Sept. 6, 1955 E. L. ARNESON 2,717,098

ARTICLE CARRIER

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Fig. 1

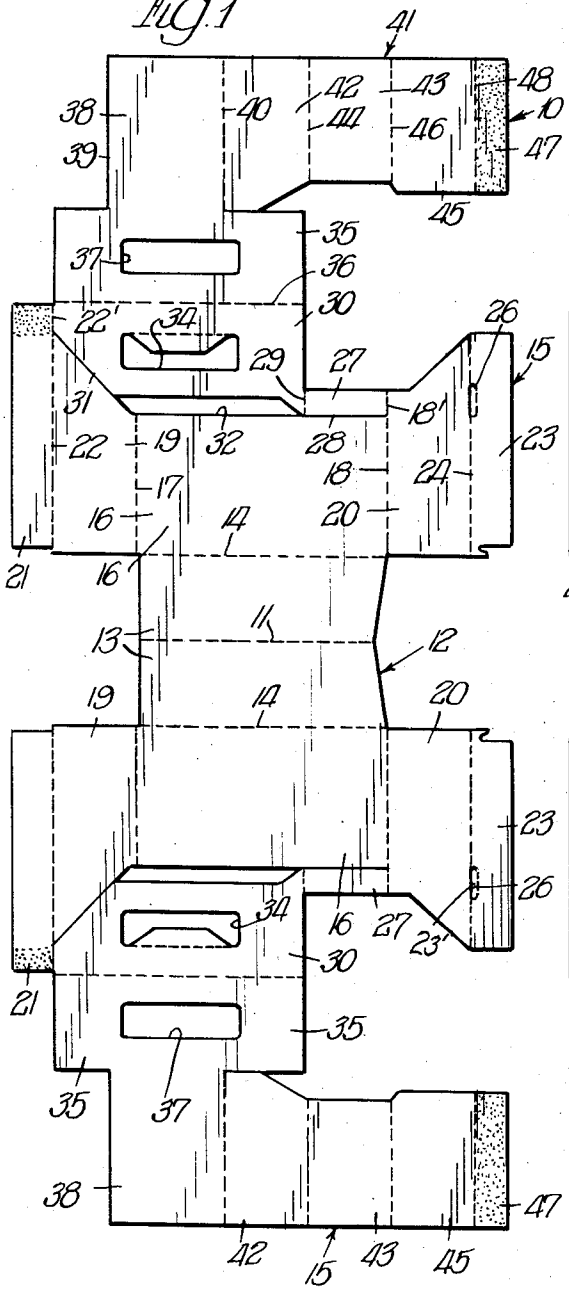
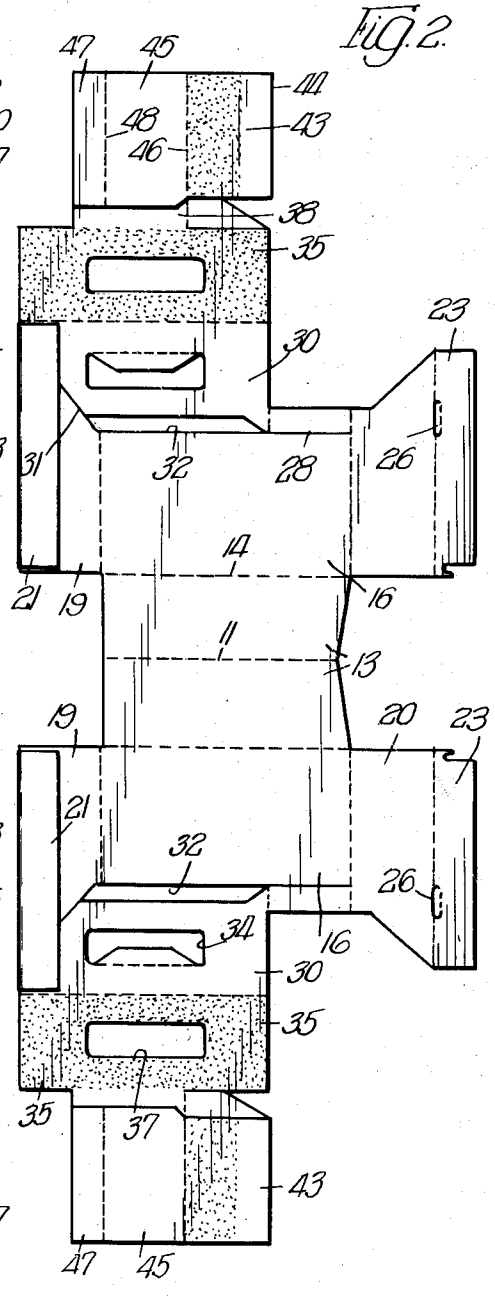


Fig. 2.



