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2,420,069

BOTTLE CARRIER

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FIG. 1.

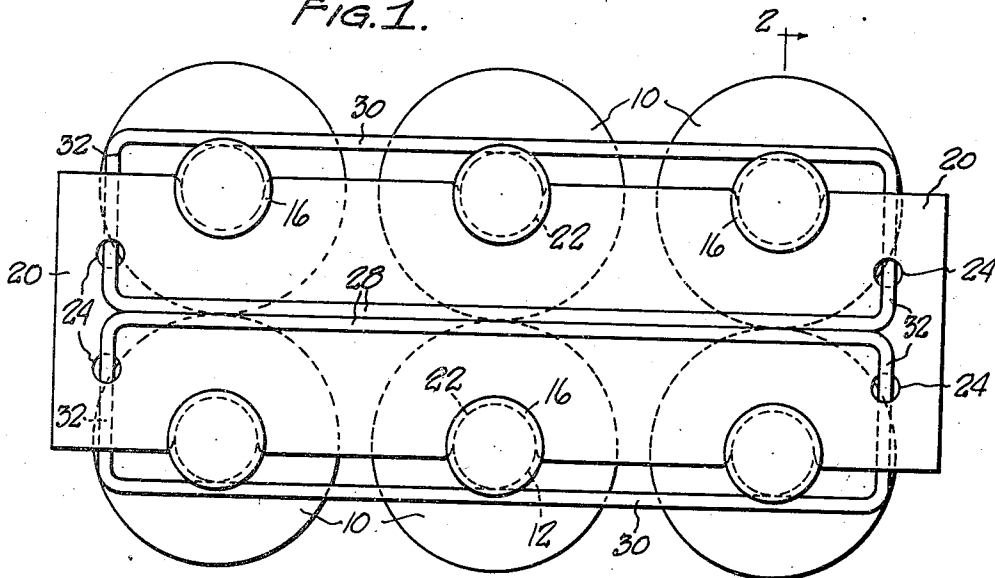


FIG. 2.

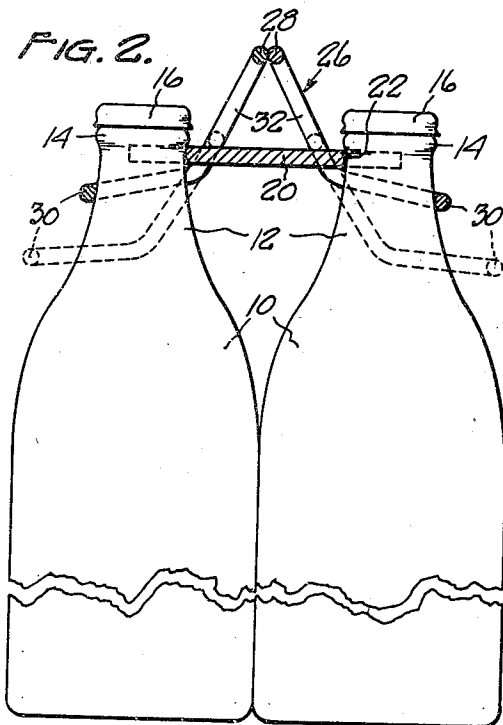


FIG. 3.

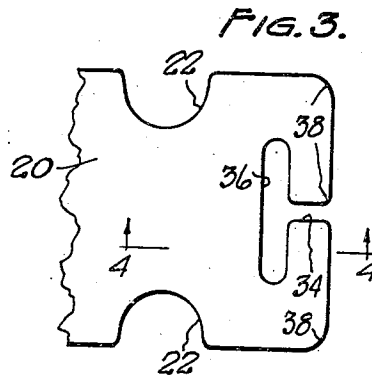
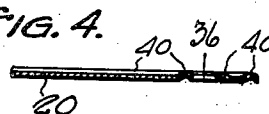


FIG. 4.



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BOTTLE CARRIER

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3 Claims. (Cl. 294—87)

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This invention relates to improvements in bottle carriers. More particularly, it relates to bottle carriers of the type used in the distribution of bottled soft drinks which are sold in so-called "packaged" units containing a predetermined number of bottles.

The primary object of the invention is to provide a simple, inexpensive and durable bottle carrier which can be loaded and from which bottles can be removed easily and quickly.

A further object is to provide a device of this character which permits stacking of the bottles for compact storage.

Other objects will be apparent from the description and appended claims.

In the drawing:

Fig. 1 is a top plan view of the bottle carrier in loaded and operative condition.

Fig. 2 is a transverse sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a fragmentary detail plan view of a modified embodiment of the invention.

Fig. 4 is a fragmentary sectional view taken on line 4—4 of Fig. 3.

Referring to the drawing, which illustrates the preferred embodiment of the invention, the numeral 10 designates a conventional bottle of the type in which soft drinks, etc., are bottled. These bottles are commonly characterized by long tapering neck portions 12 provided with one or more beaded portions 14 at their upper ends. The bottles are usually sealed by cork-lined metal caps 16 applied to the mouth of the bottle and crimped to secure them in place.

