April 2, 1946. A. WESSELMAN 2,397,898

HANDLE STRUCTURE FOR BOTTLE CARRIERS

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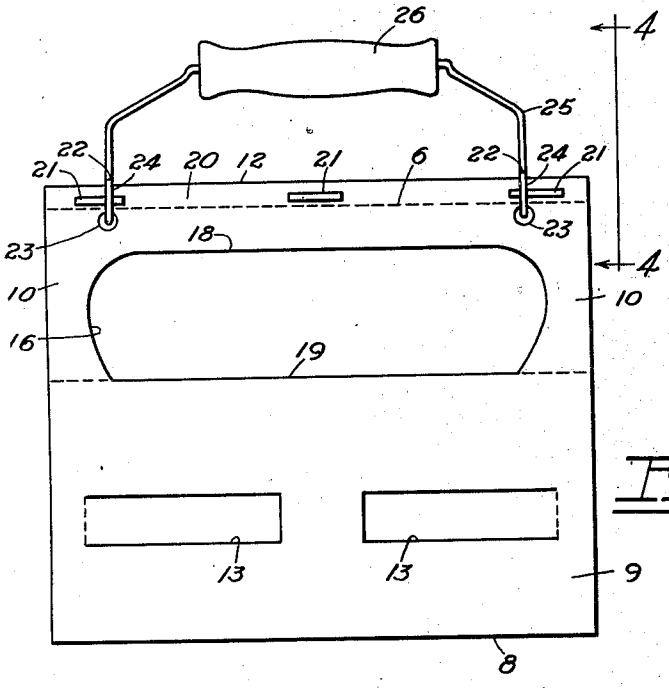


Fig. 1.

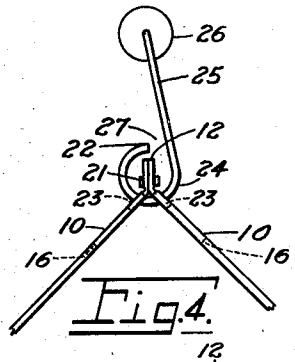


Fig. 4.

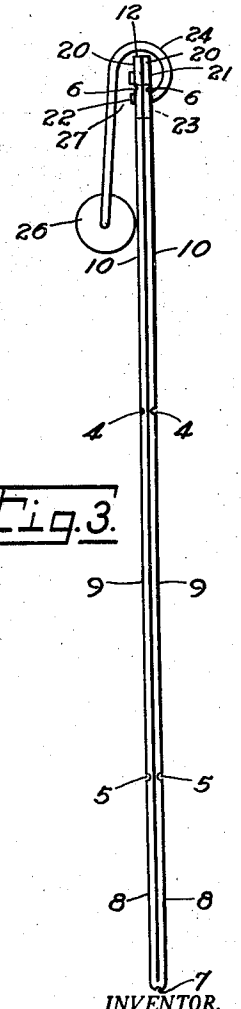


Fig. 3.

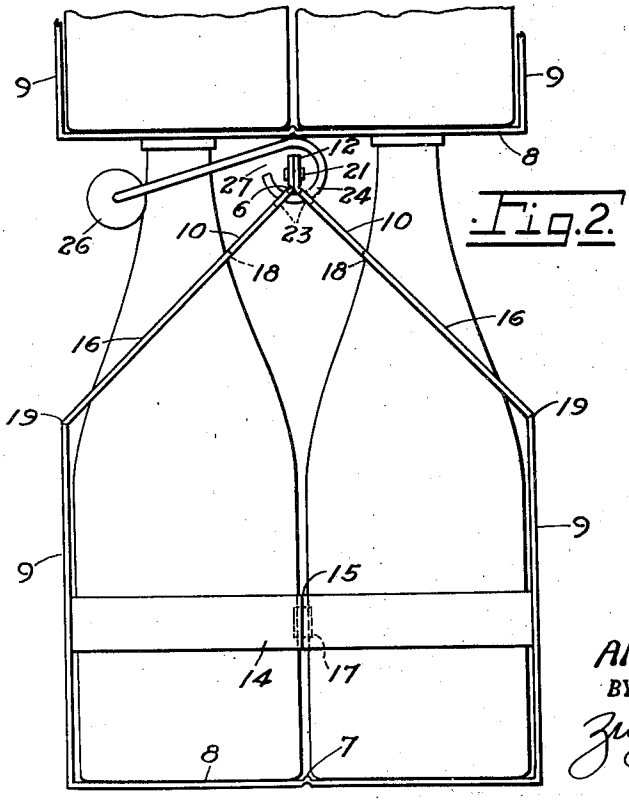


Fig. 2.

