Jan. 24, 1956 E. L. ARNESON 2,732,097

ARTICLE CARRIER

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Fig. 1

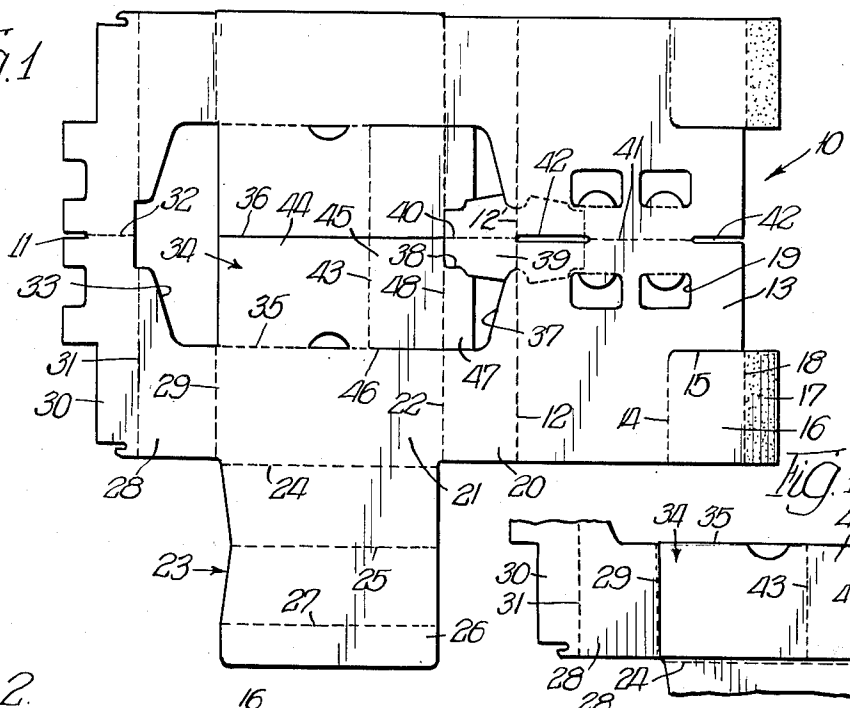


Fig. 1A.

Fig. 2.

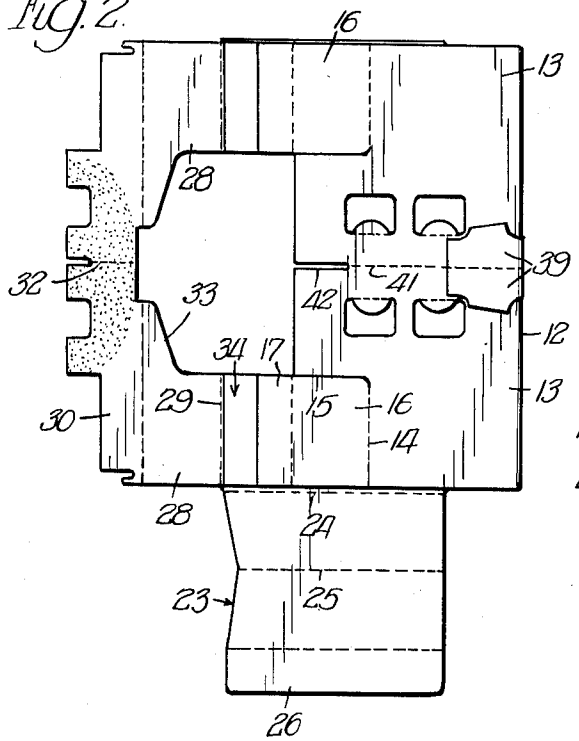
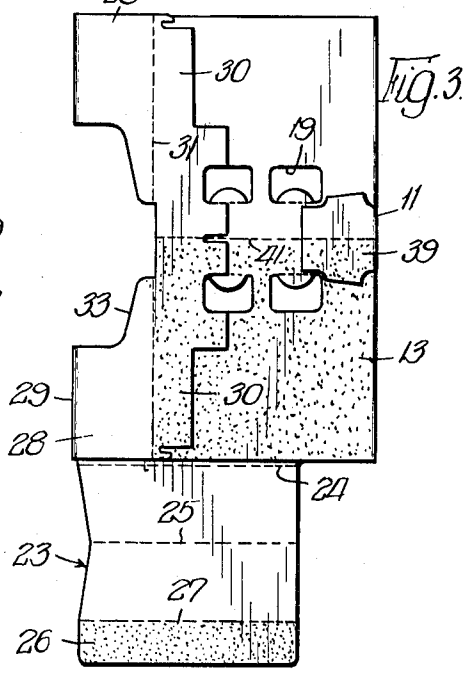


Fig. 3.



