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(54) **Carton and carton blank with partially covered top**

(57) A carton for a group of bottles comprising an open top container (10) and a complementary top closure (20), the complementary top closure is attached to the open top container and structured such that an en-

closure is formed which conceals some of the bottles contained within the carton, the enclosure being hinged to a display panel which may be provided with apertures for displaying the other bottles contained within the carton.

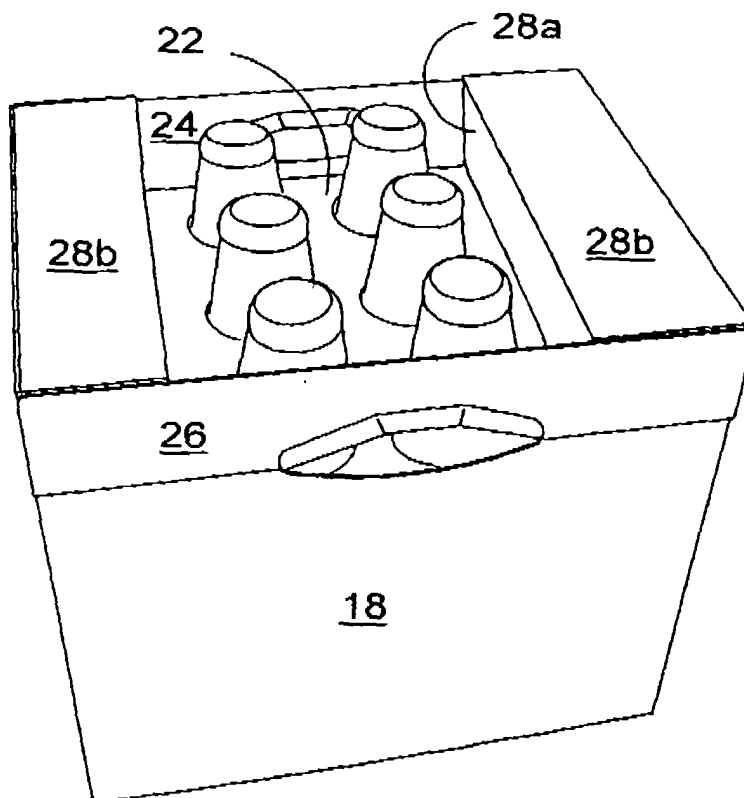


FIGURE 6

EP 1 584 564 A1

Description

Background of the Invention

[0001] The present invention relates to a carton for containing a plurality of similar articles, such as bottles and a means for retaining the bottles within the carton and in particular to a means of covering the articles.

[0002] Cartons for encasing multiple articles are useful for enabling consumers to obtain and transport a desired quantity of individual articles such as soft drinks or other beverages. Such cartons need to be strong enough to support multiple articles, especially if the articles are bottles. It is also desirable for such cartons to be easy to handle, portable and also safely stackable for use in warehouses and supermarkets.

[0003] For providing lots of advertising graphics, it is often desirable for cartons to have large areas which are printable. It is also often desirable for the articles contained within the carton to be easily accessible and it is also preferable for the articles to be secured in place within the carton, especially if the articles are fragile, for example glass bottles. It is however undesirable for articles to be accessed too easily, for example, before being purchased. It may also be desirable for some articles contained within the carton to be very securely contained whilst some other articles are displayed, for example in a promotional pack.

[0004] It is also desirable to have a carton which after the contents of the articles have been consumed can be used to return the empty articles to a recycling point.

[0005] The present invention seeks to provide a means for providing a safely stackable and portable carton which can display some articles and may obscure a portion of some other articles in combination with an access means for removal of the articles where the access means leaves the carton with sufficient integrity for replacement of articles for the purpose of returning to a recycling point.

Summary of the Invention

[0006] According to a first aspect of the invention, in or for a carton for a group of articles, of the type comprising an open top container and a complementary top closure being receivable substantially to close the open top container, the top closure comprising a display panel which includes a plurality of apertures, each to receive a portion of an article held within the open top container so that the portion so received is exposed to view in the top of the container and at least one enclosure portion also to receive top portions of a plurality of articles whereby some of the articles contained within the carton are concealed by the or each enclosure portion and the other articles are concealed by the display panel other than the said portions exposed to view.

