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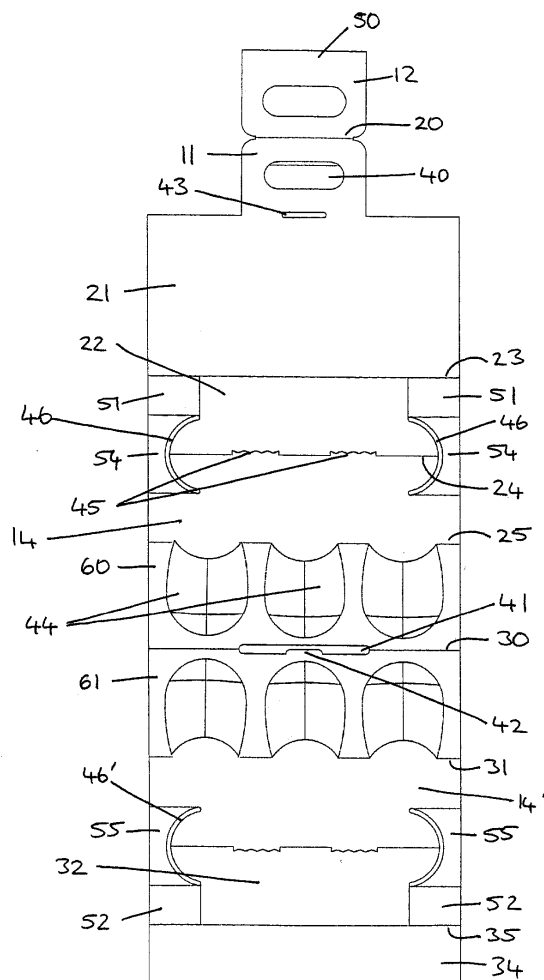
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(54) **Carrier**

(57) We describe a carrier which seeks to prevent containers, such as bottles, located in compartments at open ends of the carrier from slipping out of the carrier. We also describe a carrier in which adjacently located bottles are prevented from contacting into each other. We further describe a carrier in which sliding movement of a loaded carrier across a surface is minimised.

Figure 1



**EP 1 705 131 A1**

## Description

**[0001]** The present invention relates to carriers, and more particularly to carriers of the type commonly used for carrying containers such as bottles of wine or beer from a retailer.

**[0002]** Bottle carriers, generally made of cardboard, are well-known but tend to suffer from a number of disadvantages. These include a tendency to collapse during use, usually in accordance with Murphy's Law, at the most inconvenient point between the point of purchase and a purchaser's home or car, which often results in the retailer being called upon to provide replacement bottles, at their expense. Such carrier malfunction arises from poor efficiency during the gluing process of manufacture, with the problem only being identified when a failure occurs. The construction itself is often also the cause of the failure. Conventional carriers are designed to be expanded from a flat, unassembled state which is suitable for storage, to an assembled state by pushing the respective flat-packed sides of the carrier together. Carriers of this kind of design have a base generally formed from interlocking cardboard pieces fashioned with the bottom edge of the carrier sides. Carriers designed in this way are inefficient, as the main strength of the assembled carrier lies perpendicular to the vertical plane containing the load force exerted by the bottles when the carrier is loaded. Such constructions have a tendency to fail when the carriers are fully loaded, much to the inconvenience of the user.

**[0003]** Another problem associated with conventional bottle carriers is that adjacently placed bottles tend to knock together whilst the carrier is in use, particularly whilst the carrier is being transported in a moving vehicle.

**[0004]** Additionally, the bases of conventional carriers are substantially smooth and so there is a tendency for a loaded carrier to slide around in a moving vehicle.

**[0005]** A further problem associated with conventional bottle carriers is that when a carrier is only partially loaded it tends to be unbalanced and unstable when being carried. This effect is highlighted when an odd number of bottles are being carried, as the carrier tends to tip into an orientation in which bottles can potentially slide from the carrier.

**[0006]** US 4,049,116 discloses a carrier for glasses or bottles formed from a single blank of material and with a single die. During assembly the adhesive may be applied with a single line gluer, and the assembled carrier is adjustable to accommodate articles of different heights. An optional separator piece is used to separate the top rims of various height glasses within the carrier. However, the carrier still suffers from some of the disadvantages highlighted above and additionally from the fact that bottles placed in the end compartments can slip out of the carrier. This problem is particularly evident when the carrier is unbalanced by being used for an uneven number of bottles. The carrier includes open apertures to receive bottles placed in the carrier, which means that the carrier is

not well-adapted for carrying a range of different sized or shaped bottles.

**[0007]** Accordingly, the present invention seeks to address the above problems whilst remaining compatible with existing production methods.

**[0008]** The present invention seeks to provide a carrier which prevents containers, such as bottles, located in compartments at open ends of the carrier from slipping out of the carrier.

**[0009]** The present invention also seeks to provide a carrier which prevents adjacently located bottles from contacting into each other.

**[0010]** The present invention further seeks to provide a carrier which minimises sliding movement of a loaded carrier across a surface.

**[0011]** The present invention also seeks to provide a carrier which can be more efficiently manufactured than other carriers currently commonly available.

**[0012]** In its broadest sense, the present invention provides a container carrier in which the carrier comprises a downwardly extending and substantially vertical dividing wall formed with a handle portion which extends upwardly therefrom and a handle reinforcement portion which extends downwardly from the handle portion adjacent thereto, the carrier further comprising a first base portion extending generally laterally away from the dividing wall, and a first sidewall extending generally upwardly therefrom; a first roof section extending generally upwardly and laterally from the first sidewall towards the handle portions; a second roof section extending generally downwardly and laterally from the first roof section and the handle portions, wherein the handle portions pass through a slot formed in a ridge dividing first and second roof sections; a second sidewall extending generally downwardly from the second roof section; a second base portion extending generally laterally away from the second sidewall and towards the dividing wall and the first base portion; and a minor dividing wall extending upwardly from the second base portion, adjacent to and adhered to the dividing wall, wherein the roof sections each include container receiving portions.

**[0013]** Preferably, the carrier is formed from a unitary blank. Suitably, the carrier is formed from a corrugated board material, suitably cardboard or a plastics equivalent.

**[0014]** In a first aspect of the present invention, the container-receiving portions each comprise a plurality of deformable flaps.

**[0015]** In a second aspect of the present invention, container-retaining barriers are provided at open ends of the carrier.

**[0016]** Optionally, tabs are formed in the base of the assembled carrier to define container-accommodating areas and to prevent adjacent containers from knocking each other whilst the carrier is in transit.

**[0017]** Preferably, the carrier is collapsible for storage or transportation. More preferably, the carrier includes locking means to lock the carrier in an expanded form.

