Sept. 6, 1955 E. L. ARNESON 2,717,097

ARTICLE CARRIER

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Fig. 1

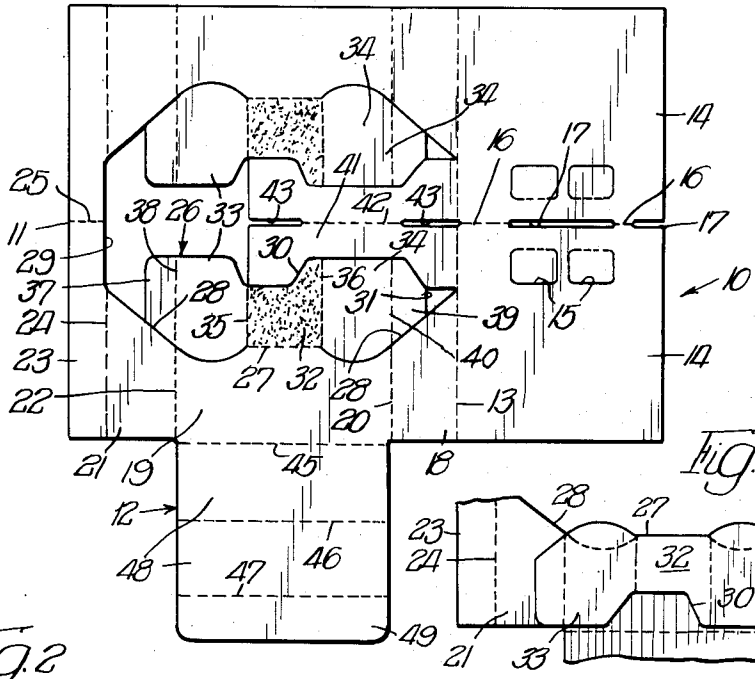


Fig. 1A.

Fig. 2

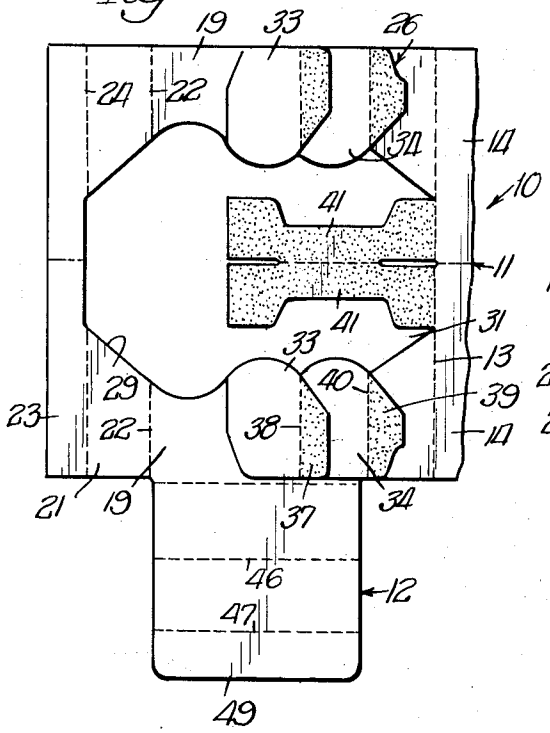
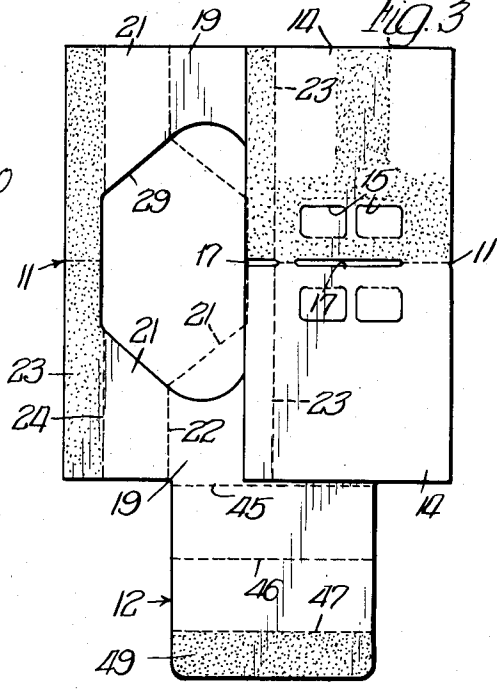