[0007] Preferably each aperture may have a frangible connection to at least one other aperture to facilitate the

removal of the articles when the frangible connection is broken at least in part.

[0008] Additionally the or each enclosure portion may be formed partly by the complementary top closure and partly by the open top container, such that an upper plane of the or each enclosure is of multi-ply construction.

[0009] Additionally there may further comprise at least one reinforced handle structure, the arrangement being such that the or each reinforced handle structure is of multi-ply construction, wherein at least one ply is provided by the open top container and at least one further ply is provided by the top closure.

[0010] Preferably wherein the open top container comprises side walls, the ply of the reinforced handle structure provided by the open top container being struck from one of said side walls and a further ply of the reinforced handle structure is provided by a handle panel hinged to the top closure.

[0011] According to a second aspect of the invention there is provided a blank for forming a carton for a group of articles, of the type comprising an open top container and a complementary top closure being releasibly receivable substantially to close the open top container when the carton is set up, the top closure comprising a display panel which includes a plurality of apertures, each to receive a portion of an article held within the open top container so that the portion so received is exposed to view in the top of the container and at least one enclosure portion also to receive top portions of a plurality of articles whereby some of the articles contained within the carton are concealed by the or each enclosure portion and the other articles are concealed by the display panel other than the said portions exposed to view.

[0012] Preferably each aperture may have a frangible connection to at least one other aperture to facilitate the removal of the articles when the frangible connection is broken at least in part.

[0013] Preferably wherein the or each enclosure portion is formed partly by the complementary top closure and partly by the open top container, such that an upper plane of the or each enclosure is of multi-ply construction.

[0014] Additionally the carton may further comprise at least one reinforced handle structure, the arrangement being such that the or each reinforced handle structure is of multi-ply construction, wherein at least one ply is struck from the open top container and at least one further ply is provided by a handle panel hinged to the top closure.

Brief Description of the Drawings

[0015] An exemplary embodiment of the invention will now be described, by way of example only, with reference to the accompanying drawings in which;

Figure 1. illustrates a first part of a blank for forming

a top cover according to one embodiment of the invention;

Figure 2. illustrates a second part of a blank for forming an open top container according to one embodiment of the invention;

Figure 3. illustrates a step in the folding operation of the blank of Figure 2;

Figure 4. is a top and front view of an open top container formed from the blank of Figure 1;

Figure 5. illustrates a step in the construction of a carton from the open top container of figure 4 and the top closure of figure 3;

Figure 6. is a perspective view from the top and front of a carton constructed from the open top container of figure 4 and the top closure of figure 3,

Detailed Description of the Preferred Embodiments

[0016] Figs. 1 and 2, show a first and second part of a two-part blank for forming a carton 30, made from paperboard or similar foldable sheet material. It is envisaged that a unitary blank could be used instead, without departing from the scope of the invention. In one embodiment of the invention two blanks 10 and 20, of Figs. 1 & 2 are formed into a tubular crate and a cover respectively. The cover is inserted into the tubular crate to construct the carton 30 of one embodiment of the invention, which is shown in Fig. 6.

[0017] In the embodiment to be described it will be recognised that minor variations to the invention could be made for example a crash bottom of the type known in the art could be employed, without departing from the scope of the invention. The invention is designed to receive similar articles, such as bottles, but it is envisaged that the present invention could be used to contain other articles without departing from the scope of the invention. It is envisaged that the carton could be used for containing different types of articles in a promotional pack, for example both bottles and drinking glasses.

[0018] Turning to Figure 1, the blank 10 comprises a first side wall 12, a front panel 14, a second side wall 16 and a back panel 18, hingedly connected one to the next in series along fold lines 44, 46 and 48 respectively. Handle apertures 54 are struck from the first and second side walls 12, 16. Finger gripping tabs 58 protrude inward from the upper edges of the handle apertures 54. The finger gripping tabs enable the erected carton to be easily grasped and lifted by the handle apertures 54.

