Nov. 10, 1964 L. S. WYSOCKI 3,156,377

BOTTLE CARRIERS

Filed July 30, 1962 3 Sheets-Sheet 1

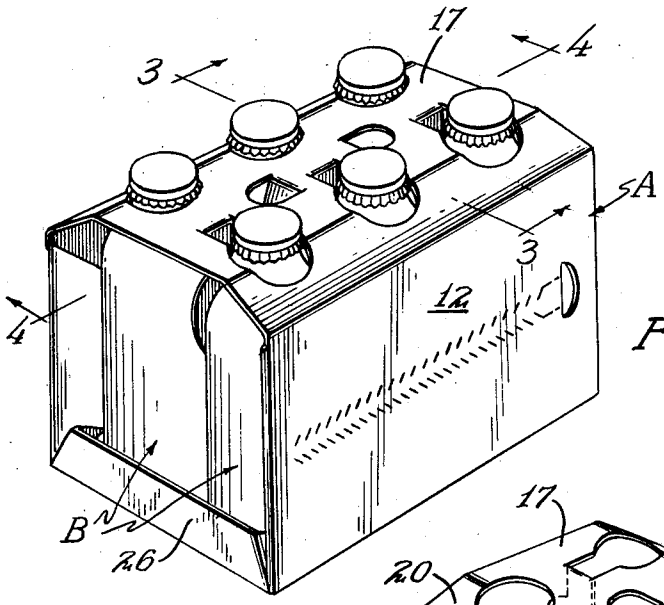


FIG. 1

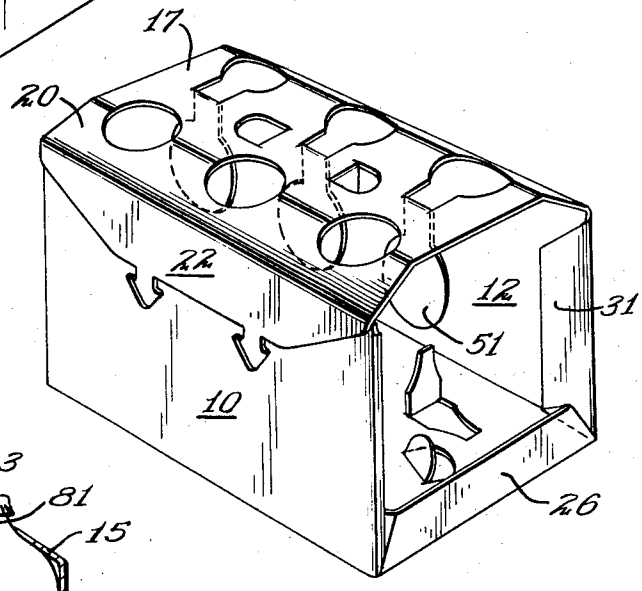


FIG. 2

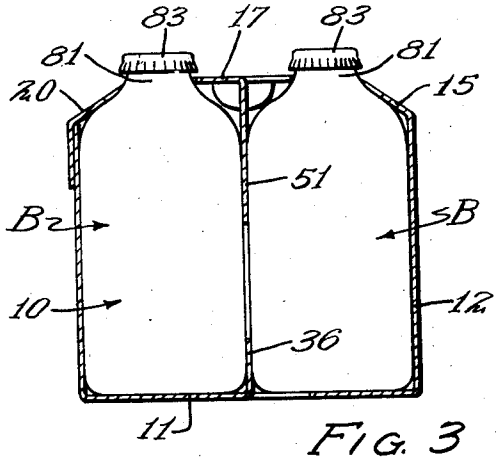


FIG. 3

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BOTTLE CARRIERS

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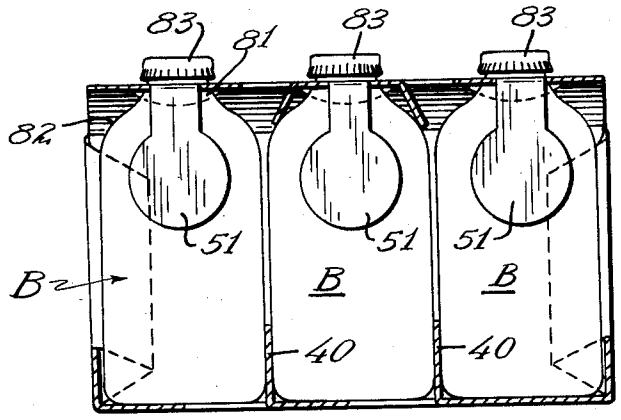


