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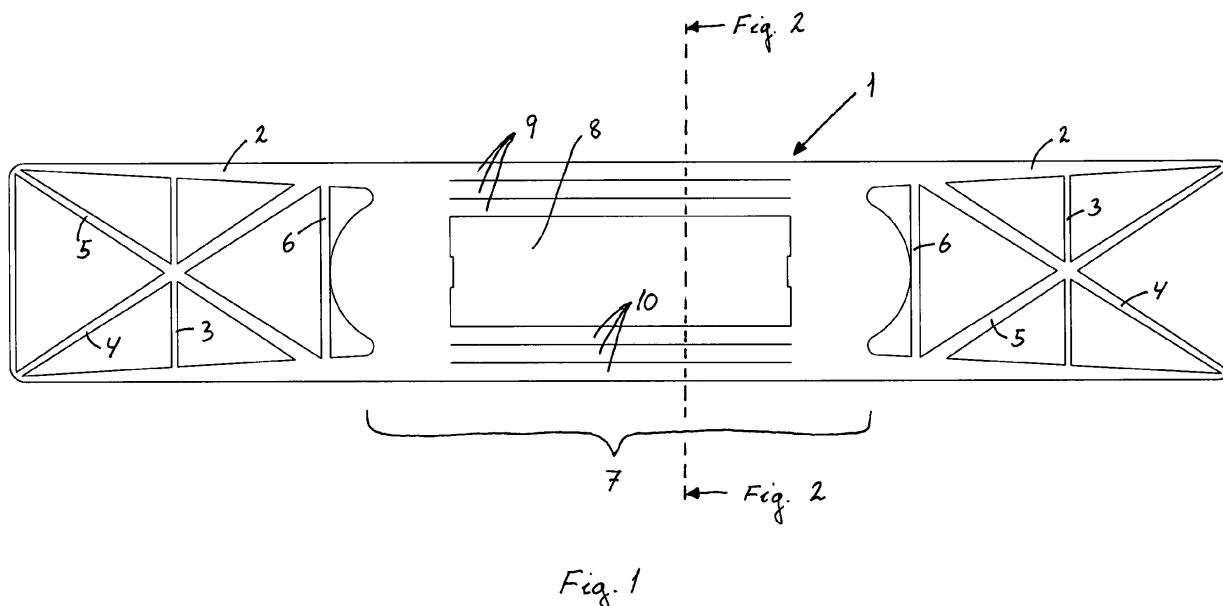
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(54) **A carrying member for a bag**

(57) The invention relates to a carrying member (1) for bags, such as thermobags, comprising two end members (2) connected with a carrying handle (7). The carrying handle (7) comprises one or more lamellae (9),

which bend to the side or turn around a point of turning when the user grips the bag and lifts it. The end member (2) comprises one or more stiffeners (3, 4, 5, 6), which reduce the downward bending of the end member (2) when the bag is lifted.



Description

Technical field

[0001] The present invention relates to a carrying member for a bag, such as a thermobag, comprising a carrying handle with a cutout, which is defined by two end members connected with an upper part and a lower part, said carrying member comprising one or more stiffening elements.

[0002] The present invention also relates to use of the carrying member in a bag, such as a thermobag, and a bag comprising at least one carrying member.

The prior art

[0003] Today, carrying bags consist of a bag made of plastics, fabric, cardboard or another material, where a cutout is provided in the uppermost part of the bag near the opening. The cutout allows the bag material between the cutout and the uppermost edge of the bag to act as a carrying handle. The carrying handle may be reinforced by arranging one or more members having the same cutout around the cutout on the bag, as described e.g. in DE 1973348 U.

[0004] DE 2263624 A1 describes a carrier bag having a plurality of threads disposed above and below the cutout, respectively, so that the carrying handle is reinforced. US 4493127 A describes a carrying handle which is secured to the edge of the bag, where the sides of the handle are made thicker so that the carrying handle is reinforced. These structures do not stiffen the bag, whereby the force generated by the weight of the bag is concentrated around the carrying handle itself.

