

[54] CONTAINER CARRIER

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[21] Appl. No.: 153,843

Related U.S. Application Data

[63] Continuation of Ser. No. 850,869, Aug. 18, 1969, abandoned.

[52] U.S. Cl. ....206/65 E

[51] Int. Cl. ....B65d 71/00

[58] Field of Search ....206/65 R, 65 C, 65 E;  
220/102, 110, 115, 116, 118; 224/45, 55, 58;  
229/40, 87 R; 294/87, 87.2

[56]

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[57]

ABSTRACT

A carrier for a six pack of bottles stamped from a flat sheet or tubing of plastic so as to provide a first body section having socket means for receiving and gripping bodies of the bottles, a second body section having additional pockets or elements for engaging and retaining neck portions of the bottles, a plurality of strap elements integrally interconnecting the body sections, and integral handle means.

5 Claims, 30 Drawing Figures

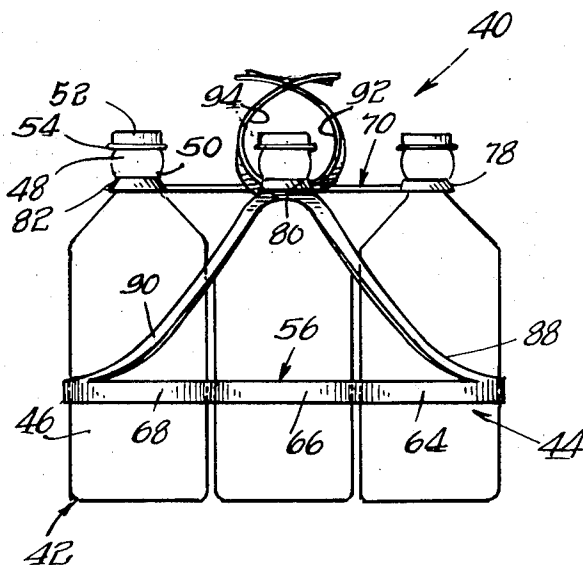


Fig. 1.

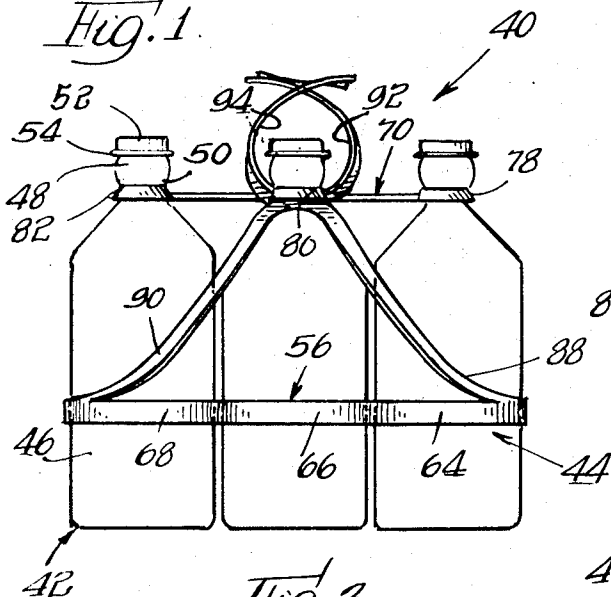


Fig. 2.

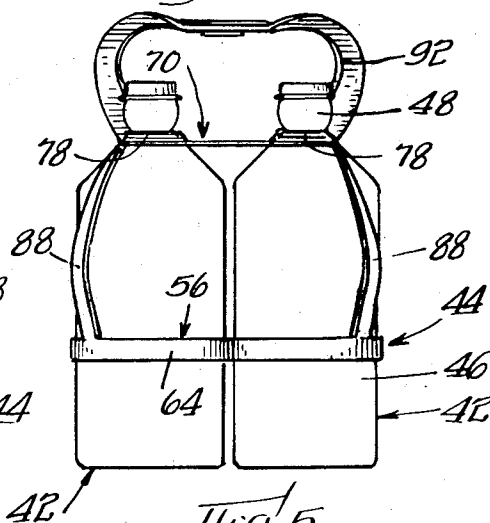


Fig. 3.

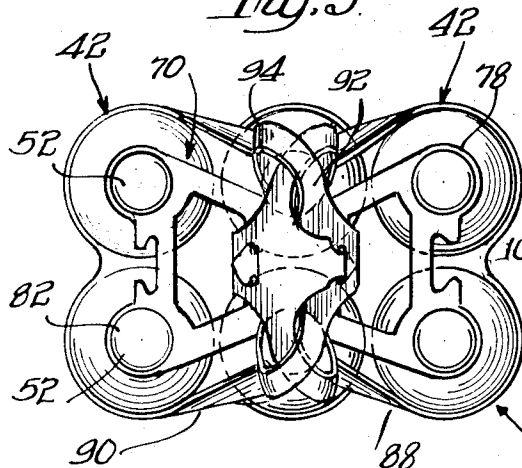


Fig. 5.

