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(54) Carrier for cartons

(57) A package preform for binding at least two cartons (31) to one another so as to enable them to be carried together, the package preform comprising a frame (2), provided with supporting means and carrying means. The frame (2) is arranged to surround peripherally an upper part of the cartons (31) when the cartons (31) are placed side by side, the supporting means comprising, per carton (31), at least one tongue (6) at an upper part of the frame (2) and at least one lateral supporting section (8) at a lower part of the frame (2), each tongue (6) being arranged to apply a vertical supporting force to a recess (35) provided at the upper part of the carton (31), and each lateral supporting section (8) being arranged to apply a lateral supporting force to the carton (31), below the recess (35).

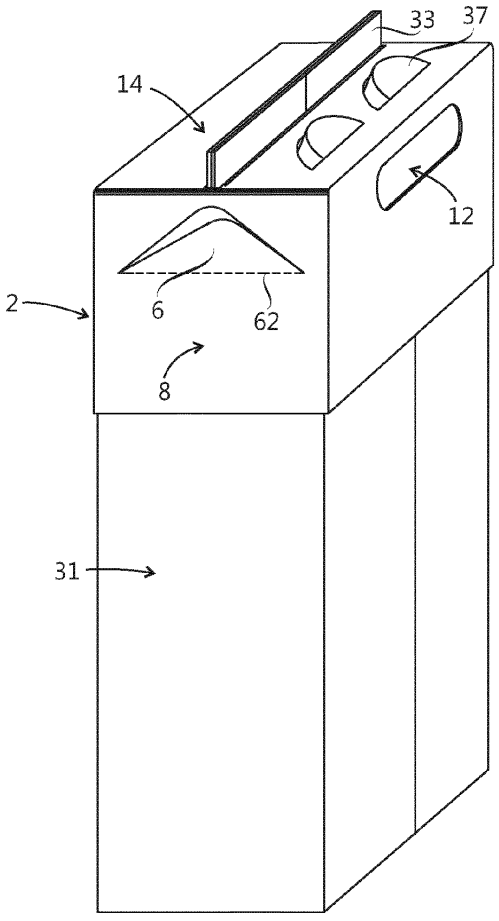

Fig. 3

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Description

Background of the invention

[0001] The invention relates to a package preform for a multipackage of cartons, the multipackage being arranged for binding at least two cartons to one another so as to enable them to be carried together.

Brief description of the invention

[0002] An object of the invention is to provide a package preform enabling a multipackage to be formed from two or more cartons. The object of the invention is achieved by a package preform which is characterized by what is stated in the independent claim. Preferred embodiments of the invention are disclosed in the dependent claims.

[0003] The invention is based on the idea that per each carton to be included in the multipackage, the package preform is provided with at least one tongue which is arranged, in use, to apply a vertical supporting force to a recess located at an upper part of the carton, and with at least one lateral supporting section which is arranged, in use, to apply a lateral supporting force to the carton, below the recess.

[0004] An advantage of the package preform according to the invention is its simplicity, low manufacturing costs, and ease of use.

Brief description of the figures

[0005] The invention is now described in closer detail in connection with preferred embodiments and with reference to the accompanying drawings, in which:

Figure 1 shows a package preform according to an embodiment of the invention;
Figure 2 shows two cartons placed side by side;
Figure 3 shows a multipackage formed from the package preform of Figure 1 and the cartons of Figure 2;
Figure 4 shows a cross section of the multipackage of Figure 3;
Figure 5 shows a crease arranged to turn a tongue with respect to a frame;
Figure 6 shows a package preform according to a second embodiment of the invention;
Figure 7 shows a package preform according to a third embodiment of the invention; and
Figure 8 shows a multipackage formed by using a package preform according to a fourth embodiment of the invention.

Detailed description of the invention

[0006] Figure 1 shows a package preform according to an embodiment of the invention, which is arranged for forming a multipackage containing two cartons. Figure 2 shows two cartons 31 placed side by side, the package preform of Figure 1 being arranged to receive said two cartons 31 so as to form a multipackage. Figure 3 shows a multipackage formed from the package preform of Figure 1 and the cartons of Figure 2.

