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GB 1342180 A US 3926307 A US 3528697 A

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(54) Bottle carrier formed from sheet material

(57) A bottle carrier made of cardboard or the like formed with apertures 4, 8 for engagement over the necks of an array of bottle 10, each aperture having a ring of tabs 5, 9 around it for non-return engagement with shoulders 12 on the bottle necks, the carrier being formed from a double layer of board 1, 2 (at least around the apertures) and the tabs each being formed from the material of a respective layer. Preferably, the tabs 5 of one layer alternate with those 9 of the other layer.

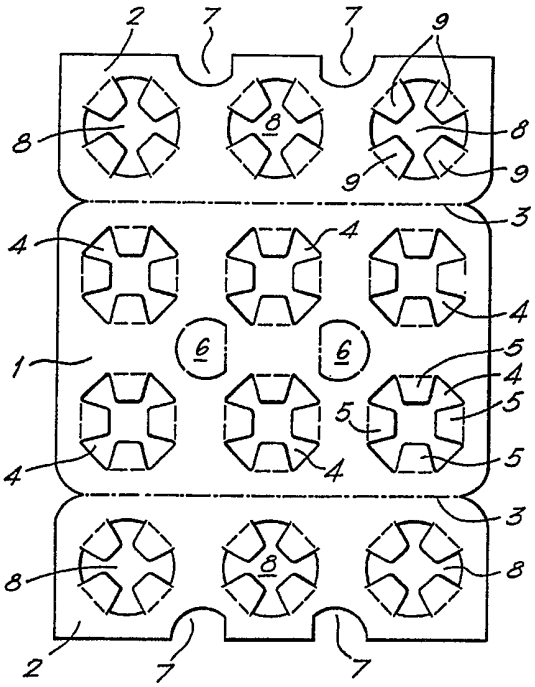

FIG.1.

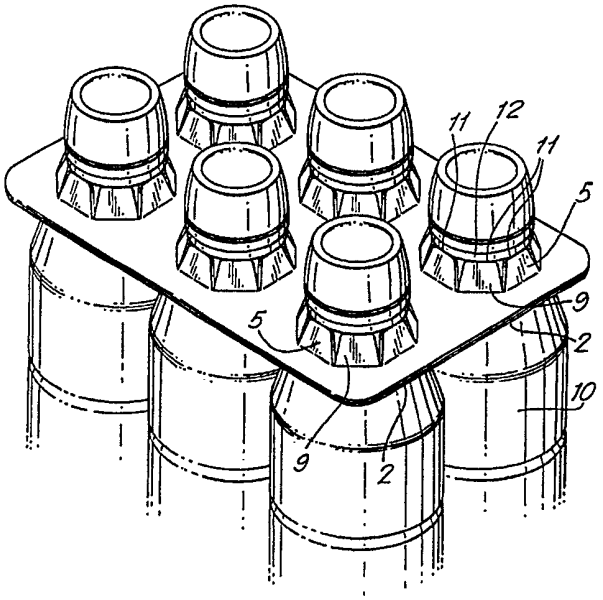

FIG. 2.