FIG. 4

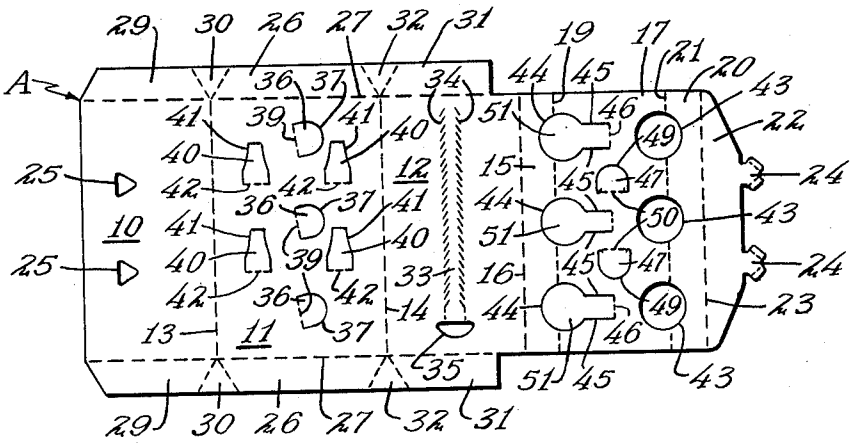


FIG. 5

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BOTTLE CARRIERS

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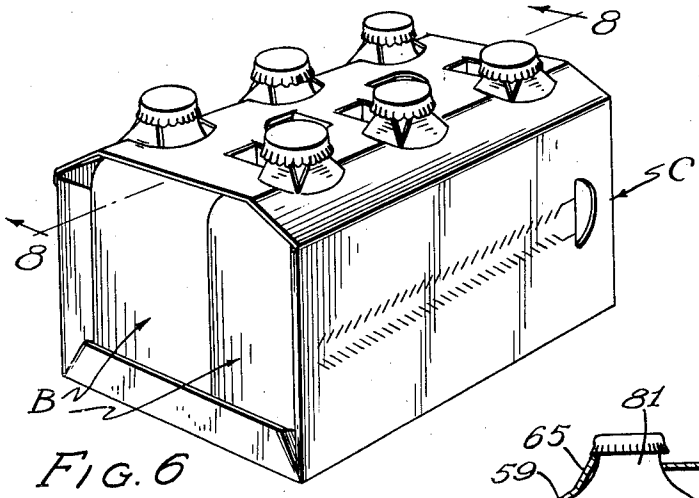


