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(54) Paperboard carrier device

(57) There is provided a carrier device for a plurality of bottles arranged in two lengthwise extending rows. The device comprises two bottle receiving portions each having the form of a polygonal box in cross-section and each having a top panel (27) and a base panel (31) provided with aligned aperture means for engaging bottles of one of said rows. An upwardly projecting, handle portion (15) is disposed between the two bottle receiving portions and is hingedly connected to respective bottle receiving portions such that the handle portion is movable between upper and lower positions relative to the bottle receiving portions.

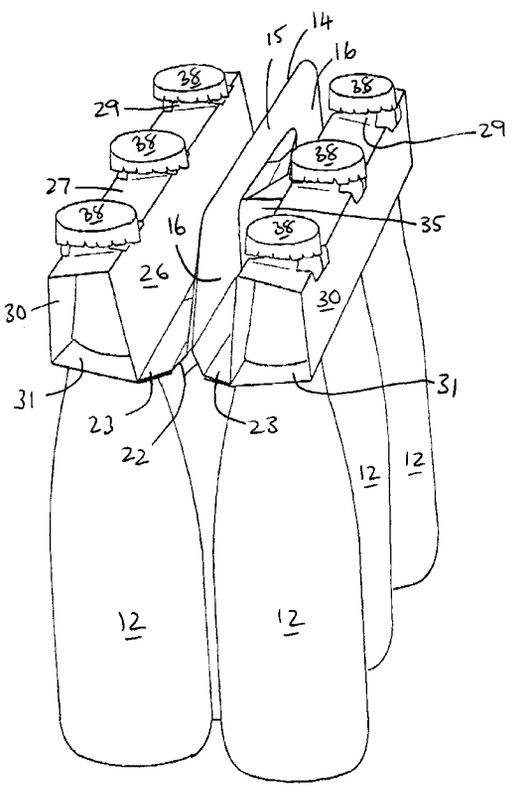

FIGURE 2

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Description

This invention relates to paperboard carrier devices for retaining a plurality of bottles as a multipack .

According to the present invention there is provided a paperboard carrier device for a plurality of bottles arranged in two lengthwise extending rows, the device comprising two bottle receiving portions each of which has the form of a polygonal box in cross section and each of which is provided with aperture means for receiving and retaining the bottles of one of said rows, an upwardly projecting, lengthwise extending handle portion disposed between the two bottle receiving portions and two lengthwise extending web portions hingedly connected to a lower part of the handle portion by way of first folds and hingedly connected to respective bottle receiving portions by way of second folds which are substantially parallel to the first folds, the web portions each having a third fold intermediate the first and second folds and parallel thereto, whereby in use the handle portion has a lower position wherein the first and third folds are lower than the second folds and an upper position wherein the first and third folds are higher than the second folds.

In preferred arrangements the two receiving portions are secured at spaced locations relative to each other by one or more connecting section. Ideally the distance between the two receiving portions is substantially equal to the sum of the distances between the respective second and third folds of the web portions.

Preferably one connection section is provided at a substantially central location along the lengthwise axis of the device and the handle portion is generally C-shaped, spanning the central connecting section with each web portion comprising two web sections at both ends of the handle portion. In certain embodiments the handle portion comprises two layers of paperboard glued together and the two layers of the handle portion are folded together at the uppermost edge of the handle and each layer continues to form one of the web portions and then one of the receiving portions.

With one type of construction the receiving portions are quadrilateral in section, having an inner side wall, a top panel, an outer side wall, a base panel, and a gluing portion, all of which are folded together in series with the gluing portion adhered to the inner side wall. Another feature is that the connecting section comprises a pair of connecting portions which are hingedly connected to lower edges of respective inner side walls of the receiving portions and which are secured to each other, preferably using adhesive.

A further preferred feature is that reinforcing panels comprising extensions of the base panels extend below the connecting portions and are secured relative to the connecting portions using adhesive and also that each connecting portion is initially attached to its adjacent web sections by frangible tags.