[0007] The package preform comprises a frame 2 which is arranged, in use, to surround peripherally an upper part of the cartons 31 of the multipackage when the cartons 31 are placed side by side. In a use situation, the frame 2 resides tightly against the cartons 31 in a lateral direction. The frame 2 is provided with supporting means and carrying means. The supporting means are arranged, in use, to apply supporting forces to each carton 31 of the multipackage to enable carrying. The carrying means are arranged to enable a user to take hold of the multipackage in order to carry the multipackage.

[0008] Per each carton 31 to be included in the multipackage, the supporting means comprise a tongue 6 at an upper part of the frame 2 as well as a lateral supporting section 8 at a lower part of the frame 2. Each tongue 6 is arranged, in use, to apply a vertical supporting force to a recess 35 located at the upper part of the carton 31, and each lateral supporting section 8 is arranged, in use, to apply a lateral supporting force to the carton 31, below the recess 35.

[0009] It can be seen in Figure 4, which shows a cross section of the multipackage of Figure 3, how the tongue 6 penetrates into the recess 35. The vertical supporting force applied by each tongue 6 is designated by arrow 65, while the lateral supporting force applied by each lateral supporting section 8 is designated by arrow 85.

[0010] Each tongue 6 is an integral part of the frame 2, in a use situation projecting obliquely from a side wall of the frame 2 with which it is associated. Each tongue 6 is associated with the frame 2 through a crease 62 which is arranged to turn the tongue 6 inwards with respect to the part of the frame 2 with which the tongue 6 is associated. One such crease is shown in Figure 5 wherein a bending force generated by the crease is designated by arrow 95.

[0011] Each lateral supporting section 8 is an integral part of the frame 2. Each lateral supporting section 8 is formed by a part of a straight side wall of the frame 2 located below an adjacent tongue 6 while the lateral supporting section 8 is located on the same side of the frame 2 as the adjacent tongue 6.

[0012] The carrying means comprise two carrying holes 12 provided in the frame 2, each being arranged to receive at least partly at least one finger of the user for carrying the multipackage. The carrying holes 12 are located on opposite sides of the frame 2, these opposite sides being perpendicular to each side of the frame 2 which comprises a tongue 6.

[0013] The package preform of Figure 1 further comprises a top wall 14 provided with an information aperture 16. When forming the multipackage, the information aperture 16 is arranged to allow a top 33 of each carton 31

of the multipackage to penetrate through the top wall 14 such that in a use situation a "best before" date provided at the top 33 of each carton 31 is readable.

[0014] The information aperture 16 divides the top wall 14 into two parts, each part being associated with an adjacent side wall containing a carrying hole 12 through a crease 72. Further, each part of the top wall 14 is associated with an adjacent side wall containing a tongue 6 in order to stiffen the package preform. In an embodiment, a side wall containing a tongue is provided with a projection which, when manufacturing the package preform, is bent so as to be parallel with the top wall and glued thereto.

[0015] The top wall 14 is provided with two cap openings 18, each being arranged to receive a cap 37 of the respective carton 31. The cap openings 18 enable the top wall 14, which extends perpendicularly to the side walls of the frame 2 and which, in a use situation, thus extends horizontally, to be located lower than upper parts of the caps 37.

[0016] In an alternative embodiment of the invention, the package preform does not comprise a top wall. In such a case, it is naturally to be ensured that the side walls containing a carrying hole are strong enough to withstand stresses caused by carrying of the multipackage.

[0017] The package preform shown in Figure 1 is arranged for forming a multipackage from cartons whose cross section below the recess has the shape of a rectangular parallelogram. To be more precise, the shape of the cross section of the cartons 31 of the multipackage of Figure 3 below the recess 35 is that of a square. In alternative embodiments, the package preform according to the invention may also be arranged for forming a multipackage from cartons whose cross section below the recess has the shape other than that of a rectangular parallelogram.

[0018] The multipackage of Figure 3 contains two cartons. In alternative embodiments, the package preform according to the invention may also be arranged for binding more cartons to one another so as to enable them to be carried together. For instance, a package preform for a four-carton multipackage is obtained by keeping the dimensions of the side walls containing a carrying hole as before and by enhancing the dimensions of the side walls perpendicular thereto so as to correspond with two adjacent cartons. In such a case, each side wall perpendicular to the side walls containing a carrying hole is thus provided with at least one tongue per each carton located on the side in question, said at least one tongue being arranged, in use, to apply a vertical supporting force to the recess located at the upper part of the respective carton.