Suitably, a tab is formed extending from an upper edge of at least one of the roof portions to engage a corresponding cut-out in the separator piece, below the carrier handle. The separator prevents bottles located opposite one another on either side of the handle from knocking into each other. The separator is generally open toward the ends of the carrier, but also features a barrier, formed with the carrier base, to prevent bottles located at the ends of the carrier from slipping out therefrom.

**[0018]** In a third aspect of the present invention there is provided a container carrier having a base including feet to reduce slippage whilst the carrier rests on a surface. Suitably, the feet have a serrated edge. Optionally, the feet are squared. The carrier may be any conventional carrier or a carrier of the type described above.

**[0019]** The above and other aspects of the present invention will now be described in further detail, by way of example only, with reference to the accompanying figures, in which:

- Figure 1 is a plan view of a blank of first embodiment of a carrier in accordance with the present invention;
- Figure 2 is a perspective view along a side and from a first end of a carrier formed from the blank of Figure 1;
- Figure 3 is a side view of the embodiment of Figure 2;
- Figure 4 is an end view of the embodiment of Figure 2;
- Figure 5 is a plan view from above of the embodiment of Figure 2;
- Figure 6 is a plan view from below of the embodiment of Figure 2;
- Figures 7A-E are alternative feet designs for a bottle carrier in accordance with the present invention;
- Figure 8 is a plan view of a blank of a second embodiment of a carrier in accordance with the present invention;
- Figure 9 is a plan view of a blank of a third embodiment of a carrier in accordance with the present invention; and
- Figure 10 is a perspective view along a side and from a first end of a carrier formed from the blank of Figure 9.

**[0020]** With reference to Figure 1, a single piece blank 10 is shown, from which completed carrier 9 may be

formed through folding. The carrier blank 10 comprises a single elongate piece of a material and includes regions corresponding to a handle portion 11, a handle reinforcement portion 12, a roof portion 13, sidewalls 14, 14' and a base 15.

**[0021]** Handle reinforcement portion 12 is formed at a first end of the elongate blank 10 and is attached, opposite a fold line 20, to handle portion 11. Handle 11 is formed with a major dividing wall 21, which connects to a first base portion 22 through fold line 23. First base portion 22 in turn connects to a first sidewall 14, through fold line 24, which itself is formed with roof 13, and divided therefrom by fold line 25. Roof 13 is further divided into first and second roof sections 60, 61, mirrored by fold line 30, wherein first roof section 60 sits between fold lines 25 and 30. Accordingly, second roof section 61 is attached to a second sidewall 14' through fold line 31, and said second sidewall 14' is divided from second base portion 32 by fold line 33. Second base portion 32 is formed with a minor dividing wall 34 and is divided therefrom by fold line 35. Fold lines 20, 23, 24, 25, 30, 31, 33 and 35 are substantially parallel.

**[0022]** Additionally, handle portion 11 and handle reinforcement portion 12 further comprise a complementary cut-out and flap 40. In the embodiment shown, an edge proximate fold line 20 of the partial cut-out of handle portion 11 forms a fold line so that the cut-out defines flap 40. When the carrier 9 is in an assembled state, this arrangement allows the flap to be folded back through the handle portion 11 and the cut-out of the handle reinforcement portion 12 to provide a more comfortable handle grip through which a user may place their hand for holding the carrier 9. It will be recognised by the skilled person that flap 40 may alternatively be formed on handle reinforcement portion 12.

**[0023]** Fold line 30, bridges and divides roof 13 into roof sections 60 and 61 and further comprises a slot 41 with dimensions suitable to allow simultaneous passage of handle portion 15 and handle reinforcement portion 14 therethrough. Additionally, a locking tab 42 is formed integrally with slot 41 and engages a complementary locking slot 43 formed at the base of handle portion 11. In an alternative embodiment (not shown) the tab and slot may be positioned respectively on the opposite side of slot 41 and at the base of handle reinforcement portion 12. In a further alternative embodiment, complementary tab and slot arrangements may be provided on both sides of the carrier 9 for added stability. As shown in Figures 2 to 5, when blank 10 is assembled into its corresponding carrier, the locking tab 42 engages slot 43 to hold the carrier in a configuration suitable for use.

**[0024]** Blank 10 further includes a plurality of pairs of bottle engaging flaps 44 the roof 13. The flaps 44 allow a bottle to be inserted therethrough and into the body of the carrier, and grip a bottle so inserted around its neck or body. The flaps 44 also prevent adjacently placed bottles from knocking against each other when the carrier is in use. Each flap 44a, 44b of a pair comprises a portion

hingedly attached to the surrounding roof 13 along a hinge line 46 (Figure 3). An upper portion 47 of each flap is cut such that it is not joined to the roof 13. A transverse fold line is formed between the upper 47 and lower 48 sections of each flap. In the figures, a solid line represents a cut between the flap and adjacent roof 13 and a hashed line represents a fold line, suitably formed by perforations or by compressing the board along the line.

**[0025]** Additionally, first and second base portions 22, 32 of blank 10 also comprise tabs 45 in the form of feet to prevent a loaded carrier from slipping, for instance in the boot of a car whilst in transit. In the embodiment shown the feet 45 are formed along fold lines 24 and 33, though it will be recognised that they could be formed anywhere within the base portions 22, 32. Figures 7A-E illustrate a number of alternative feet designs.

**[0026]** Blank 10 may also include separator flaps (not shown) formed in the first and second base portions 22, 32. In a bottle carrier designed to accommodate six bottles the separator flaps longitudinally divide the bottom portions 22, 32, into thirds. In the assembled configuration the flaps are folded into the body of the carrier to provide a means of separating the bases of adjacent bottles placed therein.

**[0027]** Prior to assembly of the carrier 9, glue is applied to sections 50 to 53 of blank 10. Sections 50 to 52 lie on an opposite face of blank 10 to section 53. Alternatively, it will be recognised that the regions of the blank to which glued sections 50 to 53 adhere may also be glued. During assembly handle portions 11 and 12 are folded so that glued section 50 lies therebetween to adhere the two handle portions together. The thus formed handle is then passed through slot 41 of roof 13, and all fold lines lying therebetween are folded accordingly to form a first side of carrier 9. End barriers 54, formed from cut-outs 46 which span sidewall 14 and first base portions 22, are folded upwards so that glued portions 51 adhere the barrier to the dividing wall 21. Minor dividing wall 34 of the second end of blank 10, distal to the handle portion, is then folded along fold lines 31, 33 and 35, to form a symmetrical carrier 9, and adhered to dividing wall 21. End barriers 55 of the second thus formed side, and formed from cut-outs 46', are folded upwards so that glued portions 52 adhere the barrier to minor dividing wall 34, which is itself adhered to dividing wall 21. Once the glue has set, the handle portion may be passed back through slot 41 to provide a flat configuration of carrier 9, which is suitable for packing, storage and shipment.