My improved bottle carrier comprises a substantially rectangular rigid plate or panel 20 which may be formed of metal, wood, composition board, plastic or other suitable material. The longitudinal edges of the plate 20 are provided with a plurality of substantially semi-circular cut-outs 22 whose size permits them to snugly receive the neck 12 of the bottle immediately below the lowermost bead 14. The cut-outs 22 are so spaced apart that the distance between their centers is slightly greater than the diameter of the largest part of the bottle 10. This spacing preferably coincides with the center to center spacing between bottles mounted in a conventional partitioned bottle tray or rack (not shown) which is utilized in a bottling plant. The cut-outs 22 at each edge of plate 22 are preferably transversely aligned with or opposed to like cut-outs in the opposite edge; and the center to center spacing between such opposed cut-outs is

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preferably substantially equal to the diameter of the largest portion of bottle 10.

At each end of the plate 20 is provided a pair of openings 24 in equi-spaced relation to and on opposite sides of the longitudinal center line of the plate. Openings 24 are formed adjacent to the ends of the plate and outwardly from the cut-outs adjacent to said ends. A pair of endless rigid or stiff wire members 26 of generally rectangular outline extend freely through the longitudinally aligned pairs of openings 24. Each wire member comprises an inner longitudinal run 28, an outer longitudinal run 30 and end runs 32. The end runs 32 extend through openings 24 so that the inner run 28 is positioned above the plate and the outer run is positioned below the level of the plate. The end runs 32 are preferably bent slightly intermediate their ends and are of a length such that the runs 30 will bear against the upper portions of the necks 12 of bottles fitting in the cut-outs 22 when the inner runs 28 are positioned in longitudinal bearing engagement above the plate, as shown in Fig. 2, to form a hand grip.

In the use of the device, when it is desired to apply the carrier to the bottles in a bottling plant where the bottles are brought to the packaging station in partitioned trays or carriers, the wire members 26 are first projected downwardly and outwardly to the dotted line position shown in Fig. 2. The carrier can then be fitted over the tops of the bottles easily to receive the bottle necks in the cut-outs 22 of plate 20 below the bottle neck beads 14 as shown in Fig. 2. Thereupon, a pull upon the inner hand grip runs 28 of the wire members serves to pull the parts to the full line position in Fig. 2, so that the bottles are locked to the plate 20 and can be lifted from the tray. This simple manipulation to connect or operatively interengage the bottles and the carrier is a distinct advantage of the device, because it eliminates handling and positioning of bottles individually as is required with other carriers, and therefore speeds up the loading or packaging operation and reduces labor costs. In this connection the rigidity of the wire members 26 is important because it enables them to be held in position to afford the clearance required to apply the carrier over and around the bottle necks. The rigidity of members 26 is also important to insure firm gripping engagement of the central portions of runs 30 with the bottles positioned at intermediate or central cut-outs.

It will be observed that the weight of the bottles suspended at their necks provides the force

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necessary to apply and maintain the interlocking engagement of the carrier parts with the bottle necks. However, as soon as that force is released, as upon deposit of the bottles upon a support and release of the hand grip portions 28, the interlock is released. In other words, release of the grip portions 28 permits the end runs 32 of the wire members to slide downwardly in openings 24 until the grip runs 28 bear on plate 20 below the level of the bottle tops. Consequently, the bottle-carrier units can be stacked for compact storage. Furthermore, in the released position, the unit is ready to be picked up again and automatically re-locked in the operation, or the individual bottles are ready for removal from the carrier by the quick, simple and easy manipulation of withdrawing them from the cut-outs 22 and clear of the retainer runs 30.

In the embodiment of the invention illustrated in Fig. 3, wherein parts similar to the Fig. 1 form bear the same numerals used above, a T-slot is formed centrally in each end of plate 20. This slot consists of a short longitudinal slot 34 opening at the center of the end of the plate 20 and of a width just sufficient to receive the wire member 26 with a free slide fit, and a cross slot 36 communicating at its center with slot 34 and preferably somewhat wider than slot 34. In use, the end runs 32 of wire member 26 bear against the opposite ends of cross slot 36 so that the same cooperative relation of the parts to lock the bottle in place, as has been described above, is provided. The advantage of the T-slot arrangement is that the endless wire member 26 can be completely preformed with its ends soldered or otherwise secured together prior to its application to plate 20, thereby simplifying the manufacture of the device. This is possible because the general rectangular shape of the member permits it to be slid over the plate when the plate is positioned diagonally with respect thereto. When the member is positioned in register with slot 34, the parts can be adjusted for parallel relation of the plate with the longitudinal runs thereof, during which adjustment the end runs 32 enter the slots 34.

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The members 26 are then slid through the cross slots 36 to operative position. In this form it is advisable to provide rounded corners 38 at all corners which the wires 26 may engage in the assembly of the device.

In the event the plate 20 is formed of sheet metal, suitable strengthening ribs 40, as illustrated in Fig. 4, may be formed therein.

I claim:

1. A carrier for a plurality of bottles having reduced neck portions provided with beaded mouth portions, comprising a rigid plate having parallel longitudinal edges each interrupted by a plurality of recesses adapted to fit around said bottle necks and to bear against said beads, and a pair of retainers slidably carried by said plate, each carrier comprising a rigid endless rectangular bail having an upper grip portion and a lower portion pressing said bottles into said recesses when the device is suspended from said grip portion.

2. A carrier for bottles having necks with terminal beads comprising a rigid apertured plate having opposite edges thereof notched to receive said bottle necks and underlie said beads, and a pair of endless rigid rectangular retainers slidable in said plate apertures.

3. A bottle carrier comprising a rigid plate notched at opposite edges to snugly receive bottles therein and having T-slots formed centrally at the opposite ends thereof, and a pair of endless rigid rectangular retainer balls slidably retained in said slots and each engageable with the bottles in the notches at one edge of said plate.

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