FIG. 6

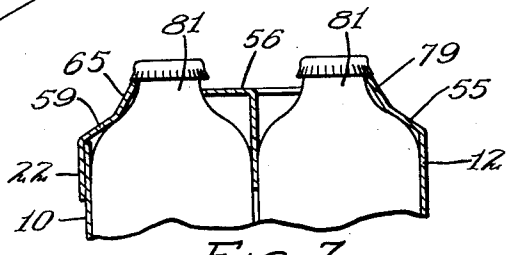


FIG. 7

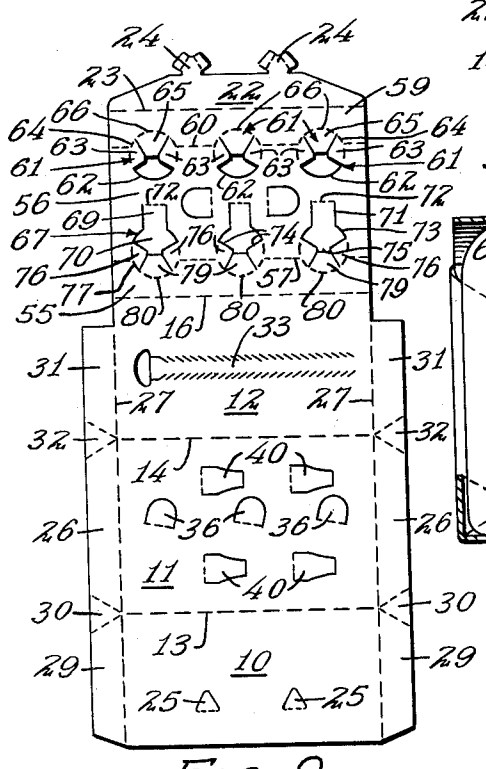


FIG. 9

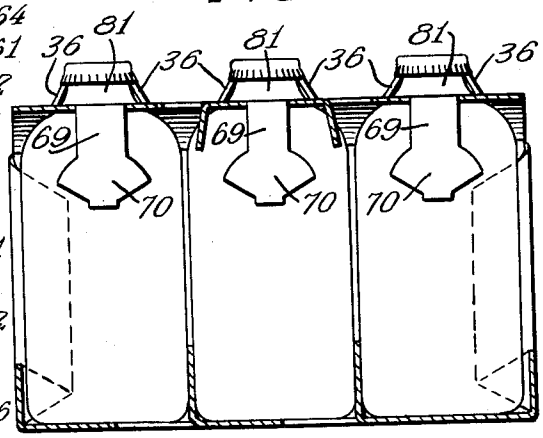


FIG. 8

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3,156,377

BOTTLE CARRIERS

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Filed July 30, 1962, Ser. No. 213,438
4 Claims. (Cl. 220—114)

This invention relates to an improvement in bottle carriers and deals particularly with a carrier which may be wrapped around a series of bottles to hold them in a predetermined relative position.

Cans are often sold in carrier cartons which most commonly contain six cans of the product. In these carriers, the cans are often times grouped together in actual physical contact. The glass industry has recently started featuring bottles which are but little larger than cans designed to hold the same volume of the product, which are relatively short and which have an unusually short neck. With such bottles, it is usually necessary to provide some partition structure at least sufficient to prevent actual contact between the bottles. It is an object of the present invention to provide a carrier which is capable of accomplishing these results.

It is an object of the present invention to provide a carrier including, in series, a side wall panel, a bottom panel, a second side wall panel, a series of top panels, and a locking flap designed to overlap the first side wall panel and which is provided with suitable locking tongues capable of locking the walls in tubular form. The top structure actually includes three panels, one of which comprises a central panel and which extends between the bottle necks, and the other two of which comprise inclined panels designed to incline downwardly over the curved portions of the bottle bodies beneath the necks and to connect the central top portion with the side walls. Apertures are provided at the juncture between the center top panel and the inclined top panel portions through which the short necks of the bottles may extend. The paperboard cut away to form certain of these apertures remains hinged to the center top panel approximately along the center line thereof. These portions of the paperboard are folded down between opposed bottles in the carrier to form a partial partition therebetween.

In a wrap-around carrier of the type described, the bottles are usually arranged in two parallel rows, there usually being three bottles in each row. When the elongated strip of paperboard forming the carrier is wrapped about the group of bottles, the apertures in the carrier body must be sufficiently long in a direction longitudinally of the strip to permit the apertures to fit over the bottle necks and caps during the wrapping operation. When the carrier has been wrapped about the bottles and locked in tubular form, the portions of the apertures which fit about the bodies of the bottles tend to hold the bottles from movement longitudinally of the rollers as the ends of the carrier are drawn together, there is a tendency for the upper ends of the bottles of one row to be drawn toward the corresponding bottles of the other row. An object of the present invention lies in the provision of partition elements which extend between the upper portions of the bottles of the two rows to prevent direct contact therebetween.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of the specification:

FIGURE 1 is a perspective view of a bottle carrier showing the general construction thereof.

FIGURE 2 is a view similar to FIGURE 1 but showing the carrier empty to show portions of the interior thereof.

FIGURE 3 is a transverse sectional view through the carrier, the position of the section being indicated by the line 3—3 of FIGURE 1.

FIGURE 4 is a longitudinal sectional view through the carrier, the position of the section being indicated by the line 4—4 of FIGURE 1.

FIGURE 5 is a diagrammatic view of the blank from which the carrier is formed.

FIGURE 6 is a perspective view of a modified form of filled carrier.

FIGURE 7 is a transverse sectional view through the carrier illustrated in FIGURE 6.