**[0028]** In the expanded configuration, as seen in Figures 2 to 6, the carrier 9 is capable of receiving and accommodating a range of different sized bottles due to bottle engaging flaps 44.

**[0029]** When a carrier according to the present invention has been formed it can be folded flat for storage and shipment, by passing the handle portion back through the slot formed in the ridge dividing the first and second roof sections. The carrier is easily expanded for use, and in its expanded form, the sidewalls of the carrier are

pressed down over a locking tab at the base of the handle to maintain the expanded configuration. In use, bottles can be placed in the carrier and are received therein by pushing the base of the bottle through bottle engaging flaps in the carrier roof which connects the respective sidewalls and which provides a means of separating adjacent bottles. The bottle engaging flaps grip the body or neck of a bottle located within the carrier to prevent clanking whilst the carrier is being used to carry a number of bottles, or whilst the carrier is in transit within a vehicle.

**[0030]** A modified carrier is shown in blank form in Figure 8. The construction is generally the same as the embodiment described above. However, left and right edges (as viewed from the front) of each roof section 60, 61 are provided with reinforcing elements in the form of edge flaps 70. In forming the assembled carrier, flaps 70 are folded behind the outer surface of the respective roof section and glued in position.

**[0031]** Additional reinforcement may optionally be applied to minor dividing wall 34 and the operatively lower part of the major dividing wall 21, as shown by the shaded portions in Figure 8. Reinforcement may be by means of an additional cardboard element glued in position or by means of a sheet material such as paper. The reinforcement may be overprinted to improve the aesthetics of the carrier.

**[0032]** As a further modification, the bottle-engaging flaps are redesigned. The upper portion 47 is omitted such that each flap has a single portion 71, hingedly formed with the roof portion 13, with an aperture 72 formed above. The provision of an aperture 72 together with flaps 71 maintains good frictional engagement with a bottle, carton or other container, but improves the obviousness of the location of the bottle-receiving apertures for the end user.

**[0033]** Further, a modified carrier having feet 45 in accordance with a third aspect of the invention is shown in Figures 9 and 10. The construction of the carrier is generally the same as that of conventional carriers. However, feet 45 are provided to prevent a loaded carrier from slipping, for instance in the boot of a car, whilst in transit.

**[0034]** As may be seen, therefore, the present invention provides numerous advantages. It may be assembled easily and inexpensively, and is capable of accommodating bottles of a range of different sizes and shapes. The design of the carrier is such that it will provide stable storage means and will prevent bottles from knocking together and breaking during transit. It may be formed with a single die, using conventional manufacturing equipment. It uses around 12% less material than conventional carriers which are in common use, may be folded flat for shipment, and can be easily expanded and assembled by the user.

## Claims

1. A container carrier wherein the carrier comprises a

- downwardly extending and substantially vertical dividing wall formed with a handle portion which extends upwardly therefrom and a handle reinforcement portion which extends downwardly from the handle portion adjacent thereto, the carrier further comprising a first base portion extending generally laterally away from the dividing wall, and a first sidewall extending generally upwardly therefrom; a first roof section extending generally upwardly and laterally from the first sidewall towards the handle portions; a second roof section extending generally downwardly and laterally from the first roof section and the handle portions, wherein the handle portions pass through a slot formed in a ridge dividing first and second roof sections; a second sidewall extending generally downwardly from the second roof section; a second base portion extending generally laterally away from the second sidewall and towards the dividing wall and the first base portion; and a minor dividing wall extending upwardly from the second base portion, adjacent to and adhered to the dividing wall, wherein the roof sections each include container receiving portions.
2. A container carrier comprising a base and a body defining container-carrying portions, wherein the base comprises feet.
  3. A carrier as claimed in Claim 1 wherein the base further comprises feet.
  4. A container carrier as Claim 2 or Claim 3 wherein each of the feet has a serrated edge.
  5. A container carrier as claimed in any one of claims 2 to 4 wherein the feet are square shaped.
  6. A container carrier as claimed in any one of claims 2 to 5 wherein the feet are arcuate shaped.
  7. A container carrier as claimed in any one of claims 2 to 6 wherein the feet are integrally formed with the base.
  8. A container carrier as claimed in any one of claims 1 to 7 wherein the carrier is formed from a unitary blank.
  9. A container carrier as claimed in any one of claims 1 to 8 wherein the container-receiving portions each comprise a plurality of deformable bottle-engageable flaps.
  10. A container carrier as claimed in Claim 9 wherein the deformable bottle-engageable flaps further comprise an aperture.
  11. A container carrier as claimed in any one of claims 1 to 10 further comprising container-retaining barriers, provided at open ends of the carrier.
  12. A container carrier as claimed in Claim 11 wherein the container-retaining barriers are formed with the base portions.
  13. A container carrier as claimed in any one of claims 1 to 12 wherein the carrier further comprises a plurality of separator flaps to prevent adjacently locatable containers from knocking each other whilst the carrier is in transit.
  14. A container carrier as claimed in Claim 13 wherein the separator flaps are formed in the base portions of the carrier.
  15. A container carrier as claimed in any one of the preceding claims wherein the carrier is collapsible for storage or transportation.
  16. A container carrier as claimed in Claim 15 wherein the carrier includes locking means to lock the carrier in an expanded form.
  17. A container carrier as claimed in Claim 16 in which the locking means comprises a tab and a corresponding cut-out and wherein the tab extends from an upper edge of at least one of the roof portions to engage the cut-out in the dividing wall, below the carrier handle.
  18. A container carrier as claimed in any one of the preceding claims wherein the carrier is formed from a corrugated board material, suitably cardboard or a plastics equivalent.