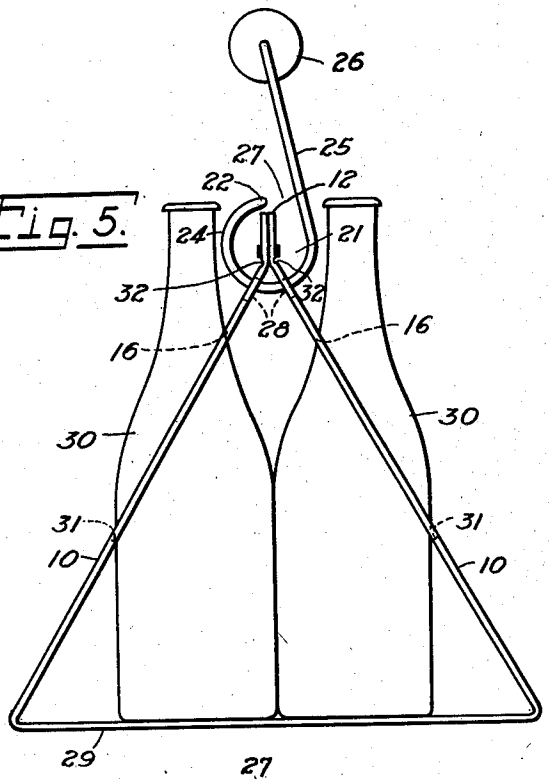
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Fig. 5.



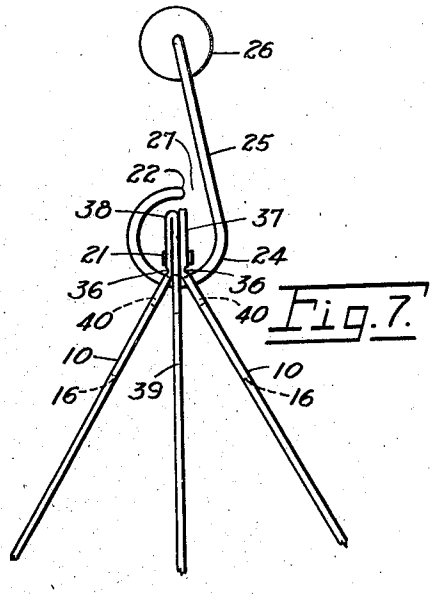


Fig. 7.

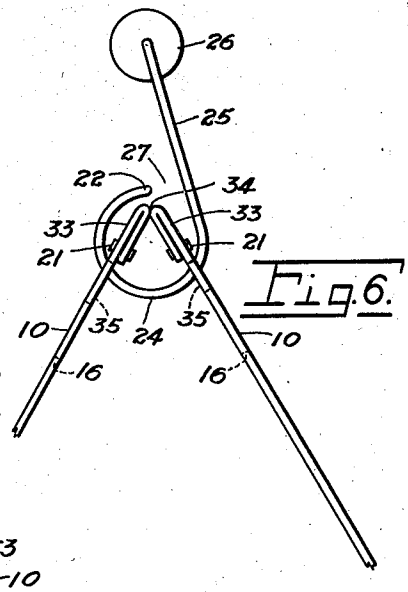


Fig. 6.

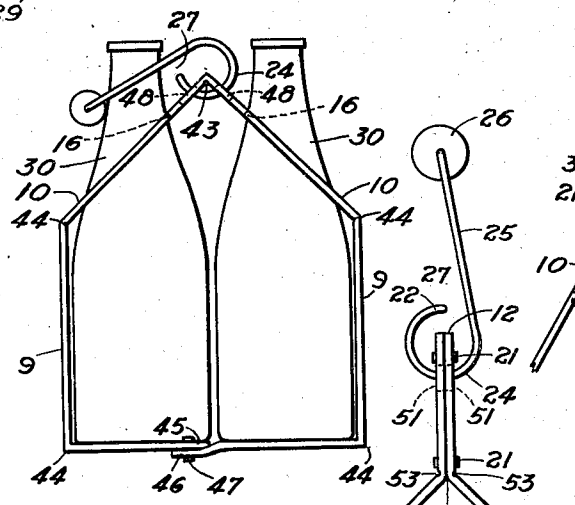


Fig. 8.

