PACKAGE FOR BOTTLES

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ABSTRACT

A means of carrying crown capped bottles has been devised which consists of a rigid or semi-rigid plate containing holes whose diameters are large enough to just permit passage of the crowns. The necks of the bottles are inserted into said holes and the bottles secured against falling out in handling by means of distensible collars which fit between the carrier and the crown.

14 Claims, 6 Drawing Figures
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PACKAGE FOR BOTTLES

This is a continuation, of application Ser. No. 89,646, Nov. 16, 1970.

Prior Art

Hitherto, bottled beverages have been sold as individual bottles, in cases of 24 or more bottles, or in convenient "six" or "eight" packs in various types of cardboard containers.

In many cases the bottles are poorly secured in the container and fall out and break when the consumer attempts to carry them. In other cases, where this problem has been overcome, removal of the bottles for use becomes a major problem.

Objects of the Invention

This invention has for its object a carrier for bottled beverages which is designed to hold; more than one and less than 25; three to nine being the range usually preferred; bottles securely during handling while providing easy removal when desired. The carrier is made of practically non-hygrosopic, rigid or semi-rigid materials which can be produced with a high degree of precision, yet simply and at a cost comparable to or less than conventional cardboard packages.

Another object is a novel packaging method for a multiplicity of bottles.

Another object is a very simple and inexpensive, yet rugged package for crown capped bottles.

Another object is a novel way of detachably connecting bottles with a super-imposed supporting plate.

Further objects will become apparent as the following detailed description proceeds:

Brief Statement of the Invention

In accordance with our invention, we suspend capped bottles from their necks, below their caps, by inserting the necks through apertures in a holding member, and then slipping around the necks, collars which surround the necks and impede their removal from the apertures in the holding means. The drawings:

Reference is made to the drawings of FIG. 1 is a top view of one embodiment;
FIG. 2 is a partially cross-sectional elevation of a portion of the embodiment of FIG. 1;
FIG. 3 is a partially cross-sectional elevation of a modification of the embodiment of FIG. 2;
FIG. 4 is a perspective view of a modified part of the embodiment of FIGS. 1 and 2;
FIG. 5 is a perspective view of a modification of the embodiment of FIGS. 1 and 2;
FIG. 6 is a perspective view of a modification of a portion of the embodiment of FIGS. 1 and 2.

Referring now to FIGS. 1 and 2, designates the carrier itself which is a rigid or semi-rigid plate, cut out so as to avoid unnecessary weight, and provided with apertures or cavities adapted to receive the necks of the bottles which are to constitute a part of the package. Designates the bottles. The bottle caps. The bottle necks are easily inserted into the apertures, and are locked in these by means of retainers so that the bottles do not fall out. The retainers may be divided rings as shown in FIG. 4 where the rings are flat, 7, so as to open readily. Alternatively, it is made of springy material such as metal or plastic so that it can open sufficiently to easily slip over the bottle neck, but hold firm when in place.

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Finger holes 2 as shown in FIGS. 1 and 5 provided for convenience in lifting the package either by the fingers or mechanically by conveying machines.

FIG. 6 shows an elastic retainer ring, which can be placed over the bottleneck so as to lock it in the apertures, since the crown 4 or other bottle cap, designated with this numeral would prevent passage through such a ring. A tab 11 on the retainer ring is provided for easy removal of the ring from the bottleneck to facilitate removing the bottle from the carrier.

The bottle cap 4 is shown as a crown-cap. It may, however, be any other type which is affixed to the bottle firmly enough to support the filled bottle, and which has a diameter larger than that of the bottleneck.

Example 1.

A carrier was compression molded of polystyrene reinforced with 20 percent by weight of ¾ inch glass fibers, 20 mils thick. The form was that shown in FIG. 1, in which the diameter of the apertures 6 is ⅝ inches, the maximum width of the carrier is 5 inches, the minimum width 4.4 inches, the maximum length is 7.6 inches, the minimum length 7.2 inches, the maximum thickness one-fourth inch, the minimum thickness one-sixteenth inch. The fingerholes 2 had a diameter of 1 inch. The bottles used were standard disposable beer bottles having a diameter of 2.7 inches and a neck diameter of 1 inch, total depth 5.8 inches and weighing 548 grams filled. The bottles were closed with a crown cap of diameter 1 ¼ inches.

The retaining rings were made in accordance with FIG. 6, by punching from a sheet of high pressure, low density type polyethylene 30 mils thick. The inside dimension of the ring was the same as that of the bottle-neck and the outside diameter one-half inch greater. The tab was three-quarters inch long and three-eighths inch wide.