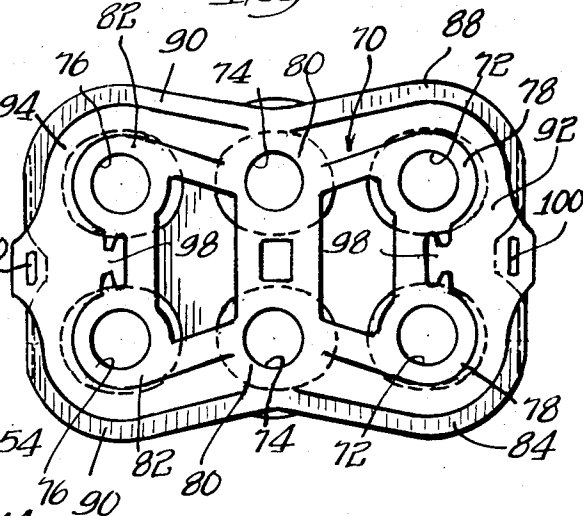


Fig. 4.

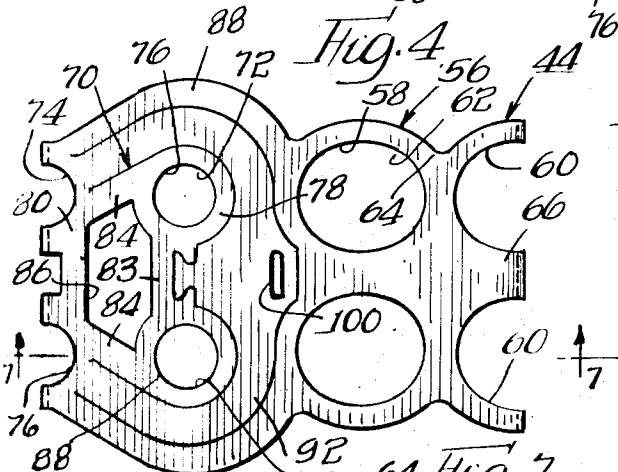


Fig. 6.

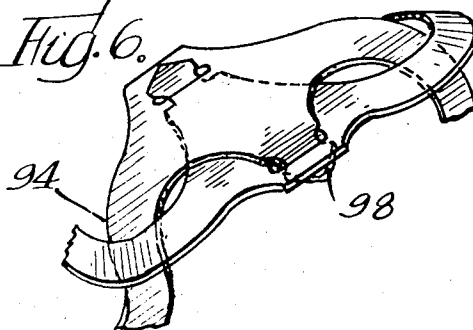
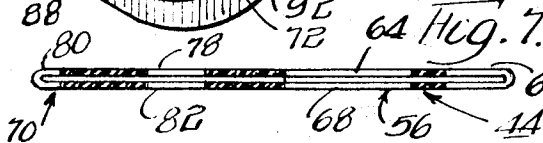


Fig. 7.

