flaps, and a center divider panel foldably connected to one of said handle sections along a diagonal score and extending between the adjacent end of said handle section and the end extension of the adjacent center partition securing flap.

6. A one-piece article carrier forming blank presenting a bottom panel, side panels foldably connected to the opposite sides of the bottom panel, an end panel section foldably connected to each end of both of said side panels, a center partition flap foldably connected to each of said end panel sections, a pair of handle sections foldably connected at one end thereof to end extensions of adjacent center partition flaps, a handle facing flap foldably connected to the upper end of one of said handle sections, and a center divider panel foldably connected to one of said handle sections along a diagonal score and extending between the adjacent ends of said handle facing flap and its associated handle section and the end extension of the adjacent center partition securing flap.

7. A one-piece article carrier forming blank presenting

a bottom panel, side panels foldably connected to the opposite sides of the bottom panel, an end panel section foldably connected to each end of both of said side panels, a center partition flap foldably connected to each of said end panel sections, a pair of handle sections foldably connected at one end thereof to end extensions of adjacent center partition flaps, a pair of cross partition straps foldably connected at one end thereof to a raised section of the adjacent side panel, one of said cross partition straps being foldably connected to a lug extension projecting from the adjacent handle section and the other cross partition strap having a head extension foldably connected to the other end thereof, and a center divider panel foldably connected to one of said handle sections along a diagonal score and extending between the adjacent end of said handle section and the end extension of the adjacent center partition securing flap.

8. A one-piece article carrier forming blank having a bottom panel formed by a pair of foldably connected bottom sections, side panels foldably connected to the opposite sides of the bottom panel, an end panel section foldably connected to each end of both of said side panels, a center partition flap foldably connected to each of said end panel sections, a pair of handle sections foldably connected at one end thereof to end extensions of adjacent center partition flaps, a handle facing flap foldably connected to the upper end of one of said handle sections, a pair of cross partition straps foldably connected at one end thereof to a raised section of the adjacent side panel, one of said cross partition straps being foldably connected to a lug extension projecting from the adjacent handle section and the other cross partition strap having a head extension foldably connected to the other end thereof, and a center divider panel foldably connected to one of said handle sections along a diagonal score and extending between the adjacent ends of said handle facing flap and its associated handle section and the end extension of the adjacent center partition securing flap.

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