

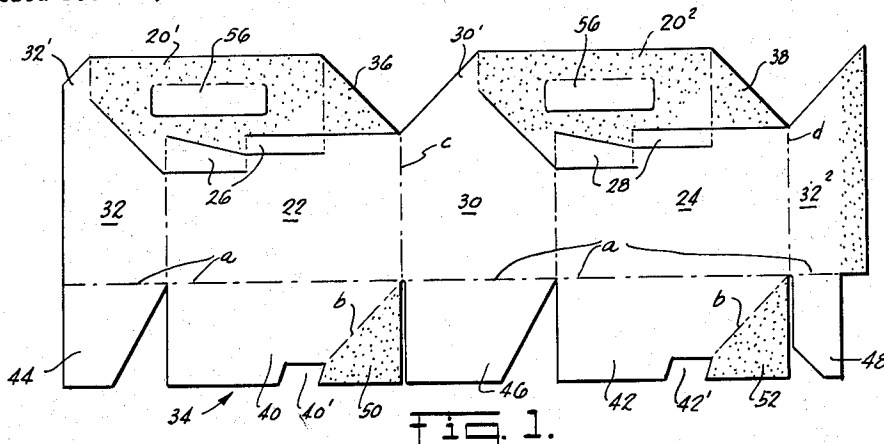
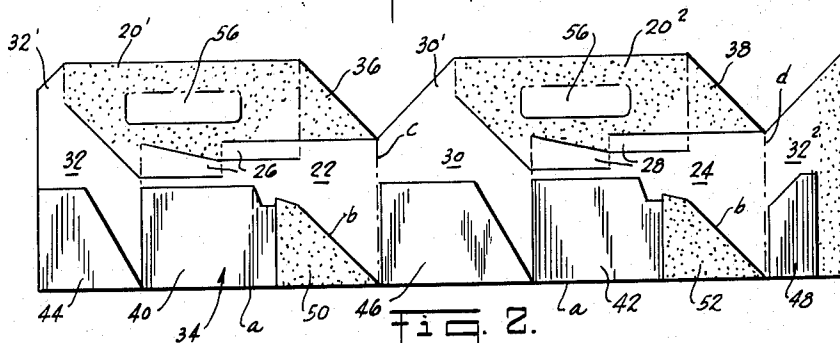
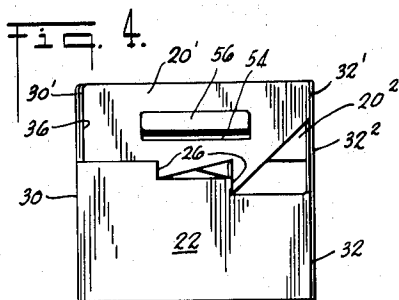
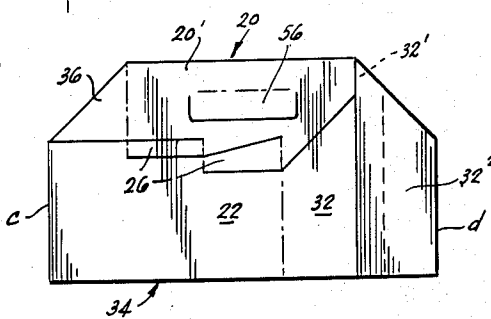
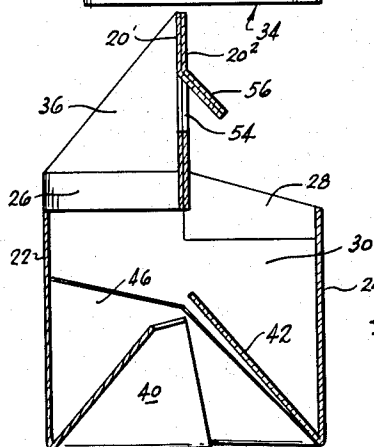
Feb. 7, 1956

