Dec. 17, 1963 M. T. RUSSO 3,114,472

BOTTLE CARRIERS

Filed June 27, 1962 4 Sheets-Sheet 1

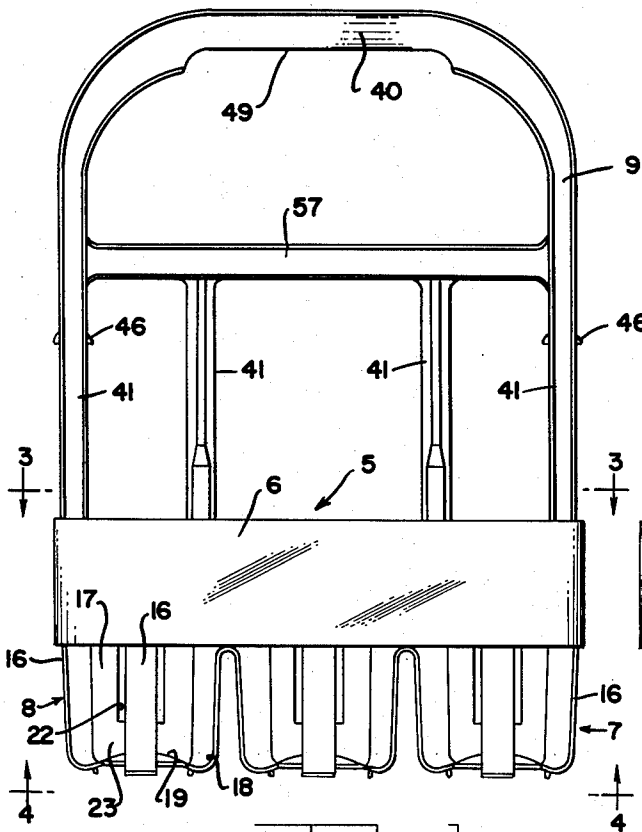


FIG. 1

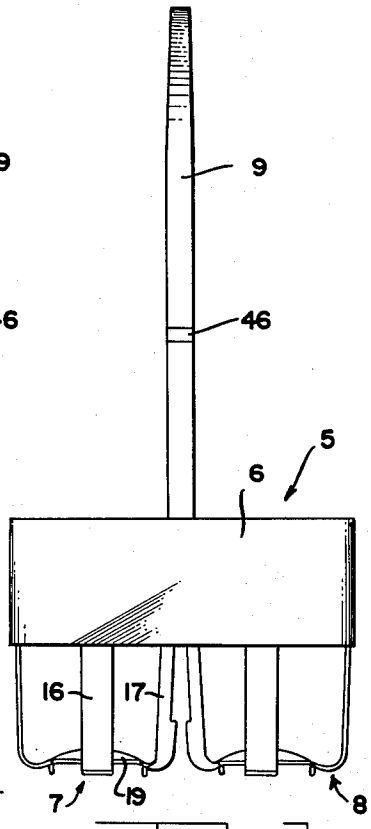


FIG. 2

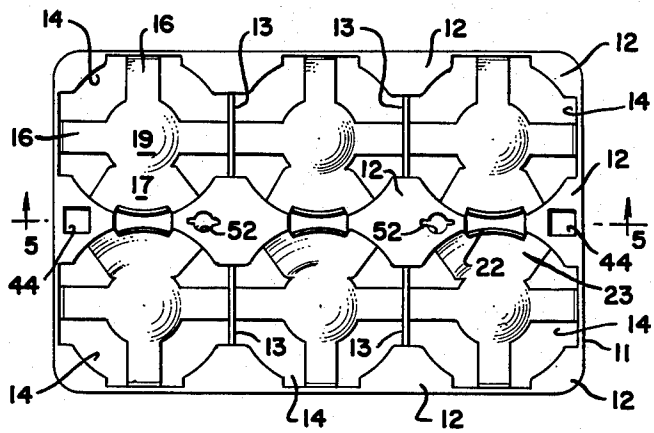


FIG. 3

INVENTOR.
MICHAEL T. RUSSO
BY Cullen & Canton
ATTORNEYS

Dec. 17, 1963 M. T. RUSSO 3,114,472

BOTTLE CARRIERS

Filed June 27, 1962 4 Sheets-Sheet 2

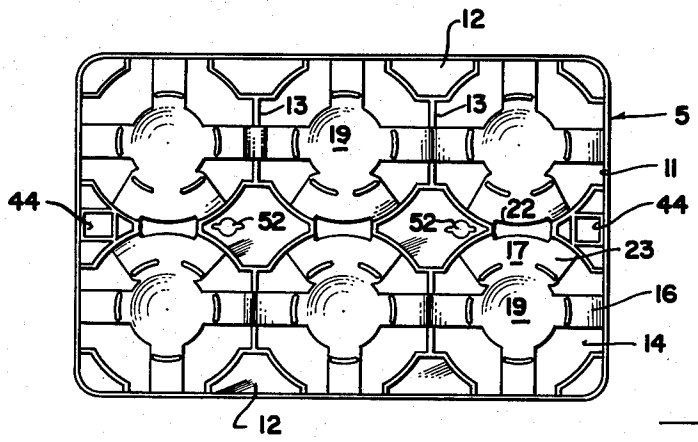


FIG. 4

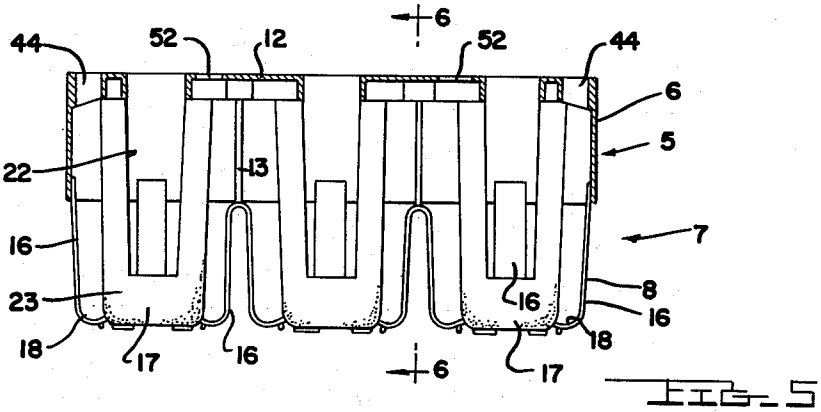


FIG. 5

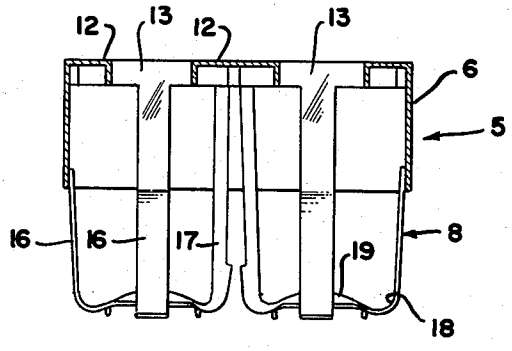


FIG. 6

INVENTOR.
MICHAEL T. RUSSO
BY Cullen & Canton
ATTORNEYS

Dec. 17, 1963 M. T. RUSSO 3,114,472

BOTTLE CARRIERS

Filed June 27, 1962 4 Sheets-Sheet 3

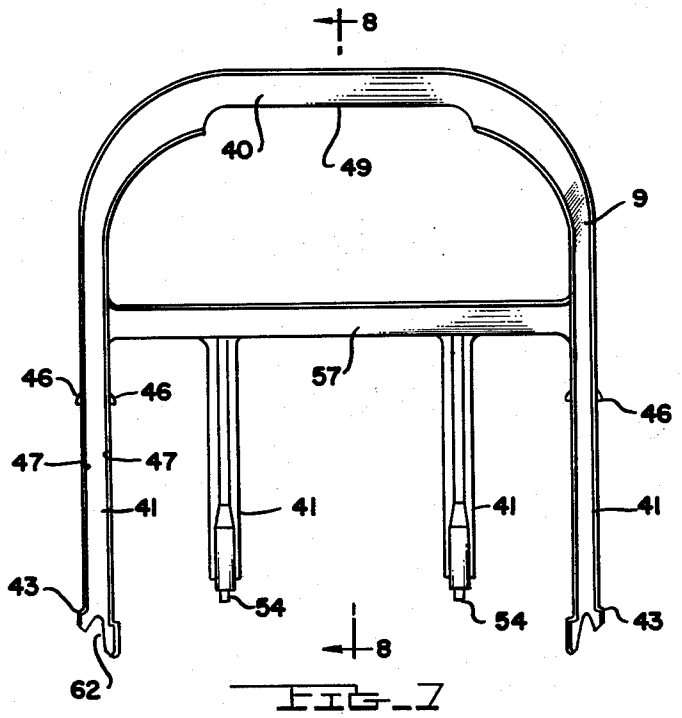


FIG. 7

