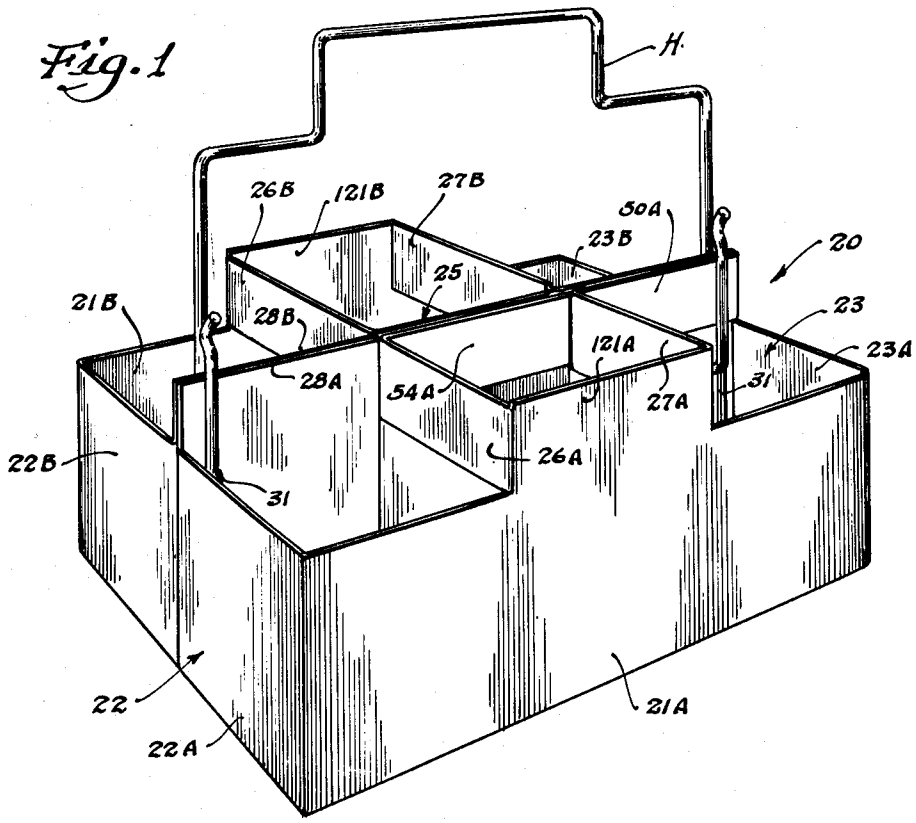
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BOTTLE CARRIER