Fig. 9.

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Patented Apr. 2, 1946 2,397,898

UNITED STATES PATENT OFFICE

2,397,898

HANDLE STRUCTURE FOR BOTTLE CARRIERS

Albert Wesselman, Cincinnati, Ohio

Application January 21, 1944, Serial No. 519,163

1 Claim. (Cl. 229—52)

The present invention relates to an improvement in a handle structure for bottle carriers of the general character disclosed in my copending patent application, Serial No. 210,212 filed May 26, 1938, and in my issued Patent No. 2,276,129 granted on March 10, 1942.

The invention has as its objects, to provide a strong and durable handle means for bottle carriers of the general character herein disclosed; to facilitate the application of a wire handle to a gable type of bottle carrier; to preclude accidental disassociation of a simple wire handle from the carrier when the carrier is filled or set up for use; to provide for displacement of the handle to an inoperative position, without detachment thereof from the carrier, in the event that carriers in filled condition are to be vertically stacked for shipment or storage; and to simplify and reduce the cost of furnishing such carriers with acceptable handle means.

The foregoing and other objects are attained by the means described herein and disclosed in the accompanying drawings, in which:

Fig. 1 is a side elevational view of a pentagonal bottle carrier incorporating the invention, the carrier being distended as when filled with bottles.

Fig. 2 is an end view of the same, including bottles.

Fig. 3 is an end view of the carrier shown in Fig. 1, but collapsed to flat or knocked-down condition.

Fig. 4 is a fragmental end view taken on line 4—4 of Fig. 1.

Fig. 5 is an end view of a triangular bottle carrier incorporating the present invention.

Fig. 6 is a fragmental end view of a triangular or pentagonal bottle carrier, showing a modification of the invention.

Fig. 7 is a view similar to Fig. 6, showing a further modification.

Fig. 8 is an end view of a pentagonal bottle carrier, showing an additional modification which is applicable also to a triangular form of carrier similarly constructed.

Fig. 9 is a fragmental end view of a triangular or pentagonal bottle carrier, showing a modification wherein the handle is applied above the apex of the carrier.

The bottle carrier as disclosed by Figs. 1 to 4, is constructed preferably of a single sheet of cardboard or like material, scored at the various locations 4—4, 5—5, 6—6 and 7, to divide the sheet into a series of panels which form the bottom 8, side walls 9, gable portions 10, and an upper reinforcing ridge portion of the gable structure, as indicated at 12. The side walls may be punched out as indicated at 13 to provide end straps 14 as shown in my previously issued Patent No. 2,276,129. The punched out portions of the side walls are joined at the locations 15, by means of clamps 17, to render the end straps continuous across the open end portions of the carrier.

The opposed gable portions 10 of the carrier may be punched or cut to provide openings 16 at opposite sides of the carrier, said openings being adapted to receive bottles which rest upon the base or bottom wall 8 of the carrier.

In the flat or collapsed condition of the carrier, (Fig. 3), the displaceable parts, such as the straps 14, are disposed in coplanar relationship with the flatly contacting panel portions that constitute the collapsed carrier illustrated by Fig. 3.

Attention is now directed to the score lines indicated at 6, which determine the mutiple-thickness ridge portion 12 of the gable structure. This ridge portion is constituted of the opposed flatly contacting upper margins of the opposed panels that form the gable, and the vertical ridge-like nature thereof is to be maintained by permanently joining the portions 20 thereof in flatwise condition. The joint referred to may be effected in any suitable manner, as by means of an adhesive, or with the use of staples or clamps indicated by the characters 21. The staples or clamps are provided in such numbers as may be necessary to maintain the ridge desired above the apex of the gable.

Beneath the endmost staples or clamps, and within the material forming the gable portion of the carrier, are formed the pairs of apertures 23. These apertures are provided for the purpose of accommodating the suspending eyes 24 of a wire handle or bail indicated generally by the character 25. The hand grasp portion of the handle is indicated at 26.

