Jan. 9, 1962 F. A. CHIDSEY, JR 3,016,182

BOTTLE CARRIER

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Fig. 3

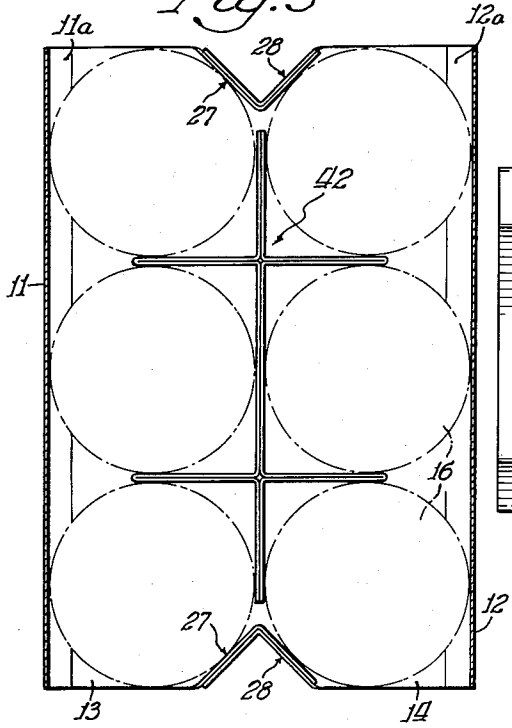


Fig. 1.

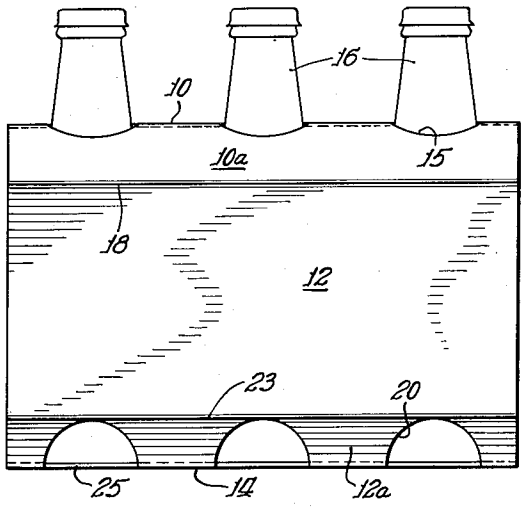


Fig. 2

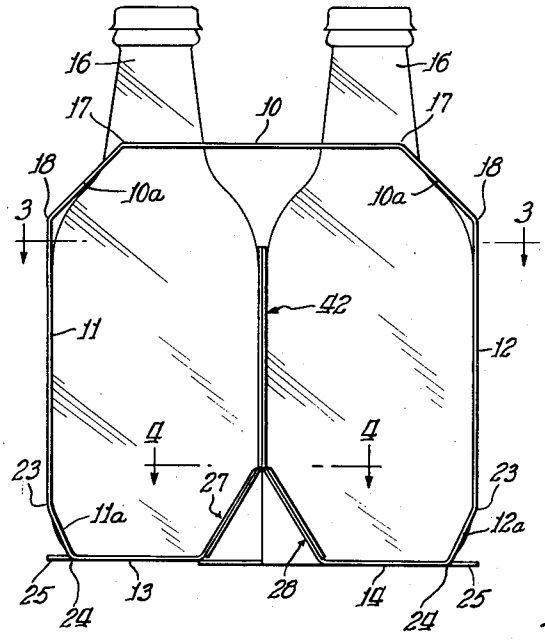
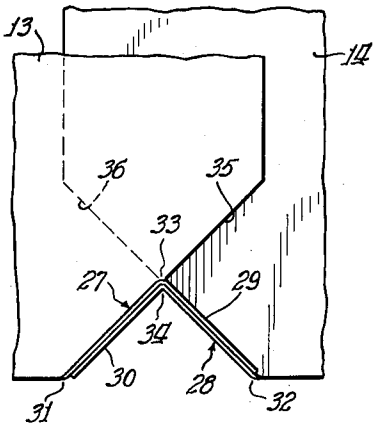