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Fig. 1



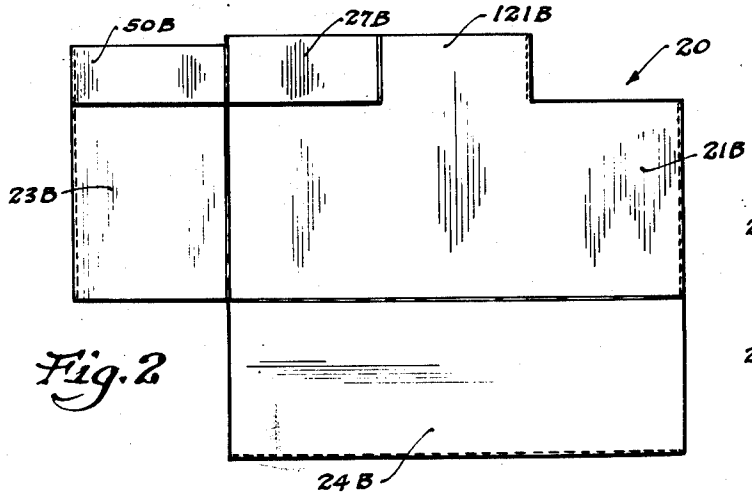


Fig. 2

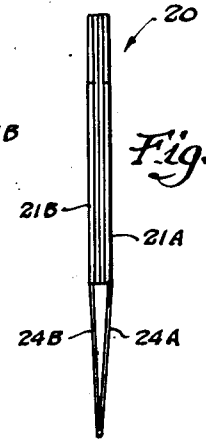


Fig. 3

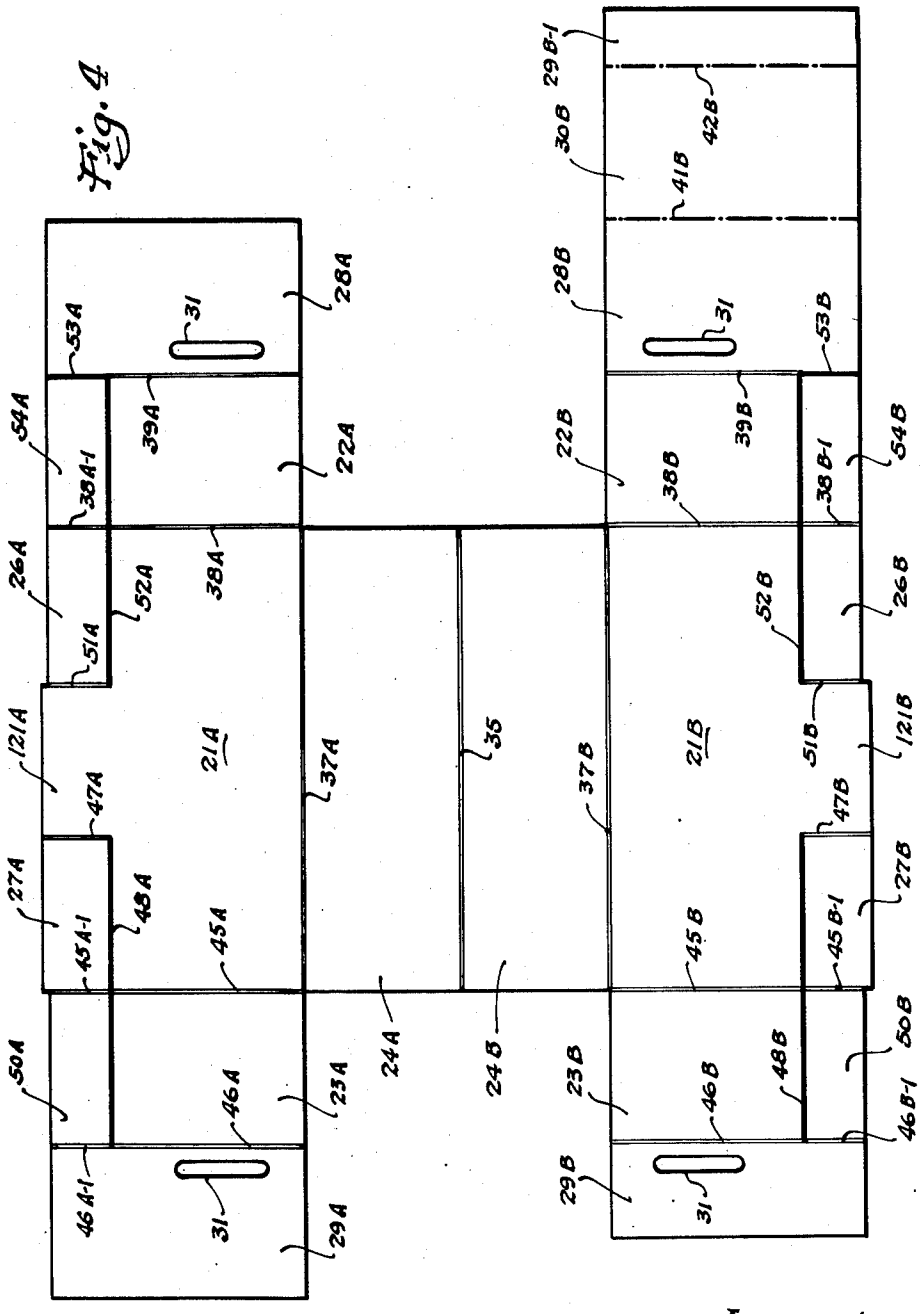
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Fig. 4