[0005] Thermobags consist of one or more layers of an insulating material, preferably aluminium, which reduce the diffusion of heat through the bag. The insulating material may be surrounded by an outer protective layer. Two carrying members, one at each side, are confined in the uppermost part of the bag, having the same cutout as in the bag, where the bag may be kept closed by means of buttons. The carrying member serves as a carrying handle and imparts rigidity to the bag. This structure, however, has the drawback that when the bag is full, the end members on the carrying member will bend downwards when the bag is lifted. Hereby, the greater part of the force generated by the weight of the bag is concentrated around the carrying handle itself. This means that the force applied by the edge of the cutout to a user's hand increases, which results in a feeling of greater discomfort on the part of the user.

[0006] There are no solutions which distribute the force uniformly and enhance the user's comfort.

The object of the invention

[0007] The present invention remedies the problems of the most immediate prior art by providing a carrying

member for a bag, such as a thermobag, where at least the upper part of the carrying handle comprises at least two lamellae. According to claim 2, the lower part and the upper part of the carrying handle comprise at least two lamellae. According to claim 3, the lamellae have the same length, or at least two of the lamellae have different lengths. According to claim 4, the lamellae have the same width, or at least two of the lamellae have different widths. Hereby, it is possible to distribute the weight of the bag across more edges/lamellae and thereby a larger surface area.

[0008] According to claim 5, the end member is configured as a U-shaped element, where the ends of the element are connected with the carrying handle, so that the end member and the carrying handle form a defined area. This distributes the force from the weight of the entire bag across the entire length of the carrying member.

[0009] According to claim 6, at least one inclined stiffener, at least one vertical stiffener or at least one horizontal stiffener are disposed in the defined area and connected with at least one point on the end member and/or the carrying handle. According to claim 7, at least one inclined stiffener and at least one vertical stiffener are connected with at least two points on the end member. Hereby, it is possible to stiffen the end member, whereby the downward bending is reduced significantly when the weight of the bag affects the end members.

[0010] According to claim 8, the ends of the end member have a cross-sectional area which is larger than the cross-sectional area on the centre of the end member, or the stiffeners at the end facing toward the carrying handle have a cross-sectional area which is larger than the cross-sectional area at the opposite end. Hereby, it is possible to reinforce the end member and the stiffening elements at the location(s) where the impact is greatest.

[0011] The present invention also relates to use of at least one carrying member in a bag, such as a thermobag, for stiffening the bag, said carrying member being disposed near the opening of the bag.

[0012] The present invention also relates to a bag comprising at least two sides connected with each other so that, together, they form a container with a bag opening at the top, at least one carrying member being disposed in the bag near the opening of the bag.

The drawing

[0013] Exemplary embodiments of the invention will be explained more fully below with reference to the drawing, in which

fig. 1 shows a first embodiment of the invention,

fig. 2a shows a cross-section of the embodiment shown in figure 1,

fig. 2b shows a cross-section of an alternative embod-

iment, and

fig. 3 shows an alternative embodiment of the invention.

Description of the exemplary embodiments

[0014] Figure 1 shows an embodiment of a carrying member 1 for a bag comprising a carrying handle 7 and at least one end member 2. In a preferred embodiment, the end member 1 may be configured as a rectangular element and may comprise a carrying handle 7 and two end members 2. Alternatively, the carrying member 1 may have an elliptic, a round, a quadrangular or polygonal shape and have two or more sides.

[0015] The carrying handle 7 may be disposed between two end members 2 and may comprise a cutout 8, whereby a user may grip an upper part of the carrying handle 7. The cutout 8 may have a rectangular, a quadrangular, a round, an elliptic or any other shape. In a preferred embodiment, the cutout 8 is configured as a rectangular cutout.

