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(54) DISPLAY TRAY WITH INTEGRATED HANDLE

(57) Display tray with integrated handle for bringing closer the products placed in the tray, formed from a cardboard sheet (1.1) comprising a quadrangular base (1.2) that is prolonged on the rear side (1.3) thereof by a first portion (1.4) followed by a second portion (1.5), on the base thereof is made a first slit (1.7) that is followed by a second slit (1.8) with a greater width than the former, and a third slit (1.9) the front side thereof coincides with the rear side of the base, the second portion presents an I-shaped cut-out (1.11), when the tray is formed by folding the gap of the cut-out moves in the first slit (1.7), elastic means (2) are attached to the gap and to the third slit (1.9) such that a constant traction is applied to bring the second portion (1.5), in the form of a handle, towards the front side (1.10), pushing the products towards the same.

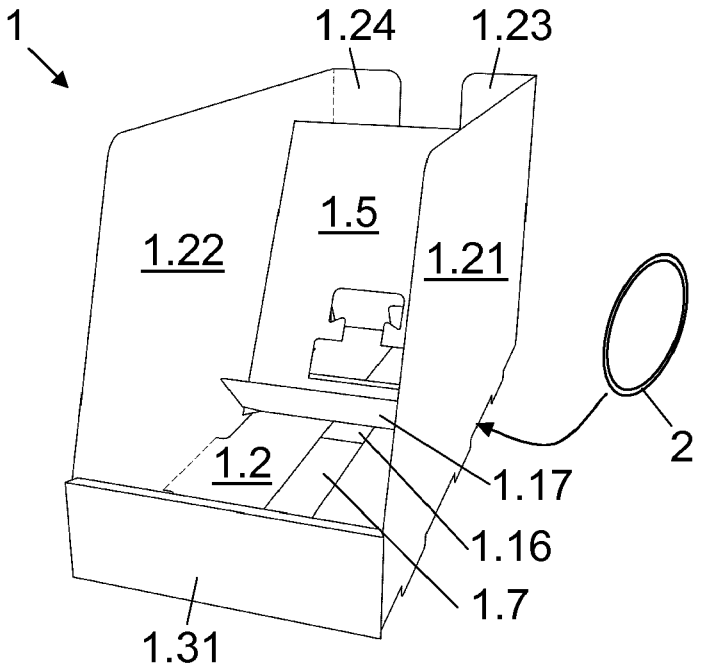

Fig.4

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Description

TECHNICAL FIELD OF THE INVENTION

[0001] The present invention corresponds to the field of cardboard trays with means for bringing the products towards the front part of the tray.

BACKGROUND OF THE INVENTION

[0002] Documents WO2011/151410 and DE8328422 disclose trays with a handle pulled by elastic bands, where the handle is an element formed independently of the tray. In document FR2762502 the handle is made from the same sheet as the tray but is separated from the latter during the operation thereof when pulled by an elastic band.

[0003] These known designs have the drawback that the handle is always a separate element from the tray, such that it must be made independently, or if it is made from the same sheet as the tray it is an independent element that can be lost or separated from the tray.

[0004] The present invention solves the drawbacks of the prior art by an embodiment in which the handle is integrated in the tray.

DESCRIPTION OF THE INVENTION

[0005] The present invention is established and characterised in the independent claims, while the dependent claims describe additional characteristics thereof.

[0006] The subject matter of the invention is a tray with an integrated handle that moves the products placed on the tray towards the front part thereof so that said products are near the user at all times. The technical problem to solve is the design of the shape, cuts and folding lines of the tray allowing to attain said goal.

[0007] An analogous advantage is the aforementioned simplicity, since a simple cardboard sheet allows forming a tray with an integrated handle, as defined in claim 1.

[0008] An additional advantage related to claim 2 is the large surface area pushing the products, ensuring that they are pulled towards the front part of the tray.

[0009] A further advantage related to claims 3 and 4 is that the configuration of the folding lines allows the tray to act as a container, facilitating the transport of the products and the arrangement thereof in a display.

[0010] Yet another advantage related to claim 5 is the simplicity and low cost of the invention, as an elastic band is an inexpensive and readily available component.

[0011] Another advantage related to claims 6 and 7 is its sturdiness, allowing to house nearly any type of product of any size and weight.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] This specification is supplemented with a set of drawings illustrating the preferred embodiment, which are never intended to limit the invention.

Figure 1 is a plan view of the sheet.

Figure 2 is a perspective view of the tray where the fourth portion has been folded in the front part of the tray, the first and second portions have been folded in the rear part of the tray, and the cut-out has been folded in the second portion of the tray.

Figure 3 is the same view of figure 2 with the second portion folded on the first portion.

Figure 4 is a perspective view of the tray assembled with the elastic means in the form of an elastic band shown on one side by an arrow, indicating that they are placed underneath until attached to the cut-out and the second projection of the third slit.