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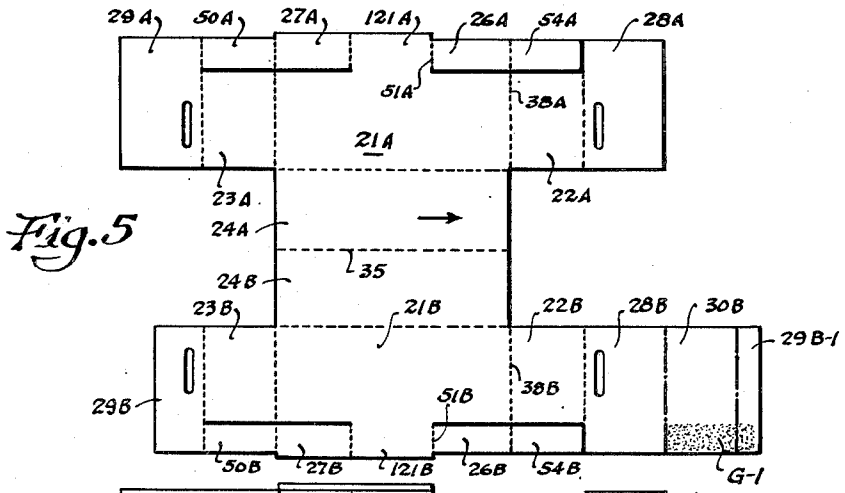