Fig. 4



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BOTTLE CARRIER

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Fig. 7

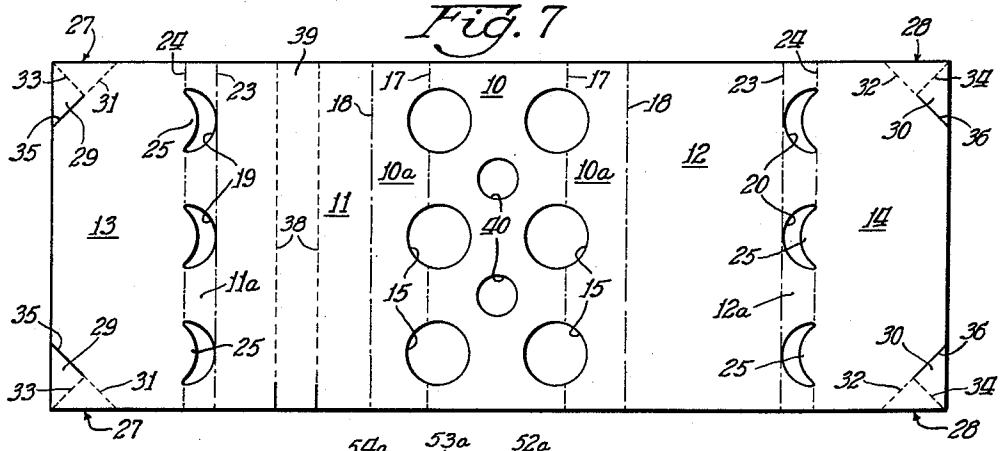


Fig. 6

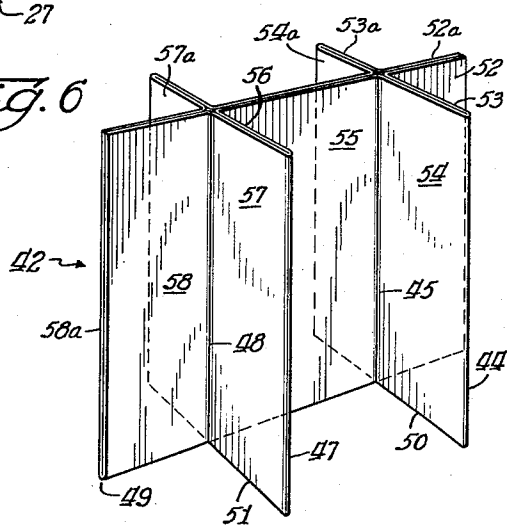


Fig. 8

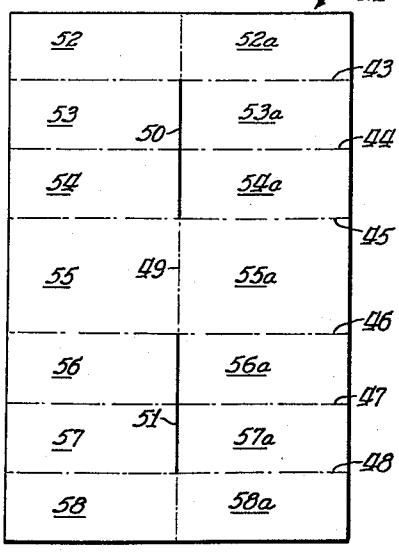
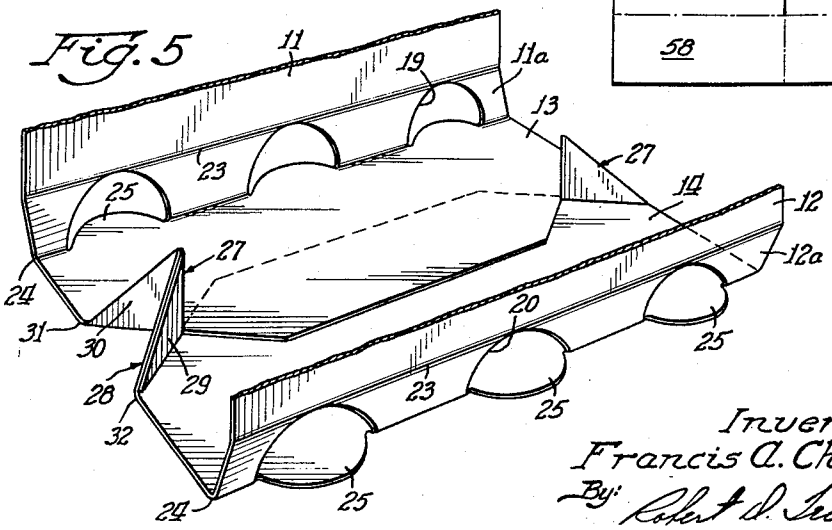


