Aug. 5, 1947. H. G. SUITER 2,425,135

ARTICLE CARRIER

Filed July 27, 1945 2 Sheets-Sheet 1

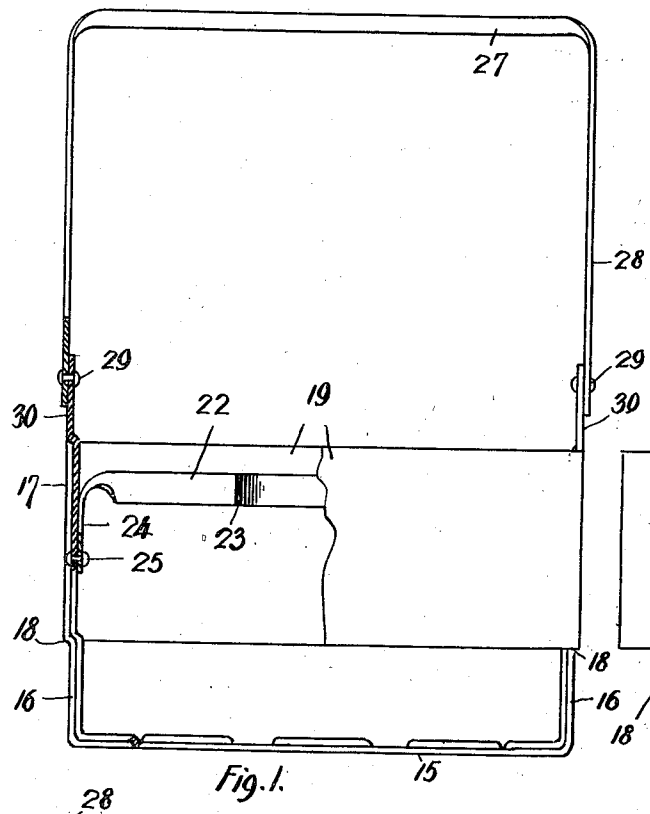


Fig. 1.

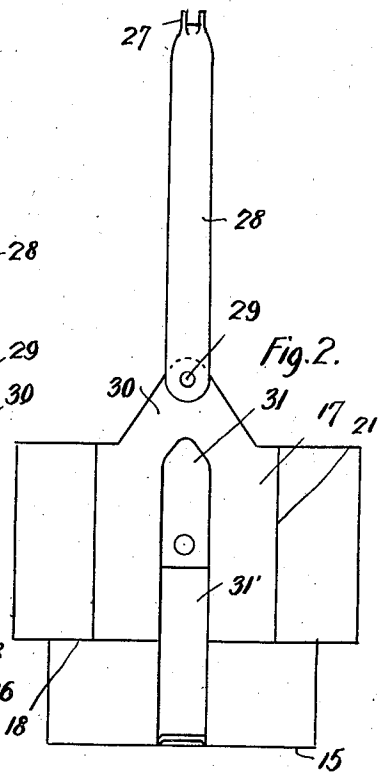


Fig. 2.

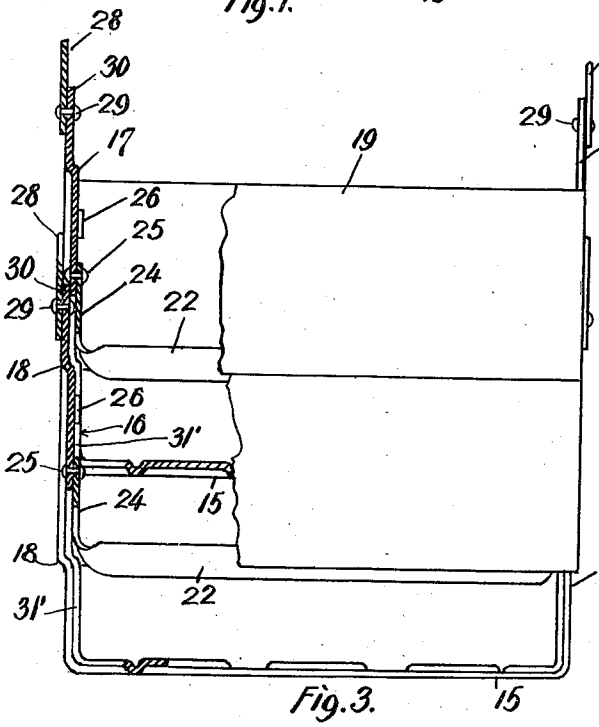


Fig. 3.