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Fig. 3

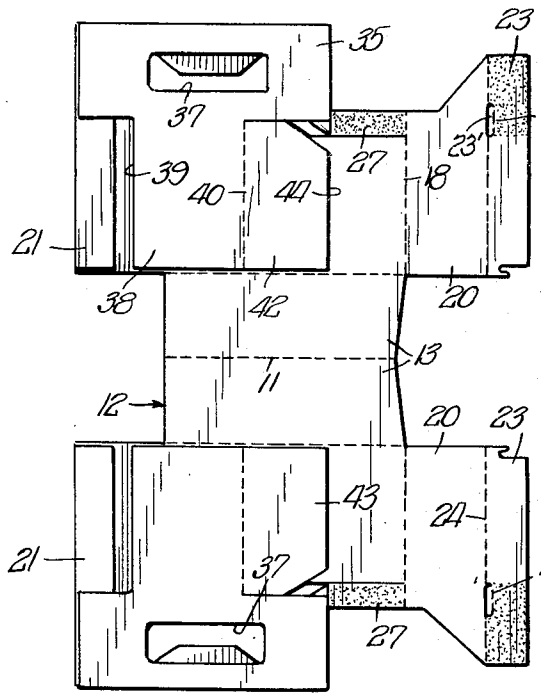


Fig. 4

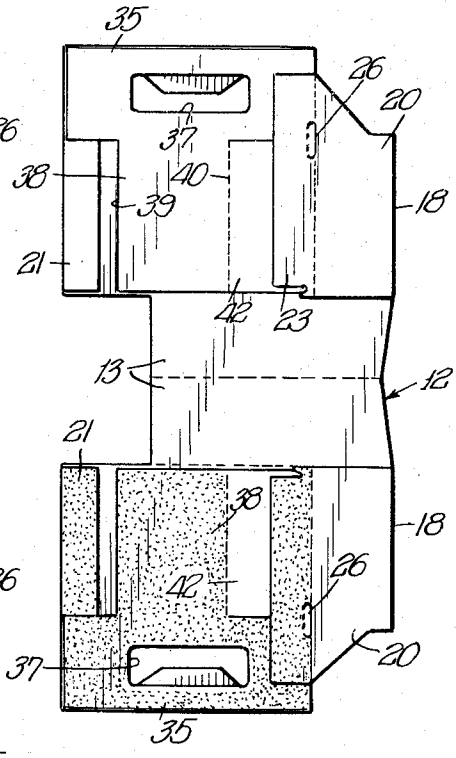
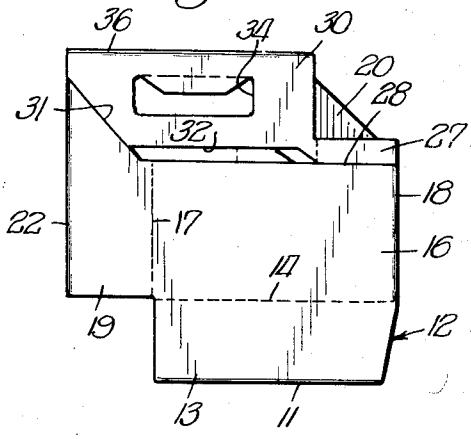


Fig. 5



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Fig. 6.