FIGURE 8 is a longitudinal sectional view through the carrier of FIGURE 6, the position of the section being indicated by the line 8—8 of FIGURE 6.

FIGURE 9 is a diagrammatic view of the blank from which the carrier is formed.

The blank is formed as is best illustrated in FIGURE 5 of the drawings. The carrier A if formed of an elongated strip of paperboard which is cut and scored to provide a first side wall **10**, a bottom panel **11**, and a second side wall **12**, the wall panels being connected along parallel fold lines **13** and **14**. A top panel portion **15** is foldably connected to the side wall **12** along the fold line **16**, and a center top panel **17** is foldably connected to the top panel portion **15** along a fold line **19**. A second top panel portion **20** is foldably connected to the center top panel **17** along a fold line **21**. A locking flap **22** is foldably connected to the top panel portion **20** along the fold line **23**. All of the fold lines which have been described are parallel and extend transversely of the length of the blank.

A pair of locking tongues **24** are provided in spaced relation upon the locking flap **22**, and the side wall **10** is provided with a pair of correspondingly spaced apertures **25** through which the locking tongues **24** may be forced in order to hold the carrier in tubular form.

Some means is provided for holding the various bottles B from sliding from the ends of the carton. In the particular arrangement illustrated, flanges **26** are hingedly connected to the longitudinal edges of the blank along fold lines **27**, the flanges **26** being connected to side wall flanges **29** on the side wall **10** along continuations of the fold line **27** by generally V-shaped gusset flaps **30** which are arranged with the apex of the V at the intersection of the fold lines **27** and the fold line **13** connecting the side wall **10** to the bottom panel **11**. In the same manner, the flanges **26** are connected to flanges **31** hingedly connected to the side wall **12** along a continuation of the fold lines **27** by V-shaped gusset flaps **32**. With this arrangement, the flanges **26** may be held in an upright position when the flanges **29** and **31** are folded between the bottles and the side walls **10** and **12** to which these flanges are hinged. This arrangement is shown for the purpose of illustration only, and is similar to that disclosed in Patent Re. 24,925 issued January 17, 1961, to John V. Fisher.

For the purpose of convenience, a tear strip **33** may extend substantially across one of the side wall panels, such as the panel **12**, the tear strip being defined by spaced parallel perforated lines **34** having at one end a head **35** which is cut from the body and which may be grasped to remove the tear strip and to automatically open the carrier.

A series of spaced tabs **36** are provided in the bottom panel **11** and are defined by U-shaped cut lines **37** which terminate along fold lines **39** which intersect the center line of the bottom panel between the fold lines **13** and **14**, and are arranged at a slight angle to this center line. Portions of the tabs, when folded upwardly at right angles to the bottom panel **11**, extend on each side of the center line to provide a more effective partition between the

lower ends of the bottles of the two rows when the carrier is filled. Two pairs of tabs **40** are also cut from the bottom panel **11** and are also defined by generally U-shaped cut lines **41**, the tabs **40** being hingedly connected to the bottom panel along fold lines **42** which are parallel to the fold lines **27** defining the longitudinal side edges of the main portion of the blank. The fold lines **42** are spaced from the fold lines **27** a distance substantially equal to the diameter of the bottles contained, and the two pairs of tabs are also connected to the bottom panel **11** along their fold lines **42** which are spaced apart a distance substantially equal to the diameter of the bottles B, the tabs **40** thus being foldable upwardly to form a partition between the lower ends of the bottles of each row.

Spaced apertures **43** intersect the fold line connecting the center top panel **17** to the side top portion **20**, the apertures **43** being located to accommodate a portion of the cap and neck of the bottles B of one row. A series of apertures also intersect the fold line **19** connecting the center top panel to the side top panel portion **50**. These last named apertures are formed by arcuate cut lines **44** which extend into the panel portion **15** and intersect the fold line **19**. The ends of the arcuate cut lines **44** are connected to a pair of parallel cut lines **45** which extend parallel to the longitudinal edges of the blank to the center line of the center top panel **17**. Fold lines **46** connect the ends of the cut lines **45**, and extend along this transverse center line of the panel **17**.

