

PATENT SPECIFICATION

(11) 1 233 826

DRAWINGS ATTACHED

- (21) Application No. 38529/69 (22) Filed 31 July 1969
(31) Convention Application No. 749 210 (32) Filed 31 July 1968 in
(33) United States of America (US)
(45) Complete Specification published 3 June 1971
(51) International Classification B 65 d 71/00
(52) Index at acceptance
B8C 12D2 12G 26 29A
(72) Inventor ERNEST RAY CUNNINGHAM



(54) CONTAINER CARRIERS

(71) We, ILLINOIS TOOL WORKS INC., a corporation organised and existing under the laws of the State of Delaware, United States of America, of 8501 West Higgins Road, Chicago, Illinois 60631, United States of America, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

A great number of beverage container carriers are available for use today, and for the most part are satisfactory for carrying containers. However, it is a primary object of the present invention to provide a new and improved container or bottle carrier which is simple in construction and inexpensive to produce.

It is another object of this invention to provide a one-piece carrier constructed of foldable sheet material which is adapted for easy application to a plurality of bottles and is constructed for separating the bottles from each other so as to minimise any possibility of breakage.

The essential features of a carrier according to this invention, for use in retaining a group of containers in a pair of adjacent rows as a package, are that the carrier is formed integrally from flexible sheet material and comprises a central member for engaging the containers near an upper end thereof, and a pair of side panels extending from opposite sides of the central member, each side panel comprising a sequence of flexibility interconnected sections, namely a first section for engaging the outer side of each container in a row, a second section for engaging the lower end of each container in a row, a third section for interposition between the two rows, and a handle section adapted to project through and above the central member when the carrier is folded about the containers to enable the package to be carried, the first section, or the third section, or both, comprising individual parallel pockets each for engaging one container in a row.

Further features which are advantageous [Price 25p]

but not essential will be described in the course of the following description of two examples of carriers which embody the invention. These examples are shown in the accompanying drawings, in which:—

Figure 1 is a perspective view of a first carrier as seen from a first side thereof;

Figure 2 is a perspective view of the same carrier as seen from the opposite side thereof;

Figure 3 is a transverse section of the carrier taken along the line 3-3 in Figure 2;

Figure 4 is a side view of the carrier, shown being assembled about a group of bottles;

Figure 5 is an end view of a completed carrier package;

Figure 6 is a horizontal section of the carrier package, taken along the line 6-6 in Figure 5; and,

Figure 7 is a plan view of a second carrier.

The carrier 10 shown in Figures 1 to 6 is formed from a single sheet 12 (shown in dotted lines in Figure 1) of material which is flexible yet sufficiently stiff to enable it to retain a shape in the manner described below. Preferably the material is a suitable plastics material, and the carrier is stamped from the sheet 12 and formed in a single step, automatically, thus making it possible to produce a great quantity of carriers 10 in a short time.

The carrier 10 includes a central rectangular ring member 14 having a pair of shorter side strips 16 and 18 and a pair of longer side strips 20 and 22 interconnecting the first-mentioned strips to thus form a central rectangular aperture 24. Connected to each of the outer edges of the strips 20 and 22 at 26 and 28 respectively and extending longitudinally outwardly therefrom, are a pair of side panels 30. The side panels 30 are similar in structure, and thus the following description is directed to both of the panels.

Each side panel 30 includes a first section 32 formed into a plurality of interconnected pockets 34. The pockets 34 are generally part cylindrical in shape, embracing some-

what less than 180°, to accommodate the cylindrical body of a container to be received therein, and each is connected to an adjacent pocket along a longitudinally extending edge 36 which is adapted to project between and separate adjacent containers from each other. If the containers were of a different shape, the pockets would be shaped complementarily thereto, so as to accommodate the containers.

The pockets may be formed by vacuum moulding or any other desired technique simultaneously with the formation of the remainder of the carrier 10. Each of the pockets is connected at the centre 40 of one end 38 thereof to the strips 20 and 22, respectively, and is connected at the centre 44 of the other end 42 thereof to a circular base member 46 of a second section 48 of the side panel 30.

The second sections 48 of the carrier 10 shown in Figures 1 and 2 each comprise a row of three interconnected base members 46. Each base member is flat and circular in shape with a diameter substantially equal to the diameter of the base of a container to be supported thereby. The base members are connected at the perimeters thereof, both to each other and to an adjacent pocket 34.

Connected to the perimeter of each circular base member 46 at a point 50 on the edge thereof, at 180 degrees from the point of connection to a corresponding pocket 34, is an elongated separator strip 52. Each of the strips 52, as will be explained hereinafter, serves as a separating member between certain ones of the containers lying adjacent each other in an assembled carrier package. The strips 52 constitute a third section of the panel. A handle section 54 is connected to the elongated strips at the ends 56 thereof opposite the points of connection to the base members 46, and provides a means whereby an assembled container package, including a plurality of containers, may be carried. Each handle has a truncated triangular shape with the truncated portion thereof extending longitudinally outwardly of the carrier. A centre aperture 58 is provided therein for permitting gripping of the handle.

