March 9, 1948. L. I. SMITH 2,437667

BOTTLE CARRIER

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Fig. 1.

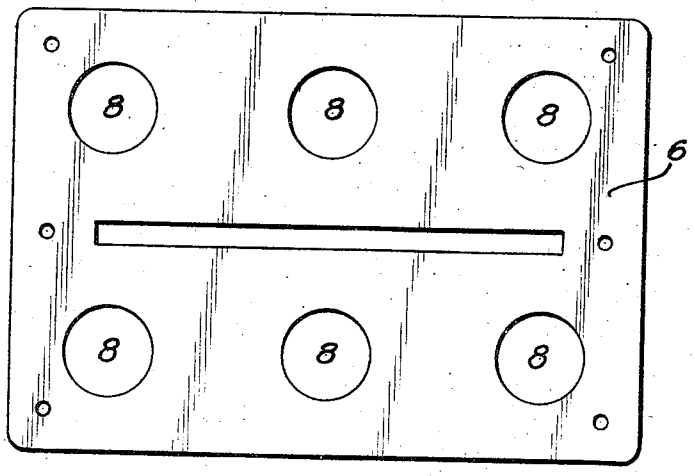
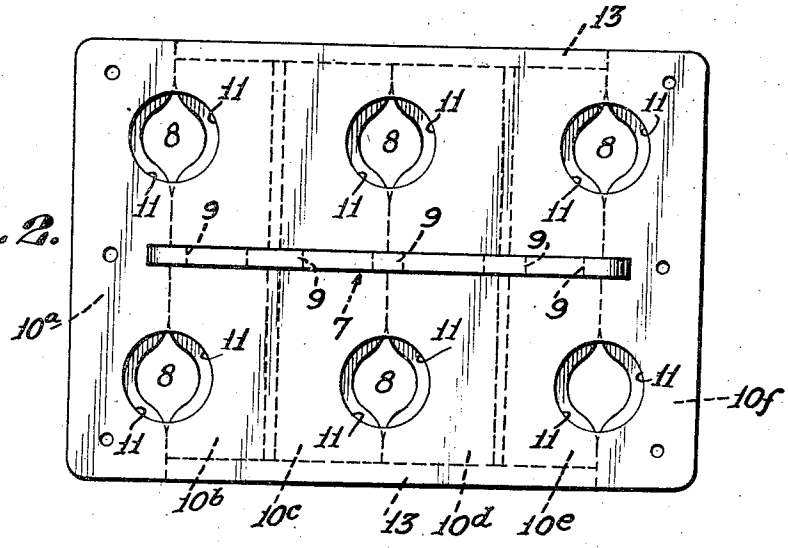


Fig. 2.



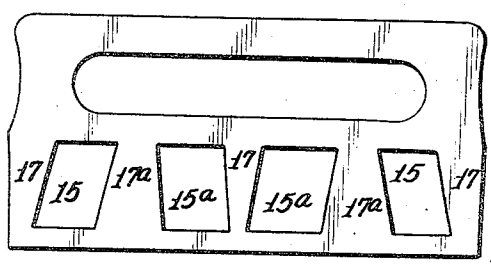


Fig. 4.

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Fig. 3.

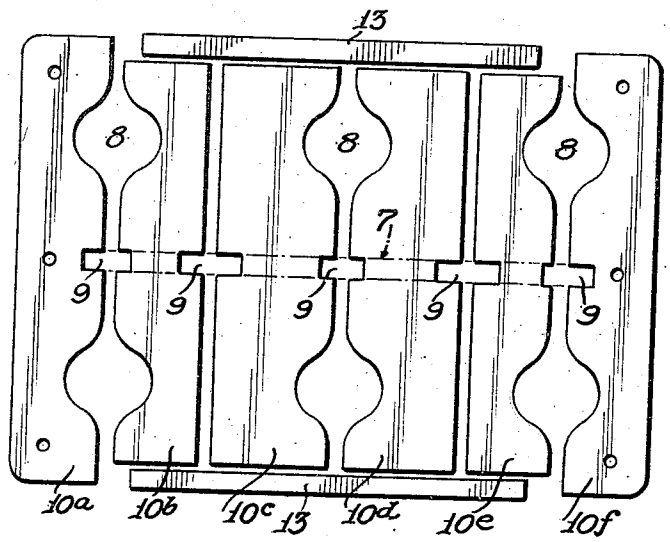


Fig. 5.