Figure 1

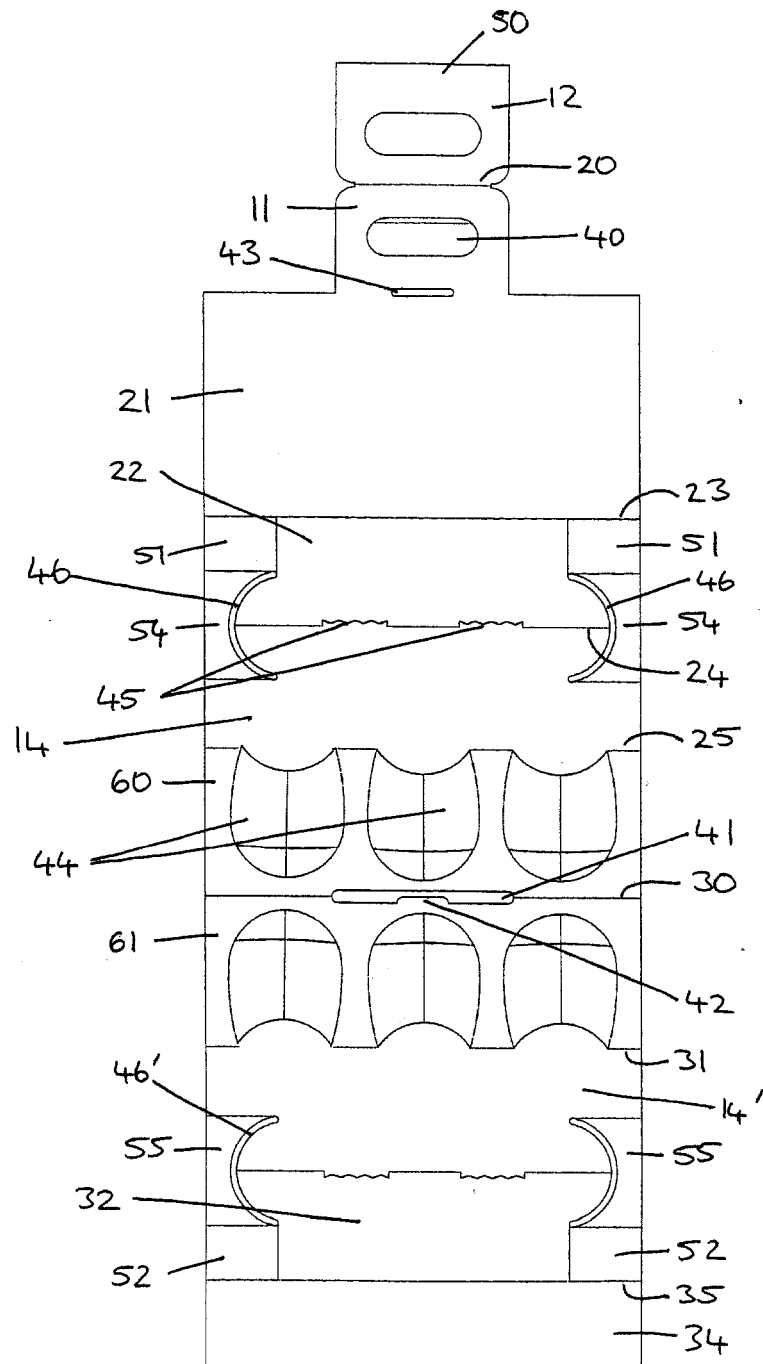


Figure 2

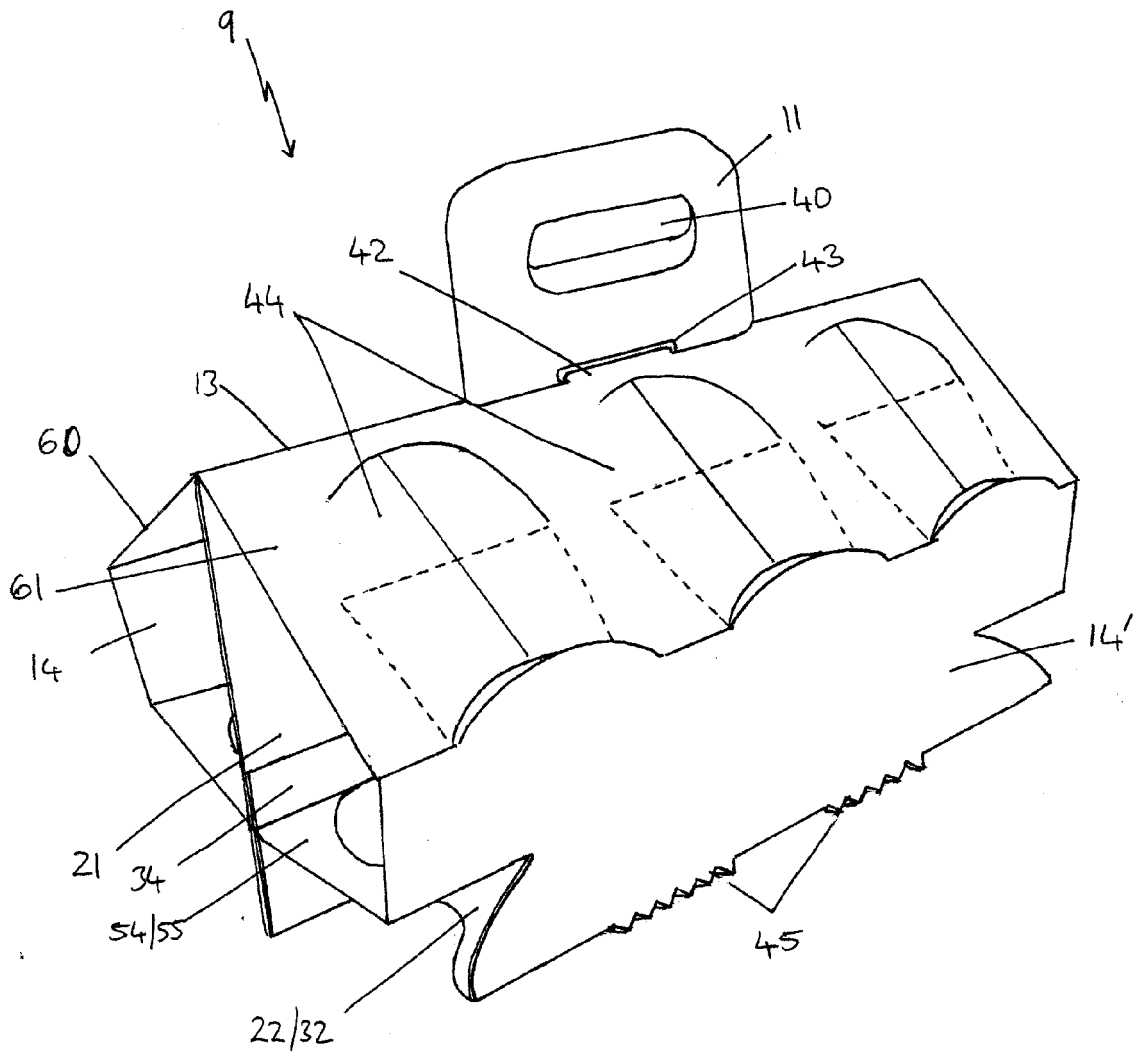