Fig. 5



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3,016,182

BOTTLE CARRIER

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Filed May 21, 1959, Ser. No. 814,888
1 Claim. (Cl. 229—40)

The present invention relates to folding cartons and more particularly to cartons of open end, wrap-around style designed to carry two rows of bottles.

An important object of the invention is to provide an improved open end, wrap-around style carrier for bottles, having supplemental retaining means at one or both open ends which will tend to prevent accidental disengagement of the bottles from the carrier.

A further object is to provide a form of partition for a carrier designed for two rows of bottles, such partition being of economical and convenient form, capable of being quickly set up from flat form and assembled with two rows of bottles which are to be wrapped within an open end carrier.

Additional objects and advantages of the present invention will become apparent as the description proceeds.

In the drawings—

FIG. 1 is a side elevational view of an open end carrier of the type having top openings to receive the necks of the bottles and openings in the lower portions of the side walls to receive a part of the curved surfaces at the lower ends of the bottles;

FIG. 2 is an end elevational view showing the bottles in place and being separated by the partition of the present invention and also showing the central end retaining member at one end of the carrier;

FIG. 3 is a horizontal cross-sectional view taken along line 3—3 of FIG. 2;

FIG. 4 is a fragmentary cross-sectional view on an enlarged scale taken along line 4—4 of FIG. 2 looking down on one of the upfolded retaining means;

FIG. 5 is a fragmentary perspective view of the bottom portion of the carrier;

FIG. 6 is a perspective view of the partition member in its set up condition;

FIG. 7 is a plan view of the carrier blank as it appears when laid out flat; and

FIG. 8 is a plan view of the partition blank.

The carton of the present invention as herein disclosed is made from an elongated, rectangular, paperboard blank providing a top panel which may have openings to admit the necks of bottles, the top panel may have sloping corner portions to conform to the shoulders of the bottles. The sloping corner portions connect with side walls connecting in turn with bottom sections. As herein illustrated the bottom sections are secured in overlapping relation centrally of the composite bottom panel.

At each of the open ends of the carton an upstanding retaining member is provided to insure retention of the bottles. These retaining members comprise triangular flaps formed by folding upward the adjacent corners of the bottom sections and securing the flaps in raised position by means of hinged tabs carried by the triangular flaps.

Referring more particularly to the drawings, the blank from which a carrier of the present invention may be made is shown in FIG. 7. This blank is cut from foldable paperboard, preferably of elongated rectangular shape, and is die cut and crease scored to provide a central or top panel **10**, side wall panels **11** and **12** and two bottom sections **13** and **14** designed to be joined in overlapping relation to form a composite bottom panel. The carrier as shown is constructed to hold bottles and while the invention is particularly suitable for bottles it is also

contemplated that the invention may be applied advantageously in carrying filled cylindrical cans as well as other cylindrical articles with or without a reduced size neck portion typical of bottles.

The top panel **10** is preferably die cut to provide two rows of openings **15**, **15** through which the necks of the bottles **16**, **16** may extend. See FIG. 1. The top **10** includes two sloping portions **10***a*, **10***a* defined from the main portion **10** by fold lines **17**, **17** and from the side wall panels by fold lines **18**, **18**. These portions **10***a* generally conform to the slope of the rounded shoulders of the bottles.

The side wall panels at the lower part of the carrier have inwardly sloping portions **11***a* and **12***a* each having three die cut openings **19** and **20** which are of crescent shape to receive a portion of the curved periphery of the lower ends of the bottles. The sloping portions are defined from the side and bottom panels by fold lines **23** and **24**. The fold lines **24** are preferably interrupted adjacent each crescent shaped opening to provide for the rigid extended portions **25**, **25** on the bottom panels. By interrupting these fold lines the portions **25**, **25** are left disposed in the planes of their attached bottom panels. It is to be noted that, when the bottom panels are folded to assume a right angular relationship with the side walls, the openings **19** and **20** become semi-circular. See FIGS. 1 and 5.