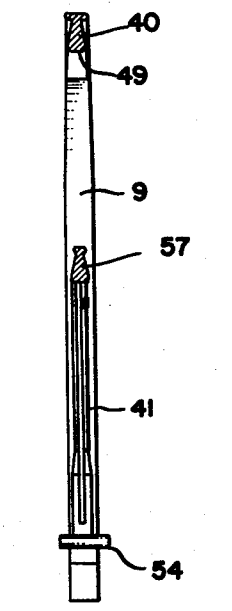


FIG. 8

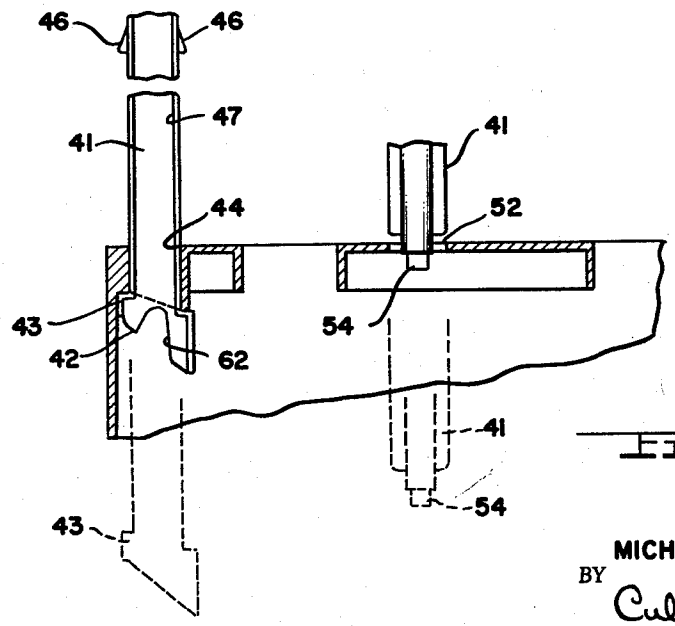


FIG. 9

INVENTOR.
MICHAEL T. RUSSO
BY Cullen & Cantor
ATTORNEYS

Dec. 17, 1963 M. T. RUSSO 3,114,472

BOTTLE CARRIERS

Filed June 27, 1962 4 Sheets-Sheet 4

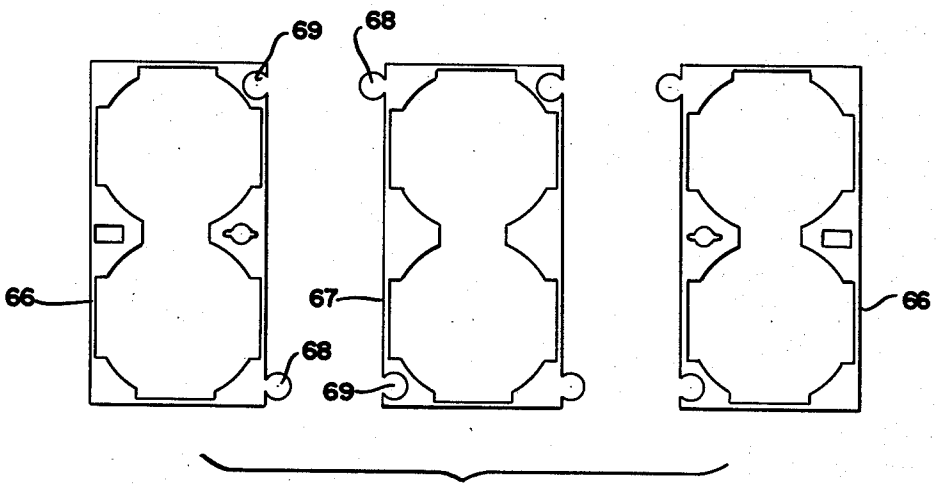


FIG. 10

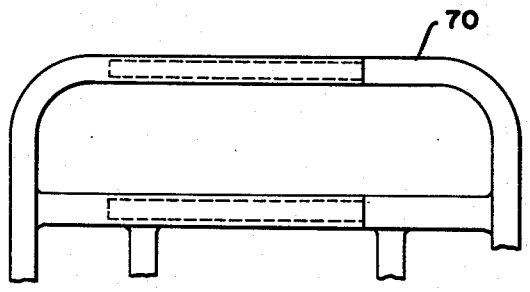


FIG. 12

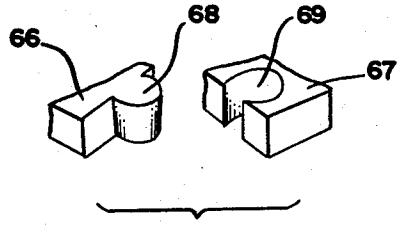


FIG. 11

INVENTOR.
MICHAEL T. RUSSO
BY
Cullen & Cantor
ATTORNEYS

United States Patent Office 3,114,472 Patented Dec. 17, 1963

3,114,472

BOTTLE CARRIERS

Michael T. Russo, Bloomfield Hills, Mich., assignor to Mr. Porto Inc., Wayne County, Mich., a corporation of Michigan

Filed June 27, 1962, Ser. No. 205,689
8 Claims. (Cl. 220—104)