R. NEWTON
BOTTLE CARRIER

2,733,832

Filed Dec. 19, 1952

3 Sheets-Sheet 1



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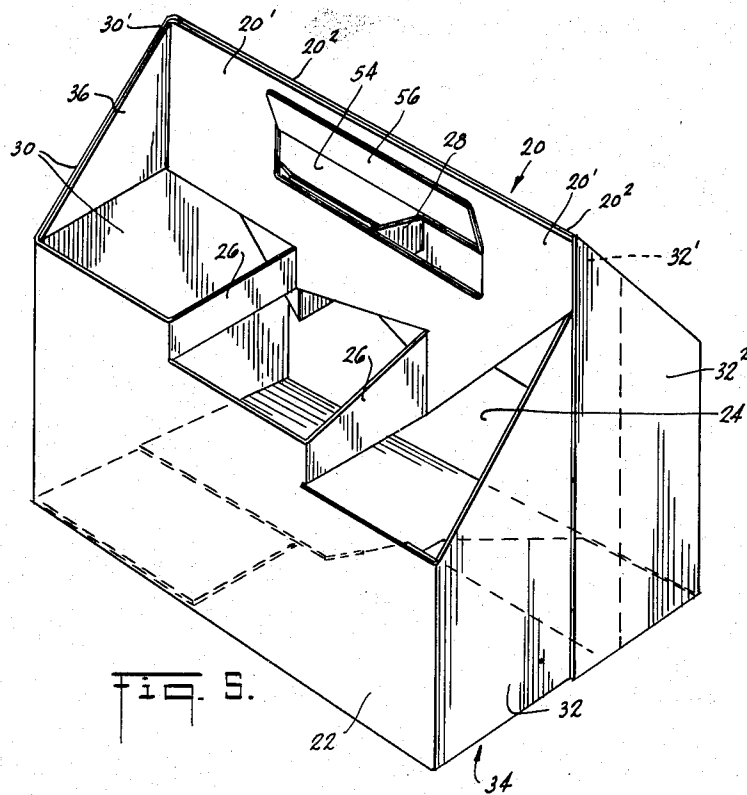
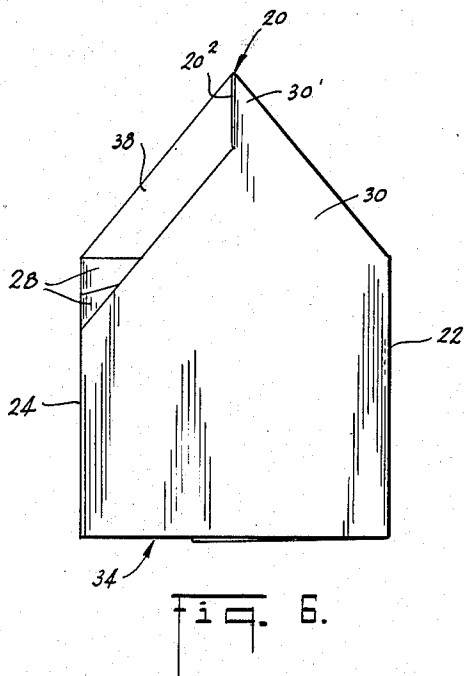
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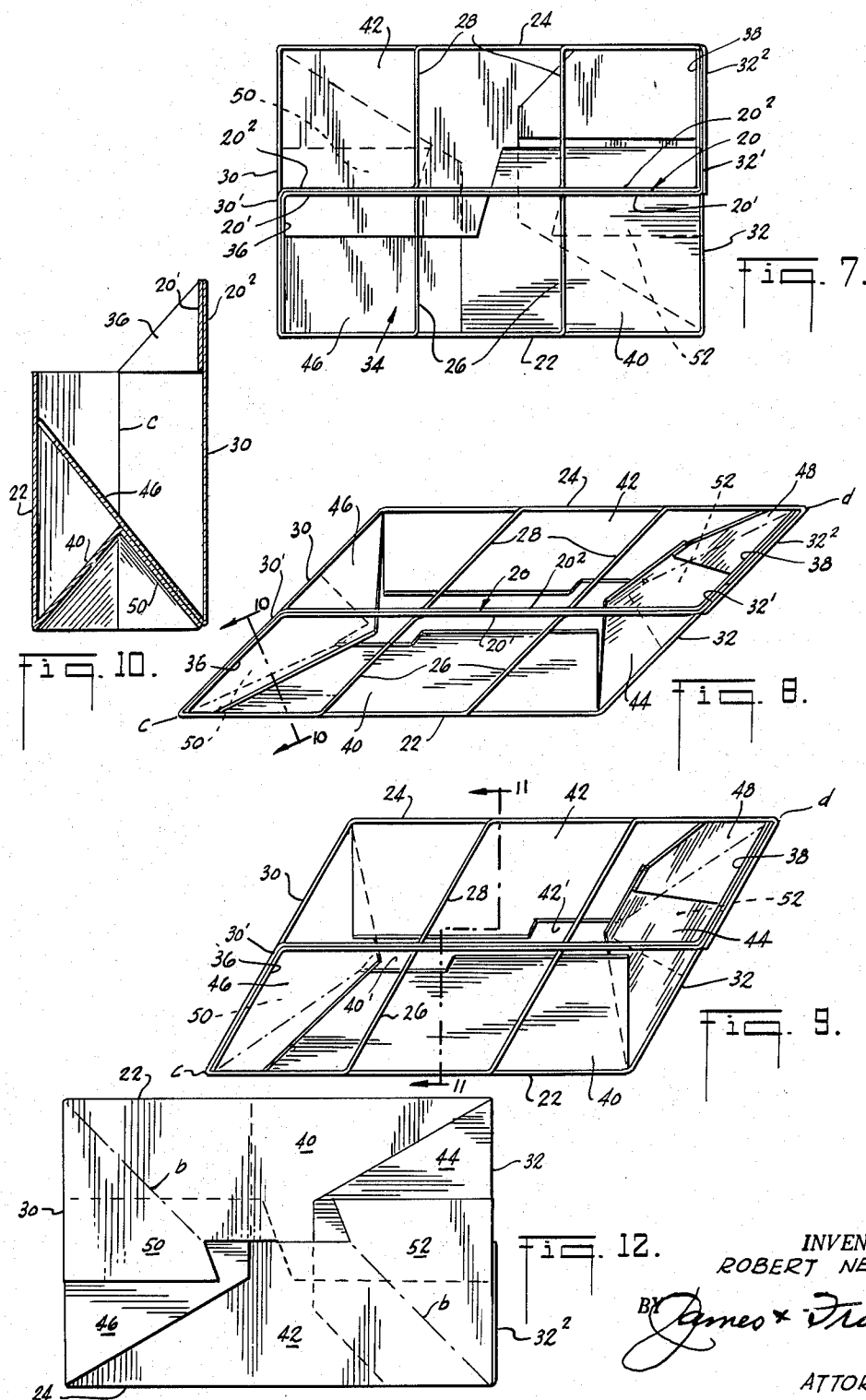
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3 Sheets-Sheet 3