[0019] The blank further comprises bottom end flaps 72 and 74 hingedly connected to each of the first and second side walls 12, 16 along fold lines 62 and to each of the front and back panels 14, 18, along fold lines 64. The bottom end flaps 72, 74 provide a bottom end clo-

sure means when the blank is erected into a tubular crate. It is envisaged that other bottom end closure means could be used without departing from the scope of the invention.

[0020] Top end flaps 76 are also provided and are hinged to the front and back panels 14, 18, opposite the bottom end flaps 74. The top end flaps 76 are secured to the top cover formed from blank 20 when the carton 30 is fully constructed. The blank 10 also comprises a glue flap 88 which is hingedly connected to the first side wall 12, along fold line 42.

[0021] Turning to the construction of the tubular crate from blank 10, a series of sequential folding and gluing operations are required, which preferably can be performed in a straight line machine, so that the crate and/or blank 10 are not required to be rotated or inverted to complete the construction. The folding process is not limited to that described below and can be altered according to particular manufacturing requirements.

[0022] The first stage is to apply glue to the outside edge of glue flap 88 and then fold it 180° about fold line 42 so that it lies in flat face contacting relation with the inside face of the first side wall 12. The second side wall 16 is then folded about fold line 46 so that it lies flat on top of the inside face of front panel 14. This causes the back panel 18 to come into flat face contacting relation with the first side wall 12 and the glued outer edge of glue flap 88, so that the back panel 18 becomes stuck to the glue flap 88, thus connecting the first side panel 12 and back panel 18. The blank 10 can then be erected into a tubular structure and using a similar series of folding and gluing steps, the bottom end flaps 72, 74 can be secured to form a bottom end closure means.

[0023] In this embodiment of the invention bottles are arranged in the tubular crate in four rows of three. In other embodiments of the invention other arrangements of bottles or other articles could be contained within the carton.

[0024] A second blank 20 is shown in Figure 2, which can be formed into a top cover for the tubular crate formed from the blank 10 of Figure 1A. The blank 20 comprises a main panel 22, which is, on either side, hinged to inner handle panels 24. Handle apertures 54 are struck from the inner handle panels 24 and finger gripping tabs 58 protrude inward from the upper edges of the handle apertures 54. The inner handle panels 24 are hinged to outer handle panels 26, which have finger gripping tabs 58 integrally formed at their edges. The outer handle panels 26 are recessed and formed such that they compliment the shape of the handle apertures 54 struck from both the inner handle panels 24 and those struck from the first and second side walls 12, 16. The blank 20 is also provided with cover end flaps 28a and 28b hinged to each other and hinged to either side of the main panel 22.

[0025] The main panel 22 further comprises apertures 56 for receiving the similarly configured articles and each aperture is connected to at least one other aper-

ture by a frangible connection or nick 37. In this embodiment the apertures 56 are arranged in four rows of three and each aperture 56 is connected to at least one other aperture 56 in the same row by a frangible connection or nick 37. It is envisaged that in other embodiments of the invention the arrangement of the apertures 56 or frangible connections or nicks 37 may differ from that described herein. It is envisaged that other arrangements could be used without departing from the scope of the invention.

[0026] To fully erect the carton 30, the inner and outer handle panels 24, 26 and cover end flaps 28a and 28b, of blank 20, are folded upward out of the plane of the main panel 22 as shown in Fig. 3. The cover of Fig. 3 is brought into registry with the loaded carton of Fig. 4 such that the inner and outer handle panels 24, 26 are secured to inside faces of the tubular crate. Glue can be applied to the outer faces of the inner handle panels 24 and outer handle panels 26. The inner handle panels 24 may then be secured by use of glue to the inside faces of the front and back panels 14, 18 and the outer handle panels 26 are then folded and glued to the outside faces of the front and back panels 14, 18 of the tubular crate. In this way the structural integrity of the tubular carton is improved, particularly of the handle structure, which in this embodiment of the invention, is reinforced to form a 3 ply handle structure.

