July 24, 1962 W. J. DE CHELBOR 3,045,863

BOTTLE CARRYING CASE

Filed Nov. 13, 1959 4 Sheets-Sheet 1

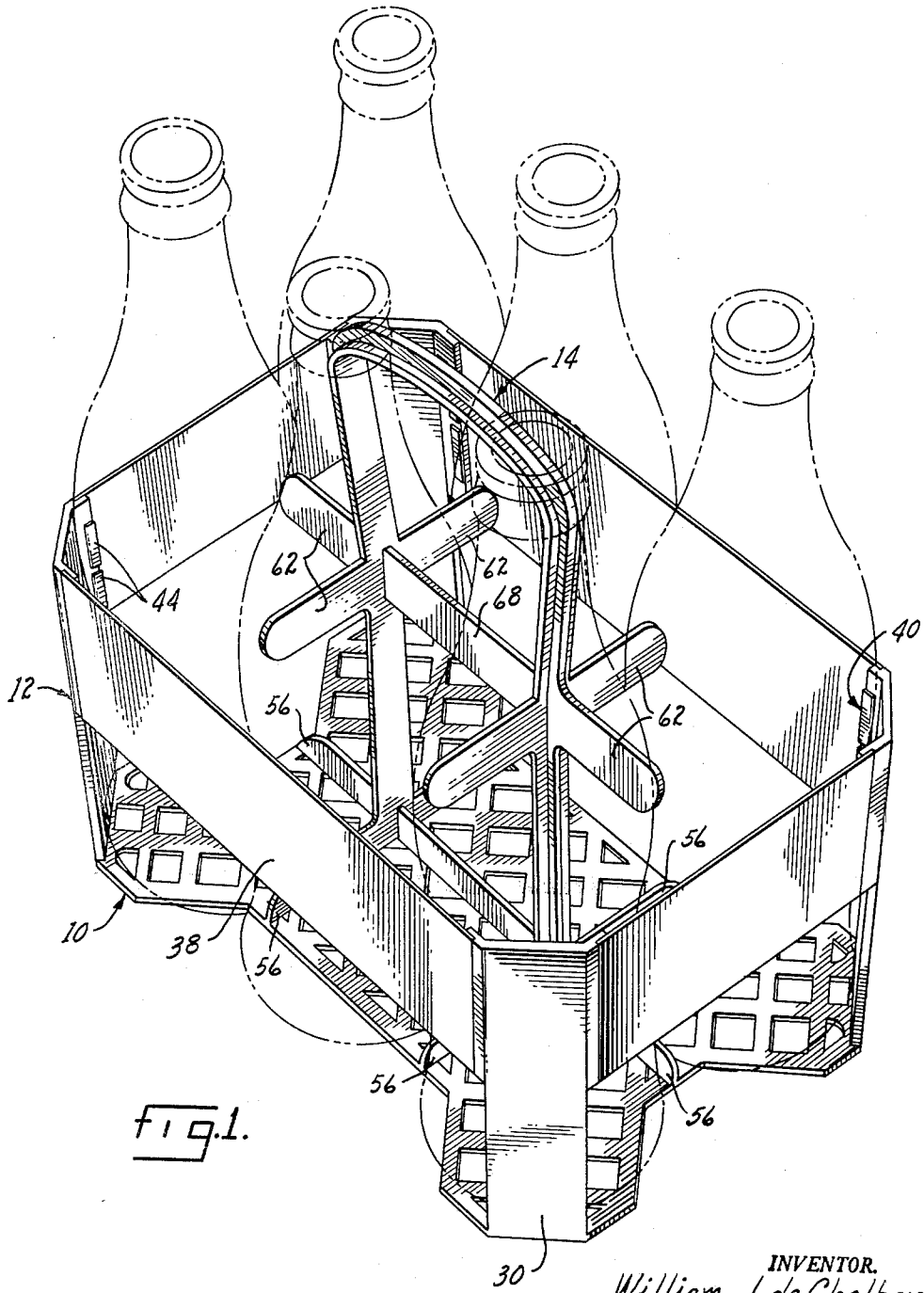



Fig. 1.