[0019] The relative expressions used in the above disclosure, such as "at the upper part of the carton", "at the upper part of the frame" and "below the recess", refer to a normal use situation wherein the multipackage is in the vertical position according to Figure 3. In the multipackage of Figure 3, the caps 37 of the cartons 31 reside at the upper part of the multipackage, as do the carrying holes 12.

[0020] Figure 6 shows a package preform according to a second embodiment of the invention. In the package preform of Figure 6, a tongue 6' is an integral part of a frame 2', in a use situation projecting obliquely inwards from the side wall of the frame 2' with which it is associated. Each tongue 6' is associated with the frame 2' through a crease 62' which is arranged to turn the tongue 6' inwards with respect to the part of the frame 2' with which the tongue 6' is associated. The crease 62' is positioned in a lower edge of the tongue 6'. The crease 62' is curved such that a middle part of the crease 62' resides lower than ends of the crease 62'. An imaginary line passing through the ends of the crease 62' is horizontal. Since the crease 62' defines the lower edge of a tongue, the lower edge of the tongue 6' is curved.

[0021] The tongue 6' further comprises a middle crease 64' which extends from a tip of the tongue 6' to the lower edge and which is arranged to turn the middle part of the tongue 6' inwards with respect to edge parts of the tongue 6', making the tongue a concave groove.

[0022] Figure 7 shows a package preform according to a third embodiment of the invention, which is arranged for forming a multipackage containing three cartons. The package preform of Figure 7 differs from the package preforms of Figures 1 and 6 also in that in the package preform of Figure 7, tongues 6" are positioned on long sides of a frame 2", i.e. two tongues 6" are provided per each carton to be received, i.e. six tongues in total.

[0023] Each tongue 6" is associated with the frame 2" through a crease 62". The crease 62" is positioned in a lower edge of the tongue 6". Each crease 62" has the shape of a wide V such that a middle part of the crease 62" resides lower than ends of the crease 62". An imaginary line passing through the ends of the crease 62' is horizontal. Each tongue 6" comprises a middle crease 64" which extends from a tip of the tongue 6" to the lower edge and which is arranged to turn the middle part of the tongue 6" inwards with respect to edge parts of the tongue 6", making the tongue a concave groove. Each tongue 6" is symmetrical in respect of its middle crease 64".

[0024] Figure 8 shows a multipackage formed by using a package preform according to a fourth embodiment of the invention. In the package preform of Figure 8, a tongue 6"' is an integral part of a frame 2"'. The tongue 6"' is associated with the frame 2"' through a crease 62"' which is arranged to turn the tongue 6"' inwards with respect to the part of the frame 2"' with which the tongue 6"' is associated. The crease 62"' is positioned in a side edge of the tongue 6"'. Thus, the crease 62"' extends in a vertical direction. The height of the tongue 6"' in its outermost part is smaller than in a part adjacent to the crease 62"'. An upper edge of the tongue 6"' comprises a horizontal section next to the crease 62"', and an inclined part at a distance from the crease 62"', the inclined part of the upper edge sloping downwards, i.e. the lowest

point of the inclined part of the upper part is located at an end that is far from the crease 62"'. A lower edge of the tongue 6"' is upwardly inclined, the lower edge rising upwards as the distance from the crease 62"' grows.

[0025] In all package preforms according to the invention, each tongue is associated with the frame at one of its edges only. The rest of the edges of the tongue are clear of the frame part.

[0026] The top walls of the package preforms of Figures 6 to 8 are provided with information apertures but do not comprise cap openings. When necessary, however, said package preforms may be provided with cap openings. The package preform according to the invention may be made e.g. from cardboard, corrugated board, plastic material or a combination thereof. The package preform may be manufactured from a sheet-like initial preform, which is first provided with necessary perforations and creases, after which the perforated and creased initial preform is folded into its final shape and glued together.