A pair of spaced tabs **47** are provided in the panel **17** intermediate the fold lines **19** and **21** defining the edges of the panel **17**, these tabs **47** being also located on opposite sides of the longitudinal center line of the blank between the center lines of the opposed bottles of the two rows. The caps **27** are defined by U-shaped cut lines **49** and are foldably connected to the panel **17** along parallel fold lines **50**. The tabs **47** are merely designed to provide potential finger holes, and when these tabs are bent downwardly, apertures are provided through which a finger and thumb may be inserted for carrying the carrier.

The set up form of the carrier A is believed clearly illustrated in the drawings. The tabs **36** extend upwardly from the bottom panel **11** and extend between pair of opposed bottles in the two rows. The tabs **40** are also bent upwardly in right angles to the bottom panel, and extend between the center bottle and the two end bottles of each row. The flanges **26** are folded upwardly into substantially right angular relation to the bottom panel **11**, and are held in this position by the side wall flanges **29** and **30** which extend between the end bottles of the rows and the side walls **10** and **12** to which they are hinged. Thus the lower ends of the bottles are held from direct contact and are held from sliding from the ends of the carrier.

The tabs **51** which are formed by the connected cut lines **44** and **45** are folded between the opposed bottles of each pair as is indicated in FIGURE 4. The outer walls of the apertures **43** and the arcuate cut lines **44** are drawn snugly over the rounded upper portions of the bottle bodies and hold the upper portions of the bottles from swinging longitudinally. Thus all of the bottles are held out of direct contact when the carrier is closed.

In the modified form of carrier C illustrated in FIGURES 6–9 of the drawings, the first side wall **10**, the second side wall **11**, the third side wall **12** and the locking flap **22** are identical to those described in conjunction with the carrier A, and have been given the same identifying numerals. The side wall **10** is provided with the locking slots and apertures **25** to accommodate the locking tongues **24** of the closing flap **22**. The bottom panel **11** is provided with the tabs **36** and **40**, and a flange structure similar to that previously described is provided on the ends of the bottom panel and side walls. Only the top panel structure has been changed, so the other elements have been given the same identifying numerals.

The top of the carrier C includes a top panel portion **55** connected to the side wall **12** by a fold line **16**, a center top panel **56** connected to the panel portion **55** by a fold line **57** and a top panel portion **59** secured to the top center portion **56** by a fold line **60**. The panel portion **59** is connected to the locking flap **22** by the fold line **23**. Apertures **61** are provided in spaced relation which are located similarly to the apertures **43** to accommodate the bottle necks. The apertures **61** intersect the fold line **60** and extend partially in the center top panel **56** and the side panel portion **59**. Each aperture **61** comprises a generally circular area, a generally wedge-shaped portion of which is cut away inwardly of the arcuate cut line **62**. A pair of opposed generally triangular lips **63** are connected to the carrier top along arcuate fold lines **64** which are generally at right angles to the fold line **60** so that these lips may engage the bottle necks on opposite sides thereof in a direction longitudinally of the rows. A third lip **65** extends into each aperture, being foldably connected thereto along an arcuate fold line **66** which permits the tab **65** to fold along the line which is generally parallel to the fold line **60**, the lips **65** being engageable with the bottom necks on the outer sides of the rows. In other words, the lips **65** tend to hold the bottle necks toward the longitudinal center of the carrier.

In the arrangement illustrated, the arcuate cut line **62**, together with the fold lines **64** and **66** form a circular aperture into which the lips **63** and **65** extend. As these lips are folded along arcuate fold lines, they tend to lie on a conical surface when folded upwardly.

The apertures **67** designed to accommodate the necks of the bottles of the other row are somewhat similarly formed. However, portions of the top center panel are cut to provide foldable dividers designed to extend downwardly between the opposed bottles of each pair. These dividers include a strap portion **69** and a generally wedge shaped end portion **71**. The strap portion **69** is defined by a pair of parallel cut lines **71** which are at right angles to the fold lines **57** and **60** and which terminate at the center line between these fold lines. A fold line **72** extends along the center line of the top panel **56** between the ends of the parallel cuts **71**. Concentric arcuate cuts **73** diverge from the opposite ends of the cut lines **71**, the arcuate cut lines **73** extending along the generally circular area defining the apertures **67**. Converging cut lines **74** extend inwardly in a generally radial direction from the center of arcuation and the ends of the converging cut lines **74** are connected by a cut line **75** parallel to the fold line **72**. This arrangement of cut lines thus provides the straps **69** and the wider wedge shaped ends **70**.