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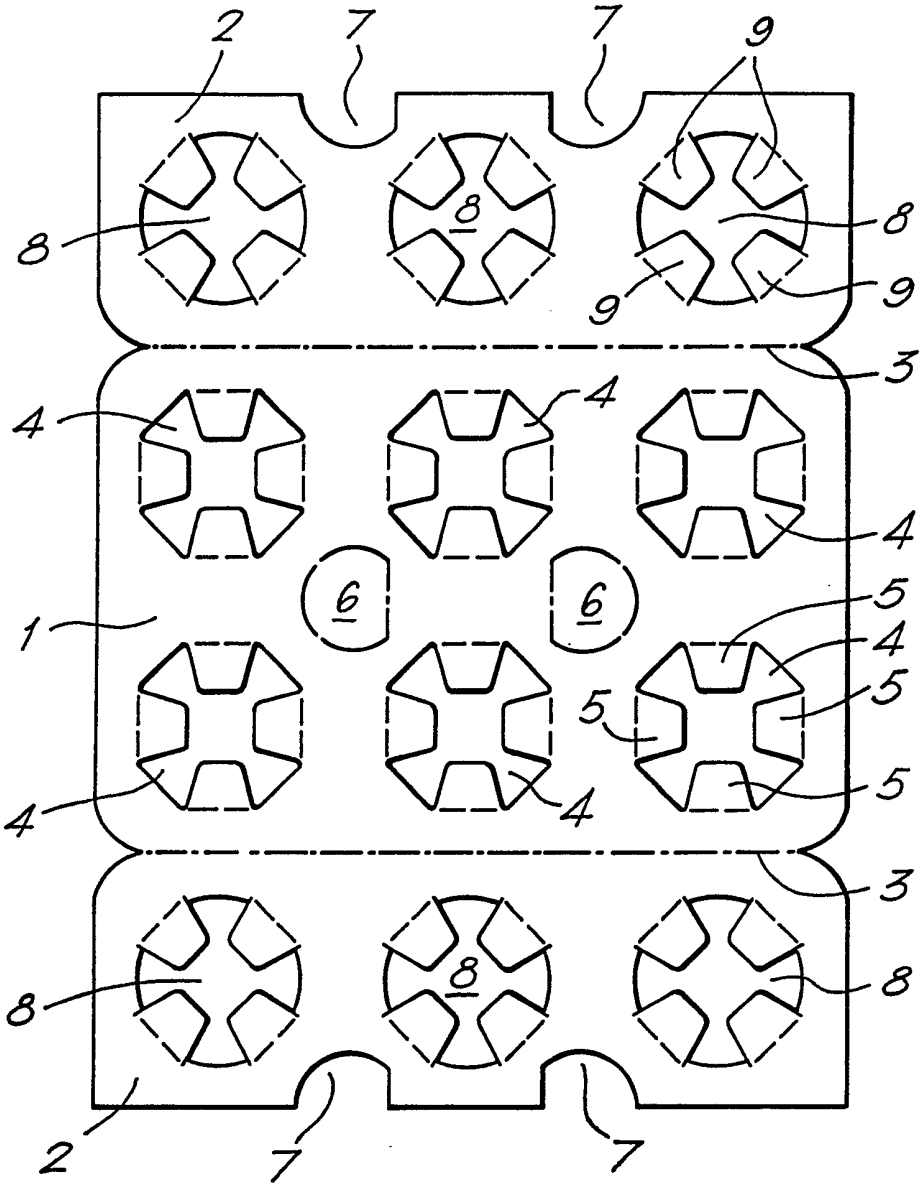

FIG.1.