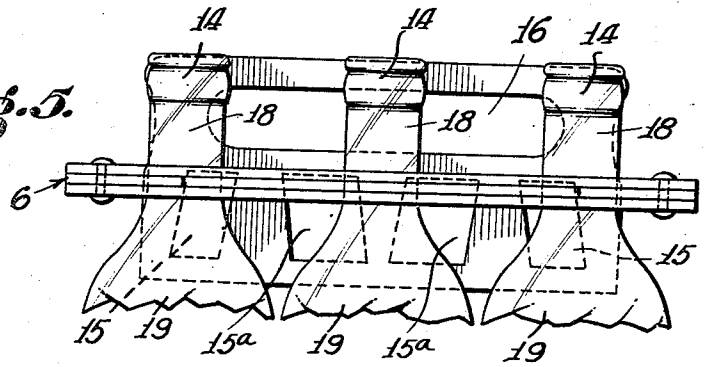
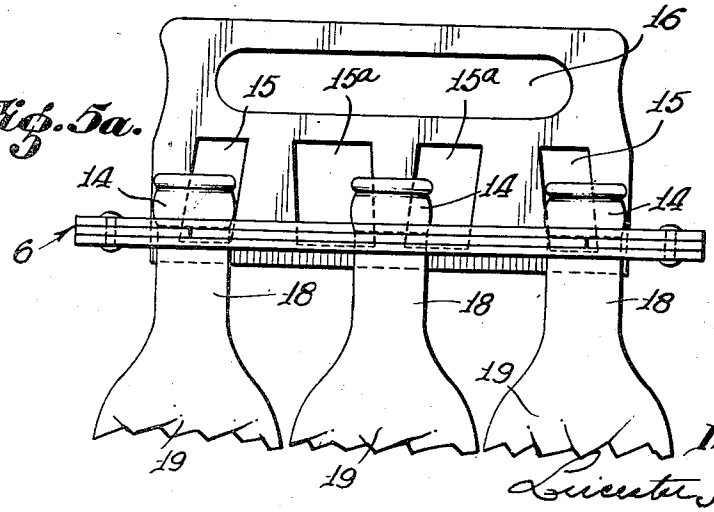


Fig. 5a.



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Patented Mar. 9, 1948

2,437,667

UNITED STATES PATENT OFFICE

2,437,667

BOTTLE CARRIER

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Application December 8, 1944, Serial No. 567,196

7 Claims. (Cl. 294—87)

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My invention relates to carry devices and more particularly to a device for carrying one or more bottles, glasses, jars, and other utensils which either have necks with rims or heads, or have a flange at their tops larger in circumference than the bottom thereof sufficient to prevent them from passing through the apertures of the device when closed or locked into position by a self-locking mechanism hereinafter described.

Beverage companies and others have introduced into the merchandising of their products, the six-bottle sale unit, particularly for home consumption.

This unit, generally, has been prepared for convenient delivery to and carrying by the customer by providing a heavy paper sack or paste-board container having handles, or by folding paper cartons which provide a convenient carrying handle, or cartons or carrying devices that do not hold the bottles in a rigidly fixed position, or which are not adaptable to carrying bottles unless the device is full, or which will not work satisfactorily unless one bottle is opposite another when only partially filled.

All of the methods heretofore in use are unsatisfactory because they have certain serious disadvantages. Paper cartons and paste-board devices are vulnerable to wet and dampness and are unsanitary due to collecting oil, germs, dust, grime and other impurities in the stores and while in the home. The other type of such devices do not hold the bottles rigidly, when full, and are not suitable to carrying them when partly empty because it is almost impossible to arrange the bottles or other utensils therein so that one or all of the bottles will not fall out of the device. This results in breakage of the bottles or utensils in handling and defeats the main purposes of such devices which are simplicity, convenience and immunity from breakage from collision together; because in a full carton the bottles are not rigidly held and collisions together are apt to occur, while in a partly filled carton, there is complexity of arrangement, loose bottles that collide together and wear or break, and danger that all will fall out and break in being dropped in the process of carrying or handling.