[0016] The end member 2 may be connected with the carrying handle 7 and may comprise one or more optional cutouts. Hereby, the consumption of material and thereby the weight may be reduced. In a preferred embodiment, the end member 2 may be configured as a U-shaped element, where the ends of the element are connected with the carrying handle 7. Alternatively, the end member 2 may have an elliptic, a round, a quadrangular or a polygonal shape and have two or more sides.

[0017] The dimensions, such as length and width of the carrying member 1, may be adapted to the dimensions of the bag concerned. The dimensions of the cutouts 8 in the carrying handle 7 and in the end member 2 may likewise be adapted to the dimensions of the bag concerned. Alternatively, the dimensions of the cutout 8 may be adapted to the size of the user's hand. This makes it possible to adapt the carrying member 1 to the width of the bag, and to adapt the cutout 8 so that users having large and small hands may use the bag.

[0018] One or more stiffening elements 3, 4, 5, 6 may be disposed in the cutout in the end member 2 and may be connected with the end member 2 and/or the carrying handle 7. At least one inclined stiffener 4, 5 may be connected with a corner and an opposite side or an opposite corner of the end member 2. At least one vertical stiffener 3, 6 may be connected with two opposite sides of the end member 2. Alternatively, at least one optional horizontal stiffener (not shown) may be connected with two opposite sides of the end member 2. The stiffening elements 3, 4, 5, 6 may intersect each other at one or more points of intersection, as shown in figure 1. In the cutout of the end member 2, the carrying handle 7 may comprise an elevation, which may be connected with at least one of the stiffening elements 6. In a preferred embodiment, two inclined stiffeners 4, 5 and two vertical stiffeners 3, 6 may be arranged, and the inclined stiffeners 4, 5 and the ver-

tical stiffener 3 may intersect each other at a point of intersection, while the vertical stiffener 6 may be connected with the inclined stiffeners 4, 5 and the carrying handle 7. Hereby, it is possible to stiffen the end member 2, whereby the downward bending is reduced significantly, when the weight of the bag affects the end members 2. This means that the force generated by the weight of the bag is distributed across the entire length of the carrying member 1.

[0019] The horizontal vertical 3, 6 and inclined 4, 5 stiffeners may either be configured such that the cross-sectional area at one end is larger than the cross-sectional area at the other end, or have the same cross-sectional area at both ends. The end member 2 may be configured such that the cross-sectional area of the ends near the carrying handle 7 is larger than the cross-sectional area of the end member 2 between the inclined stiffeners 4, 5 at the opposite end, as shown in figure 1. Hereby, it is possible to reinforce the end member 2 and the stiffening elements at the location(s) where the impact is greatest.

[0020] The carrying handle 7 may comprise an upper part, a lower part, two sides and a cutout 8. In a preferred embodiment, the sides are connected with the end members 2. The upper part serves as the actual handle for the user and may comprise one or more lamellae 9. The lower part may be configured in the same way as the upper part and may comprise one or more lamellae 10. Alternatively, the cutout 8 may be offset relative to the central line of the carrying member 1, so that the upper part is larger than the lower part, or vice versa.

[0021] In a preferred embodiment, the upper part and the lower part may comprise three rectangular lamellae 9, 10, as shown in figure 1. The lamellae 9, 10 may be centred around the cutout 8 and have the same length as the cutout 8. Alternatively, one or more of the lamellae 9, 10 may have different lengths and/or a length which is larger or smaller than the length of the cutout 8. In an alternative embodiment, one or more of the lamellae 9, 10 may have different widths and/or the same width, as shown in figure 2. Alternatively, the cutouts between the lamellae 9, 10 may have different configurations and/or different dimensions, so that the lamellae 9, 10 have different configurations and/or different dimensions. The lamellae 9, 10 may be configured such that they bend and/or turn when the user grips them and lifts the bag. As a result of this, the user's hand contacts the edge and/or the side on all or most of the lamellae 9, 10, since the lamellae 9, 10 will position themselves at the side of each other. This means that the force generated by the weight of the bag is distributed across a larger surface area, which adds to the comfort of the user.