Fig. 5

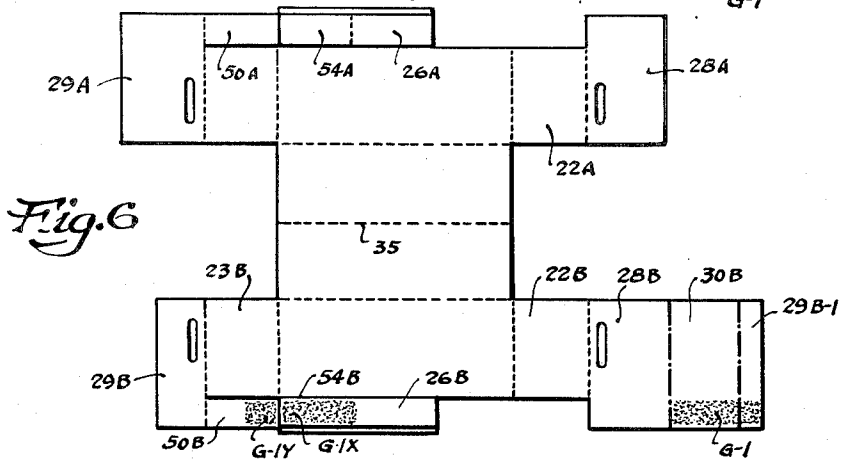


Fig. 6

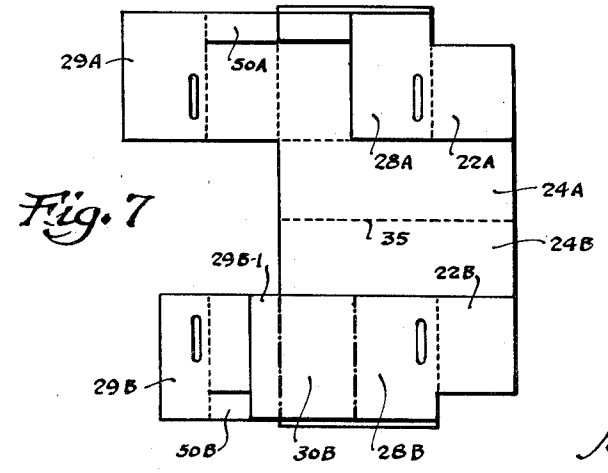


Fig. 7

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Fig. 8

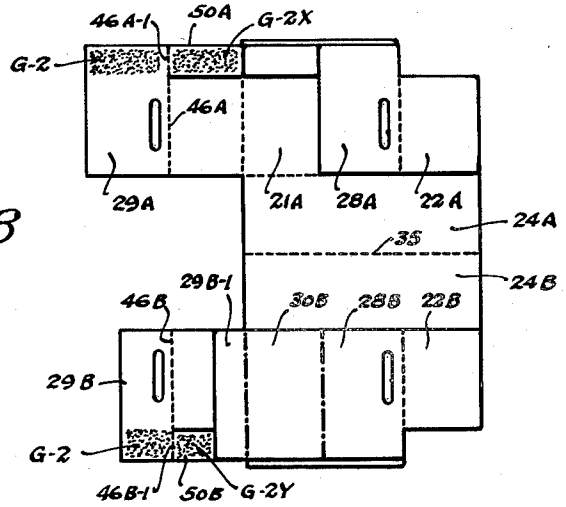


Fig. 9

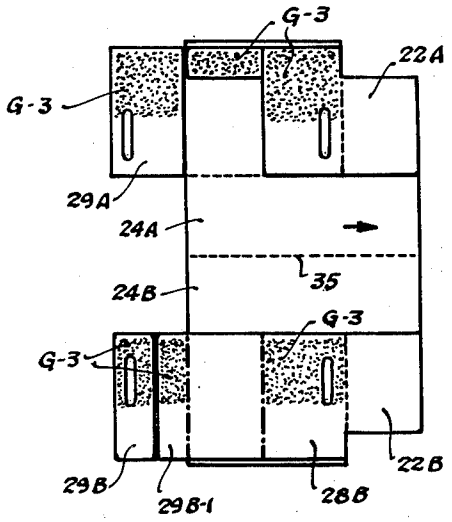
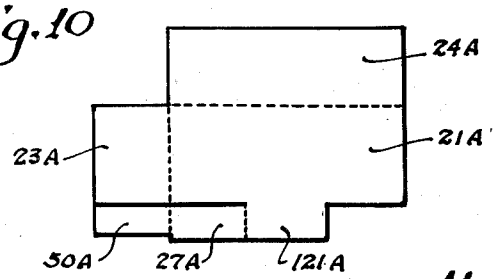


Fig. 10



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BOTTLE CARRIER

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Application March 24, 1949, Serial No. 83,264

1 Claim. (Cl. 229—28)

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This invention relates to bottle carriers and particularly to bottle carriers made from cardboard or like material.

It has been customary to make bottle carriers of the general kind to which this invention relates from cardboard or like sheet material, and such carriers are preferably made so as to be collapsible so that such bottle carriers may be originally manufactured and shipped in a flat form and may be erected at the time when bottles are to be loaded into such carriers. In such bottle carriers it is desirable that the dimensions of each bottle carrier be minimized so as to effect an economy of material, and in plan-form it is essential that these bottle carriers occupy but little greater area than the bottles themselves so that such carriers may be placed in ordinary bottle cases of the kind conventionally used in the trade. It is desirable that such carriers be retained in their erected form merely by placing such carriers in position in the cases, since it is generally considered to be desirable to load such bottle carriers while they are in position in such cases and to accomplish this with the use of conventional case-loading machinery.

It is an important object of the present invention to afford a bottle carrier of the aforesaid character that is rugged and economical in character, extremely simple in form, and which may be readily and easily erected. More particularly, it is an object of this invention to afford such a bottle carrier wherein the two rows of bottles are effectually separated by a solid central partition which also serves as a connector for a separate handle. A further object is to afford such a carrier wherein the elements are so formed and related that the bottle carrier may be constructed with the minimum number of folding and gluing operations.

Other and further objects of the present invention will be apparent from the following description and claim and are illustrated in the accompanying drawings which, by way of illustration, show a preferred embodiment and the principles thereof and what I now consider to be the best mode in which I have contemplated applying those principles. Other embodiments of the invention embodying the same or equivalent principles may be used and structural changes may be made as desired by those skilled in the art without departing from the present invention and the purview of the appended claim.