This application discloses a bottle carrier generally, such as is shown in my co-pending applications, Serial No. 32,323, of May 27, 1960, now Patent Number 3,055,543, and Serial No. 98,485 of March 27, 1961, now Patent Number 3,055,542, of both of which this application is a continuation-in-part.

This bottle carrier is made of a permanent material such as a suitable plastic, which requires no special assembly other than fitting a non-removable separate handle in place on the carrier proper on first use, and which is particularly adapted to be stacked for shipping and storing with one carrier proper nested within another, and which is immediately available for re-use merely by pulling the nest of carriers apart.

A further object of the invention is to provide a bottle carrier of unique and novel design and with advantages over known carriers.

These other objects and advantages of the invention will become apparent upon reading the following description of which the attached drawings form a part.

In these drawings:

FIG. 1 is a front elevation view of one form of bottle carrier.

FIG. 2 is a side view of FIG. 1.

FIGS. 3 and 4 are top and bottom plan views of the carrier per se as if on lines 3—3 and 4—4 of FIG. 1.

FIGS. 5 and 6 are side and end section views of the carrier per se as if on lines 5—5 of FIGS. 3 and 5.

FIG. 7 is a side view of the handle per se.

FIG. 8 is a section as if on line 8—8 of FIG. 7.

FIG. 9 is a fragmentary section view showing details of cooperation between the handle and the carrier per se.