[0022] The lamellae 9, 10 may have a configuration which allows them to turn in one or the other direction around a point of turning (not shown), when the user grips them and lifts the bag. In a preferred embodiment, the lamellae 9, 10 may turn from a vertical position to an inclined or horizontal position.

[0023] The lamellae 9, 10 may have a configuration which allows them to bend horizontally and/or vertically, when the user grips them and lifts the bag. In a preferred embodiment, the lamellae 9, 10 may bend to one of the sides and/or upwards/downwards. When the lamellae 9, 10 bend horizontally and/or vertically, the ends of the bent lamellae 9, 10 will move toward each other, which causes the end members 2 to bend upwards. This will reduce the downward bending of the end members 2 additionally and distribute the weight of the bag across the entire length of the carrying member 1.

[0024] In a preferred embodiment, the lamellae 10 in the lower part have the same configuration and size as the lamellae 9 in the upper part. This makes the assembly easier, since the carrying member 1 may be arranged in the bag in more than one way.

[0025] Figure 2a shows a cross-section of the carrying handle 7 shown in figure 1, while figure 2b shows a cross-section of an alternative embodiment of the carrying handle 7. One or more of the lamellae 9', 10' near the cutout 8 may have a configuration which differs from the configuration of the lamellae 9'', 10'' near the edge of the carrying member 1. Alternatively, the edge 11 of the lamella 9', 10' near the cutout 8 may have a configuration, such as a curved edge or another shape, which is different from the same edge 12, 13 of the lamellae 9, 10. Alternatively, the edge 12 or the edge 13 may have a configuration, such as an inclined edge, a curved edge or another shape, such that the lamella 9, 10 concerned will bend to a specific side or turn in a specific direction, when the user grips the lamellae 9, 10. Alternatively, the lamellae 9', 10', 9'', 10'', 9''', 10''' have the same shape in cross-section, e.g. as shown in figure 2, and/or different shapes, such as an ellipse, a circle or a polygon with two or more sides. Hereby, it is possible to configure each individual lamella 9', 10', 9'', 10'', 9''', 10''' such that all the lamellae 9, 10 or most of the lamellae 9, 10 contact the user's hand. This means that the weight of the bag is distributed across more edges/lamellae, and thus a larger surface area.

[0026] Figure 3 shows an alternative embodiment of the carrying member 1, where the end members have the same notation as indicated in figure 1. The carrying handle 7 may have one or more lamellae 14 in the upper part which may have the same configuration as the lamellae 9, 10. The lower part may comprise one or more depressions 15 indicated by a dashed line in the figure. The depressions 15 may be arranged on one side of the carrying member 1 or on both sides (not shown) of the carrying member 1. Alternatively, the width of the lower part may be the same as the total width of the upper part or smaller. Hereby, it is possible to increase the number of lamellae 9 in the upper part.

[0027] In bags, such as carrier bags, nosebags or thermobags (also called cooler bags or freezer bags), a carrying member or another element capable of imparting rigidity to the bag and serving as a carrying handle may be confined in the uppermost part of the bag. In a pre-

ferred embodiment, the carrying member 1 is confined in one side, preferably in both sides, near the opening of the bag. The carrying member 1 may be confined in the bag using plastics welding, heat welding, pressure welding, gluing or a similar treatment. Alternatively, the carrying members 1 or the uppermost part of the bag may have arranged thereon one or more closing devices, such as buttons, Velcro or other closing devices suitable for the closing of bags. The bag is closed by moving the two carrying members 1 together, following which the user grips the uppermost part of the carrying handles 7. Alternatively, the bag may be kept closed by moving the closing devices together. The edge 12 or the edge 13 may be configured such that the lamellae 9, 10, 14 on the two carrying members 1 bend to their respective sides. Hereby, the weight of the bag is distributed across a larger surface area, and the upper part of the carrying handle 7 is made more comfortable to hold.