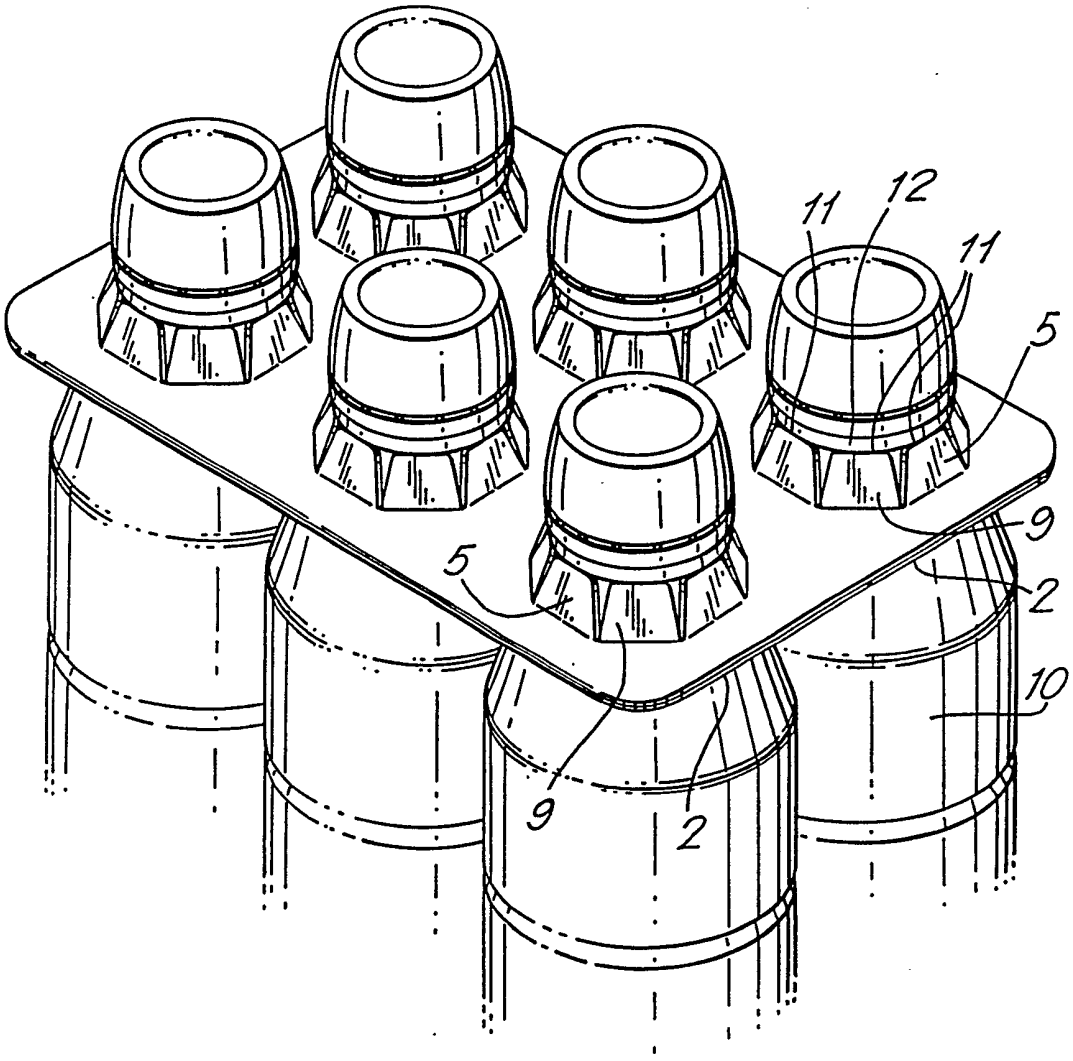

FIG. 2.