[0027] It is apparent to one skilled in the art that the basic idea of the invention may be implemented in many different ways. The invention and its embodiments are thus not restricted to the above-described examples but may vary within the scope of the claims.

Claims

1. A package preform for a multipackage of cartons for binding at least two cartons (31) to one another so as to enable them to be carried together, the package preform comprising a frame (2) provided with supporting means and carrying means, the supporting means being arranged, in use, to apply supporting forces to each carton (31) of the multipackage to enable carrying, and the carrying means being arranged to enable a user to take hold of the multipackage in order to carry the multipackage, the frame (2) being arranged, in use, to surround peripherally an upper part of the cartons (31) of the multipackage when the cartons (31) are placed side by side, the supporting means comprising per each carton (31) to be included in the multipackage at least one tongue (6) at an upper part of the frame (2) and at least one lateral supporting section (8) at a lower part of the frame (2), each tongue (6) being an integral part of the frame (2) and being arranged, in use, to apply a vertical supporting force to a recess (35) provided at the upper part of the carton (31), and each lateral supporting section (8) being arranged, in use, to apply a lateral supporting force to the carton (31), below the recess (35), **characterized in that** each tongue (6) is associated with the frame (2) at one of its edges only, a joint between the tongue (6) and the frame (2) comprising a crease (62) arranged to turn the tongue (6) inwards with respect to a part of the frame (2) with which the tongue (6) is associated.

2. A package preform as claimed in claim 1, **characterized in that** each lateral supporting section (8) is an integral part of the frame (2).

3. A package preform as claimed in claim 2, **characterized in that** each lateral supporting section (8) is formed by a part of a straight side wall of the frame (2) which is located below an adjacent tongue (6), the lateral supporting section (8) residing on the same side of the frame (2) as the adjacent tongue (6).

4. A package preform as claimed in any one of the preceding claims, **characterized in that** the carrying means comprise two carrying holes (12) provided in the frame (2) and located on opposite sides of the frame (2), these opposite sides being perpendicular to each side of the frame (2) which comprises a tongue (6).

5. A package preform as claimed in any one of the preceding claims, **characterized in that** the package preform further comprises a top wall (14) arranged to stiffen the package preform, the top wall (14) having an information aperture (16) arranged, when forming the multipackage, to allow a top (33) of each carton (31) of the multipackage to penetrate through the top wall (14) such that in a use situation a "best before" date provided at the top (33) of each carton (31) is readable.

6. A package preform as claimed in any one of the preceding claims, **characterized in that** the package preform is arranged for forming a multipackage from cartons (31) whose cross section below the recess (35) has the shape of a rectangular parallelogram.

7. A package preform as claimed in any one of the preceding claims, **characterized in that** the frame (2) is made from cardboard, corrugated board, plastic material or a combination thereof.