It should be noted that the throat portion 27 of each handle suspending eye is of a width approximating the double thickness width of the carrier when collapsed to the Fig. 3 condition. With the carrier so collapsed, the terminal end 22 of each eye may readily be inserted into an aperture 23, as suggested by Fig. 3, by disposing the handle 25 in substantial contact with the sides of the collapsed carrier, and then rotating the handle to an upstanding position as the terminal ends of the eyes enter the apertures 23. It will therefore be appreciated that in the collapsed condition of the carrier, the handle may

readily be applied to the upper end portion of the carrier, to complete the package.

Although as above explained, the handle is readily attached to the carrier when the latter is collapsed, said handle becomes a fixture or definite part of the carrier or package in the extended or use condition thereof, as shown in Figs. 1 to 4.

Reference to Figs. 2 and 4 renders apparent the fact that angular disposition of the gable portions 10 so separates the apertures of the opposed panels 10 as to increase the effective thickness at the apertures and thereby preclude disassociating the handle from the carrier. In effect, therefore, distention of the carrier to the use position automatically results in an interlocking of the handle eyes within the eye receptive apertures 23. When the carrier is in the Fig. 4 condition of usage, the handle may be swung arcuately to either side of the center line of the carrier, without resulting in detachment of the handle. Thus, when it is considered desirable or necessary to vertically stack a series of filled carriers, the handle may be swung downwardly and out of obstructing relationship, without liability of the handle becoming detached from the carrier.

By locating the handle receptive apertures 23 in the gable portions of the carrier, at locations directly beneath the endmost staples or clamps, the stiffening or reinforcing tendency of the clamps or staples is utilized to prevent tearing of the carrier material in the region of the apertures. The construction accordingly provides a strong and durable handle means for the carrier.

Attention is directed also to the highly simplified nature of the handle itself, and the facility with which the carrier may be adapted for connection with the eye portions of the handle. In practice, the carrier of Fig. 1, is adapted for application of a wire handle by the mere punching out of apertures 23, preferably at locations immediately beneath the score line 6, and within the limits of the opposed gable portions or panels 10. As previously stated, the apertures preferably, though not necessarily, are formed directly beneath a staple or clamp, as shown.

The various modifications presented by Figs. 5, 6, 7, and 8, are applicable to the pentagonal form of carrier above described, as well as to the triangular form illustrated by Fig. 4. In the carrier of Fig. 5 are present the opposed gable portions 10, which converge upwardly from the side edges of the base 29. The bottles 30 rest upon base 29 and extend upwardly through the apertures 31 formed in the gable portions, substantially as was explained in the description of Fig. 1. In other words, the openings indicated at 31 of Fig. 4 correspond to the openings 16 of Figs. 1 and 2, and are in each instance located within the gable portions of the carrier.

Referring further to Fig. 5, it may be noted that the opposed eyes of the handle enter pairs of apertures 28—28 at opposite end portions of the carrier, said apertures being located beneath the staples or clamps 21 and the scores 32 which define the lower limit of ridge portion 12. The ridge portion 12 in Fig. 5 is constituted of two thicknesses of material, there being a single thickness at the upper edge of each gable panel. Clamps 21 extend through the material as shown, thereby to establish a substantial and durable ridge portion above the apex of the gable panels. The throat 27 of the handle eye approximates the combined thickness of the sheets of material that form the ridge portion 12, wherefore, upon disposing the upper portions of the gable panels 10 to substantial parallelism, the handle eyes may be readily threaded into the apertures 28, with the result of effecting instantaneous attachment of the handle to the carrier.

Although the handle thusly may be easily associated with the carrier, it should be noted that in the distended or use condition of the carrier illustrated by Fig. 5, the handle may not be swung in counterclockwise direction sufficiently to disengage the handle eyes from the handle receiving apertures 28. Accordingly, it must be evident that the handle cannot be accidentally or inadvertently disassociated from the carrier so long as the carrier is in the distended or use condition. Carriers so distended and filled with bottles, therefore, may be stacked vertically one upon another, after disposition of the handle to an inoperative position, without liability of the handle becoming detached from the carrier. This is readily evident from the disclosure of Fig. 2, wherein two filled carriers are shown in vertically stacked relationship.