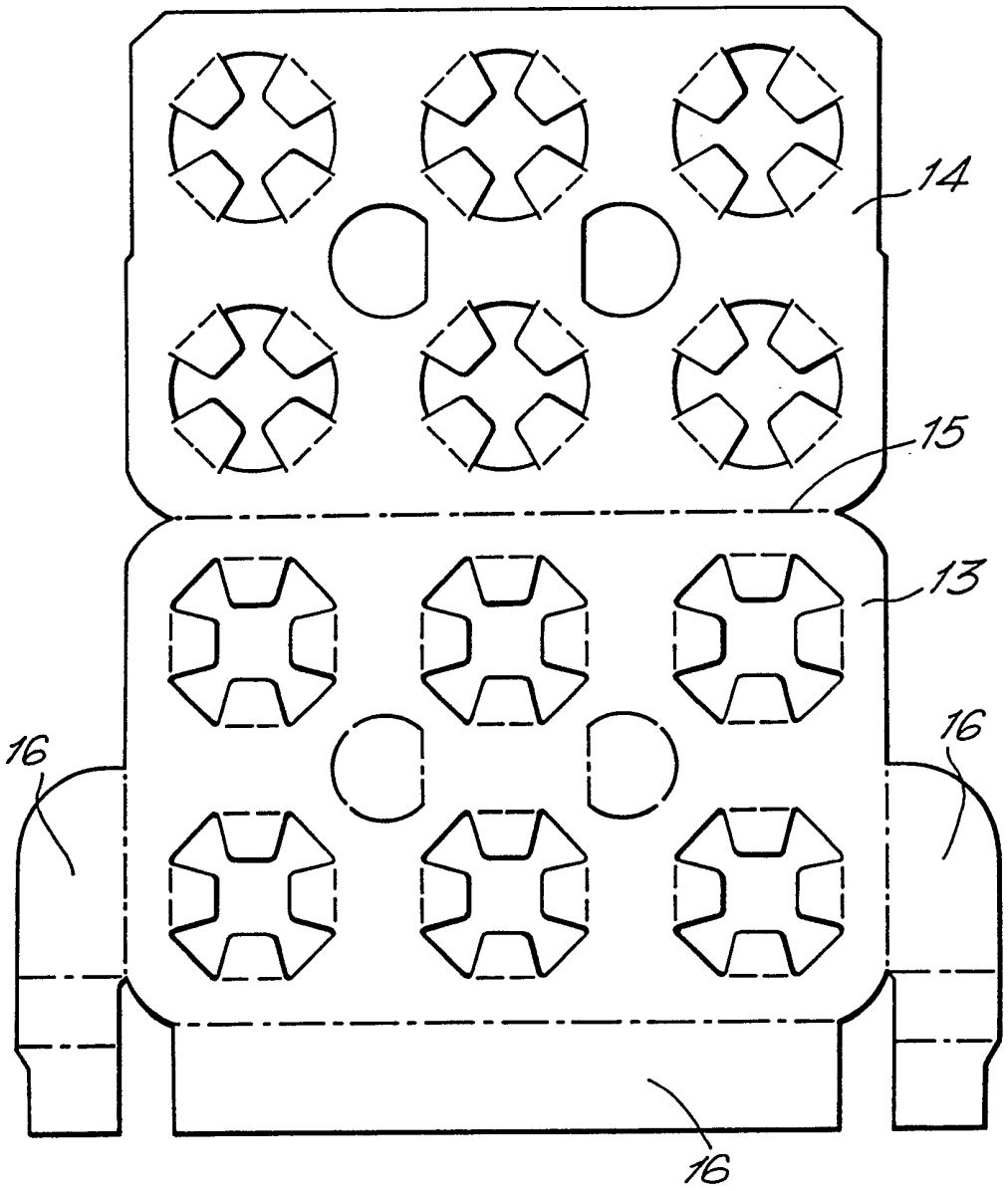

FIG. 3.

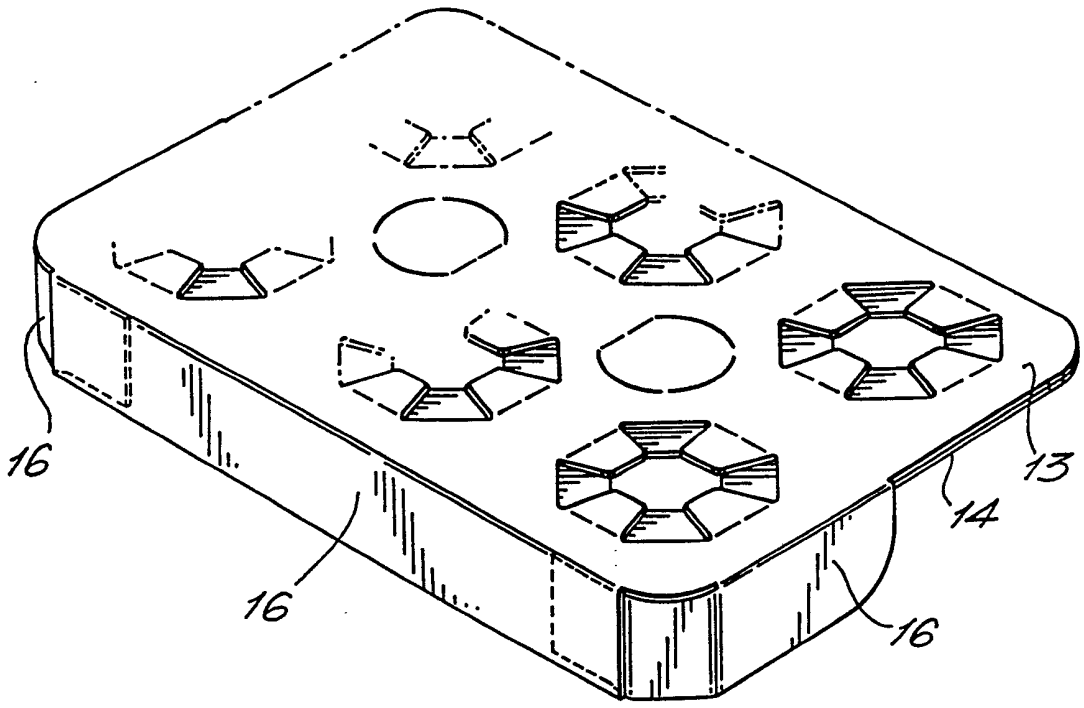

FIG. 4.