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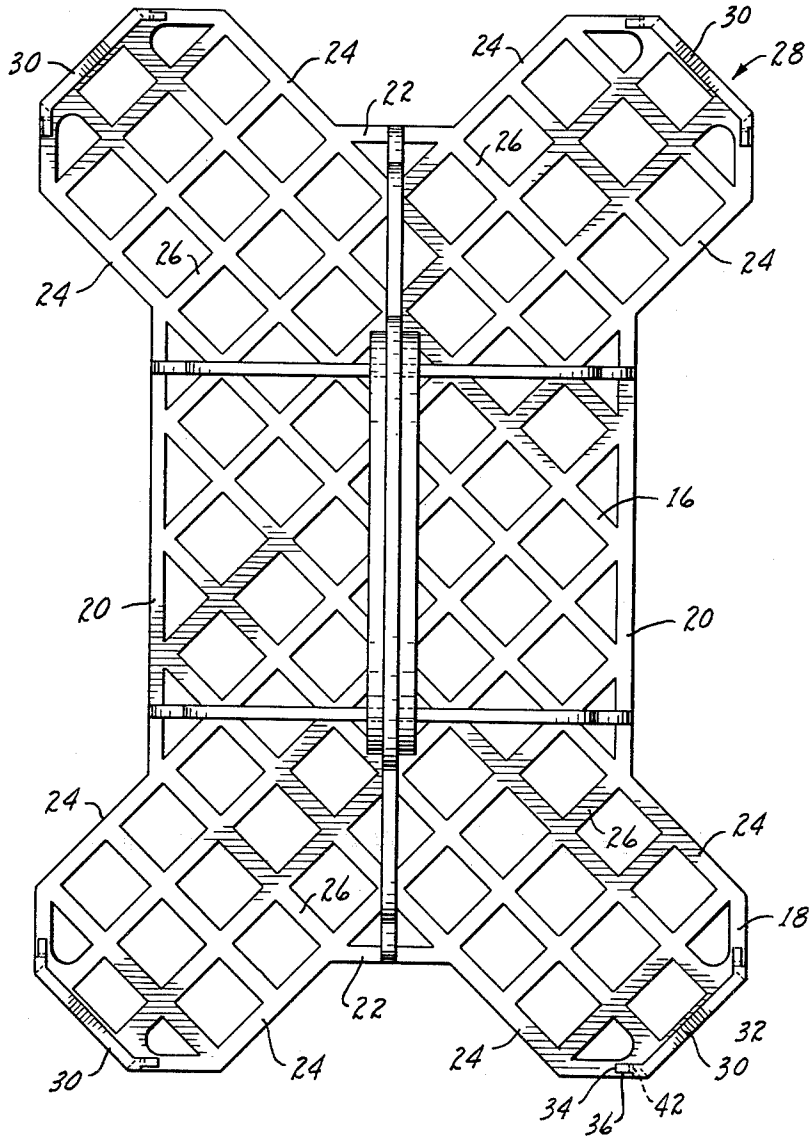



Fig. 2.

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FIG. 3.