Substantially the same arrangement as above described, is illustrated by the modification exemplified in Fig. 6, the distinction being that in Fig. 6 the double-thickness upper margins 33 of the gable panels are not joined together to form a rigid ridge portion. The upper portions 33 referred to are merely in physical contact at the location 34. The panels 10—10 of Fig. 6 may be squeezed together to substantial parallelism, as explained in the description of Fig. 4, to permit application of the handle thereto. In the distended or use condition of the Fig. 6 carrier arrangement, however, the handle may not be swung sufficiently in counterclockwise direction to disengage it from the carrier. In other words, the hand grasp 26 will strike the gable portion 10, or the bottle necks, before the eye can leave the handle receiving apertures 35—35. The characters 21 indicates staples or clamps located, by preference, directly above the apertures 35 of the gable panels.

The Fig. 7 modification shows gable panels 10 scored at the locations 36—36, with a clamp or staple 21 extending through a single upper ridge element 37 and the double upper ridge element 38, this latter ridge element having a downwardly turned panel 39 that may serve as a partition preventing contact of bottles at opposite sides of the carrier. Partition 39 may be integral with one of the gable panels 10 as shown, or it may be a separate piece or sheet of material held in place by clamps or staples such as 21. The clamps or staples 21 of Fig. 7 are preferably located above the handle receiving apertures 40—40 and the adjacent scores 36—36.

The handle of the Fig. 7 structure is to be associated with the apertures of the gable panels, in accordance with the explanation concerning Figs. 1–4. In this modification, however, the throat 27 of the handle eye will be of a dimension capable of accommodating the triple thickness of material constituting the reinforcing ridge portion located above the scores 36. It is to be understood that Fig. 7 represents the upper portion of either the pentagonal or triangular type of carrier, and that bottles will extend through the large openings 16 formed in the gable panels 10, as shown and described in connection with Figs. 2 and 5. In the distended and filled condition of the Fig. 7 carrier, therefore, the handle may be disposed to the inoperative position of Figs. 2 or 8, thereby permitting vertical stacking of the completed

packages, without liability of the handle becoming accidentally disassociated from the package or carrier.

The foregoing remarks apply also to Fig. 6, wherein the handle there shown will be swung over and onto the bottle necks in the inoperative position of the handle, to permit vertitcal stacking of carriers of the Fig. 6 type. In this instance, as in all other instances, the tops of the bottles will normally reach an elevation at least as high as the apex of the gable portion, and may preferably assume a slightly higher elevation in order that the bottom of a superposed carrier will not rest upon the eye portion of the handle.

Attention is now directed to Fig. 8 showing a carrier filled with bottles 30, and distinguished from the carrier of Figs. 1 to 4 by reason of the absence of a reinforcing ridge element above the apex of the carrier sides. In this modification, the carrier may be of one piece construction, scored at the apex as indicated by the character 43, as well as at the several other locations 44. To complete the box-like construction of the Fig. 8 carrier, the ends 45 and 46 of the sheet may be joined at any suitable location, preferably at the carrier bottom. Fig. 8 shows a conventional mode of effecting a connection at the carrier bottom, where staples or other fasteners 47 constitute the connecting means. In practice, the connection may be effected in various ways, such as by means of an adhesive, or by means of interlocking flaps of the general character illustrated in my aforesaid issued Patent No. 2,276,129.

Referring further to Fig. 8, the characters 16 indicate the bottle receiving apertures of the gable portions 10, and the handle receiving apertures are indicated at 48—48. These apertures are spaced equally from the apex at 43, and will therefore register with one another when the carrier is flattened to the Fig. 3 condition. In the flattened or collapsed condition of the carrier, the eye portion of the handle may quickly and easily be associated with the carrier in precisely the manner illustrated and explained in connection with Fig. 3. As is readily evident from the disclosure of Fig. 8, the carrier in the set up or use condition may be vertically stacked without interference from the carrying handle. It is evident also, that the handle may not be swung sufficiently in the counterclockwise direction to result in accidental or unintentional disassociation of the handle from the carrier. The throat of the eye portion, indicated at 27, approximates in width the combined thickness of material forming the gable when the carrier is flattened or collapsed. In the extended or use condition of the carrier, the effective thickness of the gable portion is so increased as to prevent unthreading of the handle loop or eye from the apertures 48.

It is to be distinctly understood that the carrier illustrated by Fig. 8 may be rendered triangular in form, by merely reducing the height of the carrier sides 9 to such an extent as will approach or assume the triangular formation illustrated by Fig. 5. It will be evident, therefore, that the handle structure of Fig. 8 is applicable not only to the pentagonal type of carrier, but to the triangular type as well.

