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H. W. FORRER

3,249,254

ARTICLE CARRIER

Filed April 16, 1965

2 Sheets-Sheet 1

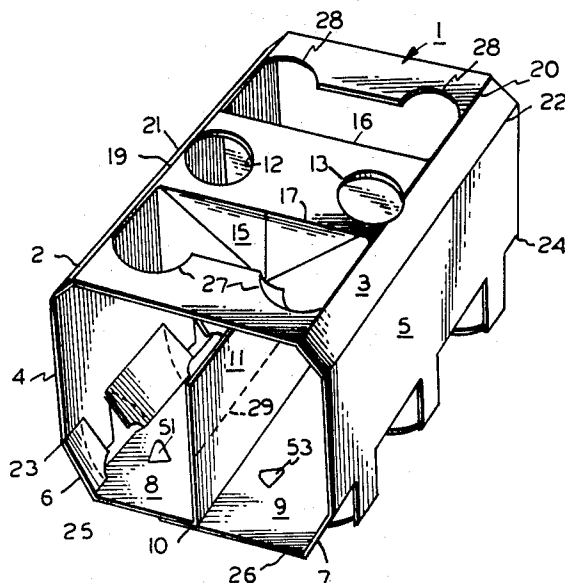


FIG. 1

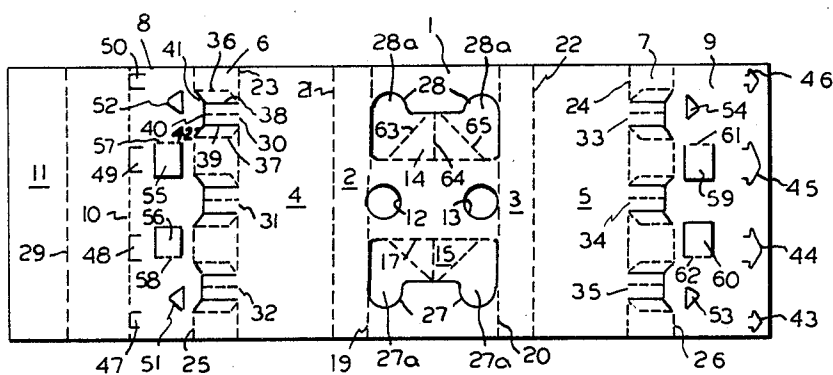


FIG. 2

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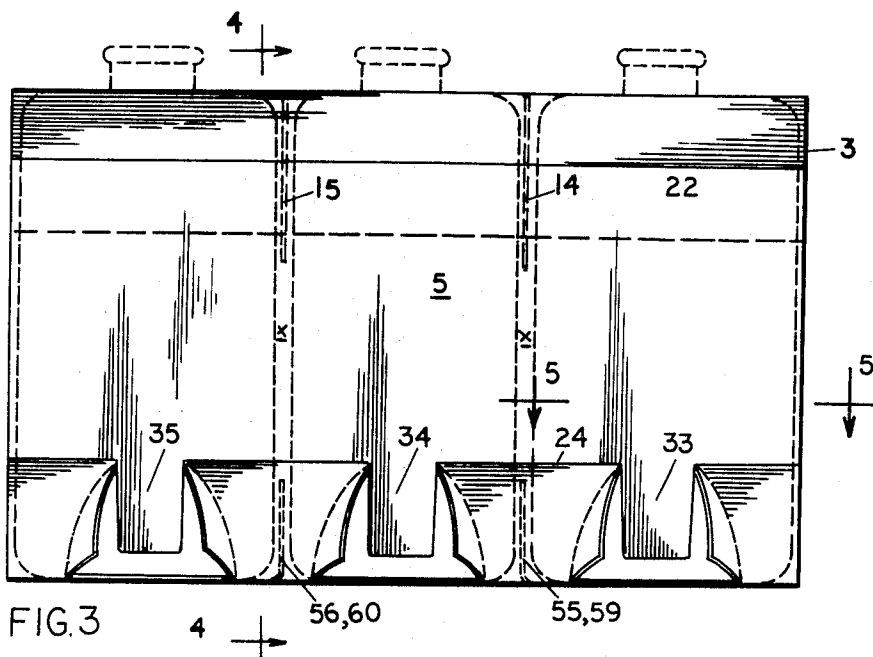
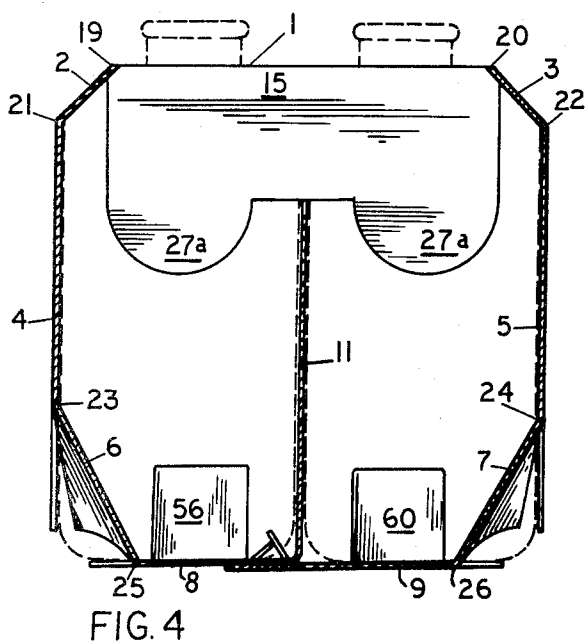
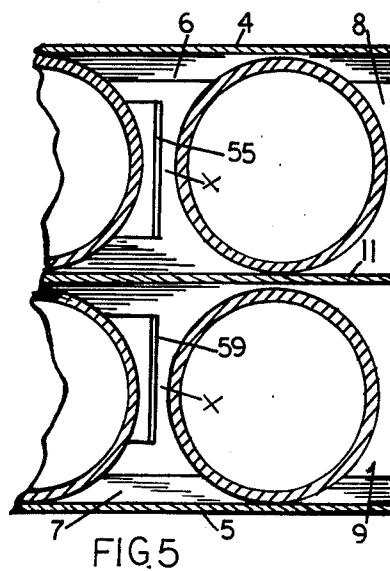
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ARTICLE CARRIER