The bottom panels **13** and **14** are designed in the present instance to be secured in overlapping relation to form a composite bottom panel. Means are provided on the ends of this composite bottom panel for positively retaining bottles within the carrier even if the retaining openings for the bottles should become enlarged or torn by rough handling. For this purpose the adjacent corner portions of the companion bottom sections are cut and folded to provide upwardly foldable retaining flaps and the flap on at least one of the sections carries a tab adapted to be secured to the flap on the other section to hold the flaps in fixed, up-folded condition. As shown in FIG. 7, there is formed at the corners of each bottom section **13** and **14** a triangular flap. These are designated at **27**, **27** on section **13** and at **28**, **28** on section **14**.

On each triangular flap is formed a hinged tab, indicated at **29**, **29** and **30**, **30** on the respective flaps **27**, **27** and **28**, **28**. The flaps are defined from their attached sections by fold lines **31**, **31** and **32**, **32**, and each tab is defined from its attached flap by fold lines preferably extending at a right angle to the flap fold line. These fold lines are indicated at **33**, **33** and **34**, **34**. The tabs are severed from the bottom sections along slits **35**, **35** and **36**, **36** which, in the present instance, are aligned with the fold lines between the flaps and the bottom sections.

The retaining members provided by the up folded flaps are brought into position and secured as the final operation after two rows of bottles have been enclosed within the carrier. Adhesive is applied to the area of one of the bottom section edge portions, preferably along the full width of their overlap. Adhesive is thus applied to the opposite flaps and tabs on one bottom section. As shown in FIG. 5 it may be assumed that adhesive has been applied to the upper surface of the marginal edge portion of bottom section **14**. The surfaces of the two sets of flaps and tabs at the edges of section **14** will also be covered with adhesive. With the bottles in place within the carrier the bottom section **13** will first be folded against the bottoms of the bottles, followed by the folding of section **14** against section **13**. Inward and upward pressure is then applied to the fold lines **34**, **34** of the underlying flaps and tabs **28** and **30** at each end of the bottom. The flaps **28** will thus be brought substantially to upright position and will cause the overlying flaps also to be raised to upright position. The tabs **30** will move

against what are now the outwardly directed faces of the flaps 27 and the tabs 29 on flaps 27 will be disposed against the inwardly directed faces of the flaps 28. By a suitable control of the dimensions of the flaps and tabs as well as their positioning with respect to the contours of the packaged bottles, the tabs 27 will be wedged in place between the tabs 28 and the adjacent bottles as indicated in FIG. 3.

The glued portions of the bottom sections and the upraised flaps and tabs are then held in contact in any suitable manner until the adhesive has set. The assembled flaps and tabs thus become fixed bottle retaining members at the opposite ends of the composite bottom panel.

In order to remove bottles easily from the carrier a pair of closely spaced weakened lines 38, 38 may be formed in one of the side walls herein shown as side wall 11. By tearing out the strip 39 between the weakened lines the top portion of the carrier may be disengaged from the bottle necks thus giving ready access to the bottles.

Finger openings 40, 40 may be cut in the top panel 10 for convenience in carrying the package.

A divider or partition member is preferably employed to separate the bottles within the carrier. This may be made from an elongated blank 42 formed with a plurality of transverse, parallel fold lines 43, 44, 45, 46, 47 and 48 and foldable along a longitudinal fold line 49 which is interrupted by slits 50 and 51 extending between the fold lines 43 and 45 and the fold lines 46 and 48 respectively. The fold lines thus define a plurality of panels indicated at 52, 52*a* to 58, 58*a*, inclusive. In order to set up the partition member it is first folded along fold line 49 to bring the two halves of the blank in face-to-face contact. The pairs of adjacent panels 53, 54 and 53*a*, 54*a* are folded outward and brought together in face-to-face relation, this being possible by reason of the slit 50. Likewise panels 56, 57 and 56*a*, 57*a* are brought together in the same manner to complete the partition member as shown in FIG. 6.