[0027] The cover end flaps 28a and 28b are folded as shown in Fig. 5 with the cover end flaps 28b being secured by adhesive or other known means, to the top end flaps 76. In this way two rectangular covers are provided which shield the endmost bottles contained within the carton 30 from view as shown in Fig. 6. The cover end flaps 28b provide an area which enables the cartons 30 to be stacked more readily on top of other cartons 30 whilst providing a protective cover and a further surface for advertising graphics as well as a means for obscuring some of the contents of the carton 30 from view.

[0028] The carton 30 formed from the blanks 10 and 20 is shown in Figure 6. It can be seen that the bottles are secured within the carton, although access to the bottles is easily gained by separating the frangible connections or nicks 37, this may be achieved simply by pulling on a bottle contained within the carton 30. In this way the bottles can be accessed whilst the structural integrity of the carton 30 is maintained. Bottles not removed are held in position by the apertures 56 in the cover. Therefore the carton provides an adaptable carrying container, the structural integrity of which is not destroyed when the bottles are accessed. This enables the carton to be reused for the convenient returning of the empty bottles. In this embodiment of the invention, when all bottles are removed, no material from the cover formed from blank 20 is actually removed from the carton 30.

[0029] It can be appreciated that various changes may be made within the scope of the present invention, for example, the size and shape of the panels and ap-

ertures may be adjusted to accommodate articles of differing size or shape.

[0030] In other embodiments of the invention the apertures formed within the top panel may not be circular and may also be provided with additional tabs protruding into the aperture, to aid retention of the bottle necks or other articles contained within the carton.

[0031] It will be recognised that as used herein, directional references such as "top", "bottom", "front", "back", "end", "side", "inner", "outer", "upper" and "lower" do not limit the respective panels to such orientation, but merely serve to distinguish these panels from one another. Any reference to hinged connection should not be construed as necessarily referring to a single fold line only; indeed it is envisaged that hinged connection can be formed from one or more of the following, a score line, a frangible line or a fold line without departing from the scope of the invention.

Claims

1. In or for a carton for a group of articles, of the type comprising an open top container and a complementary top closure being receivable substantially to close the open top container, the top closure comprising a display panel which includes a plurality of apertures, each to receive a portion of an article held within the open top container so that the portion so received is exposed to view in the top of the container and at least one enclosure portion also to receive top portions of a plurality of articles whereby some of the articles contained within the carton are concealed by the or each enclosure portion and the other articles are concealed by the display panel other than the said portions exposed to view.
2. A carton according to claim 1 wherein each aperture has a frangible connection to at least one other aperture to facilitate the removal of the articles when the frangible connection is broken at least in part.
3. A carton according to either of claims 1 or 2 wherein the or each enclosure portion is formed partly by the complementary top closure and partly by the open top container, such that an upper plane of the or each enclosure is of multi-ply construction.
4. A carton according to any preceding claim further comprising at least one reinforced handle structure, the arrangement being such that the or each reinforced handle structure is of multi-ply construction, wherein at least one ply is provided by the open top container and at least one further ply is provided by the top closure.
5. A carton according to claim 5 wherein the open top container comprises side walls, the ply of the rein-

forced handle structure provided by the open top container being struck from one of said side walls and a further ply of the reinforced handle structure is provided by a handle panel hinged to the top closure.

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6. A blank for forming a carton for a group of articles, of the type comprising an open top container and a complementary top closure being releasibly receivable substantially to close the open top container when the carton is set up, the top closure comprising a display panel which includes a plurality of apertures, each to receive a portion of an article held within the open top container so that the portion so received is exposed to view in the top of the container and at least one enclosure portion also to receive top portions of a plurality of articles whereby some of the articles contained within the carton are concealed by the or each enclosure portion and the other articles are concealed by the display panel other than the said portions exposed to view.
7. A blank according to claim 6 wherein each aperture has a frangible connection to at least one other aperture to facilitate the removal of the articles when the frangible connection is broken at least in part.
8. A carton according to either of claims 6 or 7 wherein the or each enclosure portion is formed partly by the complementary top closure and partly by the open top container, such that an upper plane of the or each enclosure is of multi-ply construction.
9. A blank according to any of claims 6 to 8 for forming a carton further comprising at least one reinforced handle structure, the arrangement being such that the or each reinforced handle structure is of multi-ply construction, wherein at least one ply is struck from the open top container and at least one further ply is provided by a handle panel hinged to the top closure.