Fig. 3



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Fig. 4

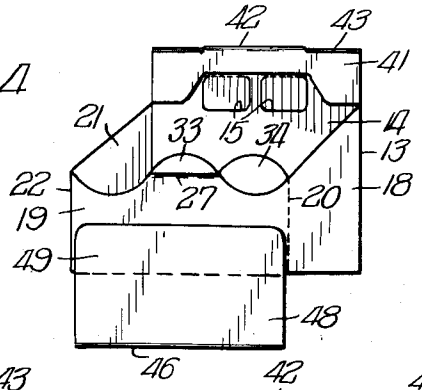


Fig. 5

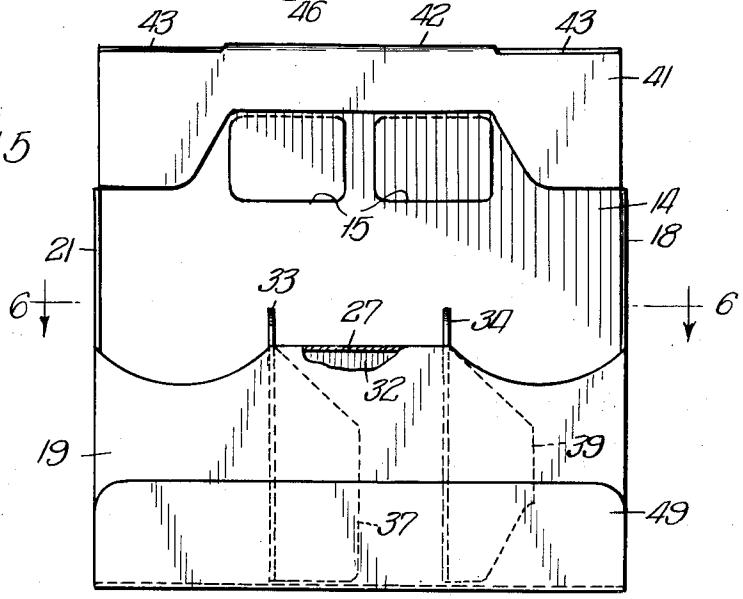
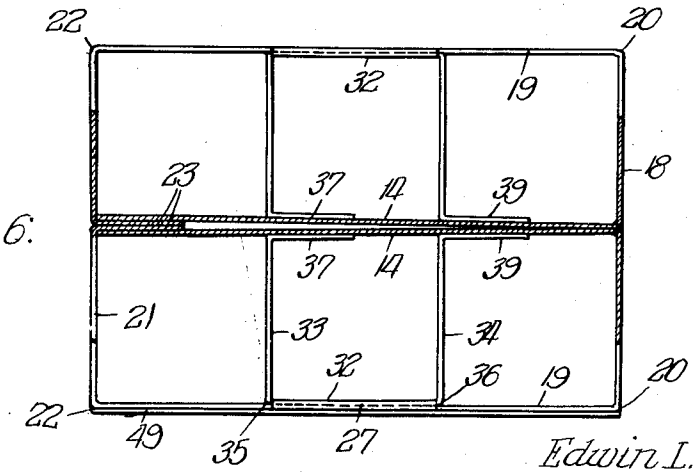


Fig. 6.



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2,717,097

ARTICLE CARRIER

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Application August 10, 1951, Serial No. 241,231

3 Claims. (Cl. 220—113)

The present invention relates to an improved flexible paperboard article carrier for bottles and like articles of uniform size and shape. More particularly, the invention relates to an improved method of manipulating a one piece paperboard blank to complete an article carrier characterized by an integral, longitudinal and cross partition structure combined with a reinforced handle grip arrangement, the grip being reinforced by an element cut from the material of the blank in immediate juxtaposition to, and separated by a slit from the material from which the cross partitions are taken.