[0028] Any one of the alternative embodiments may be combined with the structure of the preferred embodiment.

Claims

1. A carrying member (1) for a bag, such as a thermobag, comprising a carrying handle (7) with a cutout (8), which is defined by two end members (2) connected with an upper part (9) and a lower part (10), said carrying member (1) comprising one or more stiffening elements, **characterized in that** at least the upper part of the carrying handle (7) comprises at least two lamellae (9)
2. A carrying member according to claim 1, **characterized in that** the lower part and the upper part of the carrying handle (7) comprise at least two lamellae (10).
3. A carrying member according to any one of claims 1 - 2, **characterized in that** the lamellae (9, 10) have the same length, or at least two of the lamellae (9, 10) have different lengths.
4. A carrying member according to any one of claims 1 - 3, **characterized in that** the lamellae (9, 10) have the same width, or at least two of the lamellae (9', 9'', 9''', 10', 10'', 10''') have different widths.
5. A carrying member according to any one of the preceding claims, **characterized in that** the end member (2) is configured as a U-shaped element, where the ends of the element are connected with the carrying handle (7) so that the end member and the carrying handle form a defined area.
6. A carrying member according to claim 5, **characterized in that** at least one inclined stiffener (4, 5) at

least one vertical stiffener (3, 6) or at least one horizontal stiffener are disposed in the defined area and connected with at least one point on the end member (2) and/or the carrying handle (7).

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7. A carrying member according to claim 6, **characterized in that** at least one inclined stiffener (4, 5) and at least one vertical stiffener (3, 6) are connected with at least two points on the end member (2).

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8. A carrying member according to any one of claims 5 - 7, **characterized in that** the ends of the end member (2) have a cross-sectional area which is larger than the cross-sectional area on the centre of the end member (2), or that the stiffeners (4, 5) at the end facing toward the carrying handle (7) have a cross-sectional area which is larger than the cross-sectional area at the opposite end

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9. Use of at least one carrying member (1) according to any one of claims 1 - 8 in a bag, such as a thermobag, for stiffening the bag, said carrying member (1) being disposed near the opening of the bag.

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10. A bag comprising at least two sides connected with each other so that, together, they form a container with a bag opening at the top, at least one carrying member according to any one of claims 1 - 8 being disposed in the bag near the opening of the bag.