The general object of the invention is to provide a carrier for bottles and similar articles adapted to be used in lieu of the above referred to carriers heretofore commonly used, and free from the objections and disadvantages that have been pointed out.

A further object of the invention is to provide a carrier of the class described which is simple

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in construction, easy to operate, inexpensive to manufacture, requires no scarce materials, and is easy and efficient in operation; and which makes a neat attractive package of long life and fully displays the packaged goods.

A further and more specific object of the invention is to provide various details of structure which are advantageous in attaining the before mentioned general objects.

Other and further objects of my invention will become more readily apparent by references to the following description taken in connection with the accompanying drawing.

In the drawing I have shown in detail a preferred embodiment of the invention, but it will be understood that various changes may be made from the construction shown, and that the drawing is not to be construed as confining or limiting the scope of the invention, the claims forming a part of this specification being relied upon for that purpose.

Of the drawing:

Fig. 1 is a plan view of one of the apertured bottle receiving plates of the main frame.

Fig. 2 is a plan view of the entire main frame and parts carried thereby.

Fig. 3 is a detail view of the several auxiliary plates of the main frame and of other parts carried thereby.

Fig. 4 is a side view of the handle member.

Fig. 5 is a side view of the carrier with the handle member in depressed position and with the carrier in place on a group of bottles.

Fig. 5ª is a side view similar to Fig. 5 but with the handle member in elevated position and with the carrier in position to carry the group of bottles.

Referring to the drawing, there is shown a carrying device for supporting two rows of bottles, with three bottles in each row, and is particularly adapted to the popular six-bottle unit of bottled beverages for home consumption, but my device is adaptable to any number of bottles or utensils arranged in any number of rows, or singly. The term "bottles" is herein used in a generic sense, and is to be construed as including glasses, jars and other articles having necks with heads or rims.

The carrying device comprises a main frame including similar top and bottom plates 6, 6, each provided with a plurality of holes 8, 8 therein adapted to receive the headed necks of the bottles to be carried. When six bottles are to be carried the holes are arranged in two rows of three each. The plates 6, 6 are provided with

registering central slots 7 which are parallel with the rows of holes and midway between them.

The main frame also includes end plates 10a and 10f and side strips 13, 13, all shown in Fig. 3, these being positioned between the top and bottom plates 6, 6 and serving as spacers therefor. In the assembled main frame the outer edges of the said members 10a, 10f and 13, 13 register with the outer edges of the plates 6, 6. The inner edges of the plates 10a and 10f are provided with semi-circular recesses which register respectively with the end holes 8, 8 in the plates 6, 6 and they are provided with notches 9, 9 which register with the end portions of the slots 7, 7.

The handle member 5 shown in detail in Fig. 4 is a flat plate, preferably formed of material similar to that used for the frame member, and it is provided near its top with a horizontal slot 16 to accommodate the fingers of the person carrying the device. The width and thickness of the plate are such that it will approximately fit the slots 7 in the main frame, but with sufficient clearance to permit free movement. The lower portion of the handle member is provided with a plurality of inclined slots for a purpose to be described. Preferably there are four slots 15, 15 and 15a, 15a, each having parallel edges. The edges of the outer slots 15, 15 are inclined downward and outward and the edges of the inner slots 15a, 15a are inclined downward and inward. The slots 15, 15 have a downward tapered section 17 between them, and the slots 15 and 15a of each pair have an upward tapered section 17a between them.

Positioned in the space between the top and bottom plates 6, 6 of the main frame and bounded by end plates 10a, 10f and the side strips 13, 13 are movable bottle gripping means. This bottle gripping means may be varied as to details, but preferably and as shown, it comprises four plates 10b, 10c, 10d and 10e which are movable longitudinally of the main frame within controlled limits. The outer edges of the outer plates 10b and 10e are provided with semi-circular recesses which are opposite the recesses in the respective plates 10a and 10f. When these plates are moved to their outermost positions the edge portions thereof at the said recesses partly obstruct the end openings 8, 8 in the main frame and will engage the necks of bottles in the said openings. The inner plates 10c and 10d are provided at their inner edges with opposed semi-circular recesses similar to the recesses in the plates 10b and 10e, and when the plates are moved to their innermost positions the edge portions thereof at the said recesses partly obstruct the central openings 8, 8 in the main frame and will engage the necks of bottles in the said openings.