Conveniently the aperture means comprises for each bottle an upper opening in the top panel and a lower opening in the base panel of the bottle receiving portion, each upper opening being provided with formations for engaging below a closure on the bottle with a snap fit.

An embodiment of the present invention will now be described in more detail with reference to the accompanying drawings in which:

Figure 1 shows a blank for producing a device according to the present invention,

Figure 2 is a perspective view from above of the device in operation,

Figure 3 is a side view of the device shown in figure 2,

Figure 4 is an end view of the device as assembled but before application,

Figure 5 is an end view of the device assembled, applied to bottles (omitted) and in a stored position, and

Figure 6 is an end view of the device assembled, applied to bottles (omitted) and in a carrying position.

In the figures there is shown a paperboard blank 10 for forming into a carrier device 11 to receive and retain six bottles 12 arranged in two lanes of three bottles each. It will be appreciated that simple modifications could be made to accommodate any desired number of bottles in each row.

The blank 10 has two handle portions 13 which are joined together along a central fold line 14. The two handle portions are generally C-shaped with a middle section 15 and end sections 16. One of the handle portions 13 has two reinforcing sections 17, 18 hingedly connected thereto along fold 19. The reinforcing sections 17, 18 are not strictly essential but do render the eventual carrying of the multipack more comfortable.

Web portions 20 are hingedly connected to the free ends of the end sections 16 by way of first folds 21. Each web portion 20 is divided into an upper portion 22 and a lower portion 23 by third folds 24 substantially parallel to the first folds 21. Second folds 25, substantially parallel to folds 21, 24, connect the lower web portion 23 to an inner side wall 26 which is in turn hingedly connected to a top panel 27 which is provided with apertures 28 for receiving the closures 38 of the bottles 12 which are retained by way of tabs 29.

The top panel 27 is hingedly connected to an outer side wall 30 which is in turn hingedly connected to a base panel 31 in which is provided openings 32 for receiving the necks of the bottles 12. Glue panels 33 are hingedly connected to the base panel 31 on either side of a base panel extension 34.

Between the lower web portions 23 of each C-shaped handle portion is a connecting section 35 which is hingedly connected to the adjacent inner side wall 26 along the second fold 25. The connecting sections are attached to the adjacent lower web portions 23 by fran-

gible bridges 36.

The blank 10 is made into the device 11 in the following manner. Variations are, however, possible, as will be appreciated by the skilled person. When initially made up the device has the end profile as shown in figure 4.

The blank 10 is folded in half about fold 14 and the end sections 16 of one handle portion 13 is adhesively secured to the end sections 16 of the other handle portion 13 above the first folds 21. The lower web portions 23 are then folded about second folds 24 so as to be substantially perpendicular to the upper web portions 23, and the connecting sections are also secured together with adhesive. The inner side walls 26 are folded upwardly relative to the lower web portions 23 about third folds 25. The top panels 27, outer side walls 30 and base panels 31 are then folded to form box sections 37 with the inner side walls 26. The glue panels 33 are folded upwardly and adhesively secured to the inner side walls 26 on the inside of the box sections 37. The base panel extensions 34 are secured to each other and to the underside of the connection sections 35. The device 11 is now ready for attachment to the bottles.

It will be appreciated that the C-shaped handle portions span both the connecting section 35 and the base panel extensions 34. Also the distance between the two box sections 37 is, in this embodiment, equal to substantially twice the distance between one of the third folds 24 and one of the second folds 25.

When the device 11 is applied to a series of six bottles in this arrangement the device is first aligned correctly so that a bottle 12 is located below each aperture 28/opening 32. The device 11 is then pressed down on to the bottles 12, the tabs 29 being a snap fit below the closures 38 of the bottles. The pressure required to engage these snap-fits or a subsequent operation causes the frangible bridges 36 between the connecting sections 35 and the lower web sections 23 to break. The handle portions 13 can then take up a lower position relative to the bottles 12 because the lower web portions 23 are free to fold downwardly about the second folds 25 whilst remaining attached to the end sections 16 by virtue of the upper web portions 22.