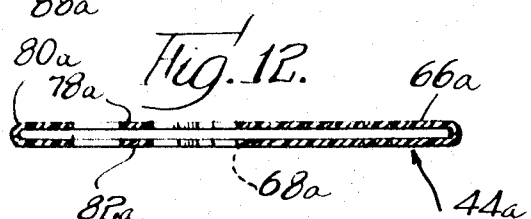
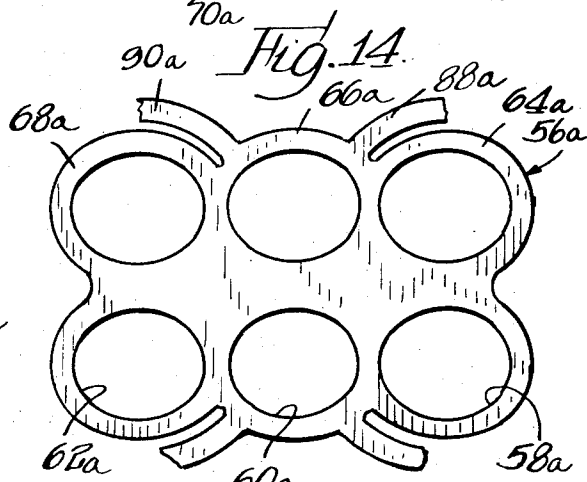
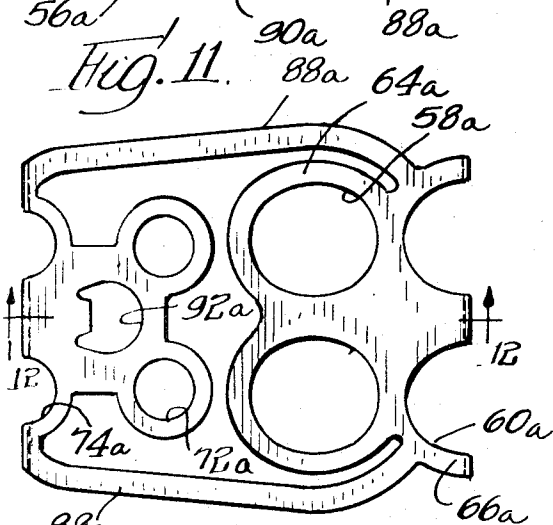
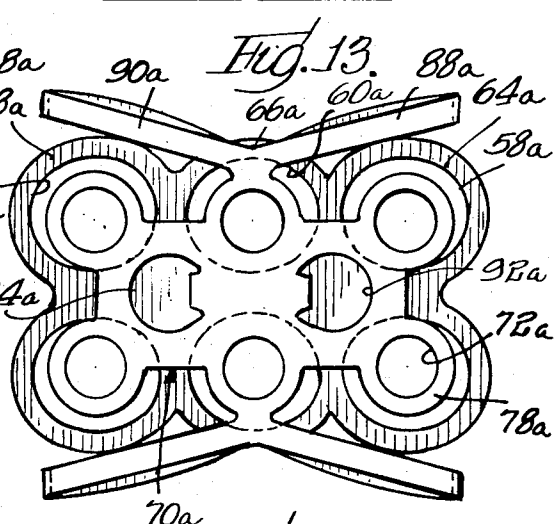
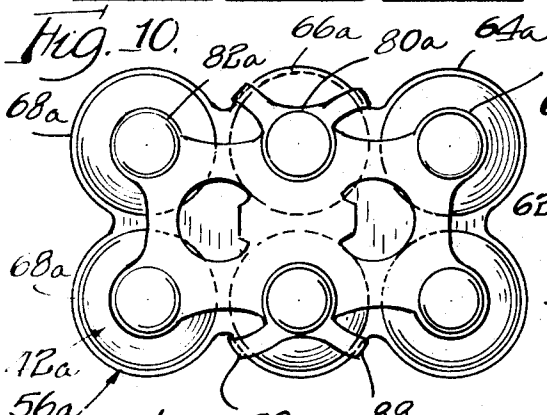
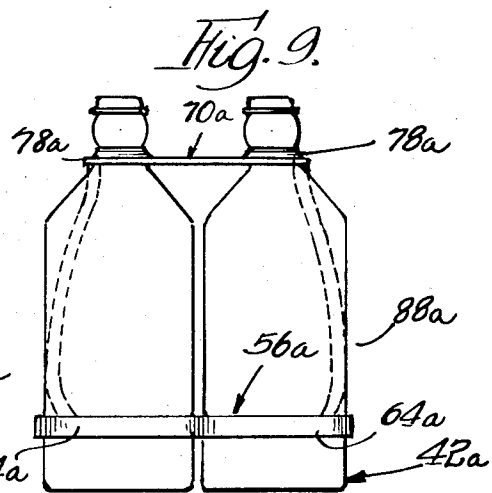
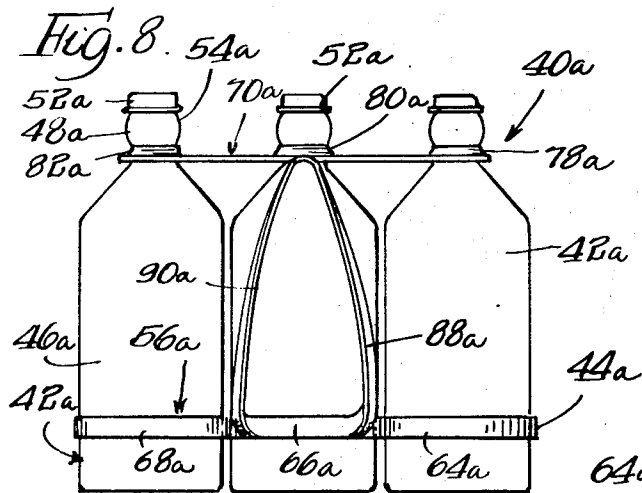


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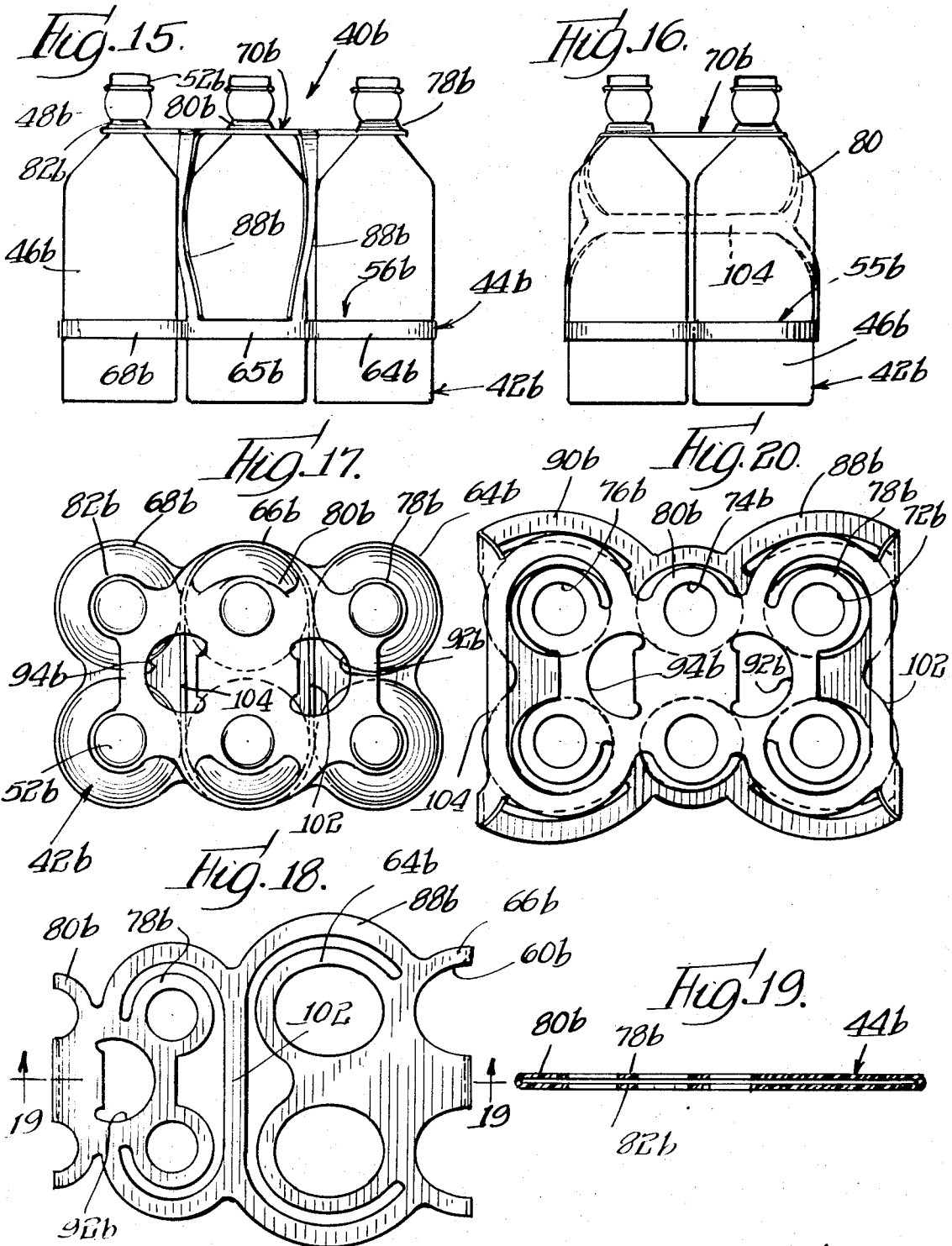
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FIG. 21.