The several plates 10b, 10c, 10d and 10e are provided with oppositely disposed notches 9, 9 which are in register with the slots 7 in the top and bottom plates 6. The portions of the plates 10b and 10e between the notches 9, 9 therein are of such width as to fit the respective slots 15, 15 in the handle member 5. The portions of the plates 10c and 10d between the notches 9, 9 therein are of such width as to fit the respective slots 15a, 15a in the handle member 5. The slots in the handle member and the slot fitting portions of the plates constitute interengaging means for moving the plates when the handle member is moved, all as more fully explained hereinafter.

The carrying device is assembled by inserting the several plates 10b, 10c, 10d and 10e in the respective slots 15, 15a, 15a, and 15 of the handle

member 5 and then turning the plates so that the portions thereof between the notches 9, 9 are entered in the several slots 15, 15a, 15a and 15. With the movable plates thus assembled with the handle member they are engaged with the bottom plate 6, the handle member 5 then extending through the slot 7 in the said bottom plate. Then the end plates 10a and 10f and the side strips 13, 13 are put in place. Finally the top plate 6 is moved downward over the handle member with the handle member extending through the slot 7 therein. With the parts thus assembled the top and bottom plates are connected with each other and with the end plates 10a, 10f and the side strips 13, 13. This connection is preferably effected by means of rivets extending through the top and bottom plate and through the end plates and side strips.

When the carrying device is to be engaged with a group of bottles the handle member is moved downward relatively to the main frame, as shown in Fig. 5. Inasmuch as the portions of the plates 10b and 10e between the notches 9, 9 are entered in the slots 15, 15 of the handle member, the said plates are moved toward the center and the semi-circularly recessed portions of the said plates are thus moved out of register with the end holes 8, 8 in the main frame. Similarly, the portions of the plates 10c and 10d between the notches 9, 9 are entered in the slots 15a, 15a of the handle member, and the plates are moved away from the center and the semi-circularly recessed portions of the said plates are thus moved out of register with the central holes 8, 8 in the main frame. Thus all of the holes 8, 8 are unobstructed and the main frame can be moved downward over the tops of the bottles as shown in Fig. 5.

After the device is in place on the bottles, as shown in Fig. 5, the handle member is moved relatively upward to the position shown in Fig. 5a with the result that the sliding plates 10b and 10e are moved away from the center so as to partly obstruct the end openings 8, 8 in the main frame and to engage the necks of the bottles in such holes below the top rims or heads thereof. Similarly, the sliding plates 10c and 10d are moved toward the center so as to partly obstruct the central holes 8, 8 in the main frame and to engage the necks of the central bottles in such holes below the top rims or heads thereof. Thus all of the bottles are gripped and held in the main frame and they can be carried safely by means of the handle member.

When it is desired to release the bottles, or any of them, the handle is permitted to return to the lower position, shown in Fig. 5, and with the parts of the device in this relative position, movable plates are moved out of bottle engaging positions and the entire device can be freely lifted off from the bottles.

Having described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. In a device for carrying bottles, the combination of a horizontal main frame having two parallel rows of holes for receiving the headed necks of the bottles and also having a longitudinal vertical slot parallel with the rows and between them, a handle member movable vertically through the slot in the frame and having a plurality of inclined slots therein, and a plurality of plates carried by the main frame and guided for horizontal movement to partly close the holes

and grip the necks of the bottles below their heads, the said plates having portions fitting the respective slots in the handle member so that the plates are moved into and out of bottle gripping positions when the handle member is moved relatively upward and downward.