Figure 3

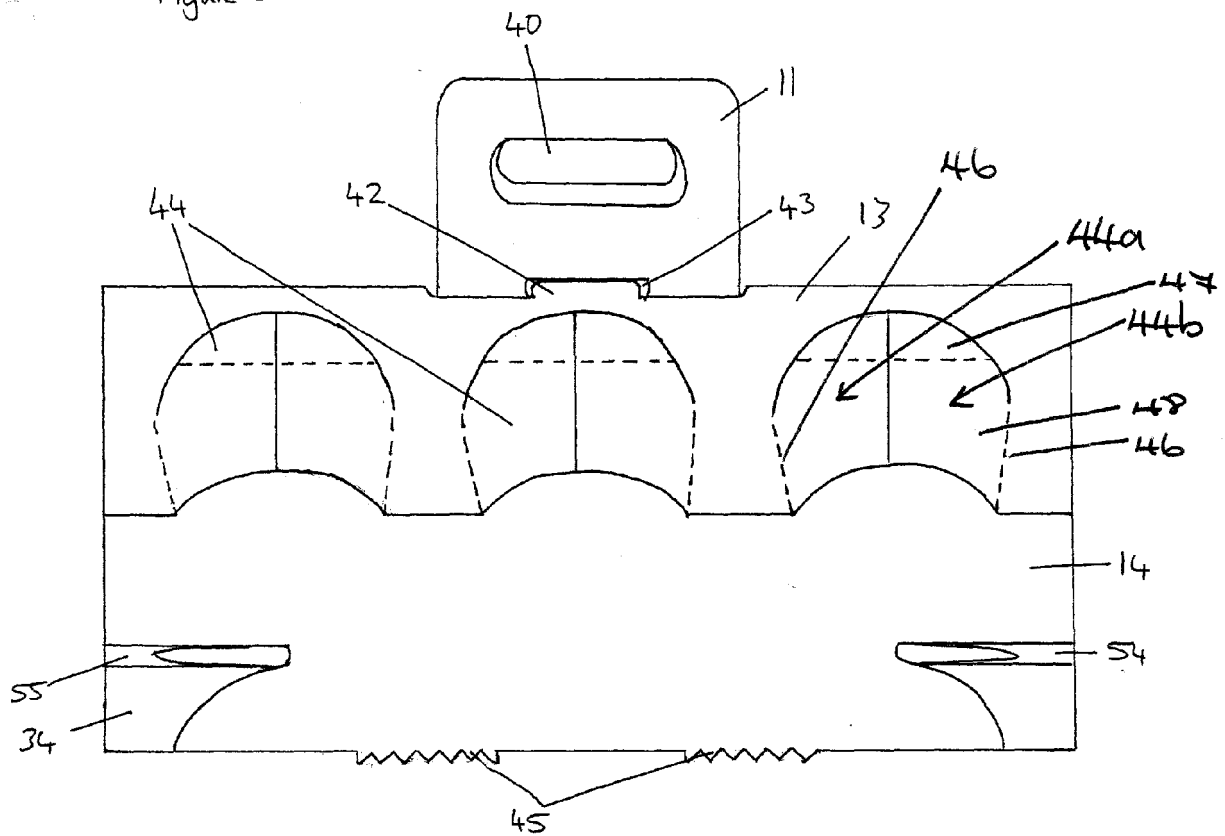


Figure 4

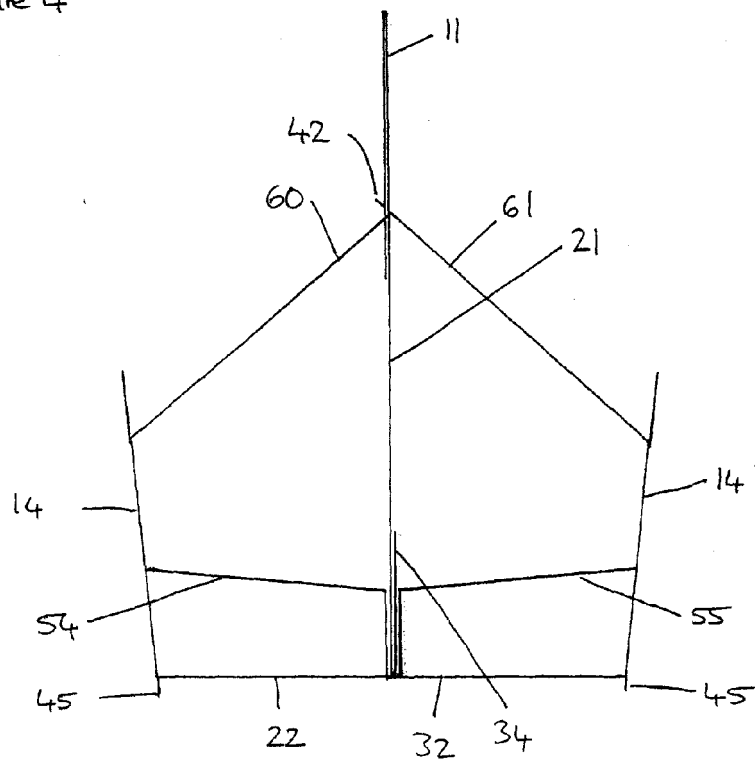