In conclusion, it may be noted that application of the handle to the collapsed carrier serves to complete the carrier, which in distended condition constitutes a complete carryable merchandising package. Once the handle is applied, it will remain connected to the body of the carrier until such time as all bottles are removed therefrom in the deliberate effort to collapse the carrier and remove the handle. Application of the handle is completed and rendered secure, by the quick and simple act of hooking the eyes through the receiving apertures, and then inserting the bottles. There is no need to close the handle eyes, or to otherwise perform an added operation to ensure against accidental or unintentional detachment of the handle. The handle cannot be detached or lost so long as the carrier is distended or in use, and to that extent the handle may be considered a permanent part of the package.

In certain instances, as in the Fig. 8 modification, the size of the handle eyes may be somewhat reduced because of the absence of a reinforcing ridge along the top of the gable or apex. In other words, the size of the eyes will depend upon the size and nature of the reinforcement means, or ridge element, extending above the apex. This factor may be determined also by the space occurring between the centers of the apertures, and the extreme top edge of the carrier proper. In every case, the handle eye will encompass all of the carrier structure that extends above the handle receiving apertures. If desired, the gable portion above the handle apertures 48 of Fig. 8, may be reinforced in any suitable manner, although in practice the material of the carrier body may be of such strength and toughness as to require no reinforcement. When reinforcing is applied, it should be placed as close as possible to the handle apertures.

Fig. 9 illustrates a modification applicable to either the triangular or pentagonal type of carrier, and distinguishing from the other drawing views principally in that the handle eye 24 is disposed at an elevation above the apex of the carrier side walls. The throat of the handle eye, indicated at 27, approximates in width the double thickness of the reinforcing ridge portion 12 of the carrier, so that when the side walls 10 are moved toward one another to substantial parallelism, the handle may be associated with the carrier in substantially the manner illustrated by Fig. 3.

However, when the side walls are distended as shown by Fig. 9, and particularly when bottles are inserted through the openings 50, the handle may not be swung sufficiently in counterclockwise direction to result in detachment thereof from the carrier. With the handle swung to approximately the position indicated by Fig. 8, the handle of Fig. 9 will not interfere with vertical stacking of carriers as hereinbefore explained.

The characters 51 indicate the handle receiving apertures of the Fig. 9 type of carrier, and it will be noted that these apertures are located above the apex 52. Clamps or staples 21 may be applied to the reinforcing ridge portion of the carrier, if desired. As illustrated by Fig. 9, said staples or clamps are shown immediately above the handle receiving apertures 51, as illustrated by Fig. 1, and immediately above the score lines 53 which determine the location of apex 52. It is to be understood that the clamps or staples may be located elsewhere than shown, and that the handle receiving apertures 51 may be formed at any desired elevation upon the reinforcing ridge member 12.

Although in the Fig. 9 modification the apertures 51—51 are not increasingly spaced apart by distension of the carrier side walls 10—10, the handle nevertheless will remain attached to the carrier when swung outwardly to a position such

as Fig. 8 illustrates, because of the fact that the distance from the upper edges of apertures 51 to the upper edge at 12, exceeds the width of the throat 27 of the handle eye. The throat, of course, must be sufficiently wide to accommodate the double thickness of the vertical ridge portion during application of the handle thereto.

What is claimed is:

A merchandising package comprising a collapsible body member having apertured bottle-receptive wall portions with upper edges in contacting relationship each formed with pairs of handle receiving perforations in spaced relationship, which wall portions are substantially flatly contacting in the collapsed condition of the body member, and divergent from an apex in the distended condition of the body member, the handle receiving perforations being located below said apex in the divergent wall portions, where the space between adjacent perforations increases as the wall portions are distended along the apex, and a rigid wire handle having a hand grasp portion and a pair of depending legs, said legs having terminal ends inserted in said perforations, said ends being in the form of permanent rigid circular loops of a diameter sufficient to clear the upper edges of the wall portions and with the termini thereof directed toward and spaced permanently from the legs a distance slightly greater than the combined thickness of the body member wall portions, the wire of the loops being of lesser diameter than the wall perforations for entry therein when the wall portions are flatly contacting, and the length of the legs being gauged to dispose the handle about the shoulders of bottles extending through the bottle-receptive apertures of the body member, with the hand grasp portion resting upon said shoulders exteriorly of the package.

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