A lower position is shown clearly in figure 5 (with the bottles removed) and it is clear that the top fold 14 of the handle portions 13 can be disposed below the upper level of any bottle closures 38. This provides a suitable stowed condition for stacking and transport.

To carry the multipack, the handle portions 13 are lifted from the figure 5 position to the figure 6 position. In this position the lower web portions 23 are hinged upwardly about second folds 25 thereby raising the hand hole in the handle portions 13 to a position similar to that shown in figure 2. When carrying is finished, the handle can be pressed down again into the figure 5 position.

It will be clear that other arrangements will be possible, in particular the box section could be changed and also the retention means for the bottles. Also, more parallel folds could be provided in addition to the first, second and third folds 21, 24, 25.

Claims

1. A paperboard carrier device for a plurality of bottles arranged in two lengthwise extending rows, the device comprising two bottle receiving portions each of which has the form of a polygonal box in cross section and each of which is provided with aperture means for receiving and retaining the bottles of one of said rows, an upwardly projecting, lengthwise extending handle portion disposed between the two bottle receiving portions and two lengthwise extending web portions hingedly connected to a lower part of the handle portion by way of first folds and hingedly connected to respective bottle receiving portions by way of second folds which are substantially parallel to the first folds, the web portions each having a third fold intermediate the first and second folds and parallel thereto, whereby in use the handle portion has a lower position wherein the first and third folds are lower than the second folds and an upper position wherein the first and third folds are higher than the second folds.

2. A device as claimed in claim 1 wherein, the two receiving portions are secured at spaced locations relative to each other by one or more connecting section.

3. A device as claimed in claim 1 or 2 wherein, the distance between the two receiving portions is substantially equal to the sum of the distances between the respective second and third folds of the web portions.

4. A device as claimed in any one of claims 1 to 3 wherein, one connection section is provided at a substantially central location along the lengthwise axis of the device and the handle portion is generally C-shaped, spanning the central connecting section with each web portion comprising two web sections at both ends of the handle portion.

5. A device as claimed in claim 4 wherein, the handle portion comprises two layers of paperboard glued together and the two layers of the handle portion are folded together at the uppermost edge of the handle and each layer continues to form one of the web portions and then one of the receiving portions.

6. A device as claimed in any one of claims 1 to 5 wherein, the receiving portions are quadrilateral in section, having an inner side wall, a top panel, an outer side wall, a base panel, and a gluing portion, all of which are folded together in series with the

gluing portion adhered to the inner side wall.

7. A device as claimed in claim 6 wherein, the connecting section comprises a pair of connecting portions which are hingedly connected to lower edges of respective inner side walls of the receiving portions and which are secured to each other, preferably using adhesive.

8. A device as claimed in any one of claims 1 to 7 that reinforcing panels comprising extensions of the base panels extend below the connecting portions and are secured relative to the connecting portions using adhesive.

9. A device as claimed in any one of claims 1 to 8 each connecting portion is initially attached to its adjacent web sections by frangible tags.

10. A device as claimed in any one of claims 1 to 9 the aperture means comprises for each bottle an upper opening in the top panel and a lower opening in the base panel of the bottle receiving portion, each upper opening being provided with formations for engaging below a closure on the bottle with a snap fit.