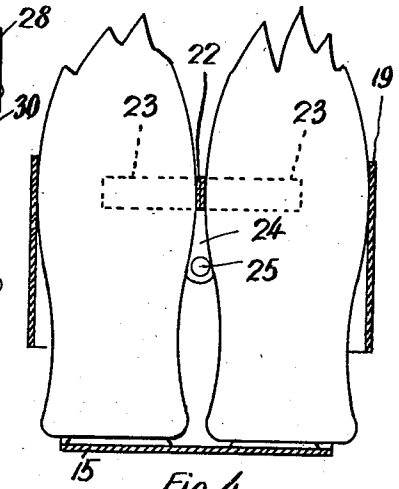


Fig. 4.

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ARTICLE CARRIER

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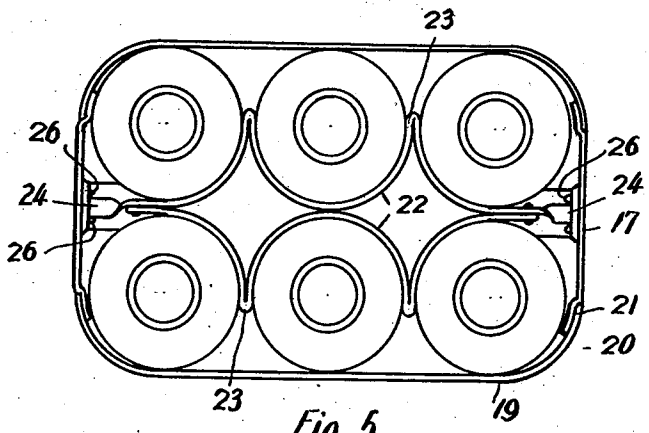


Fig. 5.

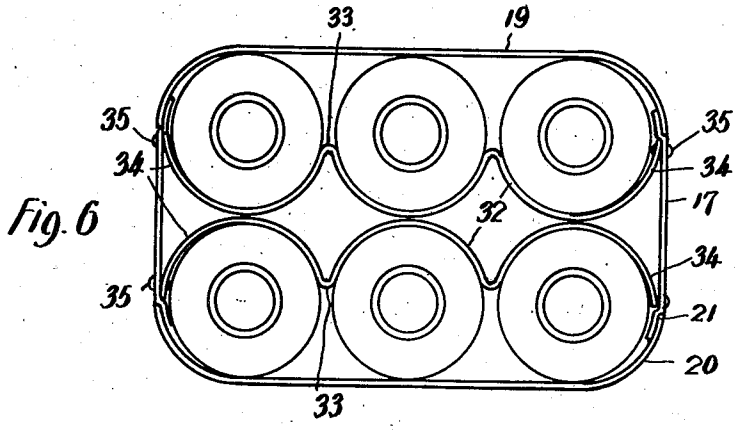


Fig. 6

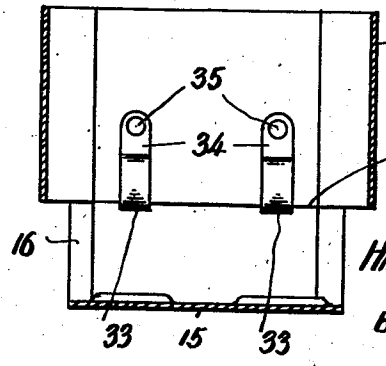


Fig. 7.

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UNITED STATES PATENT OFFICE

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ARTICLE CARRIER

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12 Claims. (Cl. 224—45)

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This invention has particular reference to a small, light and inexpensive carrier for beverage bottles, usually six in number, now popular with the consumer, as well as with the bottler and retailer, in the first instance because of convenience in carrying the purchase from store to home, and in the latter instances because of the manner in which the carrier has promoted a larger unit of sale.

The bottle carriers heretofore used for this purpose present objections in that in practically all instances the bottles within the tray are in contact with one another and due to this contact the bottles frequently become broken or chipped.

It is the primary object of the present invention to provide means in connection with a simple and inexpensive tray to maintain the bottles properly stabilized within the tray and at the same time out of contact with one another to thus overcome the objections stated.

The invention further comprehends means in connection with trays capable of nesting one within another for stabilizing and holding the bottles out of contact with one another when the tray is in use, but which means is movable within each respective tray to a position out of the path of interfitting parts of other trays when nested therein.

The invention further comprehends means of simple construction for maintaining the bottle locators or partitions within the trays in either operative or inoperative positions.