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2,733,832

BOTTLE CARRIER

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Application December 19, 1952, Serial No. 326,960

4 Claims. (Cl. 220-113)

This invention relates to an improved carrier for beverage containing bottles.

Bottle carriers of the type to which the present invention pertains are made from a single blank of cardboard sheet material which is first blanked, cut and creased and then processed by folding-up and gluing operations to produce knock-down flat assemblies. These, in the knock-down state, are sold to and stored by bottlers and are ready-for-use by the bottlers to be rapidly converted to an erected or set-up condition for holding or carrying in partitioned compartments a plurality, as for example, a half dozen of beverage containing bottles.

The production of such bottle carriers presents a number of problems met with by the manufacturer of the carrier, the intermediate user thereof (the bottler), and the ultimate user (the consumer). To satisfy the needs of the ultimate consumer, who receives the carrier in erected and bottle loaded condition, the carrier even though fabricated from paper stock, has to be sturdy enough to be capable of supporting and manually transporting the relatively heavy load of beverage filled bottles. To meet the requirements of the bottler, these characteristics of sturdiness and supporting strength are of equal importance added to which it is highly desirable to have a knock-down flat assembly which is capable of being set up or erected rapidly and by a simple mechanical movement into a relatively rigid and distortionless structure ready to receive the loading of the bottles. The fabricator of the carrier is desirous of satisfying these needs of the users as well as their attendant desires of buying an attractive carrier at a low or throw-away price, and is also faced with the desire of making the product with as much saving of paper stock or material as possible and of designing the same to permit efficient and simple fabricating operations.

The principal object of my present invention centers about the provision and production of an improved bottle carrier of the type or nature referred to in which these problems are considered and are met, with the aim of a high degree of attainment.