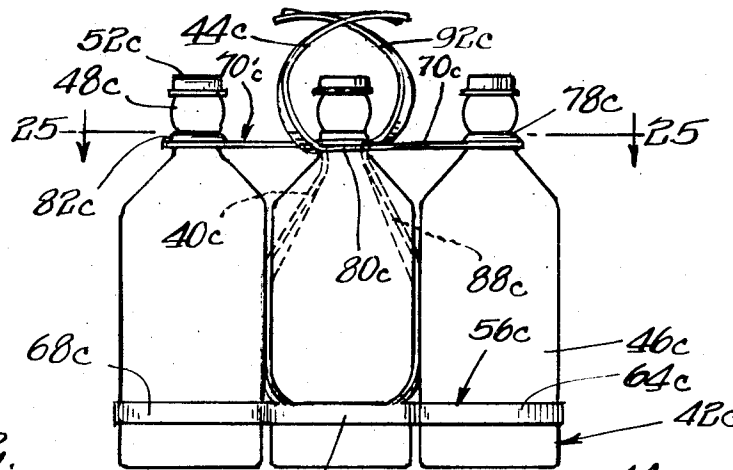


FIG. 22.

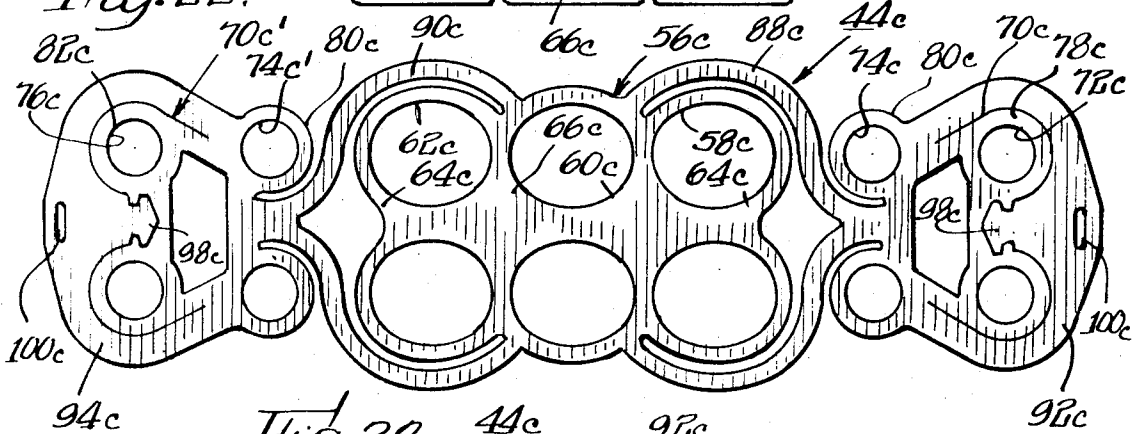


FIG. 23.

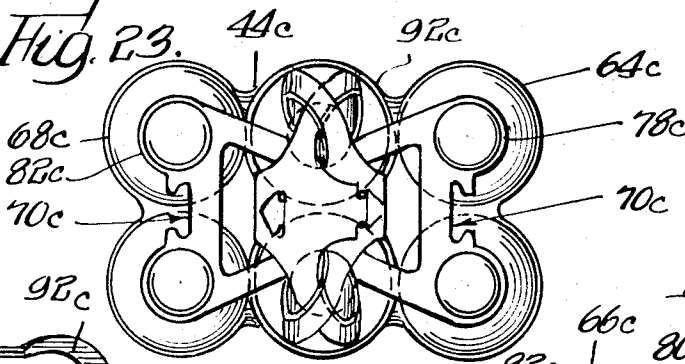


FIG. 24.