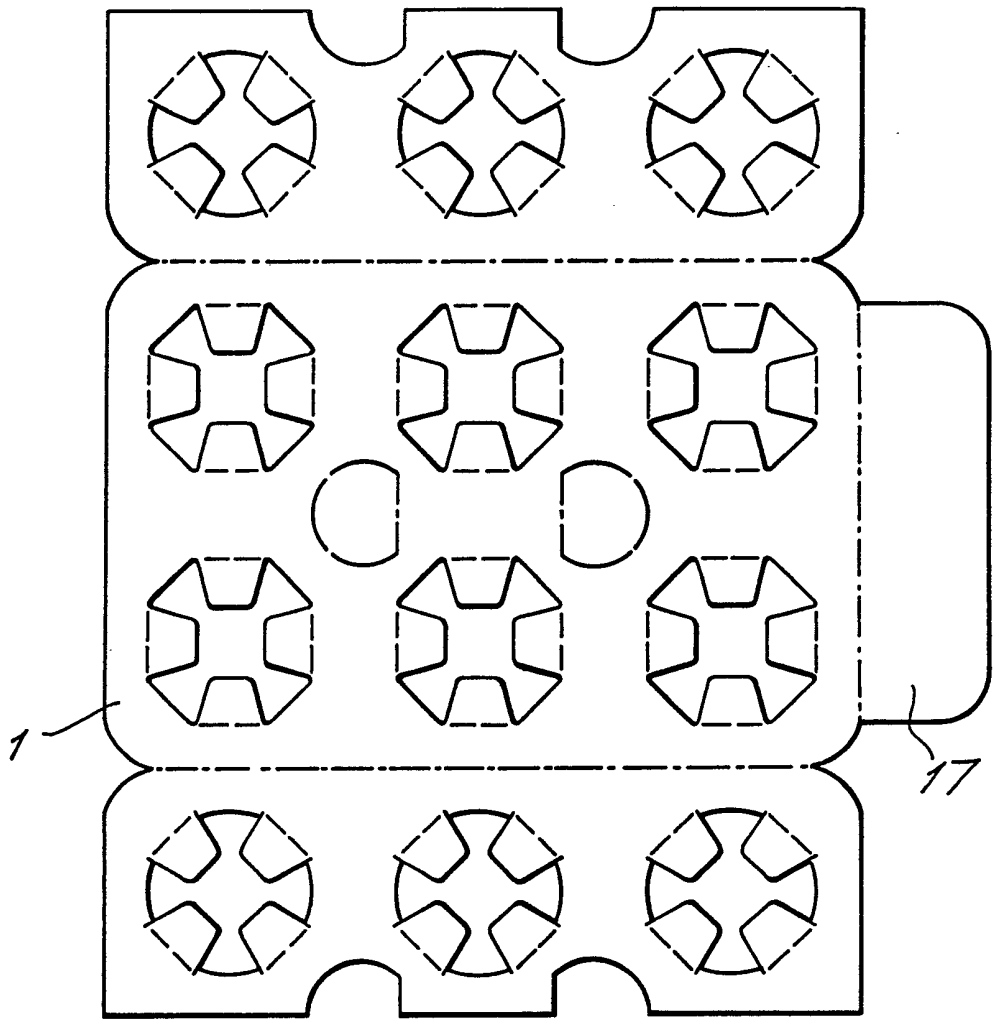

FIG. 5.

"Articles of Sheet Material"

This invention relates to articles made of cardboard or similar lightweight foldable sheet material (including sheet plastics) which are formed to provide at least one aperture therein for engagement over another member in non-return fashion, by the abutment of a plurality of tabs, formed around the said aperture and foldable to stand out of the general plane thereof, with the periphery of such a member. One well known use of such an article is as a carrier for a number of bottles, the article then being formed to provide a corresponding number of apertures which are engageable over the necks of the bottles until the said tabs abut in non-return fashion under flanges or shoulders on the bottle necks, to enable the bottles to be carried. However, it should be understood that articles according to the present invention can be used for any purpose where a member is required to be received in an aperture in an article of this kind, in non-return fashion.