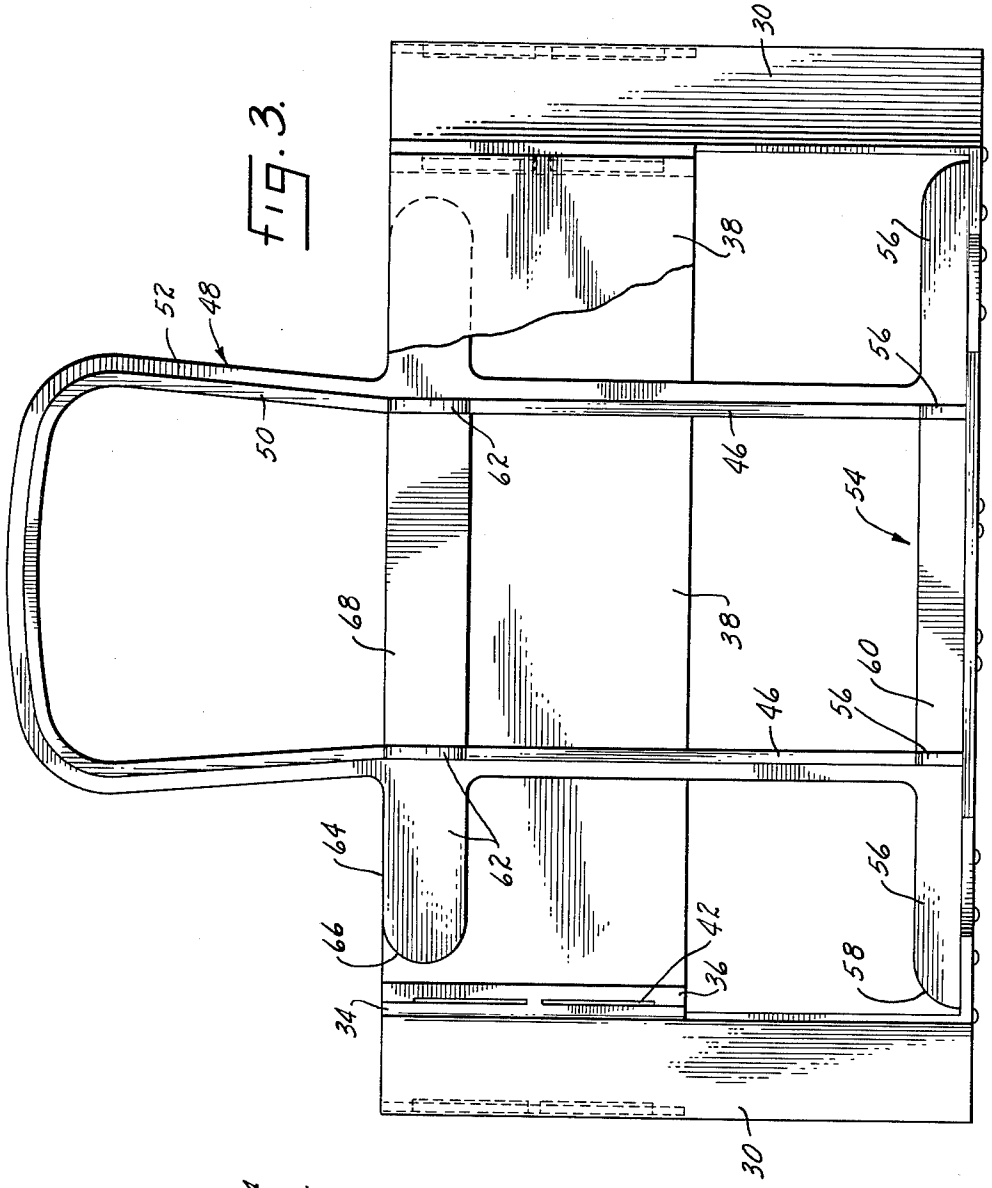
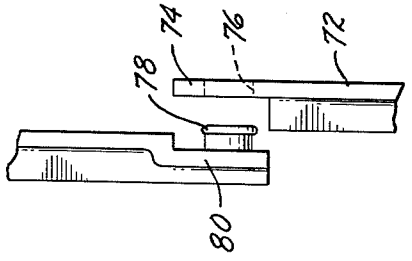



FIG. 5.