To the accomplishment of this object and such other objects as may hereinafter appear, the invention relates to the bottle carrier as sought to be defined in the appended claims and described in the following specification taken together with the accompanying drawings, in which:

Fig. 1 is a view of a blank for making the bottle carrier of the present invention;

Fig. 2 is a view of the same in one of the stages of the fabricating process;

Fig. 3 is a view of the bottle carrier in knock-down, flat condition;

Fig. 4 is a front elevational view of the same in erected or set-up condition;

Fig. 5 is a perspective view of the same, shown on an enlarged scale in erected or set-up condition;

Fig. 6 is an end view of the structure shown in Fig. 5;

Fig. 7 is a top plan view, on a reduced scale, of the structure shown in Fig. 5;

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Fig. 8 is a top plan view showing the position that the parts of the bottle carrier assume in the step of converting the same from the knock-down to the erected condition;

Fig. 9 is a top plan view similar to Fig. 8 and showing the position the parts assume as the carrier nears its final set-up condition;

Fig. 10 is a view taken in cross-section in the plane of the line 10-10 of Fig. 8;

Fig. 11 is a cross-sectional view taken in the planes of the broken line 11-11 of Fig. 9; and

Fig. 12 is a bottom plan view of the carrier in its erected or set-up condition.

Referring now more in detail to the drawings and having reference first to Figs. 1 to 6 thereof, the bottle carrier of the present invention comprises a structure made from a blank of cardboard sheet material shown in Figs. 1 and 2 of the drawings, which is fabricated to produce a knock-down, flat assembly shown in Fig. 3 of the drawings, which latter is adapted to be set up or erected into a bottle-loading and bottle-carrying condition, as shown in Figs. 4 to 6 of the drawings.

The essence of the bottle carrier of the present invention may be described first with reference to the erected or set-up structure best shown in Figs. 5 to 7 of the drawings. In its erected condition the carrier comprises a multi-ply and particularly a double-ply upwardly extending central suspending panel 20, the side walls 22 and 24 parallel to and spaced on opposite sides of the central suspending panel 20, partitioning straps 26, 26 and 28, 28 connecting the bottom of the central suspending panel respectively to the tops of the oppositely spaced side walls 22 and 24, end walls 30 and 32 continuous with and perpendicular to the side walls 22 and 24 and a bottom wall generally designated as 34.

Each of the end walls 30, 32 extends upwardly to substantially the top (and the height) of the central suspending panel 20; and each of the said end walls is attached to the central suspending panel by the following means; a flap continuous with one ply of said suspending panel adhesively attached to said end wall and an end wall part continuous with the other ply of the suspending panel. More specifically, the double-ply panel 20 comprises the two plies 20' and 20² which are adhesively secured together back-to-back; the ply 20' of the suspending panel is provided with a flap 36 continuous therewith which is adhesively attached back-to-back to the end wall 30, and the said end wall 30 has a part 30' which is continuous with the other ply 20² of said suspending panel; similarly, for the other end of the structure (and reversely arranged) the ply 20² is provided with a flap 38 continuous therewith which is adhesively attached back-to-back to the end wall 32 and the said end wall 32 has a part 32' which is continuous with the other ply 20' of the suspending panel. The end wall 32 is made up of a main end wall and an end wall flap 32² adhesively secured in overlapping relation thereto.

This ultimate construction and its attendant advantages will become clearer upon the description of the blank from which it is made and shown in Figs. 1 and 2 of the drawings. This blank is fashioned, cut and creased in the manner depicted in Fig. 1 wherein the full lines within the border of the blank indicate cuts or slits made in the blank and wherein the dot-and-dash lines within the border of the blank indicate crease lines for permitting bending and folding of the cardboard blank to its intermediate and ultimate forms. The parts of the blank shown in Fig. 1 are designated by reference characters the same as those applied to the set-up structure of Figs. 5 to 7 of the drawings. The flaps which in the set-up structure form the bottom 34 comprise flaps 40, 42, continuous with the bottoms of the side walls 22 and 24,

and the flaps 44, 46 and 48, continuous with the bottoms of the end walls 30, 32 and 32'. The flaps 40 and 42 are provided with reversely bendable flap sections 50 and 52.