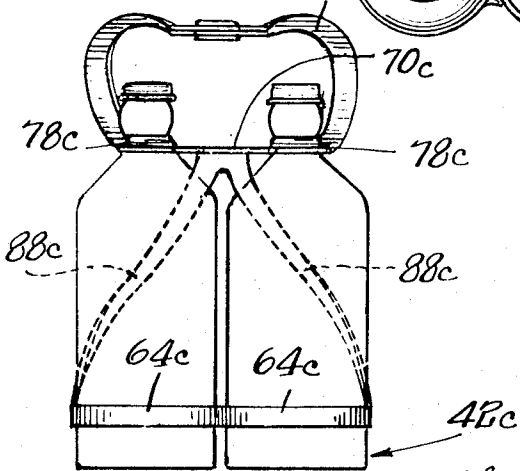
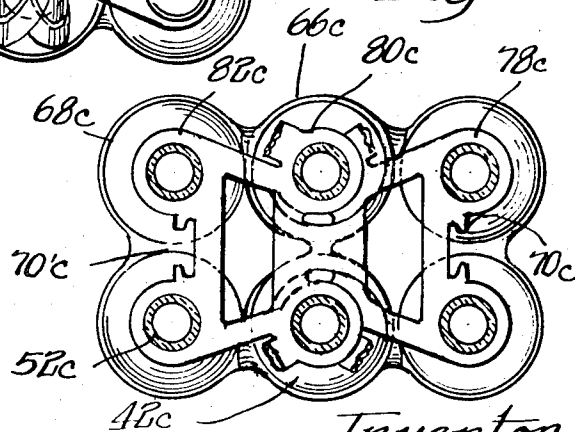
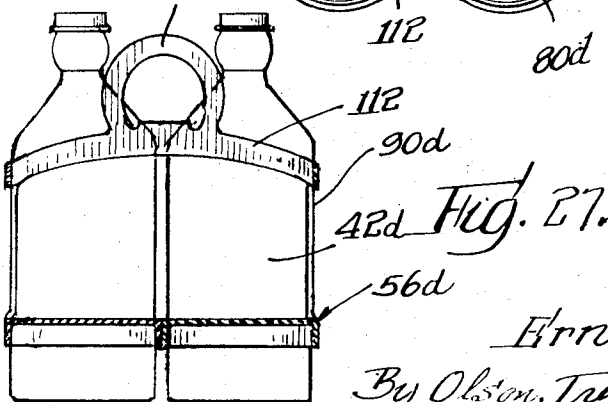
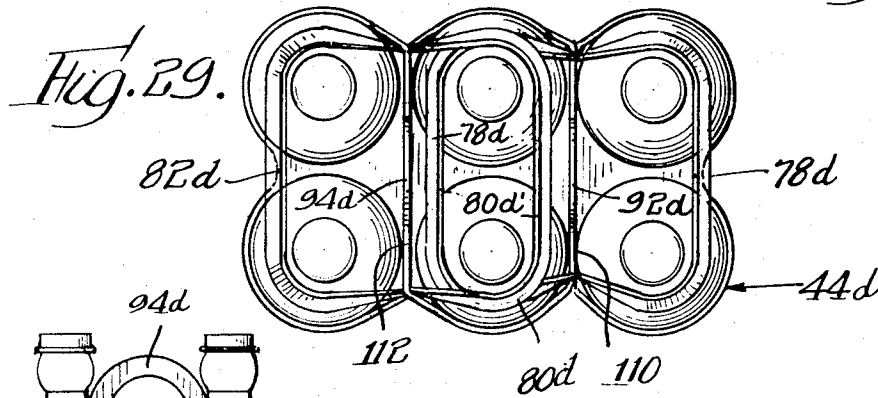
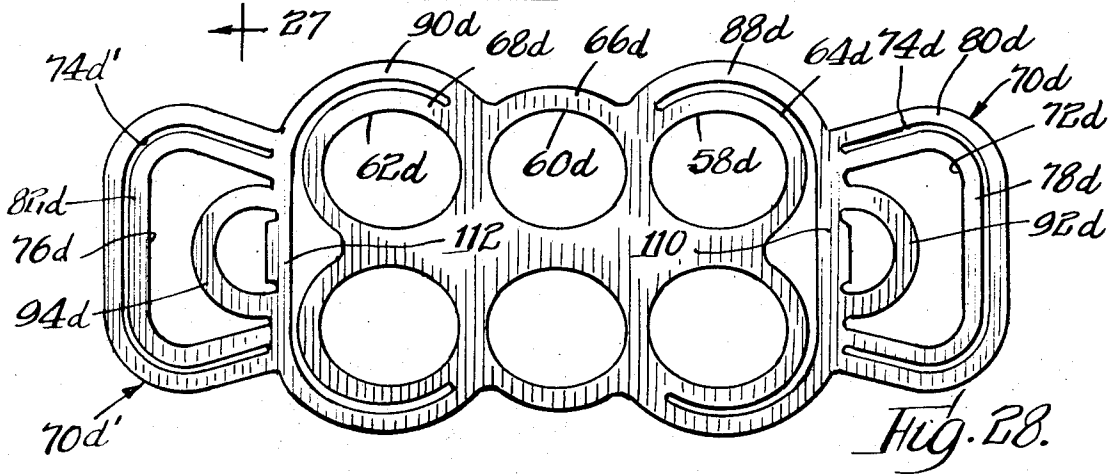
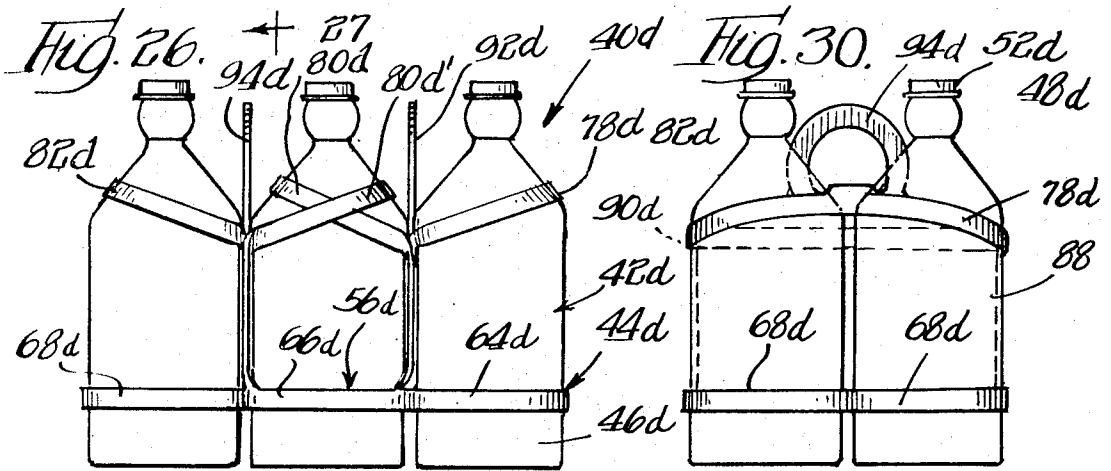