The width of the partition panels 55 and 55*a* conforms to the diameter of bottles to be packed in the carrier. The other panels, however, may have a width just sufficient to extend a short distance beyond the vertical lines of contact of the bottles with the partitions. The construction of the retaining members and partition panels is preferably such that the outer edges of the pairs of end panels 52, 52*a* and 58, 58*a* will terminate short of edge contact with the fold lines 33 and 34 of the retaining members.

The carrier blanks and partition blanks are preferably delivered in flat form to the user who may set them up and package bottles as needed. The packaging operation may be carried out by machine or manually A convenient method is to set up the partition and place the bottles in surrounding relation to the partition as they appear in FIG. 3. The carrier blank may then be folded along one group of fold lines 17, 18 so that panels 11 and 13 may lie flat on a support with the remainder of the blank at right angles thereto. The bottle group is then moved toward the top panel to insert the bottle necks into the openings 15. The remaining side and bottom panels will then be brought down to a position parallel to the other side and bottom panel. Adhesive may then be applied to an edge portion of one of the bottom panels, such as panel 14 as previously described. Bottom panel 13 will then be folded against the bottoms of the bottles and panel 14 will be folded against panel 13. Pressure is then applied to the outer most flap 28 and its tab 30 at each end of the composite bottom panel. The adhesive on the surfaces of the flaps 28 and tabs 30 will then cause their adherence to the companion flaps 27 and tabs 29 on the other bottom panel section. As above explained, the tab 29 will contact an end bottle and it will thus be held in place to permit the flap 28 to remain in firm contact with such tab. As soon as the adhesive has set the package is complete.

From the foregoing it is apparent that the present invention provides an improved form of open-end, wrap-around carrier, particularly adapted for packaging of bottles. By employing the fixed retaining members at the ends of the composite bottom panel the bottles tend to be held within the carrier even though the retaining openings for the bottles may become unduly enlarged or torn. By the use of the retaining members herein disclosed it is feasible to employ paperboard of lower test and of lesser caliper than is indicated for carriers without the retaining members. By employing the partition member disclosed herein with the end retaining members the bottles within the carrier are held securely and the likelihood of the bottles becoming broken in transit is greatly reduced.

While the present description sets forth a preferred embodiment of the invention, various changes may be made in the construction without departing from the spirit of the invention, and it is therefore desired that the present embodiment be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

I claim:

An open-end carrier, for holding two parallel rows of containers having upper portions projecting out of the carrier arranged in side-by-side relation, formed from a unitary blank of suitable sheet material such as foldable paperboard, comprising: a pair of vertically spaced parallel top and bottom horizontal walls interconnected by a pair of horizontally spaced vertical side walls to form a tubular construction open at an end; said top wall including a panel having a plurality of openings therein arranged and disposed to permit upper portions of said containers to project upwardly therethrough out of the carrier; said bottom wall including a pair of generally flat panels hingedly connected at their outboard edges to respective side walls and having inboardly adjacent their inboard edges marginal portions disposed in overlapping relation with, and adhesively secured to each other; and a central retaining member formed of the overlapping marginal portions of said panels at an end of the carrier between said rows of containers for preventing the accidental movement of the containers out of said end of the carrier; said retaining members including a pair of triangular flaps on adjacent inboard corners of the panels each being formed by a fold line extending diagonally across said panel corner, said flaps being adapted to be folded to upright position, at least one of said flaps including a hinged tab formed by a tap fold line in the flap extending from a free outer edge of the flap to said flap fold line and a slit in said flap fold line extending from a free outer edge of the flap to said tab fold line, said tab being adapted, when the companion flaps of respective panels are folded to raised position, to be adhesively secured flatwise against the flap on the companion panel and thereby form said retaining member.

References Cited in the file of this patent

UNITED STATES PATENTS

2,646,202	Gibbons	July 21, 1953
2,841,279	Forrer	July 1, 1958
2,860,825	Montgomery	Nov. 18, 1958
2,877,894	Forrer	Mar. 17, 1959
2,881,914	Woeber	Apr. 14, 1959
2,888,186	Meyers	May 26, 1959
2,889,040	Fisher	June 2, 1959
2,922,561	Currivan	Jan. 26, 1960