It is an object of the invention to provide an improved and simplified paperboard article carrier of the foregoing sort, characterized by opposed pairs of side and end walls, by a full depth multi-ply longitudinal partition panel, and by a cross partition structure integrally hinged directly to the side walls and including panel elements extending therefrom and hingedly secured to the longitudinal partition panel, in which carrier reinforcing grip elements for the longitudinal partition panel are slitted in a novel manner from the material of the blank immediately adjoining that defining the cross partition structure, these reinforcing elements being folded into overlying, nested relation to the upper margin of the longitudinal partition panel so as to greatly reinforce and rigidify the latter, and also to impart a finished appearance thereto.

Yet another specific object is to provide a flexible paperboard article carrier fabricated from a single, one piece blank which is slitted in an improved manner to define cross partition elements hingedly conjoined to the upper edges of a pair of side wall panels, together with a handle reinforcing element which immediately adjoins the cross partition elements, being defined by the same slit which marginally defines those elements.

Yet another object is to provide an improved paperboard blank for an article carrier of the foregoing description.

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 fabricating the subject carrier, illustrating the manner in which the blank is died out, cut, creased and preliminarily glued;

Fig. 1A is a fragmentary view illustrating a portion of the blank of Fig. 1 in the condition thereof following a first folding operation;

Fig. 2 is a fragmentary plan view illustrating the blank following a further folding operation and indicating the

manner of applying further adhesive thereto preliminary to another operation;

Fig. 3 is a plan view illustrating the blank following performance of the folding operation referred to and showing a further application of adhesive;

Fig. 4 is a plan view illustrating the completed blank in the flat, knock-down condition thereof;

Fig. 5 is a view in side elevation, partially broken away, illustrating the carrier in erected condition, ready to receive its intended contents; and

Fig. 6 is a view in horizontal section along a line corresponding to line 6—6 of Fig. 5.

Referring to Fig. 1 of the drawings, the blank **10** from which the carrier is produced is symmetric about a medial, longitudinally extending line **11**, save for a bottom forming section **12** which is hinged along a marginal edge of the blank. Accordingly in view of this symmetry the part of the blank on but one side of the medial line **11** will be described, on the understanding that corresponding parts on the opposite side of that line are designated by similar reference numerals.

Commencing from the right hand side of blank **10**, as viewed in Fig. 1, the latter is provided with a transversely extending crease line **13** which defines a generally rectangular longitudinal partition panel **14** coextensive in depth with the carrier as a whole. This panel is provided with hand holes **15** at the upper portion thereof which are of an entirely conventional character. Panels **14** are integrally connected to one another by a pair of aligned longitudinally extending creases **16** which coincide with the medial line **11**. Elongated slots **17** on this line serve to facilitate folding of the carrier during the manufacture of the latter.

An end wall panel **18** is integrally hinged to one margin of partition panel **14** by the crease **13** and a side wall panel **19** is integrally conjoined by crease **20** to end wall panel **18**. A further end wall panel **21** is in turn integrally hinged to side wall panel **19** by a crease **22**, the panel **21** carrying a glue flap **23**, integrally hinged thereto by crease **24**. The glue flaps **23** on opposite sides of medial line **11** are integrally hinged by a short crease **25** coinciding with that line.

A cross partition unit or structure, generally designated **26**, is integrally hinged to the top margin of side wall panel **19** by means of a horizontally extending crease **27**. The over-all height of this unit is equal to that of side wall panel **19** and the length of crease **27** equals the width of one of the cells of the article carrier, crease **27** being located centrally of the side wall panel **19**. An inclined and curved slit **28** extends from the outer extremity of crease **27** in a downwardly curving, then upwardly angled direction, so as to free portions of cross partition unit **26** which lie outwardly of the crease **27** for swinging movement relative to the side wall panel **19**. A predetermined area of the blank is died out at **29** in order to limit the height of the cross partition structure not to exceed the side wall depth, and a generally horizontal, zig-zag shaped slit **30** extends from the blanked out opening **29** inwardly to the vertical crease **13**, thus outlining the free margins of cross partition structure **26**.

Material of the blank is also removed at **31** adjacent the inner terminus of slit **30**, thus completing the outline of the cross partition unit. This unit includes a central panel **32** adjoining the creased hinge line **27** of the unit and cross partition panels **33**, **34** which are integrally hinged to opposite end margins of panel **32** by means of the parallel creases **35**, **36**, respectively. A glue lap **37** is hinged by crease **38** to the left hand cross partition panel **33**, and a generally similar glue lap **39** is hinged by crease **40** to the other cross partition panel **34**.