2. In a device for carrying bottles, the combination of a horizontal main frame having two parallel rows of holes for receiving the headed necks of the bottles and also having a longitudinal vertical slot parallel with the rows and between them, a handle member movable vertically through the slot in the frame and having a plurality of inclined slots therein, and a plurality of plates carried by the main frame and guided for horizontal movement to partly close the holes and grip the necks of the bottles below their heads, the said plates extending through the respective slots in the handle member and having bottle engaging portions at each side of the handle member and the said plates having portions fitting the respective slots in the handle member so that the plates are moved into and out of bottle gripping positions when the handle member is moved relatively upward and downward.

3. In a device for carrying bottles, the combination of a horizontal main frame having two parallel rows of holes for receiving the headed necks of the bottles and also having a longitudinal vertical slot parallel with the rows and between them, a handle member movable vertically through the slot in the frame, two bottle engaging plates carried by the main frame and movable longitudinally of the rows to partly close the holes and grip the necks of the bottles below their heads, and interengaging means on the handle member and on the plates for moving the plates in opposite directions into and out of bottle gripping positions when the handle member is moved relatively upward and downward.

4. In a device for carrying bottles, the combination of a horizontal main frame having two parallel rows of holes for receiving the headed necks of the bottles and also having a longitudinal vertical slot parallel with the rows and between them, a handle member movable vertically through the slot in the frame and having two oppositely inclined slots therein, and two bottle engaging plates carried by the main frame and movable longitudinally of the rows to partly close the holes and grip the necks of the bottles below their heads, the said plates having portions fitting the respective slots in the handle member so that the plates are moved in opposite directions into and out of bottle gripping positions when the handle member is moved relatively upward and downward.

5. In a device for carrying bottles, the combination of a horizontal main frame having two parallel rows of holes for receiving the headed necks of the bottles and also having a longitudinal vertical slot parallel with the rows and between them, a handle member movable vertically through the slot in the frame and having two oppositely inclined slots therein, and two bottle engaging plates carried by the main frame and movable longitudinally of the rows to partly close the holes and grip the necks of the bottles below their heads, the said plates extending through the respective slots in the handle member and having bottle engaging portions at each side of the handle member and the said plates having portions fitting the respective slots in the handle member so that the plates are moved in opposite directions into and out of bottle gripping positions when the handle member is moved relatively upward and downward.

6. In a device for carrying bottles, the combination of a main frame comprising similar spaced top and bottom main plates each having two parallel rows of holes for receiving the headed necks of bottles to be carried and each having a longitudinal vertical slot parallel with the rows and between them, the said main frame also comprising spacing members between the top and bottom plates at both ends and at both sides thereof, a handle member movable vertically through the slot in the frame, a plurality of plates movable in the space between the top and bottom plates of the frame and between the end and side members thereof, the said movable plates being adapted to partly close the holes in the top and bottom plates and grip the necks of the bottles below their heads, and interengaging means on the handle and on the bottle gripping plates for moving the said plates into and out of bottle gripping positions when the handle movable member is moved relatively upward and downward.

7. In a device for carrying bottles, the combination of a main frame comprising similar spaced top and bottom plates each having two parallel rows of holes for receiving the headed necks of bottles to be carried and each having a longitudinal vertical slot parallel with the rows and between them, the said main frame also comprising end and side spacing members between the top and bottom plates, a handle member movable vertically through the slot in the frame and having two oppositely inclined slots therein, and two plates movable in the space between the top and bottom plates of the frame and between the end and side members thereof, and adapted to partly close the holes in the top and bottom plates and grip the necks of the bottles below their heads, the said plates extending through the slots in the handle member and having bottle engaging portions at each side of the handle member and the said plates having portions fitting the respective slots in the handle member so that the plates are moved into and out of bottle gripping positions when the handle member is moved relatively upward and downward.

LEICESTER I. SMITH.

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Certificate of Correction

Patent No. 2,437,667. March 9, 1948.

LEICESTER I. SMITH

It is hereby certified that errors appear in the printed specification of the above numbered patent requiring correction as follows: Column 1, line 1, for the word "carry" read *carrying*; column 6, line 27, before "plates", second occurrence, insert *movable*; lines 28 and 29, strike out "movable"; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 18th day of May, A. D. 1948.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.