FIG. 10 is a diagrammatic top plan view, with parts omitted, of a multiple section carrier.

FIG. 11 is a perspective view showing details of cooperating interlocking formations of the carriers of FIG. 10.

FIG. 12 shows a telescoping handle for use with the carriers of FIG. 10.

The carrier comprises a carrier proper or body 5. The latter comprises a top part 6, and a bottom part 7 formed as cups 8. The carrier also includes a handle 9, separate from the carrier proper, and having four legs for removably interlocking the handle to the carrier proper.

Top part 6 has a side wall 11, and top blocks 12, and transverse webs 13, which define six holes 14, arranged in two rows of three each. Below these holes is the bottom, comprising six depending cups 8, each formed of four strips 16. All of the parts, including the side, the top blocks, and the strips are integral.

Of the four strips 16 per cup 8, three are thin and narrow, and one is wide. All four strips have their lower ends merged or turned inwardly in relatively wide curves 18 to be joined by a disc-like enlargement or hump 19 which forms the bottom of the cup. The strips for each cup are at 90° relatively. The center strip is quite wide, and is slotted part of the way down as shown at 22 to provide in effect two spaced strips joined by a reinforcing cross-tie 23 which extends about one-third of the way up from the bottom of the cup.

The strips forming the walls of the cups are tapered inwardly slightly to enable the carriers to be nested.

When a bottle is inserted into a cup, the bottom of the bottle rests upon the disc bottom 19, and its weight causes the disc to flatten out somewhat and also causes the curves

18 of the cups to conform to the bottle so that the bottle not only fits snugly within its respective cup, but also is frictionally gripped by the strips.

The underside of each cup, at 19, is concaved to receive a bottle cap when filled carriers are stacked for mass display, thus inhibiting shifting of carriers.

Preferably, the carrier is molded in one piece of a suitable plastic which provides the rigidity needed for the top blocks and the side wall, but is also sufficiently resilient and flexible in the thin strips to flexibly conform to the shape of the bottle.

Referring specifically to the cups, it will be noted that the inner one of the four strips of the cup, namely the wide inside strip, is formed really of two separate strips which are tied together at the bottom about a third of the way up as shown at 23 for strengthening the cup.

It will also be observed that the top opening of each cup is not circular, but rather octagonal in shape.

It will also be observed that the rounding up of the bottoms of the cups functions to cushion the drop of bottles during the loading of bottles in the carrier, and this reduces noise of loading and also breakage of bottles to a minimum.

It will also be observed that the cup strips are tapered and fit rather closely to the bottles with somewhat of a friction grip, and this also functions to slow up the drop of bottles during the loading operation to reduce noise, and also to reduce breakage of bottles to a minimum, and also to minimize rattling of bottles in the carrier during use as well as to facilitate nesting of the cups.

It will also be observed that the interior surfaces of the cups are smooth, and this facilitates loading of bottles in the cups.

It will also be observed that the curves at the lower ends of the strips are rather gradual and not sharp, and this strengthens the bottoms of the cups.

If desired, the strips can be perforated in a suitable design or trademark perforation for identification. Such perforation also would function to increase the flexibility of the strips.

It will also be observed that the top blocks are socketed on their underfaces and that the merging surfaces at the underfaces of the blocks are filletted to approximately 1/16 inch radius to facilitate the cleaning of the insides of the hollow blocks forming the top.

It will also be observed that the blocks are interconnected by means of flat webs for strengthening.

Handle

The handle 9 is preferably formed of rigid plastic in an inverted U shape, having its bight 40 formed for manually grasping and lifting and having four depending legs 41. The lower ends of the outer legs are cut on a bias as shown at 42, and are formed with locking enlargements 43 to prevent removal of the handle once it is inserted into slots 44 of the outer blocks, it being understood that the plastic material is yieldable sufficiently to enable the lower ends of the legs to be forced downwardly through these slots of the blocks. Lugs 46 formed on the handle legs limit downward movement of the handle legs through the holes in the outer blocks to limit the distance to which the handle can be moved down into the carrier proper. The lugs 43 on the lower ends of the outer legs limit the extending of the handle outwardly of the carrier.