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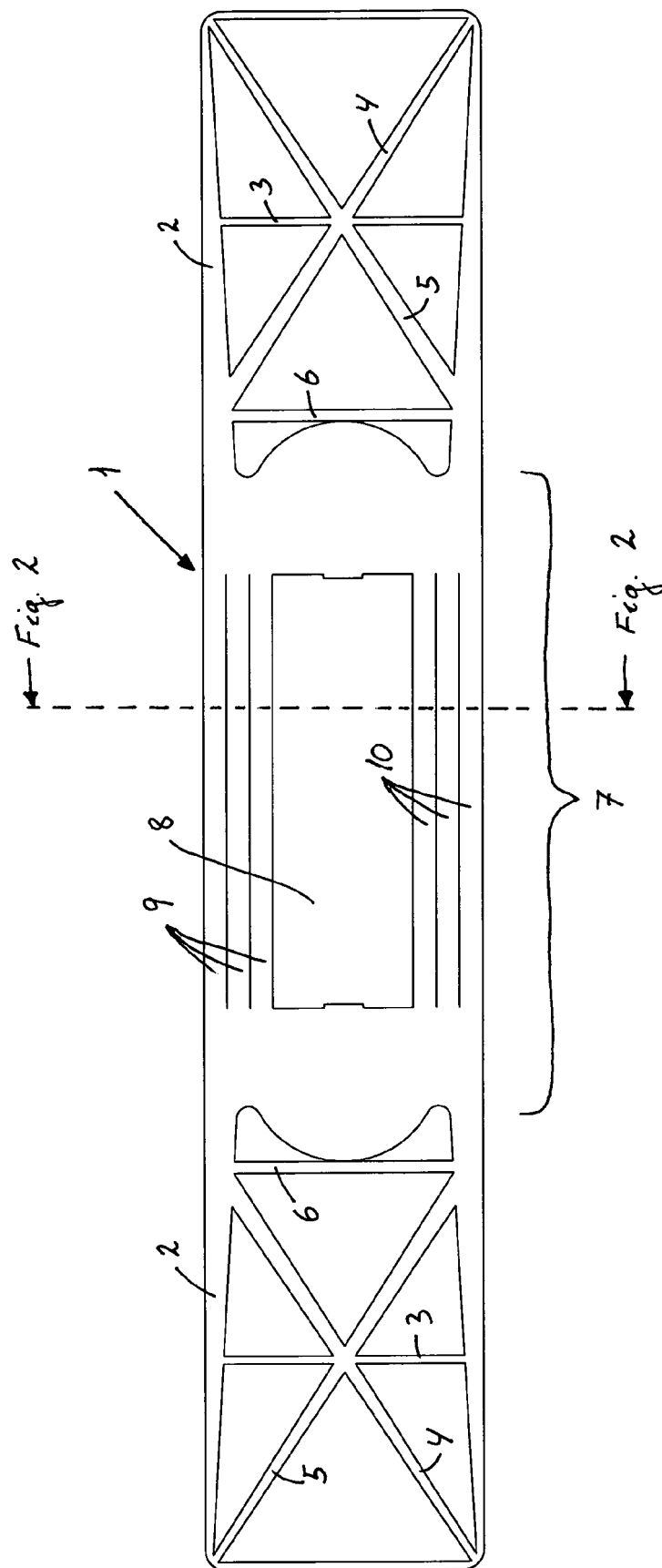