FIG. 25.



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## CONTAINER CARRIER

This application is a continuation of Ser. No. 850,869, filed Aug. 18, 1969, now abandoned.

The present invention relates to a novel container carrier, and more specifically to a novel carrier especially suitable for containers such as bottles having reduced diameter upper end or neck portions.

Extremely simple container carriers stamped from sheet material such as a tough resilient plastic have heretofore been successfully employed for packaging cans. However, when containers such as bottles having reduced diameter upper end or neck portions are to be packaged, problems are encountered. For example, if a simple sheet material container carrier is made with socket portions large enough to receive the bodies of the bottles, the bottles may slip through and fall out. On the other hand, if only the upper ends or neck portions of the bottles are engaged by a simple flexible sheet material carrier, the lower ends of the bottles are free to swing toward and away from each other so that the bottles are subject to injury or breakage.

It is an important object of the present invention to provide a novel carrier which may be easily and economically stamped from sheet material and which is capable of effectively and safely retaining a group of containers such as bottles in a package.

A more specific object of the present invention is to provide a novel one-piece sheet material carrier having integrally interconnected portions with socket means or elements respectively for engaging and retaining lower end portions of the individual containers or bottles and for engaging and retaining the upper end portions thereof.

Other objects and advantages will become apparent from the following description and the accompanying drawings wherein:

FIG. 1 is a side elevational view of a package including a carrier incorporating features of the present invention;

FIG. 2 is an end elevational view of the package shown in FIG. 1;

FIG. 3 is a plan view of the package shown in FIGS. 1 and 2;

FIG. 4 is a plan view of a blank stamped from a flattened tube of sheet material for providing the carrier of FIGS. 1 through 3;

FIG. 5 is a plan view of the blank shown in FIG. 4 folded into a condition for assembly with the containers;

FIG. 6 is a fragmentary perspective view showing a handle portion of the carrier of FIGS. 1 through 5;

FIG. 7 is an edge view of the blank shown in FIG. 4;

FIG. 8 is a side elevational view showing a package including a carrier incorporating a modified form of the present invention;

FIG. 9 is an end elevational view of the FIG. 8 package;

FIG. 10 is a plan view of the FIG. 8 package;

FIG. 11 is a plan view of a blank for the FIGS. 8-10 carrier as stamped from a flattened tube of sheet material;

FIG. 12 is an edge view of the FIG. 11 blank;

FIG. 13 is a plan view of the FIG. 11 blank manipulated into a condition for assembly with the containers;

FIG. 14 is a fragmentary plan view showing a lower portion of the carrier of FIGS. 8-13;

FIG. 15 is a side elevational view showing a package including a carrier incorporating a further modified form of the present invention;

FIG. 16 is an end elevational view of the FIG. 15 package;

FIG. 17 is a plan view of the FIG. 15 package;

FIG. 18 is a plan view of the FIG. 15 carrier blank stamped from a flattened tube of sheet material;

FIG. 19 is a sectional view taken along 19-19 in FIG. 18;

FIG. 20 is a plan view of the FIG. 18 blank manipulated into a condition for assembly with the containers of the package;

FIG. 21 is a side elevational view showing a package including a carrier incorporating still another modified form of the present invention;

FIG. 22 is a plan view of a FIG. 21 carrier blank stamped from a piece of flat sheet material;

FIG. 23 is a plan view of the FIG. 21 package;

FIG. 24 is an end view of the FIG. 21 package;

FIG. 25 is a partial sectional view taken generally along line 25-25 in FIG. 21;

FIG. 26 is a side elevational view of a package including a carrier constructed in accordance with still another modified form of the present invention;

FIG. 27 is a sectional view taken generally along line 27-27 in FIG. 26;

FIG. 28 is a plan view of a FIG. 26 carrier blank stamped from a piece of flat sheet material;

FIG. 29 is a plan view of the FIG. 26 package; and

FIG. 30 is an end elevational view of the FIG. 26 package.