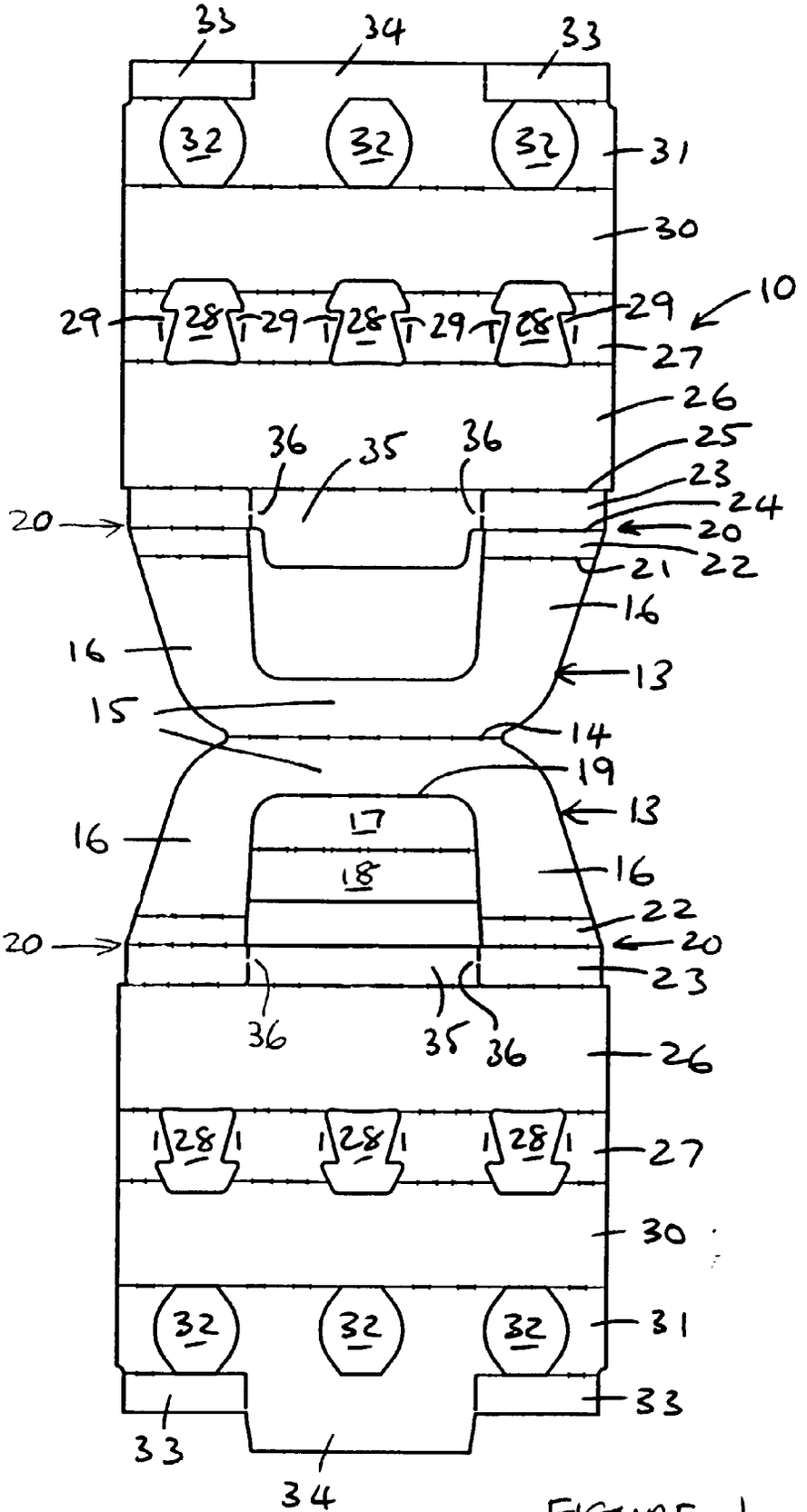
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FIGURE 1