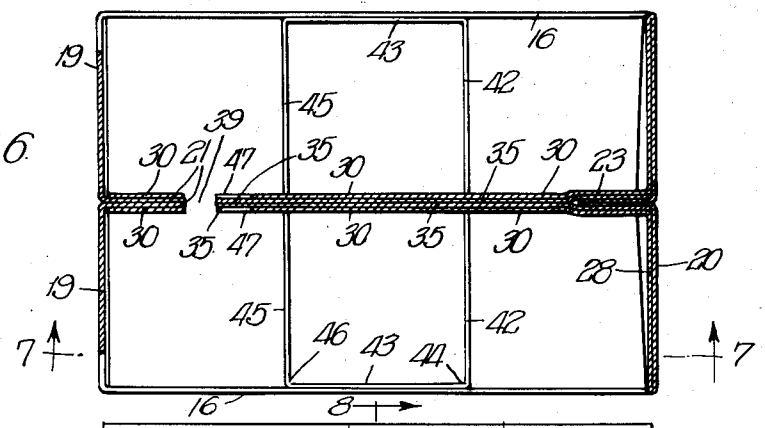
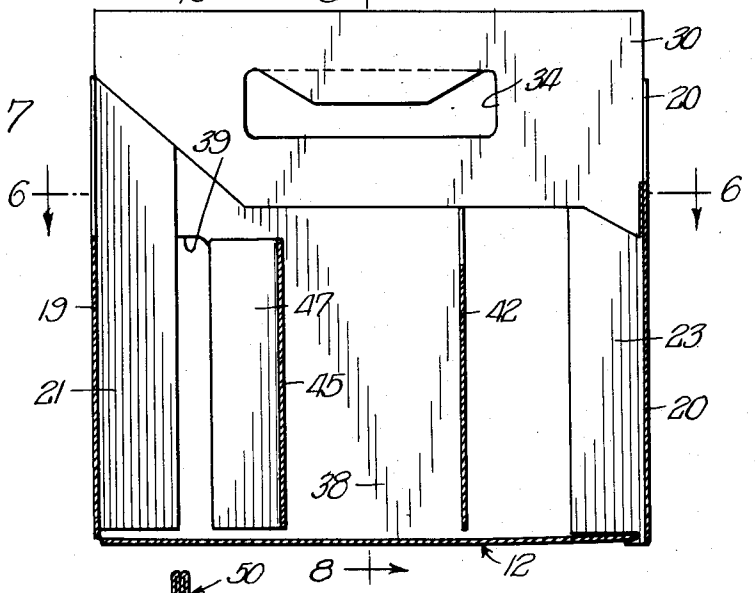


Fig. 7.



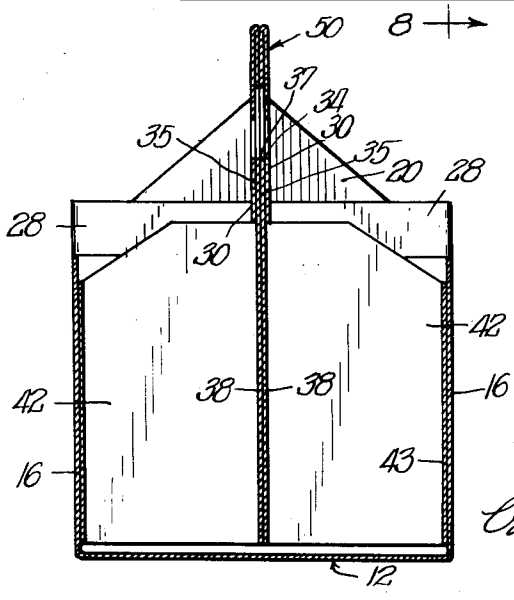


Fig. 8.

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United States Patent Office 2,717,098 Patented Sept. 6, 1955

2,717,098

ARTICLE CARRIER

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Application August 22, 1951, Serial No. 243,058

5 Claims. (Cl. 220—113)

The present invention relates to an improved flexible paperboard carrier for bottles and other articles of uniform size and shape. More particularly, it is an object of the invention to provide such a carrier having its interior subdivided into cells by vertical, longitudinally and transversely extending partition members, of which the former are in part of six ply thickness, including two pairs of handle panels disposed in side-by-side relation to one another, and the latter comprise cross partition elements disposed on either side of the longitudinal partition and integrally hinged at one end to the two innermost plies thereof.

It is an object of the invention to provide an improved article carrier of the foregoing description which features a very strong and rigid handle of at least four ply thickness and a longitudinal partition panel constituted by the two intermediate plies of the handle, these intermediate plies each having a flexibly articulated series of cross partition panels integrally hinged thereto and adapted to extend outwardly beneath outer pair of plies of the handle to the respective opposed side walls of the carrier, to which certain panel elements of the respective series are adhesively secured, thereby to constitute a cross partition structure which subdivides the space on each side of the longitudinal partition into at least three article receiving cells.

Yet another object of the invention is to provide a flexible paperboard blank for an article carrier of the foregoing type.

The foregoing statements are indicative in a general way of the nature of the invention. Other and more specific objects will be apparent to those skilled in the art upon a full understanding of the construction and operation of the device.