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Fig. 4

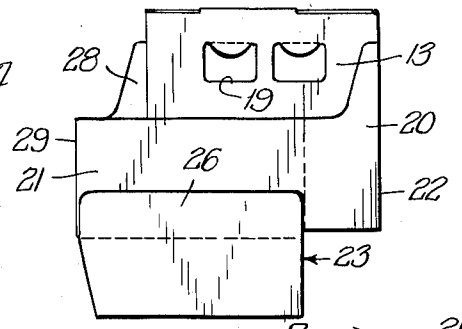


Fig. 5

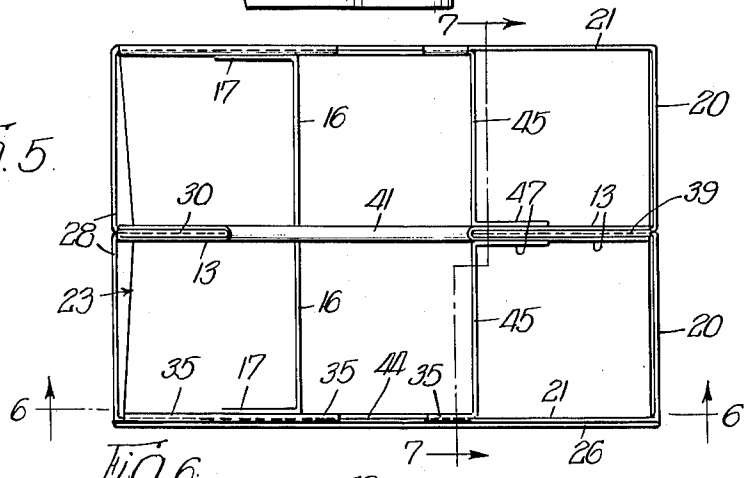


Fig. 6

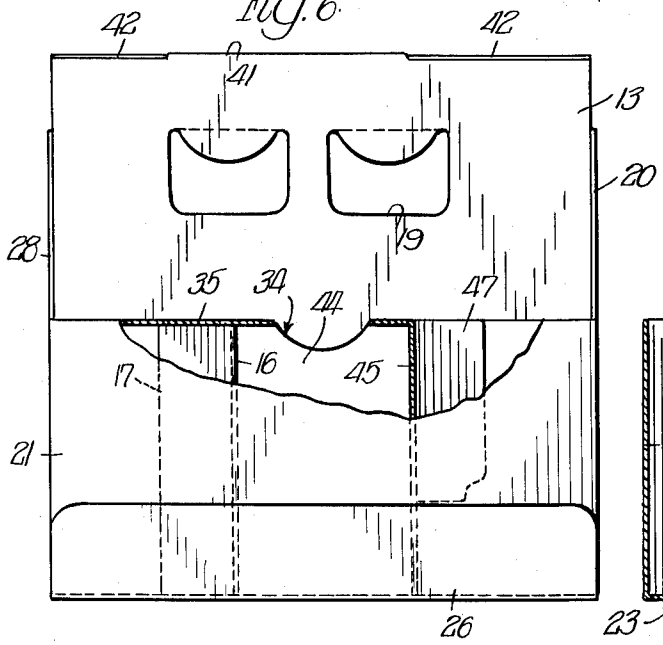
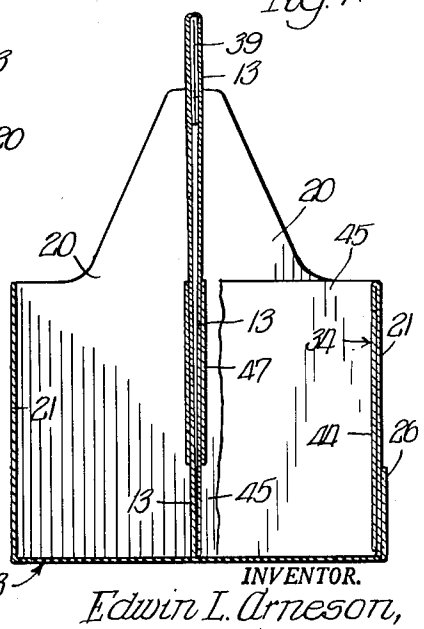


Fig. 7



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ARTICLE CARRIER

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2 Claims. (Cl. 220—113)

The present invention relates to improvements in a flexible paperboard article carrier for bottles and like articles of uniform size and shape. More particularly, the invention deals with an improved method of providing a longitudinal and cross partition structure for such a carrier acting to subdivide the interior face thereof into a plurality of article receiving cells.