The slit **30** referred to above, which outlines the outer margin of the cross partition structure **26**, in conjunction

with the died out openings **29, 31**, also defines the shaped side of a handle grip reinforcing member **41**. Portions of this grip element on opposite sides of the medial line **11** are hingedly connected to one another by a crease **42** corresponding with that line, and elongated slots **43** at opposite extremities of the crease **42** serve to facilitate folding of the reinforcing member.

Bottom section **12** is joined by crease **45** to a side wall panel **19** and is subdivided by creases **46** and **47** into two sections **48** of equal size and a glue lap **49** appended to one thereof.

In completing the carrier from the blank illustrated in Fig. 1, the cross partition unit **26** is first folded upwardly, outwardly and downwardly about its crease **27** to side wall **19** and may be adhered to the latter in the area of its central panel **32**, leaving the blank in the position illustrated in Fig. 1A. The two cross partition panels **33** on the left hand end of the respective units **26** are then folded upwardly, inwardly and downwardly about their hinges **35** into superposed, face-to-face relation to the central panel **32**. Adhesive is next applied to the exposed surfaces of the glue laps **39, 37**, as indicated by stippling in Fig. 2. Adhesive is also applied to the handle reinforcing member **41**, or to the upper portions of the longitudinal partition panel **14**, and the latter is then folded upwardly, inwardly, and downwardly about crease **13**, causing the same to adhere to the reinforcing member **41** and, adjacent the lower edges thereof, to the glue laps **37, 39**. This leaves the blank in the condition illustrated in Fig. 3. Adhesive is next applied to the end glue flap **23**, as indicated by stippling in Fig. 3, whereupon the end walls panel **21** is folded about crease **22**, securing glue flap **23** to the adjacent margin of the longitudinal partition panel **14**. Glue is then applied to one of the panels **14** and to bottom section glue lap **49**, after which the two like halves of the blank are folded upon one another about medial line **11** and the bottom section **12** is folded upon itself about its medial crease **46**. This causes its glue lap to be adhesively secured to the adjacent upper surface of the side wall **19** and completes the carrier to the erected, knock-down condition illustrated in Fig. 4.

When the carrier is erected, it presents an upper, strongly reinforced longitudinal partition panel of four-ply thickness constituted by the two full depth and width panels **14** and the additional reinforcing members **41** nested thereover. These members afford a finished exterior surface for the top of the carrier grip, considerably improving its appearance. They are formed by a single dieing operation from the same area of the blank as the cross partition panels **33, 34** and associated glue laps. Glue laps **37, 39** are adhesively secured to the longitudinal partition members **14**, and the opposite ends of the cross partition elements **33, 34** are integrally hinged to a central connecting panel **32**, which is itself integrally hinged along its upper edge to the top of the side wall **19** of the carrier. Thus a very strong, rugged and inexpensive article is produced which is well suited for manufacture on existing gluing and folding machinery.

I claim:

1. A blank of flexible paperboard for use in constructing an article carrier, said blank being subdivided into substantially similar sections along a medial longitudinal line, each of said sections provided with creases and cuts defining, in the successive order named, a side wall panel, an end wall panel integrally hinged to said side wall panel by a transverse crease, a longitudinal partition panel integrally hinged by a transverse crease to said end wall panel, a cross partition unit integrally hinged by a longitudinal crease to an upper edge defining margins of said side wall panel, and a handle reinforcing element lying in coplanar, edge-to-edge relation to each of said cross partition units and integrally hinged by transverse creases to margins of said longitudinal partition panels, parts of said cross partition units and said handle reinforcing element occupying a common area of said blank lying between said side and end wall panels of said respective sections, said element being separated from said units by cuts defining adjacent edges of the element and units.

2. A blank in accordance with claim 1 in which said last named cuts are slits defining edges of said handle reinforcing element and said cross partition units which are in immediate edge-to-edge juxtaposition.

3. A blank in accordance with claim 1 in which said last named cuts are slits defining edges of said handle reinforcing element and said cross partition units which are in immediate edge-to-edge juxtaposition, and in which each cross partition unit includes at least three panels integrally hinged by transverse creases to one another, a center panel of each unit being hinged to a side wall panel at the mid-point of the latter.

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