In the drawings:

Fig. 1 is a perspective view showing an erected bottle carrier embodying the features of the invention;

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Figs. 2 and 3 are side and end views, respectively, of the bottle carrier showing the form thereof when the carrier is in its flat or collapsed condition;

Fig. 4 is a face view of the blank used in making the carrier of Fig. 1; and

Figs. 5 to 10 are views on a reduced scale and showing the successive steps in the folding and gluing of the carrier.

For purposes of disclosure the invention is herein illustrated as embodied in a bottle carrier 20 made from cardboard or like material and having a separately formed metallic handle H made from wire and associated therewith in a manner that enables convenient lifting and transporting of the carrier and its load of bottles.

The bottle carrier 20 embodies a pair of side walls 21A and 21B that are connected at opposite ends by end walls 22 and 23, and the lower edges of the side walls 21A and 21B are connected by a bottom wall that includes panels 24A and 24B. The space within the bottle carrier is divided into six square compartments, each adapted to snugly receive a bottle of a predetermined size, and such compartments are arranged in two rows of three compartments each disposed on opposite sides of a central division wall 25 that is located midway between the two side walls 21A and 21B. On opposite sides of the central division wall 25, transverse partitions are afforded to complete the subdivision of the space within the carrier, and such partitions are disposed in vertical planes and are identified as webs 26A and 26B adjacent to the end wall 22 and webs 27A and 27B adjacent to the end wall 23. It will be observed in Fig. 1 of the drawings that the central division wall 25 is somewhat higher than the end walls 22 and 23 and is made up in three sections. As will become evident hereinafter, the section of the division wall 25 that is adjacent to the end wall 22 is afforded by a pair of opposed panels 28A and 28B; the section that is adjacent to the end wall 23 is of double thickness and is formed by a panel 29A and a relatively wide glue flap 29B and a relatively narrow glue flap 29B–1, while the intermediate section of the central partition wall is of single thickness and is afforded by a panel 30B. It will also be observed that the end wall 22 is afforded by a pair of similar panels 22A and 22B, while the end wall 23 is formed by similar panels 23A and 23B. The central partition panels 28A and 28B have a vertical opening or slot 31 formed therein to receive the hook-shaped lower portion of one side of the handle H, and a similar slot 31 that is shown in Fig. 4 of the drawings is afforded in the panels

29A and 29B to receive the other connecting portion of the handle H.

As pointed out hereinabove, the central division wall 25 is somewhat higher than the end walls 22 and 23, as will be evident in Fig. 1 of the drawings, and this upward extension of the central partition 25 above the tops of the end walls 22 and 23 is substantially equal to the vertical dimension of the webs 26A, 26B, 27A and 27B. Thus this upward extension of the central division wall 25 enables the inner or adjacent ends of these webs to be pivotally associated therewith, and to enable similar association of the outer ends of these webs with the respective side walls 21A and 21B, these side walls have integral and rigidly related upward extensions formed thereon in the middle one-third thereof, such extension being identified as 121A on the wall 21A, and as 121B on the wall 21B. Each such extension 121A and 121B is formed in an integral and uncreased relation with respect to its side wall, and the opposite end edges of these extensions serve to afford vertical pivots for the outer ends of the respective separating webs as will hereinafter become apparent.

In the construction of the bottle carrier of Figs. 1 to 3, a cardboard blank is utilized in the form shown in Fig. 4 of the drawings. In this blank it will be noted that the two bottom panels 24A and 24B are joined along a central fold line 35. On the other side edge of the bottom panel 24A, the lower edge of the side wall 21A is connected along a fold line 37A. At the right end of the side wall 21A, one vertical edge of the end panel 22A is connected along a fold line 38A, the other edge of the end panel 22A being connected along a fold line 39A to one edge of the separating panel 28A.

At the other or left-hand end of the side wall 21A as viewed in Fig. 4, one edge of the end panel 23A is joined along a fold line 45A, the other edge of this end panel 23A being connected along a fold line 46A to one edge of the panel 29A.