Referring now more specifically to the drawings wherein like parts are designated by the same numerals throughout the various figures, a package 40 incorporating features of the present invention is shown in FIGS. 1, 2 and 3. The package comprises a plurality of containers or bottles 42 and carrier 44 which will be described in detail below. In the embodiment shown, the package includes at least six of the containers or bottles 42 which are arranged in a predetermined pattern including two side-by-side rows of three bottles each.

The containers or bottles 42 may be of various known constructions. Each container comprises a relatively large diameter lower end or body portion 46 and a reduced diameter or narrow upper end or neck portion 48. Downwardly facing shoulder means is provided at the upper end or neck portion for engagement with the carrier as described below. In the embodiment shown, shoulder means 50 is provided by an enlargement or annular bead around the neck portion 48. The container is closed by a cap 52 of known construction and it is contemplated that in certain embodiments, the neck portion may be of uniform diameter or progressively decreasing diameter and the shoulder 50 may be provided by a downwardly facing annular edge 54 of the cap.

In this embodiment, the carrier 44 is adapted to be stamped from a flattened tubing of thin sheet material. Preferably, the tubing is formed from a tough resilient plastic material such as polyethylene.

In forming the carrier, the tubing is first flattened as shown in FIG. 7 and then stamped as shown in FIG. 4. More specifically, the tubing is stamped to provide the

carrier with a first body section 56 having parallel rows of apertures or sockets 58, 60 and 62 defined by integrally connected annular sections 64, 66 and 68. The sockets 58, 60 and 62 are preferably elongated or generally oval and are arranged so that their major axes extend substantially parallel to the longitudinal axis of the carrier body portion 56. These sockets are adapted to receive the body portions 46 of the containers as will hereinafter be described and the major and minor transverse dimensions of these sockets are similar to but less than the transverse dimensions or diameters of the container bodies. Thus, when the container bodies are assembled with the carrier, the annular sections 64, 66 and 68 are stretched and deflected into substantially cylindrical bands as indicated in FIGS. 1 and 2 for aggressively and securely gripping the container bodies.

The carrier has a second body portion 70. This body section also includes two longitudinally extending rows of apertures or socket means 72, 74 and 76 respectively defined by annular sections 78, 80 and 82. The annular sections are interconnected by elements 83 and 84 and portions of the blank may be removed as indicated at 86 so as to effect a savings in material.

The pockets or apertures 72-76 are preferably circular and are of a reduced diameter as compared with the socket means of the body section 56. The socket means 72-76 are adapted to receive the reduced diameter upper end portions of the containers. The diameter of each of the sockets 72-76 is less than the diameter of the annular shoulder 50 or 54 on the upper end of each container so that the body section 70 is adapted to engage beneath a selected one of these shoulders for securely retaining the upper end portions of the containers.

Pairs of elongated connected straps or elements 88 and 90 extend between and connect the body sections 56 and 70. In this embodiment, the straps 88 and 90 extend between the endmost annular socket defining portions 64 and 68 of the body section 56 and the intermediate annular sockets defining portions 80 of the body section 70. These connecting elements are of substantial length so that when the carrier is assembled with the bottles or containers, the body section 56 is adapted to engage lower end portions of the bottles while the body section 70 engages the reduced diameter of the upper end portions. As shown in FIG. 4, the strap-like connecting elements 88 and 90 are struck from the blank in a manner for minimizing the amount of stock material required to produce the carrier.

In order to facilitate handling of the package, grip or handle elements 92 and 94 are provided. These handle elements are struck from the material of the carrier blank between the body section 70 and the connecting straps 88 and 90 and are in the form of loops having opposite ends integrally joined to the intermediate annular sections 80 of the body section 70. Preferably, each of the handle elements has a generally T-shaped tab 98 projecting inwardly from a bight portion thereof and a slot 100 adjacent an outer margin thereof. When the carrier is in a completed condition, the T-shaped tab of one handle member is adapted to be inserted through the slot in the other handle member so that the handle members are effectively interconnected with each other.

When assembling the carrier 44 with a plurality of the containers 42 arranged in the desired pattern, the carrier blank is first manipulated from the condition shown in FIG. 4 which the body sections 56 and 70 are folded to the condition shown in FIG. 5 in which the body sections 56 and 70 are substantially flat. Then the carrier is moved downwardly over the bottles so that the larger socket portions of the body section 44 pass freely downwardly around the reduced diameter end portions of the containers and are stretched around the lower relatively large diameter body portions 46. Subsequently, the socket portions of the body section 70 are forced downwardly over the upper ends of the containers and are snapped beneath either the shoulder 54 or, as shown in FIG. 1, the shoulder 50. At the same time, the body section 56 is pushed downwardly until the connecting straps 88 and 90 limit further downward movement. Finally, the handle elements 92 and 94 are pulled upwardly from the plane of the body sections 70 into adjacent relationship and the tabs 98 are snapped through the slots 100 as shown in FIGS. 3 and 6 so that the package is ready for handling.