Figure 5

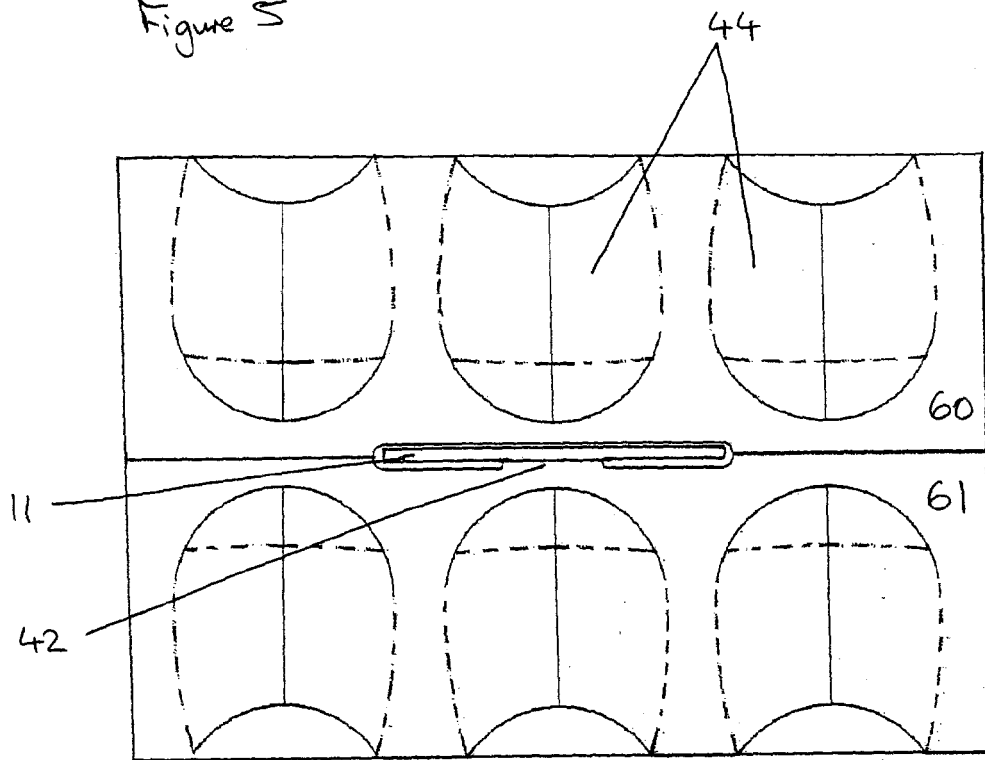


Figure 6

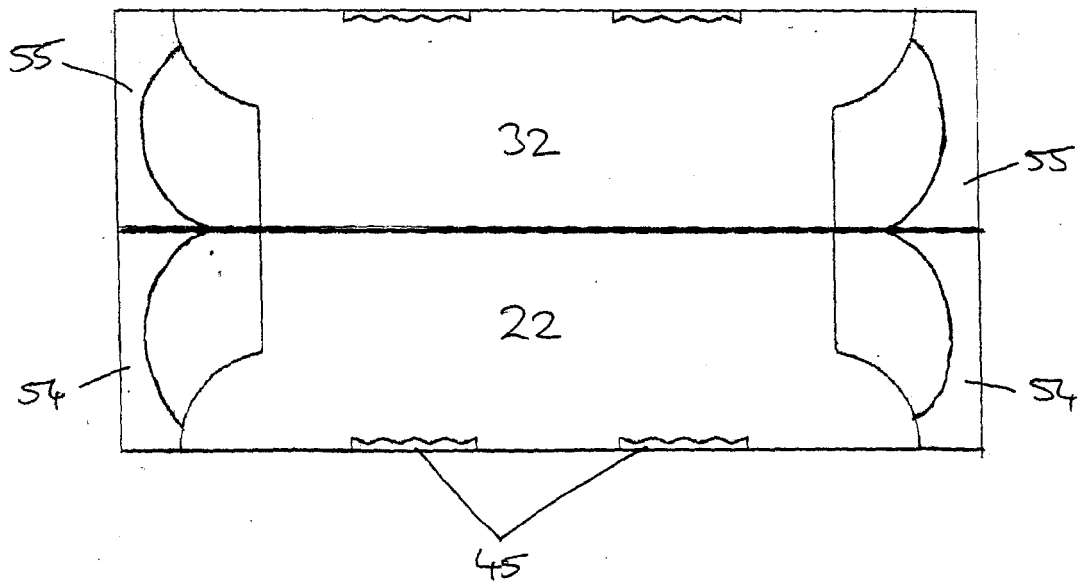