On the other side of the central longitudinal fold line 35, the various elements of the blank are formed and related in a generally similar manner, but in a reverse relationship, and corresponding fold lines and other elements are identified by the same reference characters with the suffix "B" in each instance. Thus the bottom panel 24B is connected to the lower edge of the side wall 21B by a fold line 37B. At the right end of the side wall 21B a fold line 38B joins the side wall to one edge of the end panel 22B. At its other edge, the end panel 22B is connected along a fold line 39B to one edge of the panel 28B, the other edge of this panel 28B being defined in part by a weakened fold line 40B. The other side edge of the panel 28B is indicated by a dot dash line 41B, which thus indicates one side edge of the panel 30B, a dot dash line 42B being employed to show the junction of the other edge of the panel 30B with the glue flap 29B–1, and it should be observed that the lines 41B and 42B are merely schematic, and that the panels 28B and 30B and the glue flap 29B–1 are all formed in a rigid and uncreased relation to each other. At the other end of the side wall 21B, the end panel 23B is joined along a fold line 45B, and the other edge of this end panel 23B is connected along a fold line 46B to one edge of the glue flap 29B.

Since the extensions 121A and 121B and the various panels that form the central division wall 25 are higher than the end walls and the other portions of the side walls in an amount substantially equal to the vertical dimensions of the separating webs, as 26A, these webs may under the present invention be formed from the material that is, in the blank, aligned with the extensions 121A and 121B, and portions of such material are utilized in association with the inner ends of such webs to facilitate pivotal association of these inner ends with the central division wall 25. Thus the web 27A is joined along a vertical fold line 47A with the adjacent end edge of the etxension 121A, and a horizontal slit 48A extends from the lower end of the fold line 47A past the upper end of the fold line 45A and terminates at the upper end of the fold line 46A. Aligned with the fold lines 45A and 46A, upper fold lines 45A–1 and 46A–1 are afforded which extend between the slit 48A and the upper edge of the blank, and thus there is defined a connector web 50A which is pivoted at its oppostie ends to the edge of the panel 29A and the inner end of the web 27A. A similar but reversed construction is afforded in respect to the web 27B, thereby to afford a similarly related connector web 50B.

The web 36A is similarly defined at its opposite ends by fold lines 51A and 38A–1, while its lower edge is defined by a slit 52A which extends from the lower end of the fold line 51A to the upper end of the fold line 39A, and a slit 52A extended upwardly in alignment with the slit 39A and to the upper edge of the blank. A connector web 54A for the web 26A is defined between the slits 52A and 53A and the fold line 38A–1.

With the blank shown in Fig. 4 of the drawings, the successive gluing and folding operations may be performed in substantially the sequence shown comparatively by Figs. 5 to 10, inclusive of the drawings, but for purposes of clarity of disclosure, these folding and gluing operations are shown in considerable detail and in many instances it may be desirable to perform at least certain of such folding and gluing operations concurrently rather than in sequence as illustrated in the aforesaid series of views. Thus the blank is passed into the machine in the direction of the arrow 55 in Fig. 5, and as the first operation in the formation of the carrier from the blank of Fig. 4, glue is applied to a glue area G–1 on the inner faces of the panel 30B and the glue flap 29B–1 near what are to be the upper portions or edges thereof. The first folding operation is then performed by folding the separating webs 26A and 26B along the fold lines 46A and 46B from the relationship shown in Fig. 5 to the relationship shown in Fig. 6. The panels 22A and 22B are then folded along the fold lines 38A and 38B from the relation of Fig. 6 to the relation of Fig. 7. This locates the glue area G–1 opposite the areas G–1X and G–1Y shown in Fig. 6 on the web 54B and the web 50B, so that the panel 30B is secured to the attaching web 54B while the glue flap 29B–1 is fastened to a portion of the attaching web 50B. After this folding operation, glue is applied to the panels 29A and 29B near what are to be the upper edges thereof, as shown in Fig. 8. The panels 29A and 29B are then folded along the fold lines 46A and 46A–1 and 46B and 46B–1, respectively, from the positions shown in Fig. 8 to the positions shown in Fig. 9. This brings the glue areas G–2 into contact with areas G–2X and G–2Y of the webs 50A and 50B, respectively, so that these panels

29A and 29B in their upper portions are thereby secured to the respective webs 50A and 50B.