The package was transported and handled as such a package is normally treated and proved adequate for carbonated beverages such as beer.

Example 2.

A carrier was cut and drilled from one-eighths inch thick pressed wood board such as that manufactured under the tradename Masonite. The maximum width was 5 inches, the minimum width was 4.4 inches, the maximum length was 7.6 inches, the minimum length was 7.25 inches. The apertures were ⅝ inches in diameter, the fingerholes were 1 inch in diameter. The bottles used were identical with those used in Example 1 as were the retaining rings.

While this disclosure has dealt with specific materials such as bottles of glass, holders polystyrene and pressed wood, and retainers of polyethylene it is understood that any other materials known or which may be discovered in the future which have suitable mechanical properties may be used as equivalent as those disclosed. Almost all rigid or semi-rigid substances may be used provided they are sufficiently stiff for handling as indicated with weight loads as stated. Generally speaking when held from the fingerholes, the deflection of the package such as that described should not exceed 1 inch.

In the package, we may further use separators, held in place by the pressure exerted by compression between the bottles, or mechanically or adhesively fixed to the carrier. The separators may be made for exam-
The use of separators 12 is shown in FIG. 5. It is thus seen that the invention is broad in scope, and capable of considerable alleviation.

Having thus disclosed our invention we claim:

1. In a package comprising a plurality of crowned-capped necked bottles and carrying means therefor, the combination of
   flat plate carrying means,
   said flat plate provided with circular apertures which receive said bottle necks,
   each of said apertures having a diameter greater than the diameter of said necks and crown-caps,
   retaining members,
   said retaining members being altogether independent of said flat plate carrying means,
   each of said retaining members received on one of said bottle necks,
   each of said retaining members being freely disengagable upwardly from contact with said flat plate carrying means,
   each retaining member being at least slightly elastomeric,
   each of said retaining members being a flat annular member having an outer peripheral edge which is round or circular and smooth, being substantially devoid of projections, and which is greater in diameter than the diameter of the apertures in said flat plate carrying means, and
   having an inner peripheral edge which is round or circular and smooth, being substantially devoid of projections, and which is lesser in diameter than said crown-cap and lesser in diameter than the neck portion immediately below said crown-cap and which is stretched to the diameter of neck portion below said crown-cap by said neck portions on which it is received.

2. The package of claim 1 wherein each of said retaining members is received on top of said flat plate carrying member.

3. The package of claim 2 wherein each of said retaining members is unsplit and is provided with a tab extending therefrom which is suitable for gripping with fingers.

4. The package of claim 1 wherein said flat plate carrying member is provided with a recess around each aperture and each of said retaining members is received in one of said recesses.

5. The package of claim 1 wherein each of said retaining members is washer shaped.

6. The package of claim 1 wherein each of said retaining members has the shape of a split washer.

7. The package of claim 1 wherein each of said retaining members is unsplit and is provided with a tab extending therefrom which is suitable for gripping with fingers.

8. In a package comprising a plurality of crowned-capped necked bottles and carrying means therefor, the combination of
   flat plate carrying means,
   said flat plate provided with substantially circular apertures which receive said bottle necks,
   each of said apertures having a diameter greater than the diameter of said necks and caps,
   retaining members,
   said retaining members being altogether independent of said flat plate carrying means,
   each of said retaining members received on one of said bottle necks,
   each of said retaining members being freely disengagable upwardly from contact with said flat plate carrying means,
   each retaining member being at least slightly elastomeric,
   each of said retaining members being a flat annular member having an outer peripheral edge which is greater in major dimension than the diameter of the apertures in said flat plate carrying means, and
   having an inner peripheral edge which is round or circular, being substantially devoid of projections, and which is lesser in diameter than said cap.

9. The package of claim 8 wherein each of said retaining members is received on top of said flat plate carrying member.

10. The package of claim 9 wherein each of said retaining members is unsplit and is provided with a tab extending therefrom which is suitable for gripping with fingers.

11. The package of claim 8 wherein said flat plate carrying member is provided with a recess around each aperture and each of said retaining members is received in one of said recesses.

12. The package of claim 8 wherein each of said retaining members is washer shaped.

13. The package of claim 8 wherein each of said retaining members has the shape of a split washer.

14. The package of claim 8 wherein each of said retaining members is unsplit and is provided with a tab extending therefrom which is suitable for gripping with fingers.

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