Figure 7

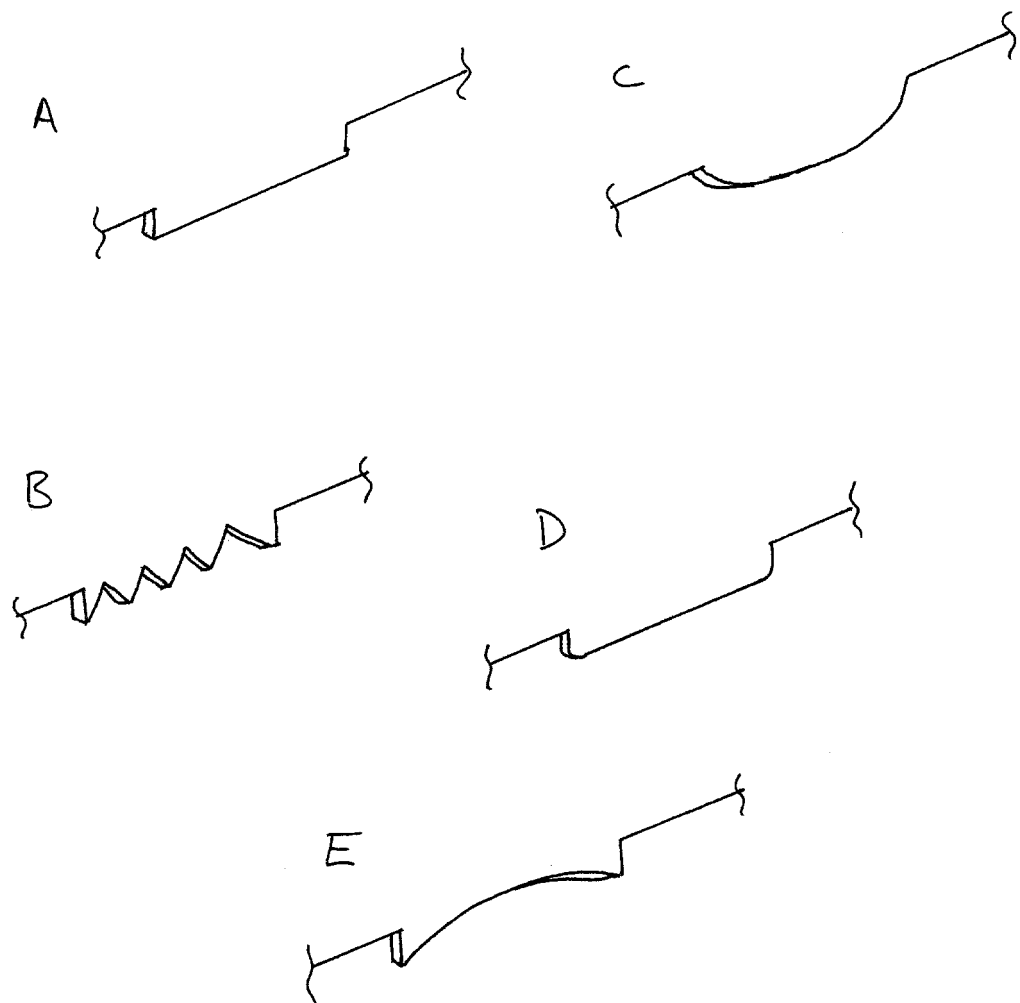
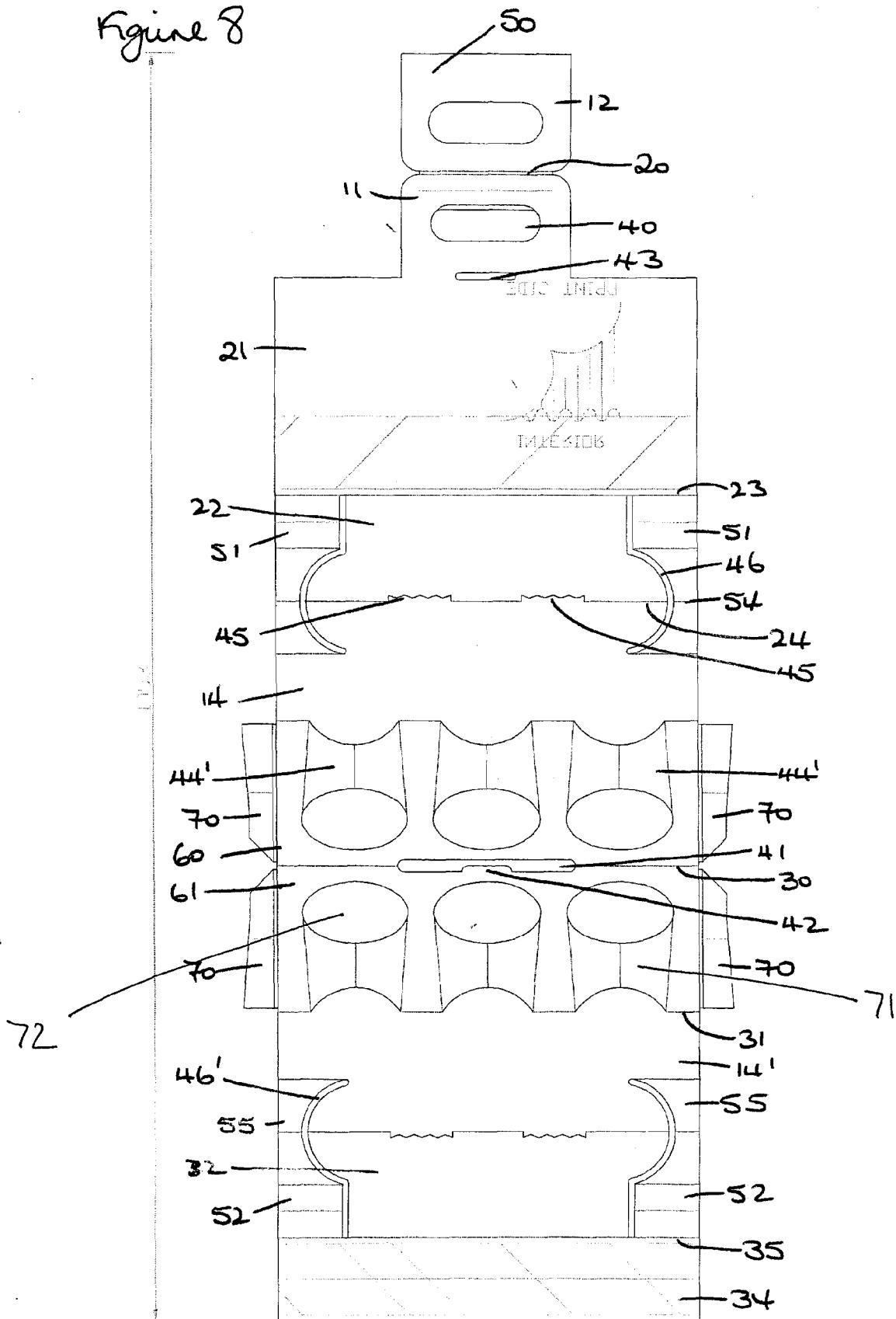