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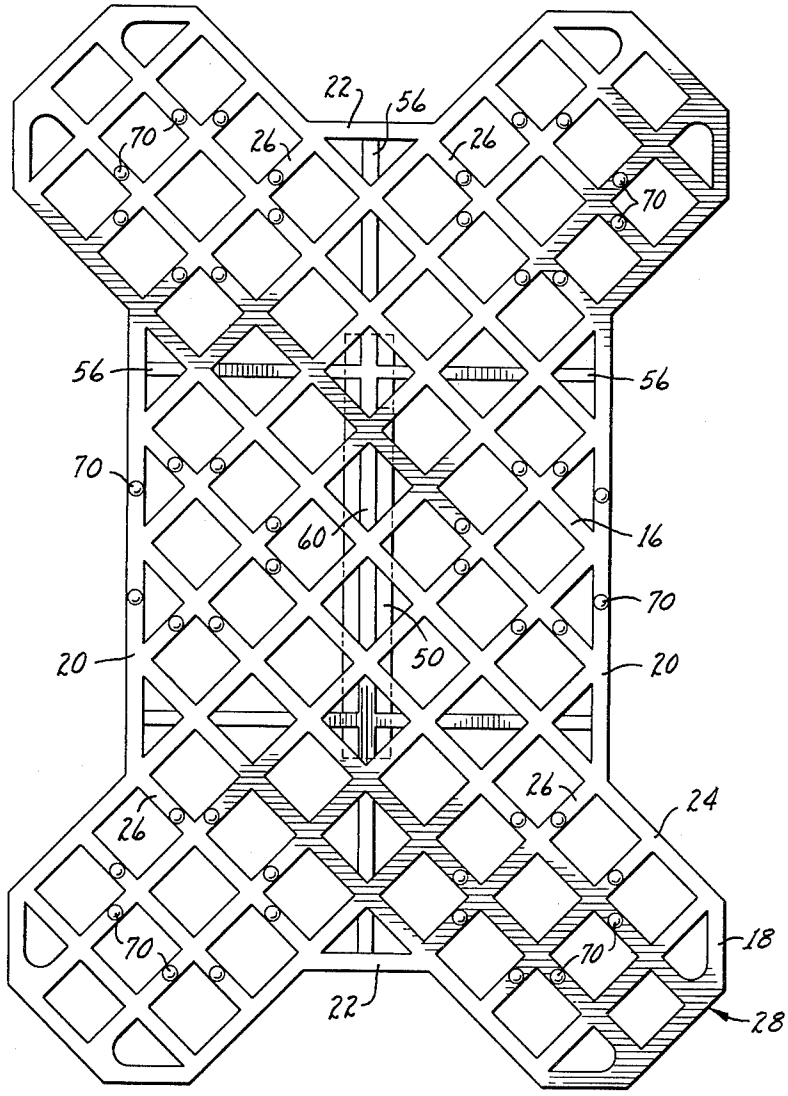



Fig. 4.

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3,045,863

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3,045,863

# BOTTLE CARRYING CASE

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11 Claims. (Cl. 220—102)

This invention is in the field of carrying cases or containers for pop bottles and more specifically relates to what is commonly referred to as a six-pack.

A primary object of the invention is a bottle carrying case which, while inexpensive, will have much greater trip life.

Another object is a carrying case for bottles and the like which is made of a combination of plastic and metal, such as aluminum.

Another object is a six-pack carrying case which can be sterilized and reused many times.

Another object is a carrying case for bottles with a combination handle and divider structure.

Another object is a six-pack carrying case which will not attract vermin and will stand up to weather.

Another object is a carrying case which will automatically interlock with the tops of the bottles in a like case below it.

Another object is a carrying case which may be easily repaired.

Another object is a lightweight carrying case which will not cause the bottles to scratch the hand of the person carrying it.

Other objects will appear from time to time in the ensuing specification and drawings in which:

FIGURE 1 is a perspective of my six-pack, with the bottles shown in phantom;

FIGURE 2 is a top view of the base and handle structure with the sides broken away;

FIGURE 3 is a side view of FIGURE 2;

FIGURE 4 is a bottom view of the base shown in FIGURE 2; and

FIGURE 5 is a partial side view of a variant form.

In FIGURE 1, the carrying case is shown as including a base **10** with sides **12** and a centrally disposed handle structure **14**. As shown best in FIGURES 2 and 4, the base is made up of a plurality of interconnected integral ribs or slats **16** which intersect generally at 90° or perpendicularly and are disposed roughly at 45° to the lateral and longitudinal. The sides of the grill-like or gridlike base, on all four sides, is closed by a continuous rim **18** but is offset inwardly on the longitudinal sides, at **20**, and also on the ends or lateral sides, at **22**.