Figure 4 shows the manner in which the carrier 10 of Figures 1 and 2 is assembled with a plurality of containers, namely bottles 60. To begin, the carrier is oriented to a position as shown in Figure 2 with the pockets opening downwards. A group of six bottles are arranged in two adjacent rows of three for the particular carrier shown, ready to form a package of six bottles, commonly referred to as a "six pack". In Figure 4 the group 62 of bottles 60 is seen from an end thereof. The

assembling of the carrier with the group of bottles begins with the central ring member 14 being fitted snugly about the outer periphery of the group, the bottles being received in the aperture 24 therein. The ring member is dimensioned so as to receive the group of bottles with the bottles held relatively tightly against the strips 16, 18, 20 and 22 thereof, while a space 63 is maintained, by means not shown, extending between the two rows of three bottles of the group.

Once the ring member 14 is fitted about the bottles as described, each of the first sections 32 of the side panels 30 is folded downwards, as indicated by arrows 64, along the respective interconnecting edges 26 and 28 thereof, so that each pocket 34 receives therein a portion of a side wall 66 of a bottle 60. The right side panel 30, as shown in Figure 4, is folded in a clockwise direction about the group of bottles and the left side panel 30 is folded in a counterclockwise direction about the bottle group.

Subsequent to the bottles 60 being fitted into respective pockets, each second section 48 of the side panels 30 is further folded about the points of connection 44 to corresponding pockets 34. The individual base members 46 contact the bases of corresponding bottles 60. As mentioned above, a base member 46 is shaped and dimensioned substantially like the base 69 of a bottle with which it comes in contact. In this case the base members are circular.

As the respective base members 46 of each section 48 are being moved into position underlying the bottles, the free ends 68 of the handle sections 54 are fitted into the space 63 maintained between the rows of bottles. The handle members 54 are pulled upwards towards the necked ends of the bottles 60 through the space 63 until the base members 46 are in engagement with the bases 69 of the bottles. Once the handles are fed through the space 63, the strips 52 assume a position abutting inner side wall portions of adjacent bottles 60 of the two rows, and extending longitudinally therealong, thereby to cushion the bottles from each other, and to protect them from breakage due to contact therebetween.

A completed bottle carrier package 70 is shown in Figure 5. As can be seen, the bottles are retained in the carrier 10 individually by the pockets 34 and are separated and insulated from each other by the pockets and by the strips 52. The bottles are completely encircled and held as a group in the carrier by the ring member 14 to minimise individual movement thereof within the carrier. The cushioning between the rows of bottles 60 by means of strips 52

can be seen clearly in Figure 6 wherein the two-strip layer of material is shown between adjacent bottles to prevent contact therebetween. Furthermore, the contour fit of the pockets 34 about corresponding bottles 60 is evident in the figure.

Figure 7 shows a carrier which is a modification of the carrier shown in Figures 1 to 6. Like numerals are used, with the addition of the suffix "a" to indicate similar parts. The carrier 10a is likewise formed from a single sheet of plastics material. The carrier 10a includes a central ring member 14a and a pair of side panels 30a, each comprising a first section 32a having a plurality of interconnected pockets 34a, and a second section 48a connected to the section 32a and including a plurality of circular interconnected base members 46a. In place of the support strips 52 of carrier 10, there is a third section 80 connected to the second section 48a and including a second plurality of interconnected pockets 82. These pockets, like the pockets 34a, also are shaped to fit about the side wall portions of containers such as the bottles 60 of Figures 4-6. The pockets 80 fit about the inner side wall portions of the containers, opposite from the pockets 34a, both to protect the containers from each other, as in the case of strips 52, and further to support the containers along corresponding side portions thereof.

Handle sections 84, generally similar to those shown with the carrier 10 of Figures 1 and 2, are connected to the third sections 80 of the carrier 10a and serve a like purpose. The handle sections 84, however, include three connecting strips, each designated 86, which interconnect a common strip 88 at one end and individual ones of the pockets 82 at the other end.

The carrier 10a is assembled about a group of bottles in a manner similar to that discussed above in regard to carrier 10. Thus, no details of such an assembly will be discussed further.

As a further alternative, there may be pockets like the pockets 82 in the third sections of a carrier, but strips, like the strips 52 of Figures 1 to 6, in the first sections, instead of the pockets 34 or 34a.

The examples of carriers according to the invention have been shown and described as being for use primarily with bottles. However, the use thereof is not limited thereto, for a carrier according to the invention may be used equally as well with other types of containers, such as, for example, cans.