With the foregoing objects in view, together with others which will appear as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts, all as will be described more fully hereinafter, illustrated in the drawings, and particularly pointed out in the claims.

In the drawings—

Fig. 1 is a side elevation, parts broken away, of a carrier constructed in accordance with the invention, and showing the bottle stabilizing bracket in raised or operative position,

Fig. 2 is an end elevation of the improved carrier,

Fig. 3 is a view similar to Fig. 1 and illustrating, partly in section, the parts in the positions they will assume when a pair of such trays are in nested relationship,

Fig. 4 is a transverse sectional view through the improved carrier and illustrating the manner in which the stabilizing bracket engages the bottles,

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Fig. 5 is a top plan view, handle removed, of the carrier filled with bottles and showing the association of the stabilizer bracket therewith,

Fig. 6 is a view similar to Fig. 5 and illustrating a modified form of stabilizer means, and

Fig. 7 is a transverse sectional view taken through the carrier of Fig. 6 and showing the stabilizer brackets in lowered or inoperative positions.

The bottle carrier of the present invention is of the type which involves generally a tray, including a bottom, ends and sides, and a handle, the tray being usually of such size as to accommodate six, eight or possibly ten bottles in upright position and closely associated or fitted in upstanding position within the tray so as to be stabilized therein and readily conveyed by the handle attached to the tray. The tray here disclosed is for the accommodation of six bottles arranged closely together in parallel rows of three each, but it will be understood that the tray may be made to receive a greater or lesser number of bottles as requirements may demand. The tray may be constructed of any desired material and may be of any preferred size, the material here contemplated being of relatively thin and light metal.

The tray here disclosed is of such construction as to permit nesting or interfitting engagement with another tray of identical construction for economy of space in shipment or storage of the carriers. One form of carrier of interfitting character is here disclosed, but it will be understood that the inventive features hereinafter described are applicable to various forms of interfitting carrier trays, or the separators, locators or partitions hereinafter detailed may be associated with trays of non-interfitting or telescoping character.

The carrier here disclosed includes a tray having a flat bottom **15** having upstanding lower wall portions **16** at its ends to provide end walls, preferably at right angles to said bottom. Surmounting the end walls **16** are upper wall portions **17**, an abrupt outwardly extending shoulder **18** resulting at the juncture of the lower with the upper wall portions at each end of the tray. This shoulder is in breadth approximately the thickness of the end wall element. The upper and lower end walls are thus disposed in parallel planes spaced apart a distance equal to the breadth of the shoulders **18**, the lower wall portions **16** being inset with respect to the upper portions **17**.

The sides of the tray comprise bands **19** ex-

tending throughout the length of the tray, and the ends of these bands are inwardly curved or bent as at 20 and are secured, such as by welding, within recesses in the side edges of the upper end portions 17 provided by insetting said edges as at 21. The side walls are spaced apart such distance as to accommodate between them the bottles in upstanding position, and it is preferred that the curvature at the ends of these bands be substantially in conformity with the size and shape or the contour of the bottle to be accommodated. The breadth as well as the length of the tray sides is slightly greater than the combined transverse and longitudinal diameters of the bottles to be accommodated within the carrier.

From this construction it is apparent that the trays may be interfitted or nested together, and when so nested the lower end wall portions 16 as well as the bottom 15 will be disposed within the next underlying tray of the stack. The distance the bottom elements of the trays clear or are spaced from the bottom of the next adjacent nested tray will be determined by the depth of the end wall portions 16.

The means for locating or positioning and holding the bottles within the tray when the latter is used as a carrier, includes a bracket indicated generally at 22. This bracket may be made of light, inexpensive strip material, the body of which is coextensive with the interior of the tray longitudinally. This bracket portion is so formed as to provide pockets in series on each of its sides corresponding in number to the number of bottles to be accommodated within the carrier. These pockets conform to the size and shape of side portions of the bottles to be carried, and are formed by providing partition or locator portions 23 projecting outwardly from the bracket body longitudinally of the tray and in the direction of the sides thereof. The ends of the bracket body 22 are provided with arms 24, the ends of which are pivoted as at 25 to the inner faces of the upper end wall portions 17 of the tray in the longitudinal center of the latter. The location of these pivots and the lengths of the arms 24 will be such that when the bracket is swung to upper or operative position, the locator or partition elements 23 will engage and conform to the shape of the bottle size and maintain the bottles in sufficiently firm engagement with the sides of the tray as to stabilize the bottles, to hold them firmly in position and entirely out of contact with one another.. The location of the pivots and the length of the arms will also determine the distance which the bracket body per se will assume when swung to lowermost or inoperative position. It is sufficient to say that the arm lengths and pivot locations will be such that when swung to lowermost or inoperative position, the bracket will lie sufficiently close to the bottom of the tray as to be out of the path of interfitting parts of the next adjacent or nesting tray.