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Filed Apr. 16, 1965, Ser. No. 450,251
4 Claims. (Cl. 220-115)

This invention relates to article carriers and more particularly to carriers which are especially adapted for use in connection with bottles such as soft drink and beer bottles and this application is a continuation in part of application Ser. No. 237,579, filed November 14, 1962.

In can carriers of the type disclosed and claimed in United States Patent No. 2,786,572, issued March 26, 1957, it is common practice to secure the can wrapper tightly about a group of cans and in so doing to form a substantially rigid unitary package. This practice is sometimes followed in packaging bottles although there is obviously a practical limit of compressional stress which may safely be imparted to bottles made of ordinary glass. If the packaged goods are to be shipped in interstate commerce it is required that cushioning material interposed between adjacent bottles meet certain minimum standards as to configuration, thickness and the like.

A principal object of this invention is to provide an improved carrier primarily for use in packaging glass or plastic bottles which does not impart a substantial compressional stress to the packaged bottles and which is adapted to afford maximum protection for the bottles against accidental breakage.

Another object of this invention is the provision of cushioning panels integrally formed with the wrapper and which are folded so as to afford adequate protection for the packaged bottles against collision with each other some of which also constitute inwardly protruding handle panels by which the carrier is readily carried.

A carrier constructed according to the invention in one form comprises an open ended tubular wrapper having a pair of longitudinally spaced panels struck out of the top most panel of the wrapper and folded inwardly along transverse fold lines to form cushioning panels separating a pair of bottles between such panels from each pair of bottles adjacent thereto and also to form hand gripping handle panels whereby the carrier may be carried. According to a feature of the invention two pairs of cushioning tabs are struck out of the bottom portion of the wrapper and are folded inwardly along transverse fold lines disposed underneath the two cushioning panels to form cushioning separators in spaced relation the bottoms of the bottles and such tabs are disposed in offset relation in a direction transverse to the open ends of the wrapper and with respect to the bottle receiving formations at the lower corners of the wrapper so as to afford adequate length for the tabs and so as to provide a dual cushioning action which is particularly effective in arresting undesired movement of the packaged items relative to each other.

For a better understanding of this invention reference may be had to the following detailed description taken in conjunction with the accompanying drawings in which FIG. 1 is a perspective view of a bottle carrier wrapper

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of the type to which the invention is applicable; FIG. 2 is a plan view of a blank preferably of paperboard from which the wrapper of FIG. 1 is formed; FIG. 3 is a side view of a package formed according to the invention and showing the glass bottles in dotted lines; FIG. 4 is a view of the package along line 4-4 depicted in FIG. 3; and in which FIG. 5 is a partial sectional view of the arrangement depicted in FIG. 3 and taken along the line designated 5-5 in FIG. 3.