In effect, the sides follow certain ribs inwardly, as at **24**, to a certain cross rib **26**, then resume their longitudinal or lateral direction from the point of intersection. The same is true of the ends. The base thus takes on the appearance of a somewhat smaller rectangular shape with ears projecting outwardly at 45° at each corner. The corners are chamfered at approximately 45° at **28**, and a post **30** rises from each chamfer across the corner to a given height.

The entire base is preferably made of plastic and is molded integrally. The corner posts **30** are also plastic and are integral with the base and molded at the same time.

Considering one post in detail since the others may be the same, the post has offset wings **34** projecting at an angle from each side at the upper end of the post and extending laterally and longitudinally. Each wing is provided with a step or offset **36** on its outer face and a strap **38**, preferably of aluminum, extends into this step and has double tabs **40** which are bent at right angles inwardly to pass through double slots **42** in the wing



and then it is turned back and crimped at **44** in FIGURE 1. The tabs **40** are one above the other and closely spaced, as are the slots **42**. Thus, instead of a single opening from top to bottom which would pull open under tension, double slots are provided or a single slot with a cross tie, at **43**, to prevent separation. The strap is preferably the same thickness as the step so that the outer surface of the strap will flow smoothly into the outer surface of the full thickness wing. As shown in FIGURE 1, I use two straps disposed longitudinally on the long sides and two short straps disposed laterally across the ends with a connection at all corners between the ends of the straps and the wings of the corner posts being the same. It should also be noted that the strap, in height, is about the same as the wing height so that the straps and wings, in effect, form a uniform continuation around the carrying case.

The handle **14** includes two upstanding posts **46** with a looped over U-shaped handle **48** connected across the top. The handle **48** is T-shaped in cross section with a back strap **50** crossing an outstanding rib **52**. This same T-shaped cross section is in the posts **46** so that the handle, in effect, forms a smooth continuation of the posts.

Ribs **54** project upwardly from the base inside of the carrying case and include six outstanding feet **56** which are rounded over at their ends, at **58**, where the ribs stop at the sides of the base. The center rib **60** extends between and connects the bottom of the feet **56**. It should also be noted that the ribs **54** in the bottom extend laterally and longitudinally and connect to the diagonal slats **16** at their points of intersection, as shown in FIGURE 4, providing a rigid connection between the handle and base.

Divider arms **62** extend outwardly from the handle with their upper edges **64** in the same general plane as the top of the straps and side posts. So the divider structure is roughly on the same level as the surrounding straps. The dividers are rounded at their ends, at **66**, and terminate in spaced relation, as shown in FIGURE 1, from the straps. This is to say that the dividers stick out on all four sides toward the side straps, but only go a little over half way, and then stop. A center strap **68** connects the top of the feet between the arms **62**.

It will be noted in FIGURE 2 that the divider arms are vertically aligned with the ribs and together define vertically disposed bottle pockets with the surrounding side structure, one at each corner and two in between on the sides, making a total of six. The spacing is such that the bottle in a corner pocket will be held between an end arm and a side arm about half way up and the base of the bottle will be held between an end rib and a side rib. In a sense the bottle will be cradled between the ribs and arms and backed up by the corner post and its wings. The bottles in the middle on each side will have side arms both ahead of and behind them and side ribs below with a strap on the side holding them in.

As shown in FIGURE 4, the bottom of the base is provided with a plurality of integral projections **70** which surround the center of each bottle pocket and are disposed in groups. The projections are disposed on a circle which will surround the cap of a bottle in a similar case below it. This is to say that when two cases, filled with bottles, are stacked one on top of the other, the projections on the bottom of the upper case will just fit around the caps on the bottles in the lower case. This provides a degree of interlock which will prevent the top case from sliding off when jostled or vibrated in transportation or otherwise and will also hold the case up, somewhat, when it rests on a flat surface, such as the floor.