It is an object of the invention to provide an article carrier of the foregoing description which includes opposed pairs of side and end walls, a bottom, a longitudinal partition panel of full depth disposed medially between and paralleling the side walls, and an improved cross partition structure which is cut in part from the material of the longitudinal partition panel and in part from the material of the side walls, being integrally hinged to each of these respective members.

Another specific object of the invention is to provide an article carrier having opposed pairs of side and end walls, and a longitudinal partition panel extending therebetween, in which the longitudinal partition panel is cut and creased to define a cross partition panel integrally hinged at one end thereto, which cross partition panel is adapted to be adhesively secured to a side wall in hinged relation thereto, the side wall panels also having a further cross partition unit integrally hinged to the upper edge of each thereof, which cross partition units each include a side wall engaging panel integrally hinged to a side wall and a cross partition panel integrally hinged thereto and separated by a slit from the side wall, the last named panel being adhesively secured to the longitudinal partition panel in hinged relation thereto.

Another object is to provide an improved paperboard blank for a carrier of the above 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 constructing the improved carrier, illustrating the manner in which the same is died out, cut, creased and preliminarily glued;

Fig. 1A is a fragmentary view illustrating the blank of Fig. 1 following a folding operation performed thereon;

Fig. 2 is a plan view of the blank following a further folding operation and indicating the manner in which the latter is then glued for a subsequent folding operation;

Fig. 3 illustrates the blank following the folding operation referred to and showing a subsequent gluing thereof;

Fig. 4 is a plan view of the blank in its completed, flat, known-down condition;

Fig. 5 is a top plan view of the carrier in its completed and erected condition, illustrating the relationship of the various cross partition elements to the side walls and a longitudinal partition;

Fig. 6 is a view in side elevation of the carrier in erected condition, being partially broken and sectioned along a line corresponding to line 6—6 of Fig. 5; and

Fig. 7 is a view in transverse vertical section along line 7—7 of Fig. 5.

Referring to Fig. 1 of the drawings, the blank 10 from which the improved carrier is fabricated is of generally symmetrical character with respect to a medial longitudinal line 11; accordingly corresponding parts on opposite sides of that theoretical line will be designated by corresponding reference numerals, on the understanding that their respective structural details and relationships are similar.

Blank 10 is provided with a crease 12 extending across the entire width thereof which defines a longitudinal partition and suspending panel 13 of generally rectangular shape. The latter is creased at 14, parallel to crease 12, from its lower margin to its approximate midpoint and has a horizontal slit 15 extending outwardly from the inner terminus of crease 14 to its end margin, thereby defining a cross partition panel 16 which is approximately one-half the over-all height of panel 13. Cross partition panel 16 has a glue lap 17 hingedly articulated thereto by a crease 18. The panel 13 is provided with hand hole openings 19 in its upper portion which are of entirely conventional character.

An end wall panel 20 is hinged to the opposite end of panel 13 by the crease 12 and a rectangular side wall panel 21 is in turn integrally hinged to panel 20 by a crease 22. This side wall panel has a rectangular bottom forming section 23 integrally hinged thereby by a crease 24 coinciding with the lower margin of the side wall, the bottom being subdivided by a medial crease 25 into two equal portions, the outermost of which has a glue lap 26 integrally hinged thereto by crease 27.

A further end wall panel 28 is hinged by crease 29 to an end of said wall panel 21 and carries a longitudinal partition flap or extension 30, the latter being hinged to panel 28 by crease 31. The flaps 30 on opposite sides of the medial line 11 are integrally connected to one another by a crease 32 coinciding with the medial line.

Blank 10 is died out at 33 within its external confines to remove material and define an upper, angularly inclined edge for end wall panel 28, as well as an end margin of a rectangular partition panel 34 which is integrally hinged by a horizontal crease 35 to the upper edge of the side wall panel 21. The panels 34 on opposite sides of medial line 11 are separated from one another by an elongated, longitudinally extending slit 36 which coincides with that line. The material of the blank is also died out at 37 at the opposite end of panel 34, and a shaped slit 38 extends from the died out opening 37 to the right hand extremity of slit 36, thereby defining a reinforcing tab 39 and freeing the panel 34 from that tab. The respective tabs 39 on opposite sides of the medial line are hingedly connected to one another by a crease 40 which coincides with that line. They are hinged to panels 13 by creases 12' which are extensions of the end marginal creases of those panels. The two longitudinal partition panels 13 are integrally hinged to one another by a crease 41, also coincident with line 11, and an elongated slot 42 serves to facilitate folding of the panels 13 about hinge crease 41.