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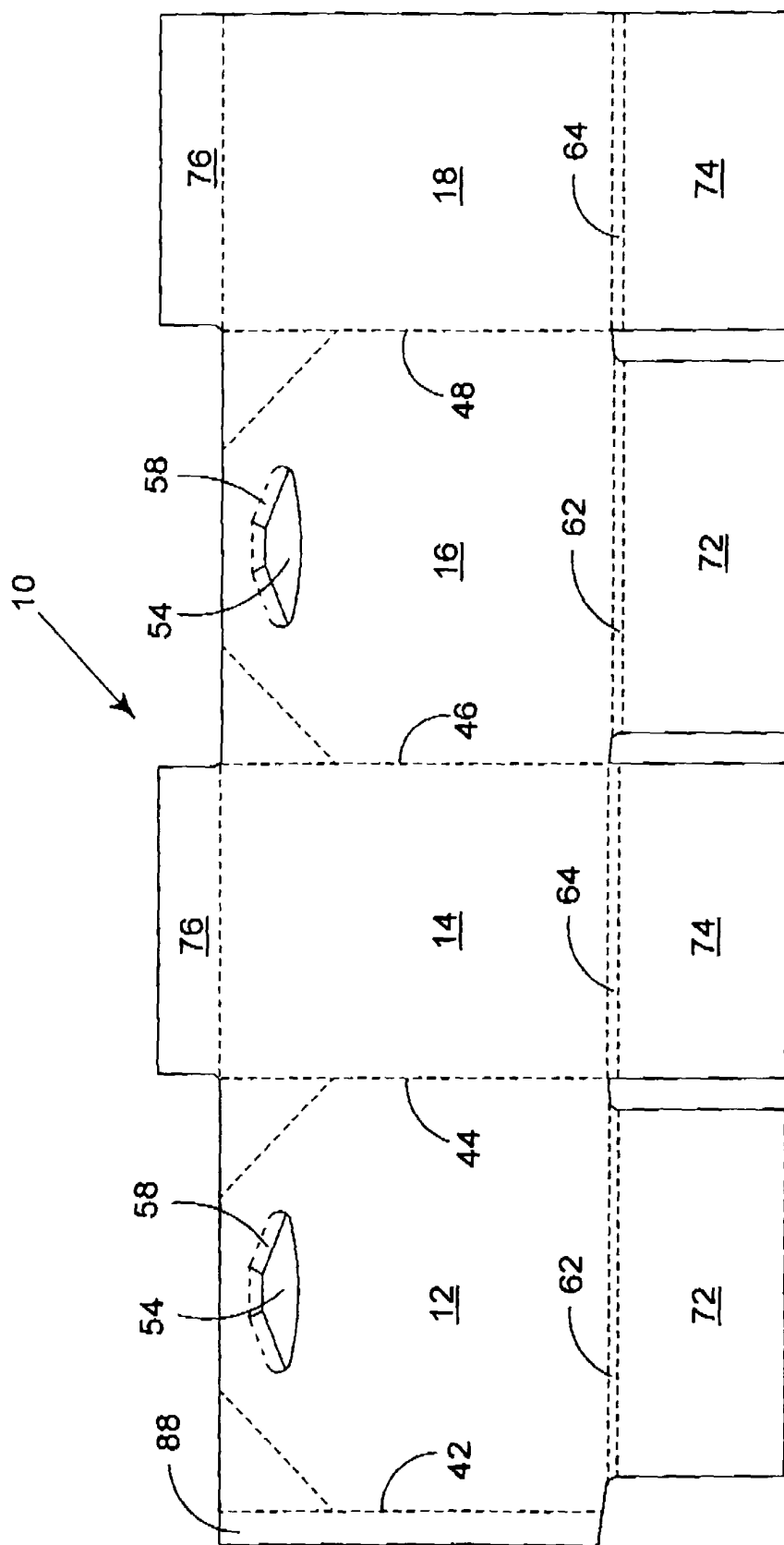