FIGS. 8 through 14 show a modified form of the present invention which is similar to the structure described above as indicated by the application of identical reference numerals with the suffix *a* added to corresponding elements. In this embodiment, the carrier 44a differs in that the connecting straps 88a and 90a extend from integral junctions with the intermediate socket defining annular section 66a of the body section 55a. This arrangement enables the effective length of the connecting straps to be increased. In addition, this embodiment differs in that the previously described handle members have been eliminated and replaced by handle means in the form of finger apertures 92a and 94a in the body sections 70a and at opposite sides of the intermediate socket portions thereof.

FIGS. 15 through 20 show a further modified form of the present invention which is similar to the structures described above as indicated by the application of identical reference numerals with the suffix *b* added to corresponding elements. In this embodiment, the connecting straps 88b and 90b are modified by the inclusion of transversely extending elements 102 and 104 along opposite ends of the body section 70b and joining the connecting straps at opposite sides of the carrier. The transverse strap-like elements 102 and 104 are adapted to extend between and separate intermediate portions of the endmost containers from the center containers in the package as shown in FIGS. 16 and 17.

A further modified form of the present invention is shown in FIGS. 21 through 25, which modification is similar to the packages described above as indicated by the application of identical reference numerals with the suffix *c* added to corresponding elements. This embodiment differs primarily in that the carrier blank is stamped from a single flat piece of sheet material rather than from a piece of tubing as indicated best in FIG. 22. As a result, the upper body portion of a carrier comprises separate sections 70c and 70c' at opposite ends of the blank. In addition, the intermediate sockets of the upper body section are duplicated as indicated at 74c and 74c'. When the carrier 44c is applied to the containers or bottles, the duplicate intermediate socket means 74c and 74c' are forced into superimposed rela-

tionship over the tops of the intermediate containers in the package so that these containers serve to interconnect the opposite ends of the carrier blank.

In FIGS. 26 through 30 there is shown a further modification of the present invention wherein elements corresponding to those described above are indicated by identical reference numerals with the suffix *d* added. In this embodiment, the carrier blank is also stamped from a single flat piece of sheet material rather than a tubing as indicated in FIG. 28. In this embodiment, the socket means of the upper carrier body sections 70*d* and 70*d'* are in the form of loop strap-like elements 72*d* and 74*d* and 74*d'* and 76*d* adapted snugly to engage upper end portions of the containers or bottles as shown in FIGS. 26, 27, 29 and 30. These loop strap-like elements or socket portions are integral with transverse base portions 110 and 112 of the body sections 70*d* and 70*d'* which base portions are joined to ends of the connecting straps 88*d* and 90*d* and are adapted to extend between the intermediate containers and the adjacent endmost containers in the package when the carrier is assembled as shown in the drawings. Handle elements 92*d* and 94*d* are integral with the base portions 110 and 112 and are adapted to extend in an upright manner between the containers so as to be easily grasped by the fingers.

While preferred embodiments of the present invention have been shown and described herein, it is obvious that many structural details may be changed.

I claim:

1. A package of containers such as bottles arranged in a predetermined pattern including side-by-side parallel rows of bottles each including a lower body portion and a reduced diameter upper end portion, and a one-piece sheet material carrier receiving and retaining the containers, said carrier being struck from plastic sheet material and comprising first body means, rows of socket means in said body means and having predetermined transverse dimensions similar to and less than corresponding transverse dimensions of the container body portions receiving and gripping sides of said body portions without bottom support thereof, said carrier including second body means also having socket means of predetermined transverse dimension similar to and less than corresponding transverse dimensions of the reduced diameter upper end portions of said containers engaging and retaining said upper end portions of the containers, a plurality of connecting elements arranged in pairs with one pair at each side of the carrier and integrally connecting said first and second body means with the connections of each pair

of connecting elements being at opposite sides of the central portion of the second body means and diverging therefrom to the connections of said connecting elements with the first body means exteriorly of at least a central pair of containers in the package, and a pair of handle means integral with the plastic sheet material of the carrier and located toward opposite ends of the carrier and on opposite sides of intermediate containers in the package.

2. A one-piece sheet material carrier for a plurality of containers such as bottles having a body portion and a reduced diameter upper end portion with the containers arranged in a predetermined pattern including parallel adjacent rows, said carrier being struck from plastic sheet material and comprising first body means, row of socket means in said body means and having predetermined transverse dimensions similar to and less than corresponding transverse dimensions of the container body portions for receiving and gripping sides of said body portions without bottom support thereof, said carrier including second body means also having socket means of predetermined transverse dimension similar to and less than corresponding transverse dimensions of the reduced diameter upper end portions of said container for engaging and retaining said upper end portions of the containers, a plurality of connecting elements arranged in pairs with one pair at each side of the carrier and integrally connecting said first and second body means with the connections of each pair of connecting elements being at opposite sides of the central portion of the second body means and diverging therefrom to the connections of said connecting elements with the first body means at spaced exterior locations such that the connecting elements will be disposed exteriorly of at least a central pair of containers when assembled to the package, and a pair of handle means integral with the plastic sheet material of the carrier and located toward opposite ends of the carrier and on opposite sides of intermediate containers when packaged.

3. A carrier, as defined in claim 2, wherein said handle means comprises finger accommodating aperture means in said second body means.

4. A carrier, as defined in claim 2, wherein said handle means comprises loop elements.

5. A carrier, as defined in claim 2, wherein said connecting elements extend from said second body means intermediate the handle means to the ends of said first body means for disposition exteriorly of multiple pairs of containers when assembled to the package.

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