A single embodiment of the invention is presented herein for purpose of illustration and it will be appreciated that the invention may be incorporated in other modified forms coming equally within the scope of the appended claims.

In the drawings:

Fig. 1 is a top plan view of a flexible paperboard blank employed in manufacturing the improved carrier, illustrating the manner in which the blank is died out, cut creased and preliminarily glued;

Fig. 2 is a plan view illustrating the blank of Fig. 1 in the condition thereof following a first folding operation and showing a further application of adhesive;

Figs. 3 and 4 are plan views illustrating the article following successive later folding and gluing manipulations;

Fig. 5 is a plan view of the improved carrier in completed, knocked down condition;

Fig. 6 is a view in horizontal section along a line corresponding to line 6—6 of Fig. 7, showing the completed carrier in erected condition and indicating the extremely rigid, multiple thickness construction of the handle thereof;

Fig. 7 is a view in longitudinal vertical section along line 7—7 of Fig. 6, further illustrating details of internal construction of the carrier; and

Fig. 8 is a view in transverse vertical section along line 8—8 of Fig. 7, showing the full depth article protection afforded by the improved carrier.

Referring now to Fig. 1 of the drawings, the flexible paperboard blank **10** from which the improved carrier is fabricated is symmetric about a longitudinally extending line represented by a medial crease **11** in its central bottom forming section **12**, the section **12** being subdivided by this crease into two like, generally rectangular panels **13**. In view of the symmetric character of the blank, only the parts appearing on one side of the medial crease **11** will be described, on the understanding that all parts and relationships of parts on the opposite side are the same and are designated by corresponding reference numerals.

A longitudinally extending crease **14**, which coincides with a side margin of the bottom section blank, serves to flexibly hinge to the bottom panel **13** a side wall forming panel **16** of rectangular outline. Parallel creases **17**, **18** at 90° to crease **14** hingedly connect to the side wall panel **16** a pair of generally similar end wall panels **19**, **20**, respectively. A longitudinal partition flap **21** is hingedly joined to end wall panel **19** by a crease **22**, while the opposite end wall panel **20** has a generally similar longitudinal partition flap **23** hinged thereto by a crease **24**. A small hinged flap **23'** is partially separated from flap **23** by a U-shaped slit **26** formed on crease **24** adjacent the upper portion thereof, for a purpose to be described.

An upper extension **18'** of end wall-side wall crease **18** serves as a hinge for a transverse strap **27**, which is separated from the side wall panel **16** by a horizontal slit **28**. The opposite end of strap **27** is integrally hinged by a short crease **29** onto one end of a handle panel **30** which is of generally rectangular outline. At the opposite end of panel **30** an upwardly and outwardly angled slit **31** separates the same from the opposite end wall **19**, and material is removed from the blank at **32** to separate panel **30** from the side wall **16** and end wall **19** between the slits **28**, **31**. Both of these slits extend into and merge with the lower margin of opening **32**.

Handle panel **30** is hingedly articulated to the longitudinal partition flap **21** by a short extension **22'** of the end wall-flap crease **22**. Panel **30** has a handhole **34** of conventional sort formed therein.

Handle panel **30** is integrally hinged along its upper margin to a further handle and longitudinal partition defining panel **35** by means of a longitudinally extending crease **36**. This panel also has a handhole **37** formed therein, and it includes an outwardly extending longitudinal partition panel member **38** of reduced width as an integral uncreased extension thereof. Panel **38** is inwardly recessed from the left of the blank, as indicated at **39** and has hingedly articulated to the opposite, right hand end margin thereof, by means of a transversely extending crease **40**, an articulated series **41** of cross partition panel elements. These include a first cross partition element **42** joined to panel member **38** by crease **40**, a second panel element **43** joined to panel **42** by a transverse crease **44**, and a third cross partition element **45** integrally hinged to the second or intermediate panel **43** by means of a transverse crease **46**. End cross partition element **45** carries a glue lap **47**, integrally hinged thereto by a transverse crease **48**.

In completing the carrier from the blank **10** illustrated in Fig. 1, adhesive is first applied to the glue lap **47**, and to a portion of the longitudinal partition flap **21**, as indicated by stippling in Fig. 1. Flap **21** is then folded upwardly, inwardly and downwardly about crease **22**, **22'** and its glued portion adhered to the handle panel **30**, while the intermediate and end cross partition panel elements **43** and **45** are folded upwardly, inwardly, and down-

wardly about crease **44**, causing the glue lap **47** to adhere to the longitudinal partition panel **38**. This leaves the blank in the condition illustrated in Fig. 2.