When the blank has been folded to the relationship shown in Fig. 9, glue is applied in glue areas G–3 shown in Fig. 9, and the blank as shown in Fig. 9 is then in condition for the final folding operation. The blank is then folded along the central fold line 35 from the relationship shown in Fig. 9 to the relationship shown in Fig. 10, so that the panels 28A and 28B are glued together; the panel 29A is glued to the opposed glue flaps 29B and 29B–1; and the attaching web 50A is glued to the upper border portion of the panel 30B, it being noted that the attaching web 50B has previously been secured to the opposite upper border face of the panel 30B so that this single thickness portion of the central division wall 25 is reenforced by the two webs 50A and 50B.

The carrier 20, by the folding operation that has just been described, is completed in the collapsed form shown in Figs. 2, 3 and 10 of the drawings, and the carrier is normally shipped and stored in this collapsed form. When the carrier is to be erected, opposing forces may be applied to the side wall 21B at the right-hand end thereof as viewed in Fig. 2 and to the left-hand edge of the end wall 23B. This causes the carrier to move toward the relationship shown in Fig. 1, and when this movement has been continued until the central partition 25 is aligned with the side walls, the carrier will assume the fully erected relationship shown in Fig. 1 of the drawings. In this fully erected condition, the carrier of the present invention may be disposed in the conventional cases used in the bottle industry, and the bottle loading operations may be performed readily and easily, and conventional case loading machinery may be used if desired. The handle H may, of course, be inserted either before or after loading of the carriers.

From the foregoing description it will be apparent that the present invention enables a preformed collapsible bottle carrier to be made from cardboard and like materials in a simple and economical manner, and the bottle carrier of the present invention is of such a character that it is rugged in its structural characteristics despite the simplicity of its form, It will also be evident that the present bottle carrier eliminates the necessity for angular bottle separating webs and for the use of a two-piece construction in attaining horizontally extending bottle separating webs. Moreover, the present bottle carrier through the use of structure of a simple character, provides a complete enclosure for the bottles, it being noted that the present carrier has end walls that extend entirely to the bottoms of the bottles.

It will also be apparent that the present invention enables bottle carriers to be formed and constructed with the minimum of material and with the minimum of forming and gluing operations. Moreover, it will be evident that bottle carriers made under and in accordance with the present invention may be erected through the application of relatively small force to the extended edges of the wall structures, and in its erected form the bottle carrier has bottle receiving compartments defined by the narrow upper edges of the various side, end and partition walls and the separating webs, thereby to facilitate loading of the carrier.

Thus, while I have illustrated and described the preferred embodiment of my invention, it is to be understood that this is capable of variation and modification and I therefore do not wish to be limited to the precise details set forth, but desire to avail myself of such changes and alterations as fall within the purview of the following claim.

I claim:

A one-piece open-topped compartmented bottle carrier formed from cardboard or like material and comprising, when erected, bottom and side walls, center and cross partitions, and end walls each comprised of two panels interconnected at their inner ends along vertically disposed fold lines, the end and side walls and the partitions defining six compartments disposed in two rows of three each, the center partition being formed by inwardly disposed extensions of the panels at opposite ends of the carrier partially overlapped and interconnected one with the other, an upward extension on the top edge of each side wall extending the width of the adjacent center compartment and projecting upwardly beyond the level of the top edge of the side walls of each of the adjacent end compartments, and webs integral with said extension and respectively joined to the ends thereof along vertically disposed fold lines and extended inwardly of the carrier and forming the cross partitions, and other webs integrally joined to the inner ends of the first named webs and forming part of the center partition and secured thereto and effective to retain the first named webs in position to afford the cross partitions.

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