The handle is provided with an edge ribbing 47 at its inner and outer edges. The handle is widened at its bight 40 as indicated, and is formed with a smooth bottom edge finger receiving socket 49 on the lower edge of a straight line portion of the bight of the handle.

In addition to the two outer legs, the handle is formed with two intermediate legs of the configuration shown

for cooperation with slots 52 of similar configuration in the intermediate blocks. The lower ends of the intermediate legs are formed with crosswise lugs 54 which engage the undersurface of the intermediate blocks and prevent withdrawal of the handle. The yieldability of the material, however, permits these intermediate legs to be twisted sufficiently to aline the cross lugs 54 on the lower ends of these legs with the slots in the intermediate blocks and permits these legs to be projected down into the carrier through the slots 52 of the intermediate blocks.

The handle is of a sufficient height so that its bight is normally just below the tops of bottles inserted into the cups when the handle is pushed down into its lower position and yet will be spaced well above the upper ends of the bottles when the handle is pulled to its uppermost position. When the handle is pushed down, both a longitudinal brace part 57 of the handle, as well as the bight of the handle fit between the two rows of bottles.

The resilient leg arrangement and the yieldability of the material facilitate shipping and storing the carriers with the handles separately before the carriers are ready for first use. However, when the carriers are first to be used, the handles are assembled into the carriers simply by pushing their four legs downwardly into their respective holes or slots in the four central top blocks of the carrier with the outer legs in the outer two blocks and the intermediate legs in the intermediate two blocks. Once the handles are assembled into the carriers, it becomes extremely difficult to remove the handles from the carriers. This prevents loss of the handles.

It will be observed that the handle has four legs, and that all four of them lock the handle to the carrier. The lower ends of the legs are strengthened by the web cross section and the lugs formed on them.

The bight of the carrier is formed with a straight and smooth bottom edge as a finger grip as shown.

The lower ends of the outer legs are bias cut as shown to facilitate insertion of the handle in the carrier and the outer legs are longer than the intermediate legs also for this purpose.

The provision of four legs for the carrier not only strengthens the handle, but also the intermediate legs and the longitudinal brace combine to prevent the outer legs from flexing inwardly and releasing themselves from the carrier.

The specific formation of the bight of the handle with the finger grip notched inwardly from the remainder of the bight prevents the bight of the handle from buckling, even if it happens that there is some degree of flexing of the outer legs of the handle towards one another.

Use

In use, the carriers are normally stacked for shipment with their cups nested and without the handles. At a bottling plant, for first use, the handles are nonremovably inserted into the carriers. Bottles are loaded into the cups, deforming the cups so that they frictionally retain the bottles in the carrier. The bottles are separated from each other so that they cannot engage one another and break. From then on, until the package of carriers and bottles is received by a consumer, the handles are normally pushed into their down position below the upper ends of the bottles, so that the loaded carriers can be stacked one upon another with the upper ends of the bottles of one carrier fitted into the sockets on the undersurfaces of the cups of the next carrier above. When the loaded carriers are sold at retail, the buyer simply grasps the handle and pulls it upwardly for convenience with his fingers under the bight of the carrier and yet clearing the upper ends of the bottles. The lugs at the lower ends of the carrier legs prevent the handle from pulling out altogether from the carrier when it is in its uppermost position.

Modifications

A variety of modifications are disclosed here.

For example, the lower ends of the outer legs may not only be bias cut as shown, but also may be provided with notches, as shown at 62, to permit some degree of flexing of the two tips of each lower part of each outer leg towards each other, a feature that may be found desirable in some constructions.