In FIGURE 5, I have shown a variant form in which the handle and divider structure is disconnectable from the base. The upper portion of the legs is each separated

from a stud or post **72** which has a fastening tab **74** with a hole **76** to receive a button **78** positioned on an offset **80** in the crosspiece of the T-shaped cross section. The joint could be located anywhere between the dividers, such as at **62** in FIGURE 3, and the ribs in the bottom, such as at **56** in FIGURE 3. Having the handle and divider structure separable from the rest of the case may simplify storage and shipment after manufacture.

The use, operation and function of my invention are as follows:

The base and central handle and divider structure are made integrally and entirely of plastic. The corner posts are also integral with the base and are made of plastic. The straps on all four sides, two long and two short, are preferably of metal, in this case aluminum. The interior is totally open on all four sides with a grill or gridlike bottom, so that the unit may be completely sterilized and thoroughly cleaned after each trip. Since the case is entirely of plastic and aluminum, there is nothing to attract vermin and it will not fall apart when it becomes wet due to rain or otherwise. The case has a long trip life and can be used over and over.

The upstanding handle and divider structure is not connected to the sides and is somewhat flexible, thus providing a cushion type ride for the bottles. The dimensioning is such that the bottles rise well above the handle, which can be easily grasped by slipping a hand down between the two center side bottles. The over-all structure is sufficiently flexible that it will withstand and give with impact, and will not break or rupture.

While I have shown the handle as T-shaped on top, it might be flattened or somewhat solid. I prefer that the sides have a T-shaped cross section, however, for strength.

Another important aspect of the invention is that the metal straps or strips may be replaced easily. Thus, if a particular strap is torn, bent or otherwise damaged, the bottler may carry a reserve supply of straps, one of which may be easily substituted, and the case may be reused indefinitely.

Another advantage of this case is that it will fit in present automatic filling equipment. This is to say that the posts, straps, etc. are all thin and, in a sense, the over-all dimensions of the case may be the same as or no more than an equivalent paper unit.

One of the big advantages of the freely upstanding handle and divider structure is that when the carton is full of bottles and the user or purchaser picks it up by slipping his hand between the two center bottles and under the top cross strap of the upper handle structure, the back of his hand and knuckles will not be scratched by the bottle caps. In a normal case where the dividers are attached to the sides, the case will be laterally rigid and the caps of the center bottles will scratch the back of a person's hand. But in this case the side straps **38** are sufficiently flexible and are not connected directly to the dividers **62** such that the center bottles will flex outwardly. In essence, there is no rigid connection, direct or indirect, between the upper portions of the handles and either of the sides.

In molding, the legs **30** may lie out flat in the same plane as the grid base. Thus, the molding dies will be greatly simplified. For assembly, the four legs at the corners would be turned up to the positions shown and then the bands connected. At the same time, the upper part of each leg **30** may be rounded somewhat, instead of flat and at 45°, as shown.

Another important feature is that the handle structure with the reinforcing ribs **56** and **60** at the bottom are integrally joined to the grid base where the bottle load is the greatest. The webbing or ribs in the bottom tie the over-all grill structure together and the bottle load will be fully carried by the handle. The grid bottom, in addition to providing for cleaning and sterilizing, saves a substantial amount of plastic.

It should be noted in FIGURE 3 that the handle, above the arms **62**, diverges somewhat and is spaced a maximum at the top so that the user can easily get his hand under the cross strap.

In the arrangement shown, when the base, handle and posts are made integrally and entirely of plastic with lightweight metal straps around the sides, for example of aluminum, the over-all case will weigh about 4 ounces which is slightly less than an equivalent paper carrying case.

While I have shown and described the preferred form of my invention, it should be understood that suitable additional modifications, changes, substitutions and alterations may be made without departing from the invention's fundamental theme. I, therefore, wish that the invention be unrestricted, except as by the appended claims.