In the fabrication of the knock-down assembly forming this blank, the parts are glued or adhesively treated in the sections thereof which are stippled in the drawings, and these parts are then folded first into the condition shown in Fig. 2 and then into the flat, knock-down condition shown in Fig. 3.

The gluing or adhesive application may be made while the blank is in the flat state shown in Fig. 1, or when the same is in the partially folded state shown in Fig. 2, the latter practice being preferred. In producing the knock-down structure from the blank, the bottom forming flaps 40 to 48 are folded up along the crease lines *a* and the flaps 50 and 52 are reversely bent or folded along the crease lines *b*, *b* to produce the intermediate assembly shown in Fig. 2. The left hand section of this assembly is then folded over on the crease line *c* into registry with the right handed section of this assembly and the end wall flap 32' is then folded over the crease line *d* and the parts are pressed together for the adhesive uniting of the glued sections thereof, the result being the production of the knock-down or flat assembly shown in Fig. 3 of the drawings. To convert this knock-down assembly into the set-up or erected form it is but necessary to compress the knock-down assembly by pressure exerted on the edges (previously the crease lines) *c* and *d* in a manner that will be detailed further hereinafter.

From the structure in its various stage (the blank, knock-down and erected), it will be observed that each of the end walls (30 and 32) extends upwardly to substantially the top of the central suspending panel and that each of these end walls is connected or attached to the elements of the suspending panel by two bonds, namely, a flap (36, 38) continuous with one ply of the suspending panel over substantially its full height which is adhesively attached to the end wall and with an end wall (part 30', 32') continuous with and located at the top of the other ply of the suspending panel, thus making for a very strong bond or connection between the central suspending panel and the opposite end walls of the erected structure along the full height of the suspending panel (at one bond), and along a substantial portion at the upper end of the suspending panel (for the other bond). The ultimate result is the production of an erected or set-up structure in which the central suspending panel is so unitedly related to the other walls of the carrier as to produce a bottle holder which may be heavily loaded and which is strong and sturdy enough to sustain that load from the suspension point or area of the carrier, namely, the central suspending panel. This central suspending panel, as is customary in this type of construction is provided with a finger hole 54 which is uncovered by the flap 56, cut originally in the blank.

This construction is characterized by a knock-down carrier assembly which may be described by reference to Fig. 3 as follows: the knock-down assembly comprises two superposed sections, each having the configuration shown in Fig. 3, which sections are united at the adhesively applied areas, each section being blanked, cut and creased to provide parts corresponding to the following parts of the section viewed in Fig. 3: a suspending panel 20', a side wall 22, partition straps 26 connecting the suspending panel to the side wall, an end wall 32 continuous with the side wall, and intumed flaps (for forming the bottom 34) continuous with the side and end walls, the suspending panel 20' being in registry with the panel 20 of the underneath section and being adhesively secured back-to-back thereto, the suspending panel 20' being provided at one of its ends with a flap 36 adhesively attached back-to-back to the end wall of the underneath section and being provided at its other end with a part 32', continuous with the end wall 32 of its own section.

At this point it may be observed that the blank of Fig. 1 and 2 has all of its parts contiguously related as close together as possible, the parts being provided in their least or minimum number to produce the results desired, there being no cut-out or cut away sections anywhere in the interior of the blank. The result is an economical use of cardboard material and the making of the ultimate structure out of a blank of minimum dimensions, with no trouble encountered in the blanking-out operation which is usually incident to interior cut-away waste pieces. The ultimate result also is the obtaining of a knock-down assembly as shown in Fig. 3, which is continuous over its whole presentable surface, it and the finally erected structure presenting, furthermore, a carrier of attractive appearance.

The bottom forming flaps 40 to 52 are of a known structure; and these flaps, when the carrier is compressed from its knock-down to its erected states automatically open up and move into the flattened condition to produce the bottom of the carrier as depicted in Figs. 7 and 12 of the drawings, the flaps 40 and 42 also interlocking with each other at the cut-outs 40' and 42' thereof, the result being a strong and load-supporting bottom.