A problem which exists in articles of the kind just described is that when the inwardly extending tabs are folded out of the general plane of the article to form an aperture as aforesaid, the distal (or inward) edges of the tabs, which edges provide the surfaces for abutment with a

member to be received in the aperture, necessarily have substantial gaps between then around the boundary of the aperture. This is because, before being folded out of the said plane, these edges lie along the boundary of a smaller aperture spaced substantially inwardly of the boundary of the eventual aperture. Consequently the tabs only engage a said member at spaced regions around the same and do not hold it as securely as might be desired.

According to the present invention there is provided and an article made of cardboard or similar lightweight foldable sheet material, which is formed to provide at least one aperture therein for engagement over another member in non-return fashion by the abutment of a plurality of tabs, formed around the said aperture and foldable to stand out of the general plane thereof, with the periphery of such a member, wherein at least in the region of the or each said aperture the said article comprises a double layer of sheet material and at least some of the said tabs around the aperture are formed alternately from the material of the respective layers.

With such an arrangement it is possible to arrange the tabs so that when the article is flat, i.e. before the tabs are folded into their upstanding positions, tabs overlap

laterally with adjoining tabs formed in the other layer of the article. As a result each tab can be formed with a sufficiently wide distal edge that, when the tabs are folded up in use, a row of distal edges of the tabs is substantially continuous with only small gaps between then. It will of course be understood that all of the tabs, from both layers of the article, are folded up in the same direction by folding each of the tabs on one layer through the aperture in the other layer, between its adjoining tabs in that layer.

In some forms of the invention the tabs around the or each said aperture could be so grouped that one or more adjoining pairs of tabs are from the same layer. Preferably however all of the said tabs around the or each aperture are formed alternately from the material of the respective layers.

The or each aperture can be of any desired shape, for example substantially circular or rectangular, but in a preferred embodiment of the invention it is shaped substantially as a regular polygon, preferably eight-sided, and all of the said tabs are of trapezoidal shape.

It is only necessary for the article to be double layered in the region of the or each aperture. Conveniently, however,

it is substantially wholly double layered.

The article could if desired be formed from two separate sheets of cardboard or other suitable sheet material, secured together for example by gluing. Preferably, however, it is formed from a one-piece blank which is then folded to provide the said double layering, and glued in that condition.

In a preferred form of the invention the article is formed with a plurality of the said apertures and constitutes a carrier for a plurality of bottles, the said apertures being engageable over the necks of the bottles and the said tabs being arranged to abut under flanges or shoulders on the bottle necks.

The scope of the invention also extends to blanks for making articles as set forth above.

Some embodiments of the invention will now be described by way of example and with reference to the accompanying drawings, in which:-

Figure 1 is a plan view of a cardboard blank for making a first embodiment of a bottle carrier according to the

invention;

Figure 2 is a perspective view of the carrier made from the blank of Figure 1, in use;

Figure 3 is a plan view of a blank of a second embodiment;

Figure 4 is a perspective view of the carrier made from the blank of Figure 3;

Figure 5 is a plan view of a blank of a third embodiment.

Referring first to Figure 1, this shows a one-piece blank made from cardboard, for making a carrier for six bottles. The blank comprises a central panel 1 and two side panels 2, interconnected by hinge lines 3. The central panel 1 is formed with six octagonal apertures 4, each of which has four trapezoidal tabs 5 extending inwardly from alternate sides and hinged at their bases. The panel 1 is also formed with two hinged tabs 6, released from the main body of the panel, to enable finger holes to be formed for carrying the bottle carrier in use. Corresponding cut-outs 7 are provided in the free edges of the panels 2.

The outer panels 2 are each formed with a row of three

substantially circular apertures 8, each with four trapezoidal tabs 9 extending inwardly thereof at regularly spaced locations, the arrangement being such that, when the outer panels 2 are folded about the hinge lines 3 into face to face relationship with the central panel 1, the apertures 8 in the outer panels will become aligned with the apertures 4 in the central panel. However, all of the tabs 5 and 9 are so arranged that the tabs 9 of the outer panels 2 will become aligned with the gaps between the tabs 5 of the central panel 1 when the panels are folded together as aforesaid.