Next, adhesive is applied to the exposed upper surface of panel element **43** and to the handle panel **35**, as stippled in Fig. 2, whereupon panel **35** and appended cross partition structure **41** is folded upwardly, inwardly and downwardly about longitudinal handle crease **36**, to the position illustrated in Fig. 3 of the drawings, in which the panels **30, 35** are adhered together and the partition panel element **43** is adhered to side wall panel **16**.

After this the longitudinal partition flap **23** is partially coated with adhesive and the strap **27** is coated, as shown by stippling in Fig. 3. End wall panel **20** and flap **23** are then folded upwardly, inwardly and downwardly about crease **18** to adhere the flap to handle panel **35** and the strap to the end wall, the article now being as shown in Fig. 4. Adhesive is now applied to one of the infolded longitudinal partition and handle members **35** and to the upper exposed surface of partition flaps **21** and **23**, as illustrated by stippling in Fig. 4, and the glued blank is then folded about its medial bottom section crease **11** to the completed condition illustrated in Fig. 5 of the drawings, in which the pair of inner handle and longitudinal partition plies **35**, as well as the respective pairs of flaps **21, 23** are firmly secured to one another.

The blank is erected to the article receiving position illustrated in Fig. 6 by applying compressive force to its opposite end margins, represented by the creases **18, 22** on each of the carton sections **15**. The shaped slit **26** in the longitudinal partition flap **23** at the crease line **24** avoids hindrance to movement of cross partition panel **42** as it moves away from the longitudinal partition into 90° relation to the longitudinal partition panel **38**, extending to the side wall panel **16**. Referring to Figs. 6 and 8, it is seen that a very rigid, board-like handle, generally designated **50**, is afforded, while the cross partition element constituted by panels **42** and **45** of structure **41** furnish full depth article protection for bottles disposed in the carrier. This cross partition structure is very firmly anchored at its opposite ends in the longitudinal partition and handle structure, by means of the integral hinge **40** and the glue lap **47** which is built into the longitudinal partition structure, as shown in Figs. 6 and 7. The carrier is a very sturdy and rugged one indeed, and the blank **10** from which it is fabricated may be processed without difficulty on existing folding and gluing machinery.

I claim:

1. A flexible paperboard article carrier blank comprising a side wall forming panel having end wall panels hinged by transverse creases to opposed end margins thereof, a handle panel separated by a cut from said side wall forming panel and integrally hinged by means including transverse creases to margins of said respective end wall panels, and a handle and partition defining unit hinged by a longitudinal crease to a margin of said handle panel remote from said side wall forming panel, said last named unit including a handle panel immediately adjoining said longitudinal crease, a longitudinal partition forming panel integral with said last named handle panel, and a cross partition structure including a series of at least three panels integrally hinged by transverse creases to a margin of said longitudinal partition panel and to one another.

2. A flexible paperboard article carrier blank in accordance with claim 1, in which said means integrally hinging said first named handle panel to said end wall panels includes a strap separated by a cut from said side wall forming panel and integrally hinged at its ends to said first named handle panel and to one of said end wall panels.

3. A flexible paperboard article carrier blank comprising a side wall forming panel having end wall panels hinged by transverse creases to opposed end margins thereof, a handle panel integrally hinged by means including transverse creases to margins of said respective end wall panels, and a handle and partition defining unit hinged by a longitudinal crease to a margin of said handle panel remote from said side wall forming panel, said last named unit including a handle panel immediately adjoining said longitudinal crease, a longitudinal partition forming panel integral with said last named handle panel, and a cross partition structure including a series of at least three panels integrally hinged by transverse creases to a margin of said longitudinal partition panel and to one another, said series having a glue lap integrally hinged to a free end margin thereof.

4. A blank in which there are two similar sets of said panels, units and structures defined in claim 3, and a bottom forming panel disposed between and integrally connected by longitudinal creases to corresponding margins of said side wall panels.

5. A flexible paperboard article carrier blank in accordance with claim 3, in which said means integrally hinging said first named handle panel to said end wall panels includes a strap separated by a cut from said side wall forming panel and integrally hinged at its ends to said first named handle panel and to one of said end wall panels.

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