The partition panel 34 referred to above is subdivided by an intermediate crease line 43, which extends from slit 36 to crease 35, into a main body portion 44 and a cross partition panel element 45. The body portion 44 is adapted to be folded about the crease 35 into side-by-

side relation to side wall panel **21**, when the carrier is completed, with the partition panel element **45** extending from body portion **44** to the longitudinal partition panel **13**, to which it is adhesively secured in hinged relation. To these ends the panel element **45** is separated from side wall panel **21** by a horizontally extending slit **46** terminating at crease **43** and is provided with a glue lap **47** hinged thereby by crease **48**, the slit **46** extending into the died out space **37** and coacting with the latter in defining an inclined upper edge on end wall panel **20**.

In completing the article carrier from the blank illustrated in Fig. 1, adhesive is applied, as indicated by stippling, to the exposed upper surface of the body portion **44** of partition panel **34** and it is folded upwardly, inwardly and downwardly about crease **35** into adhered relation to the side wall panel **21**, as illustrated in Fig. 1A. At the same time, the reinforcing tab **39** is folded in reverse direction, i. e., downwardly about crease **12'** and brought into side-by-side adhered relation to the longitudinal partition panel **13**, as indicated by dotted lines in Fig. 1, which panel has previously been locally coated with adhesive for this purpose. After adhesive has been applied to the exposed upper surfaces of the two glue laps **17**, **47** on the cross partition panels **16**, **45**, respectively, as shown by stippling in Figs. 1 and 1A, the panel **13** and attached cross partition panel **16** are then folded upwardly, inwardly and downwardly about crease **12** to the position illustrated in Fig. 2, causing the glue lap **47** to be adhesively secured to longitudinal partition panel **13** and the glue lap **17** to be similarly adhered to the main body portion **44** of the partition panel **34**.

Next adhesive is applied to the inner portion of the longitudinal partition extension **30**, as indicated by stippling in Fig. 2, and the end wall panel **28** and this extension are then folded upwardly, inwardly and downwardly about crease **29**, thereby securing the same to the exposed upper face of the previously infolded panel **13**, as shown in Fig. 3. The carrier is completed by applying adhesive to one of the panels **13** and to bottom section glue lap **26**, as indicated by stippling in Fig. 3, by folding of the blank upon itself about medial line **11** into an adhered relation of the two panels **13**, and by folding of the bottom section **23** upon its medial crease **25** and adhering its glue lap **26** to the exposed upper surface of the adjacent side wall panel **21**, as illustrated in Fig. 4 of the drawings.

The subject carrier, shown in erected condition in Figs. 5, 6 and 7, possesses considerable rigidity and is characterized by an improved longitudinal and cross partition structure in which certain of the cross partition elements are integrally connected to a side wall, being braced and rigidified at this point by means of the partition panel **34** and its integral connection to the side wall. The cross partition elements **45** are adhesively secured to the longitudinal partition panel **13** by the glue lap **47**. On the other hand, the cross partition element **16** is integrally hinged to the longitudinal partition panel **13** and is adhesively secured to the partition panel **34** in hinged relation to the latter. The carrier requires a paperboard blank of minimum size and is adapted to be manufactured by existing folding and gluing machinery.

I claim:

1. A paperboard bottle carrier formed from a one-piece blank and comprising opposed side and end walls, a bottom extending between said side walls, a longitudinal partition disposed medially of and parallel to said side walls and extending between said end walls, a cross partition unit comprising a panel integrally connected on a horizontal hinge to a side wall and extending from adjacent one end thereof, and disposed in side-by-side relation thereto, said panel having a cross partition panel element integrally connected on a vertical hinge thereto and having its end fixedly secured to said longitudinal partition panel in vertically hinged relation thereto, and a further cross partition element integrally connected at one end on a vertical hinge to said longitudinal partition panel, said further partition element having its other end fixedly secured to said first named panel in vertically hinged relation thereto on a vertical hinge line intermediate the ends of said first named panel.

2. A paperboard bottle carrier formed from a one-piece blank and comprising opposed side and end walls, a bottom extending between said side walls, a longitudinal partition disposed medially of and parallel to said side walls and extending between said end walls, a cross partition unit comprising a panel integrally connected on a horizontal hinge to the upper margin of a side wall and extending from adjacent one end of said side wall, and disposed in side-by-side relation thereto, said panel having a cross partition panel element integrally connected thereto on a vertical hinge and fixedly secured to said longitudinal partition panel in vertically hinged relation thereto, and a further cross partition element integrally connected at one end on a vertical hinge to said longitudinal partition panel adjacent the lower portion thereof, said further partition element being fixedly secured to said first named panel in vertically hinged relation thereto on a vertical hinge line intermediate the ends of said first named panel.

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