FIG. 10 shows a modification wherein a carrier is formed with a multiple section top, each having two cups. When three sections 66—67—66 are combined, the carrier will receive six bottles. On the other hand, instead of there being one intermediate section 67 between the two outer sections 66, there may be provided two or more intermediate sections 67 which, combining with two outer sections 66, will enable the carrier to accommodate eight, ten or twelve bottles as desired. In such a construction, pins 68 and sockets 69 are used to interlock the various sections of the carrier to one another.

The handle 70 may likewise be formed of a plurality of sections which telescope with respect to each other for adjustment so that the handle may accommodate itself to the length of the carrier, depending upon how many sections form the carrier. The two outer sections will, of course, be complementary left and right, and all of the intermediate sections are identical.

The inventions herein illustrated may be further developed within the scope of the following attached claims. Accordingly, the foregoing description shall be read as being merely illustrative of operative embodiments of the invention and shall not be construed in a limiting sense.

I, therefore, now claim:

1. A bottle carrier comprising a carrier proper or body including a top part and a bottom part formed of six cups arranged in two parallel rows of three each; and a separate handle; the top part having a side wall and top block connected by transverse webs defining six bottle receiving holes under each of which is a cup; each cup being formed of four strips tapering downwardly and having their lower ends curving inwardly to merge and join in a bottom disc which is bulged inwardly; all but one of the strips being narrow, and the remaining one being considerably wider and being centrally slotted down from its upper end to about two-thirds of the distance towards its lower end to define two narrow strip portions.

2. A construction according to claim 1, wherein the wide strips of two adjacent cups, one from each row, are back to back so that their slots communicate these two cups and there is no longitudinal web between such two cups.

3. A construction according to claim 2, wherein there are four separated top blocks along the longitudinal center line of the carrier, and each wide strip of a cup has its two narrow portions separated by its slot, depending from two separate adjacent top blocks.

4. A bottle carrier comprising a carrier proper or body including a top part and a bottom part formed of six cups arranged in two parallel rows of three each; and a separate handle; the top part having a side wall and top block connected by transverse webs defining six bottle receiving holes under each of which is a cup; each cup being formed of four strips tapering downwardly and having their lower ends curving inwardly to merge and join in a bottom disc which is bulged inwardly; there being, between the two rows of cups four blocks; two at the ends of the carrier, and two at the center cups; with the four blocks having four slots for four legs of a handle; the slots of the center cup blocks being elongated; a handle having four legs fitting in the four block slots and having locking lugs at their lower ends; the lugs on the center two legs being elongated, but arranged below and transverse of the center block slots; the material of the center legs being yieldable to permit these legs to be twisted to aline their lugs with their cooperating slots to permit

threading the lower ends of these legs down through such slots and to return twist automatically to misaline the leg lugs with such slots for locking these legs against upward removal from the blocks.

5. A construction according to claim 4, wherein the handle has a longitudinal brace interconnecting the upper ends of all four legs of the handle.

6. A bottle carrier comprising a carrier proper or body including a top part and a bottom part formed of six cups arranged in two parallel rows of three each; the top part having a peripheral rectangular side wall and top blocks connected by transverse webs defining six bottle receiving holes under each of which is a cup, each cup being formed of five narrow strips tapering downwardly and having their lower ends curving inwardly to merge and join in a bottom disc which is bulged upwardly, the lower ends of two of such strips being interconnected by a tie above the bottom.

7. A construction according to claim 6, wherein the thus interconnected strips of two adjacent cups, one from each row, are back to back.

8. A construction according to claim 7, wherein there are four separated top blocks along the longitudinal center line of the carrier, and each thus interconnected pair of strips of a cup.

References Cited in the file of this patent

UNITED STATES PATENTS

D. 160,608	Jones	Oct. 24, 1950
747,167	Hahn	Dec. 15, 1903
2,365,914	Stigler	Dec. 26, 1944
2,525,633	Arnett	Oct. 10, 1950
2,955,044	Tupper	Oct. 4, 1960