In some instances, bottles of irregular shape or contour are to be accommodated in trays of this general character, and in such instances it will be understood that the bracket will be so constructed and arranged as to conform to such irregularities and to engage the bottles at such points as to insure against the bottles coming into bodily contact with one another as well as to insure stabilization of the bottles within the carrier.

To maintain the bracket in either upstanding

(operative) or lowered (nesting) positions, stops 26 are provided. These stops may comprise inwardly projecting bosses as shown, positioned upon the tray ends so that the arms 24 may be engaged by the bosses to hold the arms in either position, at the same time permitting the arms to yieldably snap over the bosses in moving from one position to the other. It will be understood that with a little pressure applied, the arms may be swung readily past the stops, yet the latter grip the arms sufficiently tight to hold them normally in either upper or lower positions.

The tray of the type here shown is equipped with a handle 27 which includes the arms or bails 28 pivoted as at 29 to upstanding portions 30 at the tray ends. These pivots will be located in the longitudinal center of the tray in order to insure proper balance. To permit of nesting so as to accommodate these pivots, the ends of the tray are provided with inward depressions 31 of sufficient breadth and length to permit of interfitting engagement of these parts, the lower part of the depressed portion 31 being cut away or slotted as at 31' in order that the heads of the pivot members 29 upon the inner faces of the end portions may be accommodated in the interfitting relationship.

In the modification disclosed by Figures 6 and 7 the partitions or locators take a slightly different form. In this phase of the invention a pair of brackets 32 are employed. Each bracket is shaped so as to provide partition or locator elements 33 to conform partly to the shape and size of a bottle side, while the ends 34 of the brackets are pivoted as at 35 in spaced apart relationship to the end walls of the tray and in horizontal alignment. This arrangement provides individual locators for the rows of bottles at each side of the carrier, and is designed primarily for use in connection with bottles having straight or regular sides. The arms at the ends of these locator members or brackets and the position of the pivots 35 will be such that when the brackets are swung to upper (operative) positions, they will conform to and engage the sides of the bottles and hold them in close engagement with the tray sides, yet at the same time out of contact or engagement with one another. These dimensions and pivot locations will also determine the distance to which the body portions of the brackets will move when swung to lowermost (nesting) position for interfitting engagement with another tray of identical construction. It will be understood that when in lowered position the brackets will be out of the path of the bottom of an interfitting or nesting tray.

From the foregoing it will be readily apparent that bottle trays so constructed may be filled with bottles, either filled or empty, with the assurance that they will be held firmly or stabilized in the tray and entirely out of contact with one another so as to insure against breakage or chipping during the carrying operation. The precise arrangement of the separator brackets in both forms of the invention is such that when swung to the inoperative position interfitting or nesting engagement of the trays one within another may be carried without interference by the bracket elements.

While the foregoing is a description of what appears to be the preferred embodiments of the invention, it will be understood that changes in the form, construction and arrangement of parts may be resorted to without departing from the spirit of the invention as defined by the claims.

It is moreover apparent that the inventive idea may be equally as successfully practiced in connection with trays not of the interfitting or nesting type.

Having thus explained the nature of the invention and described an operative manner of constructing and using the same, although without attempting to set forth all of the forms in which it may be made, or all of the forms of its use, what is claimed is:

1. A carrier comprising a tray including a bottom and end walls so constructed as to permit interfitting and nesting engagement with another tray of identical construction, brackets secured within said trays to engage and hold articles stabilized therein and against engagement with one another, and said brackets movable within their respective trays to positions out of the path of interfitting portions of another tray when the trays are in nested relationship.

2. A carrier comprising a tray including a bottom and end walls so constructed as to permit interfitting and nesting engagement with another tray of identical size and construction, a bracket secured within each tray adapted normally to engage and hold articles stabilized therein and against engagement with one another, and said brackets movable within their respective trays to positions out of the path of interfitting portions of another tray when the trays are in nested relationship.

3. A carrier comprising a tray including a bottom and end walls so constructed as to permit nesting engagement within another tray of identical construction, brackets carried by and arranged within said trays adapted when in raised position to engage and hold articles stabilized therein and against engagement with one another, and said brackets when in lowered position disposed out of the path of interfitting portions of another tray of identical construction when the trays are in nested relationship.