Consequently, and referring now to Figure 2, when the assembled carrier is engaged over the tops of a group of six bottles 10, so that the necks of the bottles pass upwardly through the apertures, the tabs 9 of the panels 2, which now lie underneath the central panel 1, are pushed up through the apertures in the central panel, between the tabs 5 therein, so that all of the tabs are erected into the condition illustrated in Figure 2 to form a ring of closely spaced tabs whose distal edges 11 form an almost continuous abutment edge for engagement with the under surface of a flange 12 on the neck of each of the bottles, in non-return fashion. The bottles are thus suspended from the carrier and can be carried conveniently by inserting two fingers in

the holes formed by displacing the hinged tabs 6 in the central panel.

Referring now to Figure 3 and 4, the blank of Figure 3 comprises two panels 13 and 14 of similar size, hinged together at 15, the panel 13 being equivalent to the central panel 1 of the Figure 1 embodiment but the panel 14 replacing both of the outer panels 2 of that embodiment.

The apertures in the panel 13 are exactly the same as in the first embodiment, whilst the six apertures in the panel 14 are exactly equivalent to those of the panels 2 of the first embodiment. In this embodiment the panel 13 is formed with additional hinged flaps 16 which, as shown in Figure 4, are assembled to form a wall extending along one side of the assembled article and around its ends, particularly for bearing printed matter.

The embodiment of Figures 5 is almost identical to the embodiment of Figures 1 and 2 except that the central panel 1 is formed with a hinged end flap 17, again for bearing printed matter.

The present invention, at least in its preferred embodiments, provides a bottle carrier which uses a minimum

amount of sheet material, has high strength and stability, and can be applied to an array of bottles either by hand or by automatic machinery.

Claims:

1. An article made of cardboard or similar lightweight foldable sheet material, which is formed to provide at least one aperture therein for engagement over another member in non-return fashion by the abutment of a plurality of tabs, formed around the said aperture and foldable to stand out of the general plane thereof, with the periphery of such a member, wherein at least in the region of the or each said aperture the said article comprises a double layer of sheet material and at least some of the said tabs around the aperture are formed alternately from the material of the respective layers.

2. An article as claimed in claim 1, wherein all of the said tabs around the or each aperture are formed alternately from the material of the respective layers.

3. An article as claimed in claim 1 or 2, wherein the or each said aperture is shaped substantially as a regular polygon and the said tabs are trapezoidal.

4. An article as claimed in claim 3, wherein the or each said aperture is octagonal.

5. An article as claimed in any preceding claim, which is substantially wholly double layered.

6. An article as claimed in any preceding claim, which is formed from a one-piece blank folded to provide said double layering.

7. An article as claimed in any preceding claim, which is formed with a plurality of said apertures and constitutes a carrier for a plurality of bottles, the said apertures being engageable over the necks of the bottles and the said tabs being arranged to abut under flanges or shoulders on the bottle necks.

8. A blank for making an article as claimed in any of the preceding claims.

9. An article as claimed in claim 1, substantially as hereinbefore described with reference to the accompanying drawings.

10. Blanks for making articles as claimed in claim 1, substantially as hereinbefore described with reference to the accompanying drawings.

Patents Act 1977
Examiner's report to the Comptroller under Section 17 (The Search Report)

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Relevant Technical fields

(i) UK Cl (Edition L) B8C (CHA1, CHS5)

(ii) Int Cl (Edition 5) B65D 71/00, 71/12

Search Examiner
S R SMITH

Databases (see over)

(i) UK Patent Office

(ii)

Date of Search
7 SEPTEMBER 1993

Documents considered relevant following a search in respect of claims 1 TO 10

Category (see over)	Identity of document and relevant passages	Relevant to claim(s)
X	GB 1342180 (OLINKRAFT) - see lines 33 to 81 of page 3	1,3,4, 6-8
X	US 3926307 (KLYGIS) - see line 58 of column 2 to line 8 of column 3	1,2,6-8
X	US 3528697 (WOOD) - see line 17 of column 2 to line 7 of column 3	1-4,6-8

		Relevant to claim(s)

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