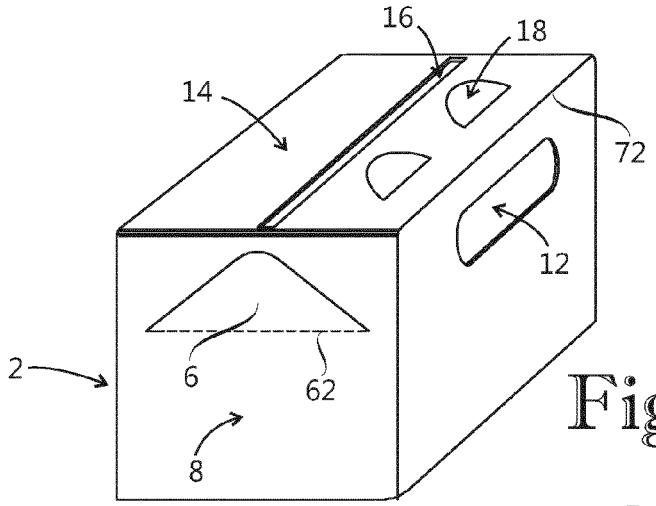

Fig. 1

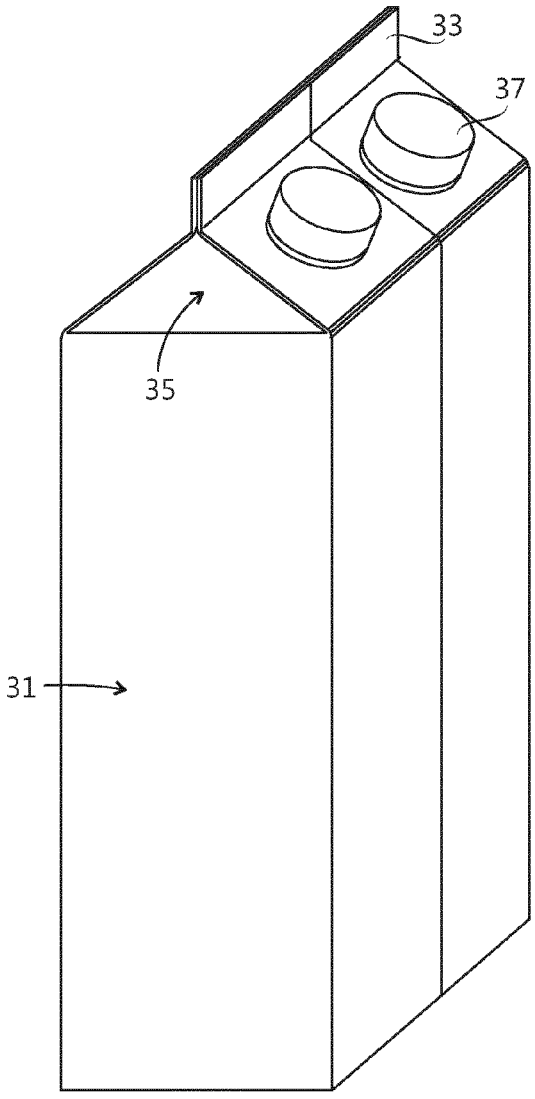

Fig. 2

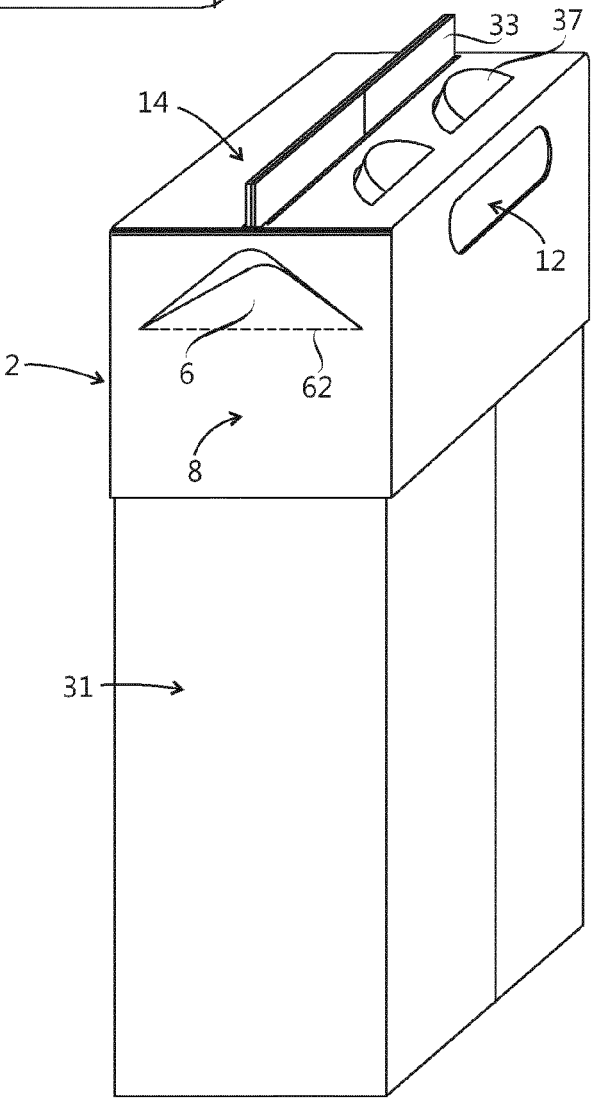

Fig. 3

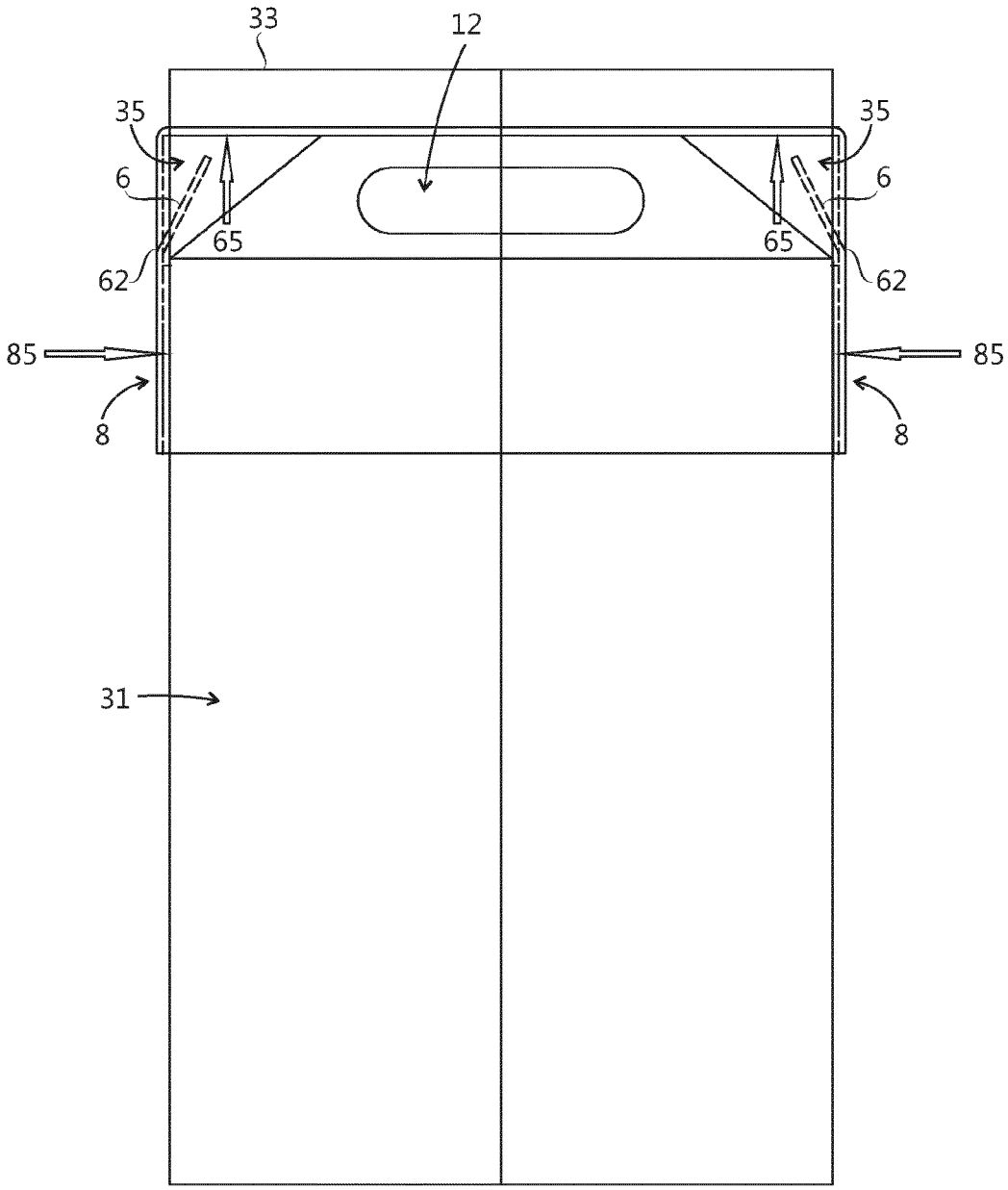

Fig. 4

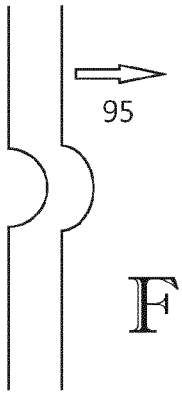

Fig. 5

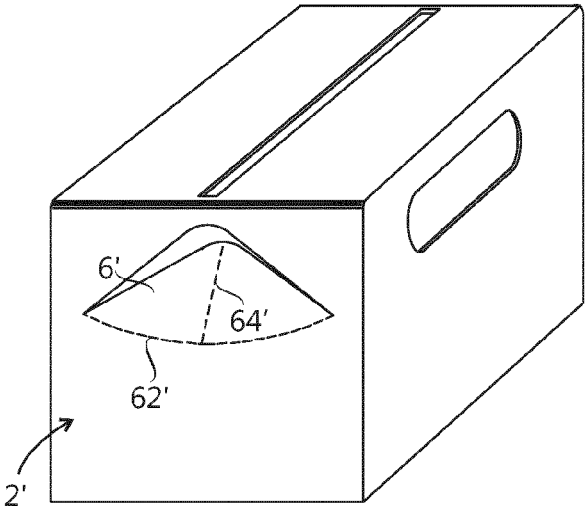

Fig. 6

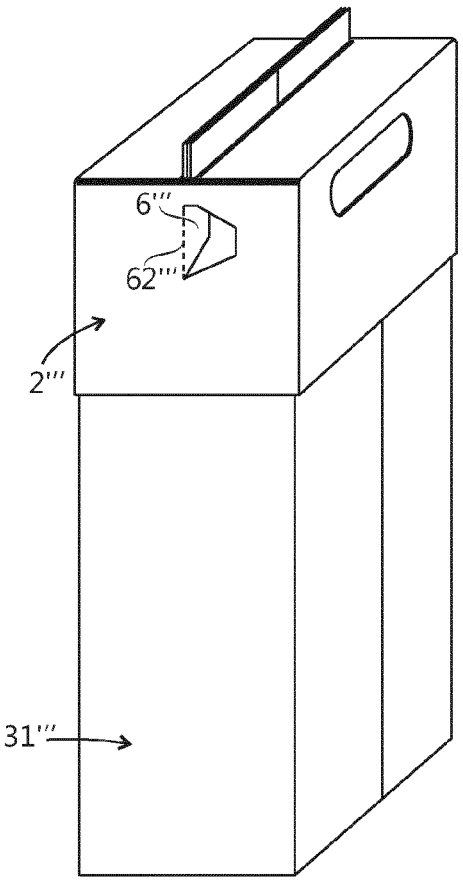

Fig. 8

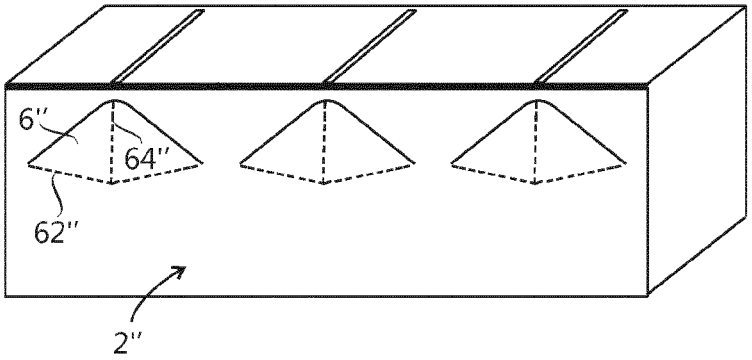

Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 12 19 3946

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2 675 264 A (LUGT JR THOMAS VANDER) 13 April 1954 (1954-04-13)	1-4,6,7	INV. B65D71/40
A	* the whole document *	5	B65D71/46
X	US 6 105 773 A (MILLER CHARLES A [US]) 22 August 2000 (2000-08-22) * column 2, line 38 - column 4, line 45; figures *	1-3,6,7	
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A	* column 2, line 56 - column 3, line 56; figures 1-9 *	4,5	
X	WO 93/22218 A1 (NORPAPP IND AS [NO]; ERIKSEN SVERRE [NO]) 11 November 1993 (1993-11-11)	1-3,6,7	
A	* page 2, line 21 - page 3, line 25; figures *	4,5	
A	FR 2 609 279 A1 (MICHELS SA [FR]) 8 July 1988 (1988-07-08) * figures *	5	TECHNICAL FIELDS SEARCHED (IPC) B65D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	24 January 2013	Newell, Philip

CATEGORY OF CITED DOCUMENTS

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24-01-2013

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