With reference to FIGS. 1 and 2, the wrapper there depicted is generally similar to the wrapper disclosed and claimed in the aforementioned Patent 2,786,572. The arrangement of FIGS. 1 and 2 differs from the arrangement disclosed in the above patent in that the arrangement of FIGS. 1 and 2 is primarily for use in conjunction with bottles rather than cans. In FIGS. 1 and 2 the numeral 1 generally designates a topmost panel which extends between bevelled panels 2 and 3. The numerals 4 and 5 generally designate side panels. Side panel 4 comprises that portion of the wrapper which extends between the top bevelled or sloping panel 2 and the bottom sloping panel designated by the numeral 6. Side panel 5 extends from top sloping panel 3 to the bottom sloping panel designated by the numeral 7. The bottom portion of the wrapper depicted in FIGS. 1 and 2 is made up of two panels designated by the numerals 8 and 9. Of course bottom panel 8 extends from panel 6 to the fold line 10 of the blank by which medial center panel 11 is foldably joined to the edge of bottom panel 8.

For receiving the necks of bottles wrapped by the wrapper depicted in FIGS. 1 and 2, a pair of openings 12 and 13 are formed in the top 1 of the wrapper and a pair of cushioning panels 14 and 15 are struck out of panel 1 and folded inwardly respectively along transverse fold lines 16 and 17. The top panel 1 of the wrapper is joined to sloping panels 2 and 3 by a pair of fold lines 19 and 20. These fold lines 19 and 20 simply condition the wrapper to conform to the shoulder portions of the bottles as shown best in FIG. 4. Fold lines 21 and 22 join panels 2 and 3 with side walls 4 and 5 respectively. Side panels 4 and 5 are foldably joined with bottom sloping panels 6 and 7 respectively by fold lines 23 and 24 while bottom panels 8 and 9 are connected with sloping panels 6 and 7 by fold lines 25 and 26 respectively.

For the purpose of providing secure holding action of the end pairs of bottles, the cushioning panel 15 is so configured as to provide niches 27 in panel 1 shaped and sized to receive the necks of the end pair of bottles at one end of the wrapper and niches 28 are formed in panel 1 at the other end when panel 14 is struck out of top panel 1. Not only do the niches 27 and 28 hold the end bottles securely, but the corresponding protrusions 27a and 28a on panels 15 and 14 afford additional cushioning areas between the end pairs of bottles and the central pair.

If desired the medial panel 11 may be scored as indicated at 29 to facilitate the formation of the package.

For the purpose of receiving the lower rim portions of the bottles, a plurality of bottle receiving portions 30-32 are formed along the sloping panel 6 while similar structures 33, 34 and 35 are formed in the panel 7. These formations 30-35 are all identical and as is apparent

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from the drawings they simply constitute scored lines 36 and 37 and slit lines 38, 39, 40, 41 and 42 as indicated in connection with bulge portion 30 in FIG. 2. The formations 30-35 serve to arrest movement of the packaged bottles for shock forces of low or moderate magnitude.

To secure the wrapper ends 8 and 9 together, a plurality of locking tabs 43-46 are inserted within the openings defined by the retaining tabs 47-50 respectively.

For the purpose of drawing the bottom panels 8 and 9 together into their locking relationship, a pair of tightening apertures 51 and 52 are formed within the bottom panel 8 and similarly a pair of tightening apertures 53 and 54 are formed in bottom panel 9. Thus, when machine elements move into openings 51, 52, 53 and 54 and move to tighten the wrapper, the bottom panels 7 and 8 are drawn toward each other and thereafter the locking tabs 43-46 are inserted into the apertures 47-50 to secure the bottom panels 8 and 9 together.

In order to provide for cushioning the bottoms of the bottles of each end pair of bottles from the middle pair of bottles, cushioning tabs struck out of the bottom panels 8 and 9 are provided according to this invention. For example, cushioning tabs 55 and 56 are struck out of bottom panel 8 and folded inwardly respectively along transverse fold lines 57 and 58. Similarly cushioning tabs 59 and 60 are struck out of bottom panel 9 and are folded inwardly respectively along transverse fold lines 61 and 62. From FIG. 2 it is apparent that the tabs 55, 56, 59 and 60 are offset from the adjacent formations 30-35 in a direction transverse to the side edges of the blank. For example the fold line 57 for tab 55 is not disposed midway between formations 30 and 31. Actually, fold line 57 is nearer to formation 30 than to formation 31. Stated otherwise, the tabs 55 and 56 are separated by a distance greater than the diameter of the middle bottle insofar as their fold lines are concerned. The tabs 59 and 60 are similarly disposed. From FIG. 5 it is apparent that the bottles are spaced somewhat by the distance "X" from the tabs 55 and 59. This particular arrangement and disposition of the tabs such as 55, 56, 59 and 60 allows for limited movement of the bottles when a shock force of low magnitude is imparted to the package, such shock being absorbed with no damage by the formations 30-35. For heavy shocks the tabs 55, 56, 59 and 60 act as inclined bumpers. From FIG. 3 it is apparent that the bottom parts of tabs 55, 56, 59 and 60 are curved so that motion of the end bottles toward the middle bottle in each row is in effect along an inclined plane and slightly upwardly. This arrangement affords a safe arresting action. Of course the inclined plane could slope in the opposite direction.