With flat-topped containers, such as cans, the central member may engage the upper ends of the cans, instead of being about the upper parts of the side walls. For such a use, the strips 16, 18 may be

somewhat closer together, but leaving an adequate aperture 24 for the handle sections to pass through.

WHAT WE CLAIM IS:—

1. A carrier for use in retaining a group of containers in a pair of adjacent rows as a package by being folded thereabout, the carrier being formed integrally from flexible sheet material and comprising a central member for engaging the containers near an upper end thereof, and a pair of side panels extending from opposite sides of the central member, each side panel comprising a sequence of flexibly interconnected sections, namely a first section for engaging the outer side of each container in a row, a second section for engaging the lower end of each container in a row, a third section for interposition between the two rows, and a handle section adapted to project through and above the central member when the carrier is folded about the containers to enable the package to be carried, the first section, or the third sections, or both, comprising individual parallel pockets each for engaging one container in a row.

2. A carrier according to claim 1, in which the central member is a rectangular ring.

3. A carrier according to claim 1 or claim 2, wherein each pocket is trough-like.

4. A carrier according to claim 3, in which the pockets are part-cylindrical.

5. A carrier according to claim 4, in which the pockets of each section are directly interconnected at the longitudinal edges thereof.

6. A carrier according to any of claims 1 to 5, in which each second section comprises a row of interconnected circular base members.

7. A carrier according to any of claims 1 to 6, in which each third section consists of strips extending between the second section and the handle section.

8. A carrier device according to any of claims 1 to 7, formed from sheet plastics material.

9. A package comprising a group of bottles in a pair of adjacent rows, assembled with a carrier according to any of claims 1 to 8, with the central member fitted snugly about the group of bottles below their upper ends, and the handle section projecting above the said upper ends.

10. A carrier according to claim 1, substantially as described with reference to Figures 1 to 6 or Figure 7 of the accompanying drawings.

For the Applicants:
GILL, JENNINGS & EVERY,
Chartered Patent Agents,
51/52 Chancery Lane,
London, W.C.2.



can be seen clearly in Figure 6 wherein the two-strip layer of material is shown between adjacent bottles to prevent contact therebetween. Furthermore, the contour fit of the pockets 34 about corresponding bottles 60 is evident in the figure.

Figure 7 shows a carrier which is a modification of the carrier shown in Figures 1 to 6. Like numerals are used, with the addition of the suffix "a" to indicate similar parts. The carrier 10a is likewise formed from a single sheet of plastics material. The carrier 10a includes a central ring member 14a and a pair of side panels 30a, each comprising a first section 32a having a plurality of interconnected pockets 34a, and a second section 48a connected to the section 32a and including a plurality of circular interconnected base members 46a. In place of the support strips 52 of carrier 10, there is a third section 80 connected to the second section 48a and including a second plurality of interconnected pockets 82. These pockets, like the pockets 34a, also are shaped to fit about the side wall portions of containers such as the bottles 60 of Figures 4-6. The pockets 80 fit about the inner side wall portions of the containers, opposite from the pockets 34a, both to protect the containers from each other, as in the case of strips 52, and further to support the containers along corresponding side portions thereof.

Handle sections 84, generally similar to those shown with the carrier 10 of Figures 1 and 2, are connected to the third sections 80 of the carrier 10a and serve a like purpose. The handle sections 84, however, include three connecting strips, each designated 86, which interconnect a common strip 88 at one end and individual ones of the pockets 82 at the other end.

The carrier 10a is assembled about a group of bottles in a manner similar to that discussed above in regard to carrier 10. Thus, no details of such an assembly will be discussed further.

As a further alternative, there may be pockets like the pockets 82 in the third sections of a carrier, but strips, like the strips 52 of Figures 1 to 6, in the first sections, instead of the pockets 34 or 34a.

The examples of carriers according to the invention have been shown and described as being for use primarily with bottles. However, the use thereof is not limited thereto, for a carrier according to the invention may be used equally as well with other types of containers, such as, for example, cans.

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2. A carrier according to claim 1, in which the central member is a rectangular ring.

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4. A carrier according to claim 3, in which the pockets are part-cylindrical.

5. A carrier according to claim 4, in which the pockets of each section are directly interconnected at the longitudinal edges thereof.

6. A carrier according to any of claims 1 to 5, in which each second section comprises a row of interconnected circular base members.

7. A carrier according to any of claims 1 to 6, in which each third section consists of strips extending between the second section and the handle section.

8. A carrier device according to any of claims 1 to 7, formed from sheet plastics material.

9. A package comprising a group of bottles in a pair of adjacent rows, assembled with a carrier according to any of claims 1 to 8, with the central member fitted snugly about the group of bottles below their upper ends, and the handle section projecting above the said upper ends.

10. A carrier according to claim 1, substantially as described with reference to Figures 1 to 6 or Figure 7 of the accompanying drawings.

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