4. A carrier comprising a tray including a bottom and end walls so constructed as to permit nesting engagement with another tray of identical construction, brackets pivoted within said trays adapted when in operative position to engage and hold articles stabilized therein and against engagement with one another, and said brackets adapted to be swung out of the path of interfitting portions of another tray of identical construction when the trays are in nested relationship.

5. A carrier comprising a tray including a bottom and end walls so constructed as to permit nesting engagement with another tray of identical construction, brackets secured within said trays movable to operative or inoperative positions, said brackets when in operative position being engageable with articles within their respective trays to hold said articles stabilized therein and out of contact with one another, and when in inoperative position out of the path of interfitting portions of other identically constructed trays to permit nesting of the same.

6. A carrier comprising a tray including a bottom and end walls so constructed as to permit nesting engagement with another tray of identical construction, a bracket within and substantially coextensive, with the length of the tray, arms on the ends of said bracket, means pivotally connecting said arms to the end walls of said tray, said arms of such length as to enable the bracket to engage and hold articles stabilized in the tray and out of contact with one another when the bracket is in one position, and to swing to another position within the tray and out of the path of interfitting parts of another tray to permit nesting of the trays.

7. A carrier comprising a tray including a bottom and end walls so constructed as to permit nesting engagement with another tray of identical construction, a bracket within each tray disposed longitudinally thereof, article engaging portions on said bracket, arms forming a part of said bracket at the ends of the latter and disposed at substantially right angles therewith, pivot members connecting the ends of said arms with the ends of said tray, said pivots so located as to position said portions in engagement with articles within the tray when in one position and when in another position to position said portions out of the path of interfitting parts of another tray to permit nesting relationship.

8. A carrier comprising a tray including a bottom and end walls so constructed as to permit nesting engagement with another tray of identical construction, a bracket within each tray disposed longitudinally thereof, article engaging portions on said bracket, arms forming a part of said bracket at the ends of the latter and disposed at substantially right angles therewith, pivot members connecting the ends of said arms with the ends of said tray in the median line thereof, said pivots so located as to position said portions in engagement with articles within the tray when in one position and when in another position to position said portions out of the path of interfitting parts of another tray to permit nesting relationship, and locking means on said tray ends to hold said arms in either of said positions.

9. A carrier comprising a tray having upper and lower portions, the lower portions offset inwardly of the upper portions, handle attaching elements projecting inwardly from the inner faces of the upper portion, inward depressions in portions of said lower and upper end portions disposed in alignment with said handle attaching elements, a bracket within said tray, partition elements arranged in spaced relation upon said bracket, arms at the ends of said bracket disposed at substantially right angles to the latter, and pivots connecting the ends of said arms to said inward depressions within said tray.

10. A carrier comprising a tray having upper and lower end portions, the lower portions offset inwardly of the upper portions, handle attaching elements projecting inwardly from the inner faces of the upper portions, said lower end portions and parts of said upper end portions having inward depressions aligned with said handle attaching elements, a bracket disposed within and longitudinally of said tray and in the median line thereof, partition elements projecting laterally from said bracket, arms at the ends of said bracket disposed at substantially right angles to the latter, pivot members connecting the ends of said arms to said inward depressions, and stop members arranged in spaced relation to each other within said tray in said depressions.

11. A carrier comprising a tray having upper and lower end portions, the lower portions offset inwardly of the upper portions, handle attaching elements projecting inwardly from the inner faces of the upper portions, said upper and lower end wall portions having inwardly depressed channel members aligned with said handle attaching elements, a pair of brackets disposed in spaced substantially parallel relationship within said tray and longitudinally thereof, said brack-

ets having spaced partition elements, arms at the ends of said bracket members disposed at substantially right angles to the latter, pivot members connecting the ends of said arms to the upper portions of the end members of said tray, said bracket members so constructed and arranged as to lie in substantial parallelism in article gripping engagement when in one position and to be swung to close proximity to the bottom of said tray when in another position.

12. A carrier comprising a tray including a bottom, side and end walls, a bracket disposed longitudinally within said tray, partition elements arranged in spaced relation upon said bracket, arms at the ends of said bracket element disposed at substantially right angles to the latter, pivot members connecting the ends of said arms to the ends of said tray in substantially the median line of the latter, and a handle including bails, said bails pivotally connected at their ends to the

upper portions of said end members in the median line of said tray.

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