I claim:

1. In a carrying case for pop bottles and the like, a base, a side structure around the base and upstanding from its outer edge defining an open top container for bottles, and a combination handle and divider structure connected to and upstanding from the general center of the base rising above the top of the side structure, spaced therefrom at all points and defining a plurality of bottle pockets with the side structure, the combination handle and divider structure including lower bottom ribs upstanding from and integral with the base and upper divider arms projecting outwardly from a centrally disposed handle but terminating in spaced relation to the side structure, the arms and ribs being aligned vertically.

2. In a carrying case for pop bottles and the like, a base, a side structure around the base and upstanding from its outer edge defining an open top container for bottles, and a combination handle and divider structure connected to and upstanding from the general center of the base rising above the top of the side structure, spaced therefrom at all points and defining a plurality of bottle pockets with the side structure, the combination handle and divider structure including lower bottom ribs upstanding from and integral with the base, upper divider arms projecting outwardly from a centrally disposed handle but terminating in spaced relation to the side structure, the arms and ribs being aligned vertically, and further including upstanding posts at the corner of the base rising to a height generally opposite the arms, straps disposed around the sides of the case interconnecting the upper ends of the posts, the base, posts, and handle and divider structure being made entirely of plastic and integrally interconnected, the straps being of metal.

3. The structure of claim 2 further characterized by and including groups of projections on the lower surface of the base, each group having its projections arranged in a circle and disposed below the general center of a bottle pocket, the diameter of the circle being such that the projections will fit around the top caps of bottles in a case below it when the cases are stacked.

4. In a carrying case for pop bottles and the like, a base having a generally open grill interior, sides around the base and upstanding from its outer edge defining an open top container, a combination handle and divider structure connected to and upstanding from the general center of the base rising above the top of the sides, spaced therefrom and defining a plurality of bottle pockets with the sides, and rectilinear ribs upstanding from the base between and defining the bottom of the bottle pockets, the combination structure including an upstanding handle rising above the side structure, and arms projecting outwardly from the handle between and defining the bottle pockets with the sides and terminating in spaced relation to the sides at all points.

5. The structure of claim 4 further characterized in that the sides include upstanding posts at the corner of the base interconnected by straps spaced upwardly from the base.

6. The structure of claim 4, wherein the upstanding handle and arms are disconnectably connected to the base.

7. In a carrying case for pop bottles and the like, a base having a generally open grill interior, sides around

the base and upstanding from its outer edge defining an open top container for bottles, a combination handle and divider structure connected to and upstanding from the general center of the base and rising above the upper level of the sides, the combination structure being separate and spaced from the sides at least along the longitudinal extent thereof, and rectilinear ribs upstanding from the base between and defining the bottom of the bottom pockets, and arms projecting laterally between the combination structure and sides and terminating in spaced relation to the sides at least along the longitudinal extent thereof.

8. In a carrying case for pop bottles and the like, a base having a generally open grill interior, sides around the base upstanding from its outer edge defining an open top container for bottles, and projections on the lower surface of the grill interior of the base extending somewhat below the lower surface and arranged in a pattern defining groups, the projections in each group being arranged in an annulus and disposed relative to the position of the bottles, when the case is filled, such that when like cases are filled and stacked, the annuli on the lower surface of the grill interior of one base will fit around and interlock with the caps on the bottles in the next case below.

9. In a carrying case for pop bottles and the like, a base having a generally open grill interior, sides around the base upstanding from its outer edge defining an open top container for bottles, a handle structure in the container, a plurality of bottle pockets defined beween the handle structure and the sides, and projecions on the lower surface of the generally open grill interior of the base arranged in a pattern defining groups, a group for each of the majority of the bottle pockets, the projections in each group being arranged in an annulus and disposed relative to the position of the bottles in the bottle pockets, when the case is filled, such that when like cases are filled and stacked, the annulus on the lower surface of the generally open grill interior of the base of one case will fit around and interlock with the caps on the bottles on the next case below.



10. The structure of claim 9 in which the handle is disconnectably connected to the carrying case.

11. The structure of claim 9 further characterized in that the bottle pockets are defined by lower bottom ribs upstanding from and integral with the base and upper divider arms projecting outwardly from the handle.

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