From the foregoing description it is apparent that the three bottles in one row are cushioned from the three bottles in the other row by the medial panel 11. The end bottles whose necks are received in niches 27 are separated at their bottoms by the spaced cushioning tabs 56 and 60 and at their tops by cushioning panel 15 from the middle pair of bottles whose necks are disposed within apertures 12 and 13. Likewise, separation and cushioning is provided between the middle pair of bottles and the other end pair by the spaced cushioning tabs 55 and 59 and by cushioning panel 14.

Panels 14 and 15 also serve as convenient and sturdy handle panels as will be obvious from FIG. 1. With a thumb placed on one panel such as 15 and with several fingers engaging the other panel such as 14, a mild gripping action is all that is needed to lift and carry the package.

It may be desirable to provide weakened lines such as 63, 64 and 65 in panels 14 and 15 as best shown in panel 14 in FIG. 2 for some applications of the invention in order to facilitate the formation of the wrapper about a bottle group and to render the panels 14 and 15 adaptable for service as handle panels.

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While I have shown and described a particular embodiment of the invention, I do not wish to be limited thereto and intend in the appended claims to cover all such changes and modifications as fall within the true spirit and scope of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A carrier for packaging two rows of bottles whose axes are disposed in substantially parallel relation to one another, said carrier comprising a top panel, a pair of top sloping panels foldably joined to opposite sides of said top panel, a pair of side wall panels foldably joined respectively along the edges of said top sloping panels remote from said top panel, a pair of bottom sloping panels foldably joined respectively to the bottom edges of said side wall panels, a pair of bottom panels foldably joined respectively along the edges of said bottom sloping panels along edges thereof opposite from the edges thereof which are joined to said side wall panels, fastening means for securing said bottom panels together, a pair of cushioning panels struck out of said top panel and folded inwardly along transverse fold lines to form transverse cushions between adjacent bottles in each row of bottles and also to form a hand gripping carrying handle, and a pair of cushioning tabs struck out of each bottom panel and folded inwardly along transverse fold lines to separate the end bottles in each row from the middle bottle therein.

2. A carrier for packaging two rows of bottles whose axes are disposed in substantially parallel relation to one another, said carrier comprising a top panel, a pair of top sloping panels foldably joined to opposite sides of said top panel, a pair of side wall panels foldably joined respectively along the edges of said top sloping panels remote from said top panel, a pair of bottom sloping panels foldably joined respectively to the bottom edges of said side wall panels, a pair of bottom panels foldably joined respectively along the edges of said bottom sloping panels along edges thereof opposite from the edges thereof of which are joined to said side wall panels, fastening means for securing said bottom panels together, and a pair of cushioning panels struck out of said top panel and folded inwardly along transverse fold lines to form transverse cushions between adjacent bottles in each row of bottles and also to form a hand gripping carrying handle.

3. A carrier for packaging two rows of bottles, said carrier comprising an open ended tubular wrapper adapted for transverse disposition about the two rows and having a top panel, and a pair of cushioning panels struck out of said top panel and foldable inwardly along transverse fold lines to form transverse cushions between adjacent bottles in each row of bottles and also to form a carrying handle, said cushioning panels each having a pair of protrusions disposed to afford cushioning areas and said protrusions being disposed and configured to form niches in said top panel for receiving the necks of a pair of packaged bottles.

4. A carrier for packaging two rows of bottles whose axes are disposed in substantially parallel relation to one another, said carrier comprising a top panel, a pair of top sloping panels foldably joined to opposite sides of said top panel, a pair of side wall panels foldably joined respectively along the edges of said top sloping panels remote from said top panel, a pair of bottom sloping panels foldably joined respectively to the bottom edges of said side wall panels, bottle receiving formations in said bottom sloping panels for respectively receiving portions of the bottles in each row and for normally holding such bottles in spaced-apart relation, a pair of bottom panels foldably joined respectively along the edges of said bottom sloping panels opposite from the edges thereof of which are joined to said side wall panels, fastening means for securing said bottom panels together, and a plurality of cushioning tabs struck out of each bottom

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panel and folded inwardly along transverse fold lines into the space between each bottle in each row and an adjacent bottle, the fold lines for said cushioning tabs being spaced apart in a direction transverse to the ends of the carrier by a distance greater than the diameter of the middle bottle in each row at positions underlying end bottles and said tabs being curved toward the adjacent bottle in each row and upwardly so as to provide an inclined plane for movement of one bottle in each row relative to the adjacent bottle therein.

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10 GEORGE O. RALSTON, *Primary Examiner*.