This bottom, collectively designated as 34, of previously known construction, however, is so correlated to the other described parts of the present construction, that when the carrier is moved from its knock-down to its erected states, the resistance offered by the rigidified upper parts of the carrier to the opening-up operation is reactive to the forces exerted by the opening bottom forming flaps, the result being that when the carrier assumes its erected condition, the mutual resistive forces produce an erected carrier which is stable and which resists weaving and distortion. This is illustrated in Figs. 8 to 11 of the drawings, where the parts are shown in their progressively moving positions as the carrier is opened up from its flattened, knock-down state to its set-up or erected state. The multiple bonds uniting the central panel to the side walls of the knock-down carrier and the multi-ply structure formed in these bonds offer a resistance to the opening up of the carrier when the same is compressed at the edges *c*, *d*. The bottom forming flaps in the opening operation move through the positions shown in Figs. 8, 10 and Figs. 9, 11, until they assume the flat condition shown in Figs. 7 and 12. In doing so certain of the flaps such as the flaps 46 and 48 keep pressing against their adjacent walls such as the walls 22 and 24, against the resistance offered by the described multiple bonds; and this is illustrated in Figs. 8 to 11 of the drawings. The consequence is that when the parts have assumed their final erected condition with the bottom forming flaps reaching their flat and interlocked condition, the carrier assumes a stable set-up state as referred to.

The manner of fabricating the bottle carrier of the present invention, the manner of its use by the bottler and the ultimate consumer and the advantages secured to each of them by the construction of the present invention will, in the main, be fully apparent from the above detailed description. It will be further apparent that changes may be made in the provided structure and the relation between the parts thereof within the purview of the present invention without departing from the principles thereof as set forth in the following claims.

I claim:

1. A bottle carrier made from a blank of sheet material and comprising in set-up condition an upwardly extending multi-ply central suspending panel, side walls parallel to and spaced on opposite sides of the central suspending panel, partition straps integrally connecting the bottom of the central suspending panel to the tops of the oppositely spaced side walls, end walls continuous with and perpendicular to the side walls, and a bottom wall, each of said end walls extending upwardly on both sides of the central suspending panel to substantially the top of said central suspending panel and being attached thereto by

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the following means: a flap continuous with one ply of said suspending panel adhesively attached to an end wall and a part on said end wall continuous with the other ply of said suspending panel.

2. A bottle carrier made from a blank of sheet material and comprising in set-up condition an upwardly extending double-ply central suspending panel the plies of which are adhesively secured together back-to-back, side walls parallel to and spaced on opposite sides of the central suspending panel, partition straps integrally connecting the bottom of the central suspending panel to the tops of the oppositely spaced side walls, end walls continuous with and perpendicular to the side walls, and a bottom wall, each of said end walls extending upwardly on both sides of the central suspending panel to substantially the height and top of said central suspending panel and being attached thereto by the following means: a flap continuous with one ply of said central suspending panel over substantially its full height adhesively attached to an end wall and a part on said end wall continuous with the other ply of said central suspending panel.

3. A bottle carrier made from a single blank of sheet material and comprising in set-up condition an upwardly extending double-ply central suspending panel the plies of which are adhesively secured together back-to-back, side walls parallel to and spaced on opposite sides of the central suspending panel, partition straps integrally connecting the bottom of the central suspending panel to the tops of the oppositely spaced side walls, end walls continuous with and perpendicular to the side walls, and flaps forming a bottom wall, each of said end walls extending upwardly on both sides of the central suspending panel

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to substantially the top and height of said central suspending panel and being attached to the latter by the following means: a flap continuous with one ply of said central suspending panel over substantially the full height adhesively attached to an end wall and a part on said end wall continuous with and located at the top of the other ply of said suspending panel.

4. A bottle carrier made from a single blank of sheet material and comprising in set-up condition an upwardly extending double-ply central suspending panel, side walls parallel to and spaced on opposite sides of the central suspending panel, partition straps integrally connecting the bottom of the central suspending panel to the tops of the oppositely spaced side walls, end walls continuous with and perpendicular to the side walls, and a bottom wall, each of said end walls extending upwardly on both sides of the central suspending panel to substantially the top of said central suspending panel and being attached thereto by the following means: a flap continuous with one ply of said suspending panel adhesively attached to an end wall and a part on said end wall continuous with the other ply of said suspending panel, both end walls being similarly but in diametrically opposed order attached to said central suspending panel.

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