Fig. 1

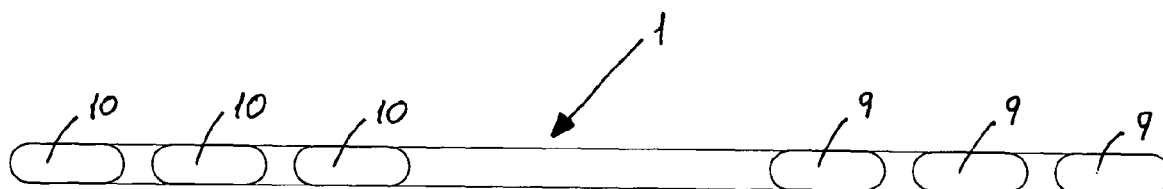


Fig. 2a

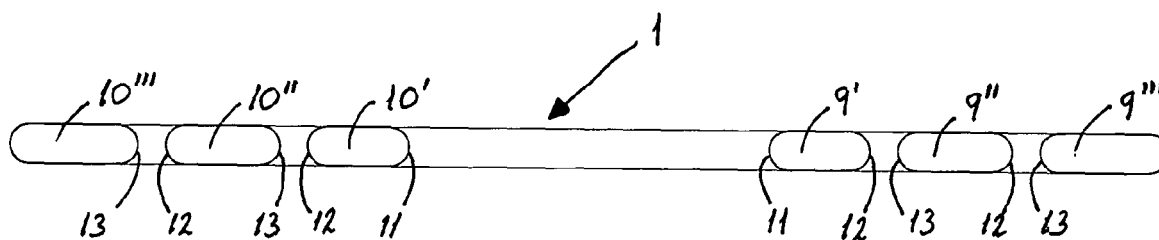
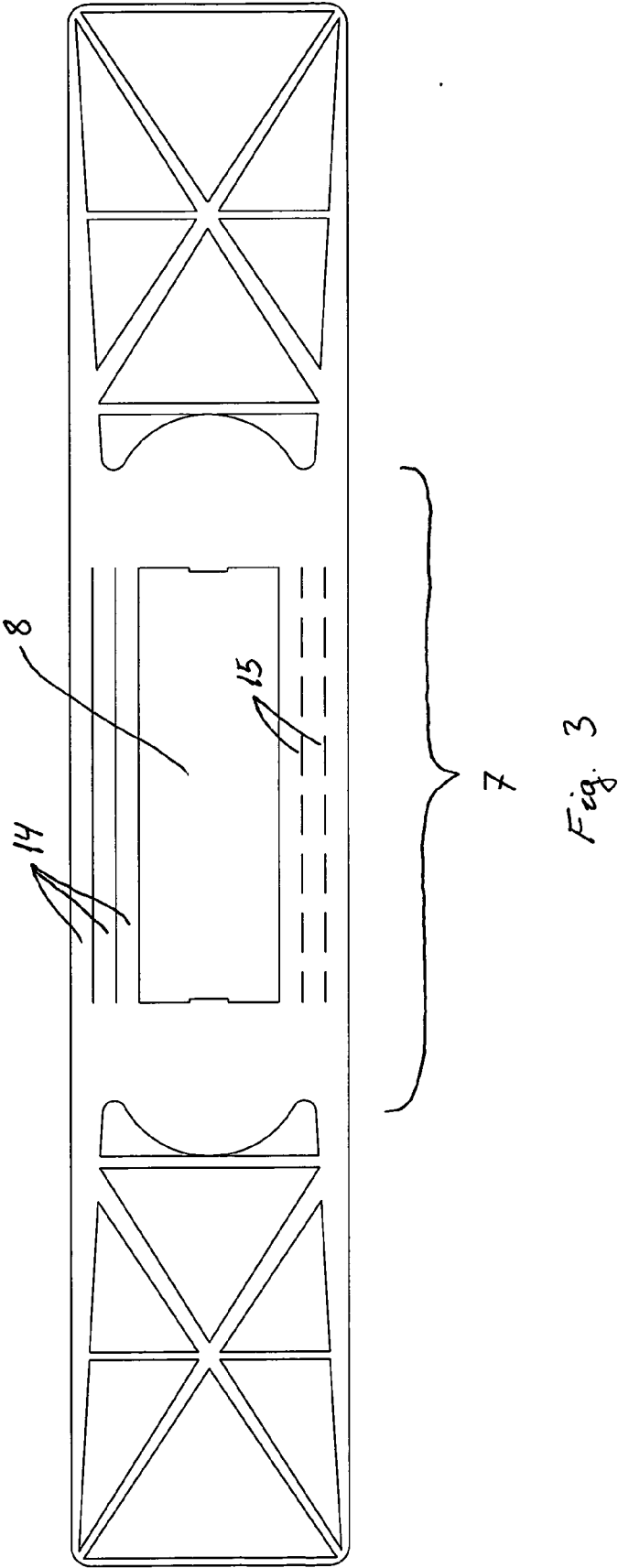


Fig. 2b





EUROPEAN SEARCH REPORT

Application Number
EP 11 38 8001

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 2009/092342 A1 (ROLIM DE OLIVEIRA LIVIA MARIA [BR]) 9 April 2009 (2009-04-09) * paragraph [0022]; figures 1,7 * -----	1-10	INV. B65D33/16
X,D	DE 19 73 348 U (WINDMOELLER & HOELSCHER [DE]) 23 November 1967 (1967-11-23) * page 5, line 1 - line 16; figures 3,4 * -----	1-4,9,10	
			TECHNICAL FIELDS SEARCHED (IPC)
			B65D
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 8 June 2011	Examiner Vesterholm, Mika
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)

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

EP 11 38 8001

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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08-06-2011

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009092342 A1	09-04-2009	BR MU8701642 U2 PT 104056 A	26-05-2009 06-04-2009
DE 1973348 U	23-11-1967	FR 1579834 A	29-08-1969

REFERENCES CITED IN THE DESCRIPTION

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- DE 2263624 A1 [0004]
- US 4493127 A [0004]