FIGURE 1

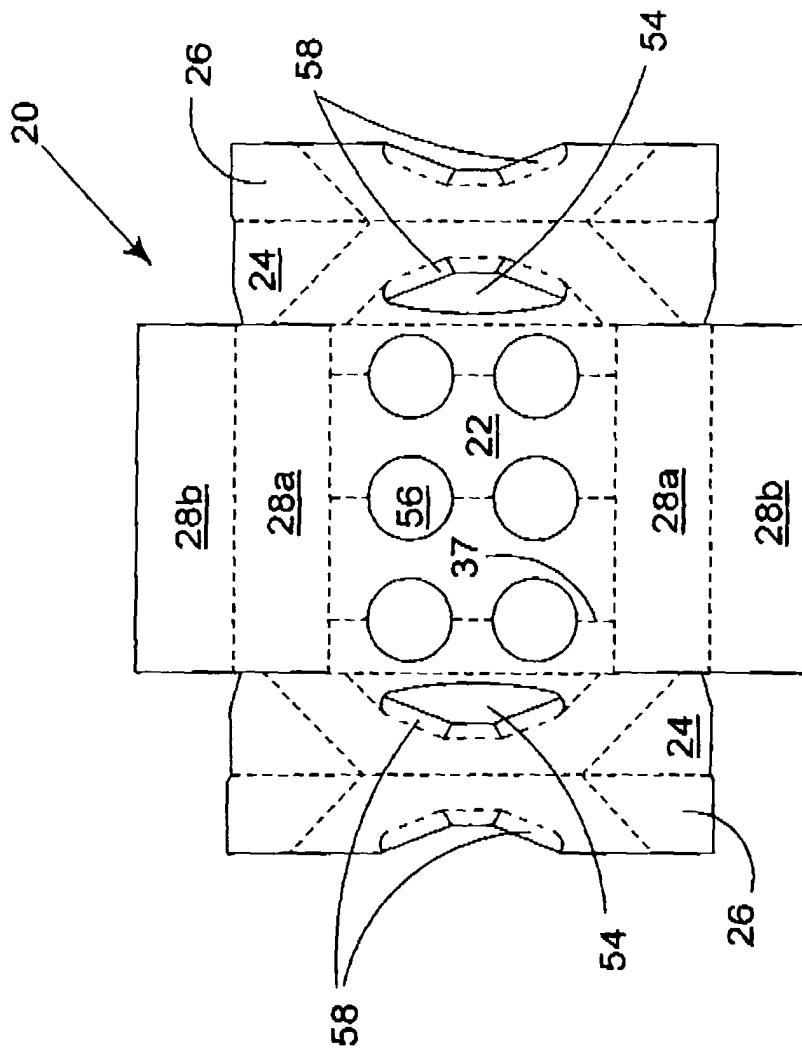


FIGURE 2

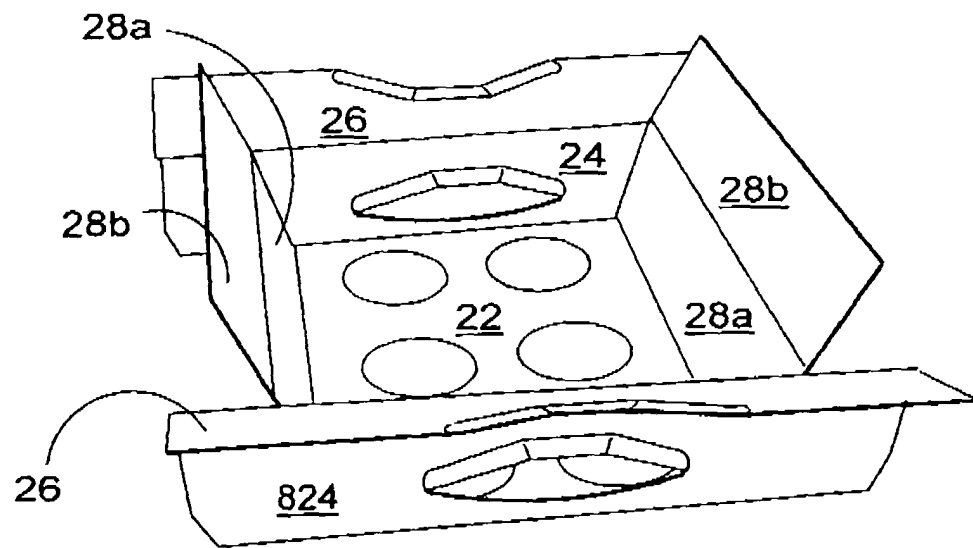


FIGURE 3

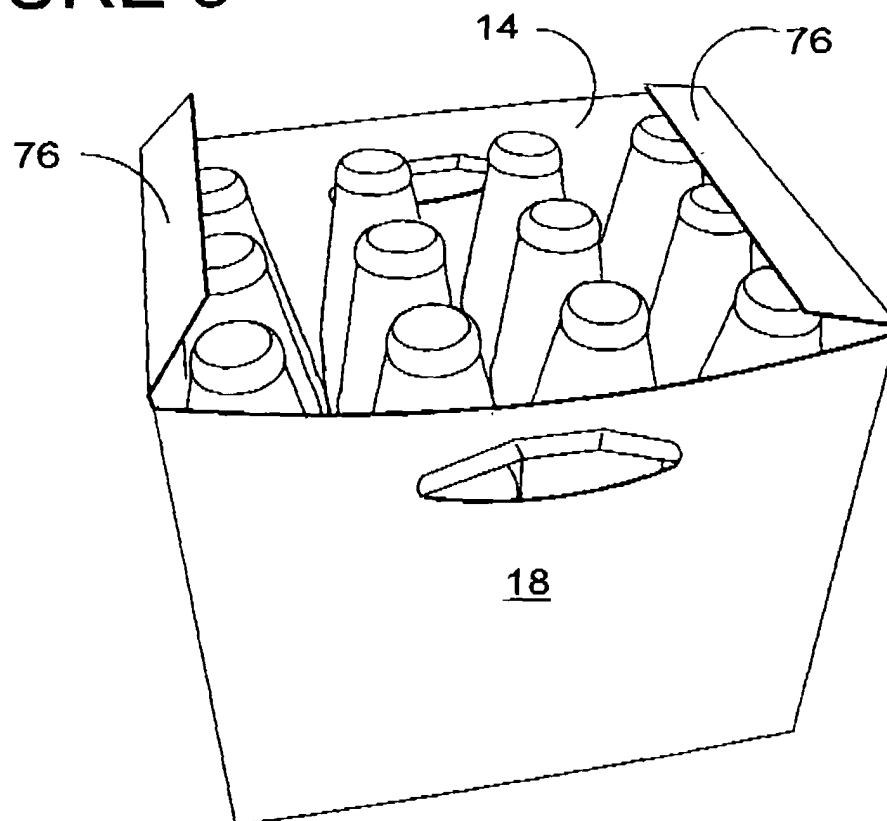


FIGURE 4

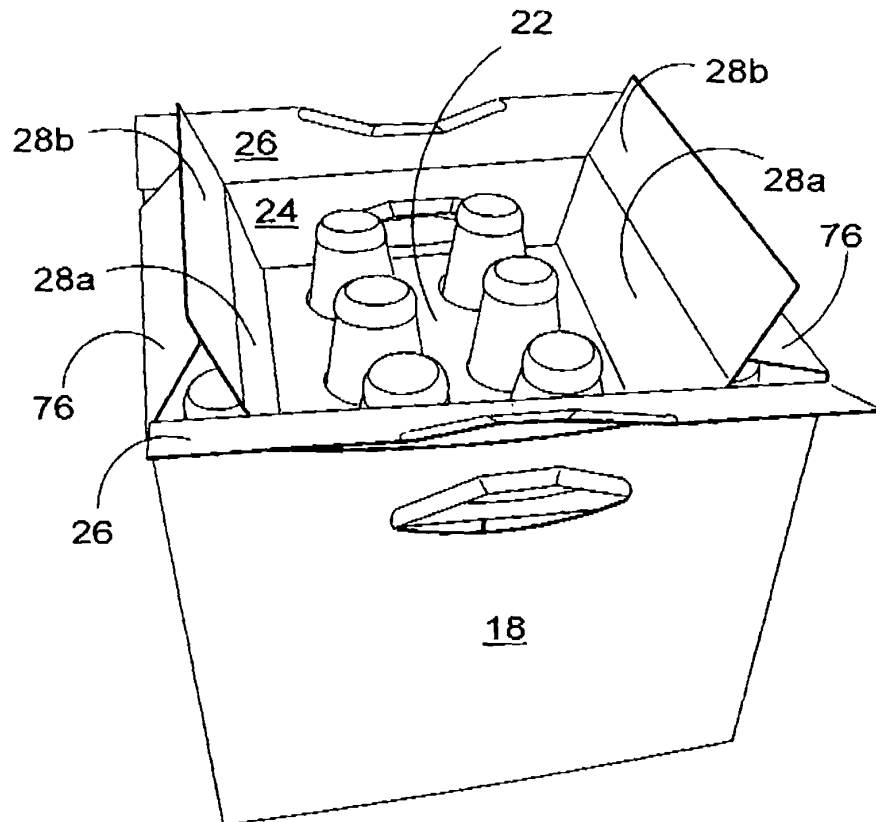


FIGURE 5

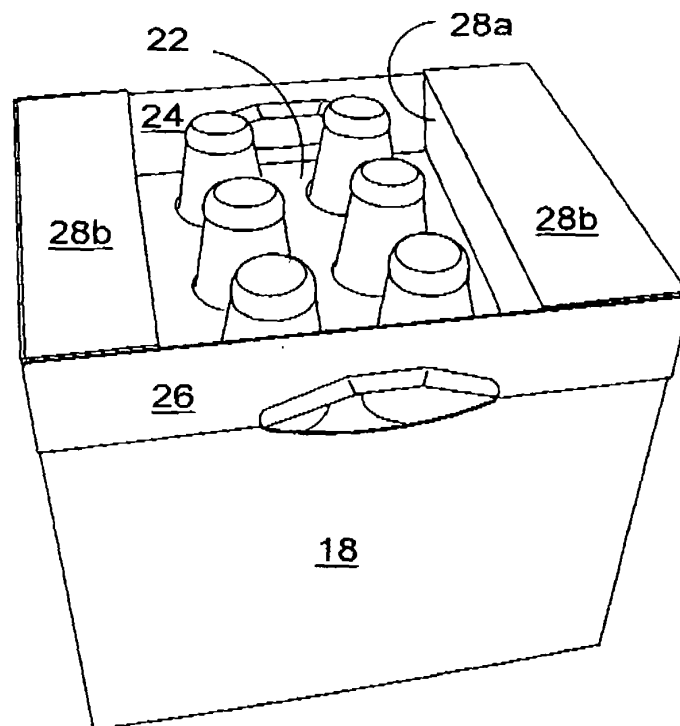


FIGURE 6



European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 05 00 7562

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.7)
A	GB 452 143 A (THE THOMPSON & NORRIS MANUFACTURING COMPANY LIMITED; HENRY MINCH; GEOR) 12 August 1936 (1936-08-12) * page P, line 37 - line 121; figures 3,4 *	1,3,4,6,8	B65D5/50
A	FR 1 085 084 A (M. JEAN GODARD) 27 January 1955 (1955-01-27) * page 1, last line - page 2, paragraph 4; figures 1-4 *	1,6	
A	DE 77 20 370 U1 (HEIMANN GEB. BESSE, ANTONIE, 3549 ORPETHAL) 20 October 1977 (1977-10-20) * claims 1-3; figures 1,2 *	1,6	
A	FR 2 179 600 A (DROPSY CARTON,FR) 23 November 1973 (1973-11-23) * figures 1-4 *	1,4-6,9	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 28 June 2005	Examiner Janosch, J
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EPO FORM 1503 03.82 (P04C01)

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

EP 05 00 7562

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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28-06-2005

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