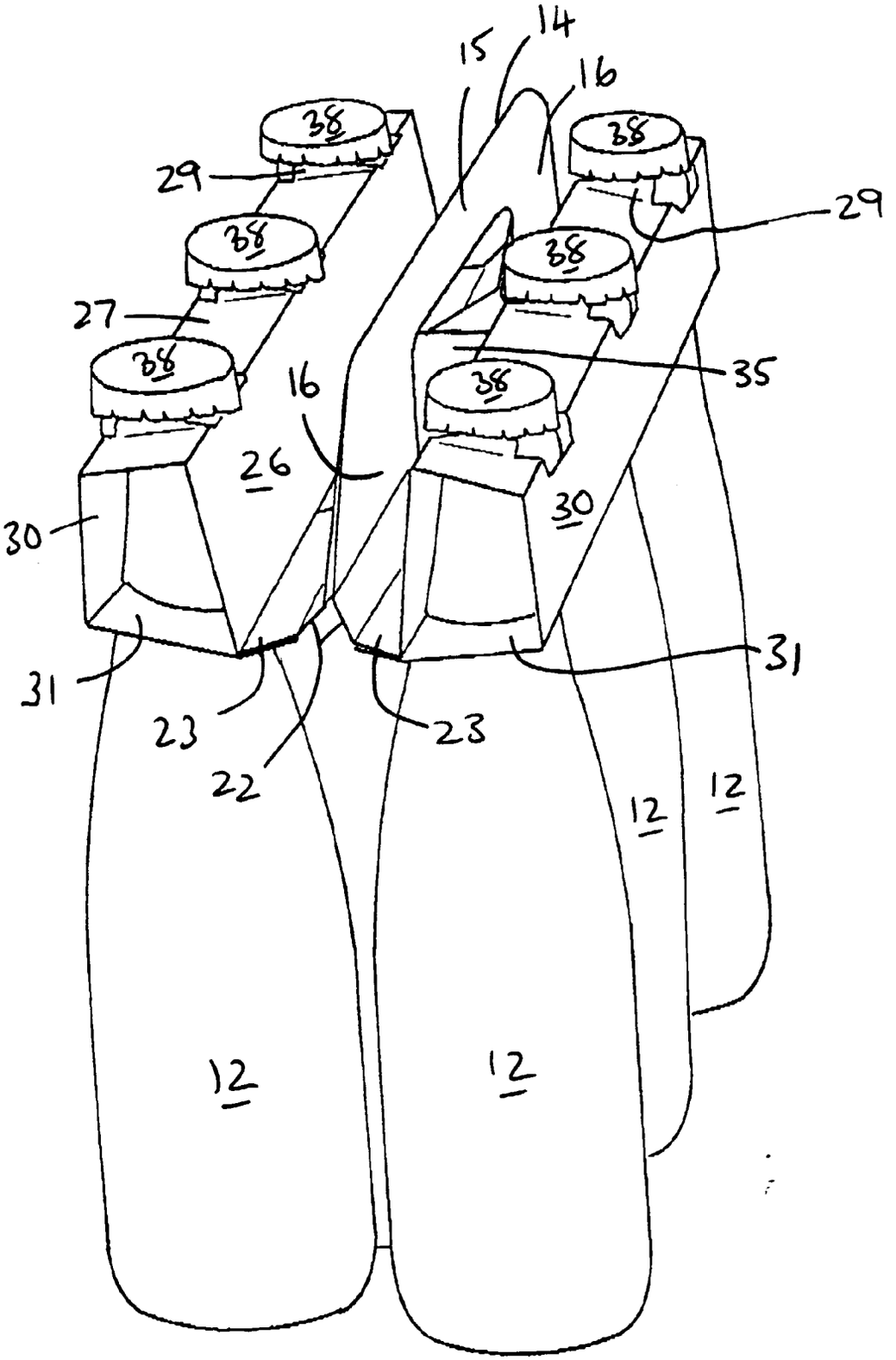
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FIGURE 2