Generally triangular lips or tabs **76** are provided extending into the aperture **67** from opposite sides thereof, the lips **76** being connected to the top panels **55** and **56** along arcuate fold lines **77** which form a part of the circular area defining the aperture **67**. The arrangement is such that the lips **76** may engage opposite sides of the bottle necks in a direction longitudinally of the rows of bottles. The hook lines of fold **77** are generally at right angles to the line of fold **57**.

Lips **79** are hingedly connected to the panel **55** along arcuate fold lines **80** which also lie along the edge of the circular area defining the apertures and areas. The lips **79** fold along a line which is generally parallel to the fold line **56** and are designed to engage the surfaces of the bottle necks which are on the outer side of the rows.

In this structure as in the carrier A, the necks **81** of the bottles B which extend upwardly from the rounded shoulder portions forming the tops of the bottle body extend through the apertures. However, as is best illustrated in FIGURE 8 of the drawings, the straps **69** with their enlarged ends **70** extend between the opposed bottles of each pair, and the lips **76** flex upwardly to engage beneath the bottle caps **83**. As is best indicated in FIGURE

7 of the drawings, the lips 65 and 79 engage against the bottle necks 81 beneath the caps 83 to hold the bottles against the center dividers. In other words, in the carrier C, the upper ends of the bottles are somewhat more effectively held from movement in any direction.

In accordance with the patent statutes, I have described the principles of construction and operation of my improvement in bottle carriers, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A bottle carrier of the wrap around type adapted to wrap around two side by side rows of bottles in opposed relation, the carrier including an elongated strip of foldable sheet material creased to provide, a first side wall, a bottom panel, a second side wall, a top panel structure and a locking flap secured in series,

said top panel structure including a center top panel and a pair of side top portions connected to opposite sides of said center top panel and to said second side wall and said locking flap respectively,

said top panel structure including a series of opposed pairs of apertures at the juncture between said center top panel and said side top portions and spaced apart a distance substantially equal to the diameter of the bottles to be contained and equal in number to the bottles to be contained,

said apertures being of a size to accommodate the necks of the bottles to be contained,

one aperture of each pair being at least partially formed by cut lines defining a tab,

a strap connected to each tab and defined by cut lines terminating in spaced relation substantially at the center of said center top panel between said rows of apertures,

said tab and strap being adapted to fold into substantially parallel relation to said side walls and between the bottles of each pair when said carrier is folded about said rows of bottles.

2. The structure of claim 1 and in which said top panel structure includes a series of lips hingedly secured thereto along opposite side edges of said apertures longitudinally of said rows and engageable against the necks of bottles inserted through said apertures.

3. The structure of claim 2 and including a third lip hingedly secured to the side top portions along the edges of each said aperture nearest the adjoining side wall.

4. A bottle carrier of the wrap around type adapted to wrap around two side by side rows of bottles in opposed relation, the carrier including an elongated strip of foldable sheet material creased to provide a first side wall, a bottom panel, a second side wall, a top panel structure and a locking flap secured in series,

said top panel structure including a center top panel and a pair of side top portions connected to opposite sides of said center top panel and to said second side wall and said locking flap respectively,

said top panel structure including a series of opposed pairs of apertures at the juncture between said center top panel said side top portions and spaced apart a distance substantially equal to the diameter of the bottles to be contained and equal in number of the bottles to be contained,

said apertures being of a size to accommodate the necks of the bottles to be contained,

a substantial portion of said apertures being defined by lines of fold extending along the edges of said apertures nearest the adjoining side wall and along opposite sides of said aperture which are in substantially right angles to the line of fold connecting said side to portions to said side walls,

three generally triangular lips extending into said apertures from said three fold lines defining said apertures,

a tab cut from said top panel structure and defining the remainder of said aperture in one aperture of each pair, and

a strap connected to said tab and defined by cut lines extending from said aperture to substantially the center line of said center top panel between said side top portions, said strap and tab being adapted to fold downwardly from said center top panel and between the bottles of each.

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