Figure 8



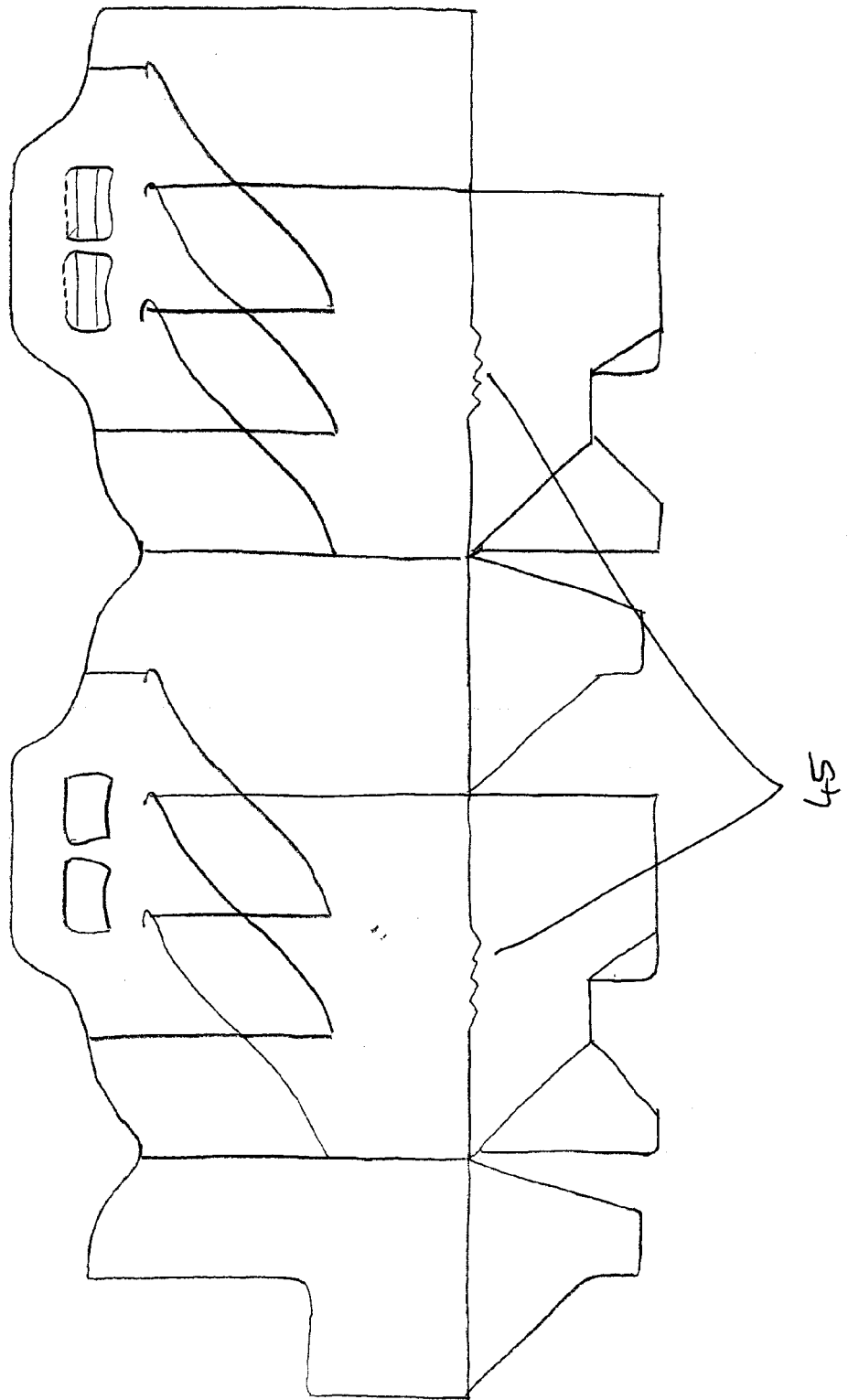
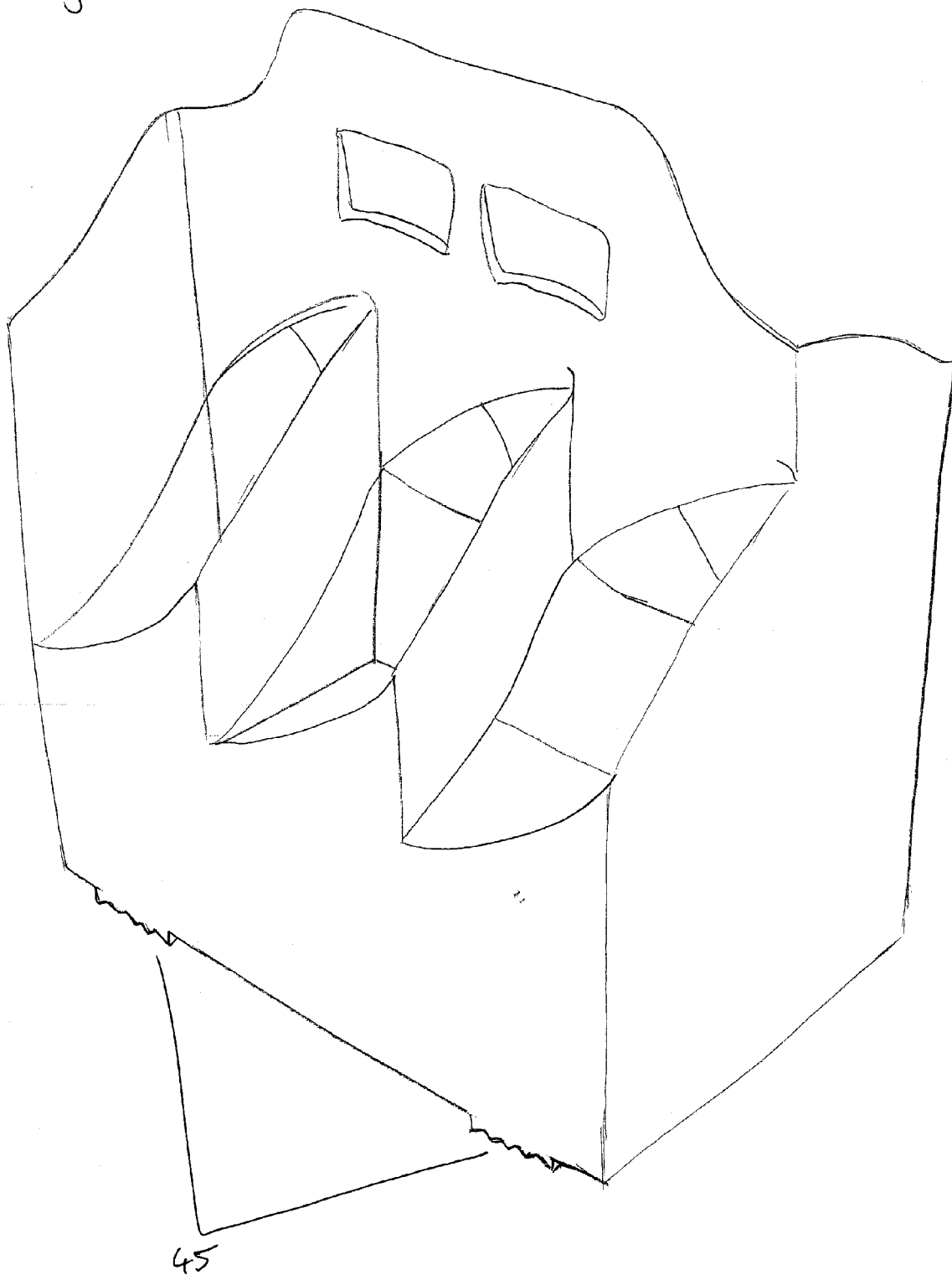


Figure 9

Figure 10





European Patent  
Office

## EUROPEAN SEARCH REPORT

Application Number  
EP 06 11 1660

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
D,X	US 4 049 116 A (COPE ET AL) 20 September 1977 (1977-09-20)	1,8, 13-16,18	INV. B65D71/48
Y	* column 3, line 18 - column 4, line 62 *	3,5,7, 9-12	B65D71/60
A	* figures 1-4,8,10 *	3,4,17	
X	----- US 2002/168454 A1 (SALMON DAVID EUGENE ET AL) 14 November 2002 (2002-11-14)	2,8,18	
Y	* paragraph [0031] *	3,5,7	
X	----- US 4 645 072 A (LEMON ET AL) 24 February 1987 (1987-02-24)	2,8,18	
A	* abstract *	3-7	
	* column 3, line 60 - line 63 *		
	* figures 1,2 *		
X	----- EP 0 340 920 A (CMB PACKAGING LIMITED) 8 November 1989 (1989-11-08)	2,8,18	
A	* column 5, line 6 - line 10 *	3-7	TECHNICAL FIELDS SEARCHED (IPC)
	* figures 1-3 *		B65D
Y	----- GB 2 342 637 A (* EURO PACKAGING PLC) 19 April 2000 (2000-04-19)	9-12	
A	* page 14, line 16 - line 22 *	1	
	* page 16, line 23 - line 28 *		
	* figure 4 *		
A	----- FR 1 282 680 A (BARREZ, LUCIEN) 27 January 1962 (1962-01-27)	1,11-15	
	* page 2, paragraph 6 *		
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A	----- DE 26 47 594 A1 (FISHLOVE, HOWARD I) 27 April 1978 (1978-04-27)	17	
	* figure 2 *		
	-----		
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 11 July 2006	Examiner Leijten, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	

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EPO FORM 1503 03.82 (P04C01)

**CLAIMS INCURRING FEES**

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

**LACK OF UNITY OF INVENTION**

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☒ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☐ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:



The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. claims: 1,3-18

A container carrier with a reinforced handle, roof portions with container receiving portion, side walls, base portions and a vertical dividing wall.

1.1. claim: 2

A container carrier comprising a base and a body defining container-carrying portions, wherein the base comprises feet.

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Please note that all inventions mentioned under item 1, although not necessarily linked by a common inventive concept, could be searched without effort justifying an additional fee.



**ANNEX TO THE EUROPEAN SEARCH REPORT  
ON EUROPEAN PATENT APPLICATION NO.**

EP 06 11 1660

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.  
The members are as contained in the European Patent Office EDP file on  
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11-07-2006

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**REFERENCES CITED IN THE DESCRIPTION**

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**Patent documents cited in the description**

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