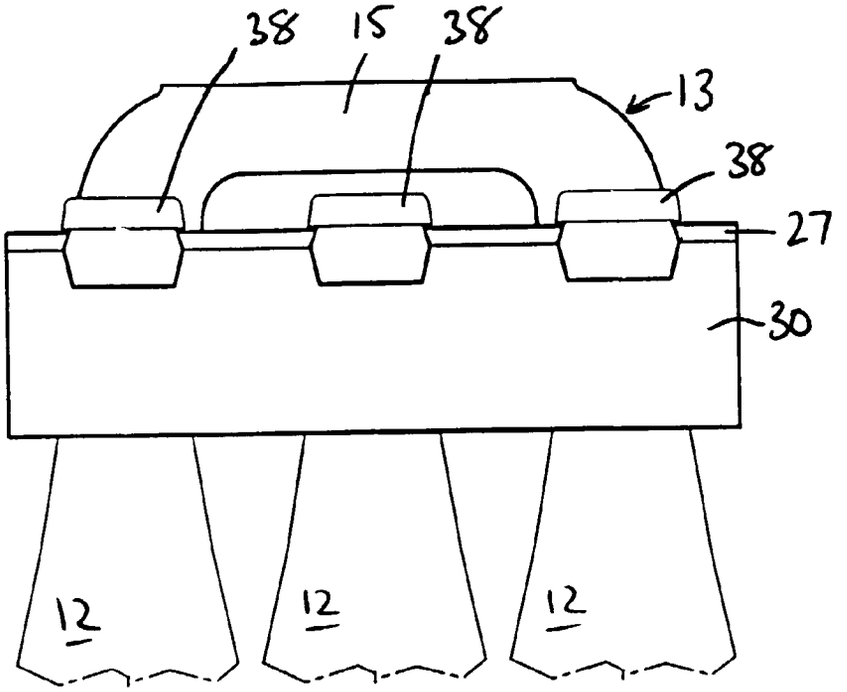

FIGURE 3

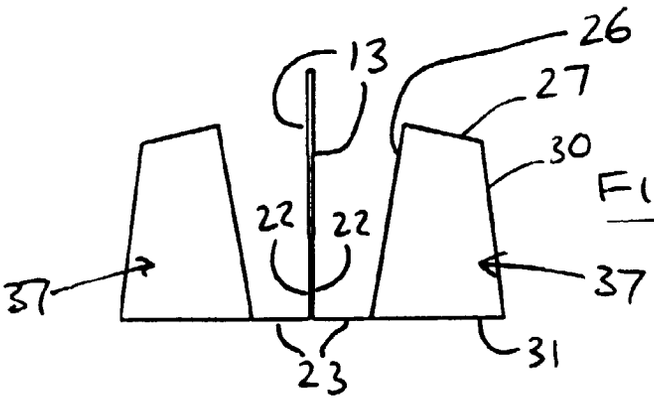

FIGURE 4

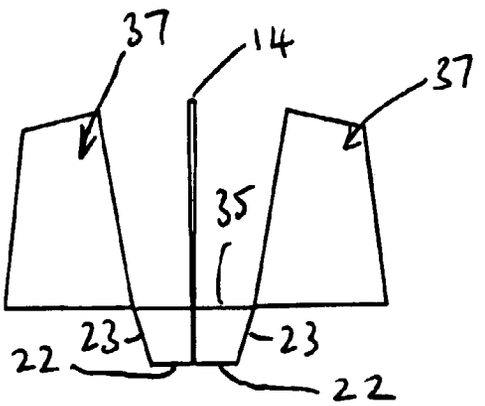

FIGURE 5

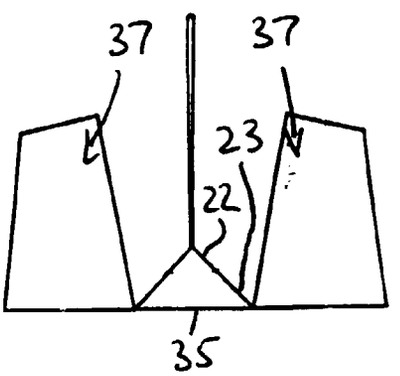

FIGURE 6

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EUROPEAN SEARCH REPORT

Application Number
EP 96 30 8970

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	US 3 404 912 A (REYNOLDS METALS COMPANY) * abstract; figures 4-6 *	1	B65D71/48
A	WO 95 24345 A (RIVERWOOD INTERNATIONAL) * abstract; figure 9 *	1	
A	FR 2 098 585 A (TAILLEUR FILS) * figure 3 *	1	
A	US 4 326 628 A (THE MEAD CORPORATION) * abstract; figures 1,3 *	1	
			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	21 March 1997	Lenoir, C

CATEGORY OF CITED DOCUMENTS

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