Figure 5 is a bottom perspective view of the tray of figure 4 with the elastic band in place.

Figures 6A, 6B and 6C represent three stages of approximation of the products as they are removed from the tray, showing that the remaining products are always placed in the front part of the tray.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

[0013] An embodiment of the invention is described below with reference to the figures.

[0014] The figures show a display tray (1) with an integrated handle for moving forward the products (3) placed on the tray, made from a cardboard sheet (1.1), figure 1, comprising a quadrangular base (1.2) on which the products (3) are placed stacked horizontally, figures 6A to 6C.

[0015] The base (1.2) of the cardboard sheet (1.1), figure 1, is prolonged on the rear side (1.3) in a first portion (1.4) with the same width as said rear side (1.3); the first portion (1.4) is followed by a second portion (1.5) with the same width thereof; the rear side (1.3) coincides with a first folding line; between the first portion (1.3) and the second portion (1.4) is a second folding line (1.6).

[0016] In the base (1.2) of the cardboard sheet (1.1), figure 1, a first slit (1.7) is made with a shorter length than the total length of said base (1.2) and ending at the first folding line (1.3). The first slit (1.7) is prolonged in a second slit (1.8) in the first portion (1.4) with a greater width than the former, and a third slit (1.9) is made the front side of which coincides with the front side (1.10) of the base (1.2) and with a third folding line.

[0017] The second portion (1.5) of the cardboard sheet (1.1), figure 1, has an I-shaped cut-out (1.11) with a first arm (1.12) joined to the second portion (1.5) by a fourth folding line (1.13) and placed at the farthest side of the base (1.2); the first arm (1.12) is followed by a gap (1.14)

provided with a fifth transverse folding line (1.15); and a second wing (1.16).

[0018] The width of the second slit (1.8) is such that when the tray (1) is formed by folding the first (1.3) and second (1.6) folding lines, said second arm (1.16) is introduced in the second slit (1.8) and the width of the first slit (1.7) is such that the gap (1.14) can move inside the same, such that the cut-out (1.11) never leaves the first slit (1.7) during the operation, as the second slit (1.8) is on a different plane as the firsts slit (1.7) since the first portion (1.4) is folded along the first folding line (1.3).

[0019] Elastic means (2), figures 4 and 5, are attached to the gap (1.14) and to the third slit (1.9) such that there is a constant traction of the second portion (1.5), akin to a handle, towards the front side (1.10), pushing the products (3) towards the same.

[0020] Optionally, the second portion (1.5) is followed by a third portion (1.17), figures 1 to 4, with the same width as the second portion (1.5), and between said portions (1.5, 1.17) is placed a sixth folding line (1.18) such that when the tray (1) is formed the third portion (1.17) is facing up and rests on the products (3).

[0021] Another option for extending the tray (1) to a more closed box-like container, see figures, is that from each side of the base (1.2), first side (1.19) and second side (1.20) coinciding respectively with the seventh and eighth folding lines, emerge corresponding first (1.21) and second (1.22) central tabs with the same width as said sides (1.19, 1.20) at the connection therewith. From each central tab (1.21,1.22) emerge towards the rear first (1.23) and second (1.24) rear tabs, and towards the front part emerge first (1.25) and second (1.26) front tabs. Between each central tab (1.21,1.22) and each rear tab (1.23, 1.24) is disposed a folding line, ninth (1.27) and tenth (1.28) folding line; between each central tab (1.21, 1.22) and each front tab (1.25, 1.26) is disposed a folding line, eleventh (1.29) and twelfth (1.30) folding line. The base (1.2) is prolonged at its front side (1.10) as a fourth portion (1.31) with the same width as said base (1.2) at the connection thereto; said fourth portion (1.31) presents a thirteenth folding line (1.32) and a flap (1.33) at the front face thereof, such that when the tray (1) is formed by folding along the seventh (1.19), eighth (1.20), eleventh (1.29) and twelfth (1.30) folding lines, the fourth portion (1.31), by the folding of the thirteenth folding line (1.32), embraces the front tabs (1.25, 1.26) and the flap (1.33) is inserted in the third slit (1.9), thereby closing the tray (1) at the front part thereof to suitably contain the products (3).

[0022] Optionally, to close the tray (1) also at the rear part thereof, figures, the first rear tab (1.23) presents a first projection (1.34) which, when the tray (1) is formed by folding the ninth (1.27) and tenth (1.28) folding lines, is inserted in a notch (1.35) of the second rear tab (1.24).

[0023] An option for the elastic means (2) is a helical spring, not shown, with one end linked to the third slit (1.9) and the other end attached to the second portion (1.5) of the third portion (1.17). In another option the elastic means (2) are an elastic band, figures 4 and 5, that embraces a second projection (1.36) of the third slit (1.9) and the gap (1.14) of the cut-out (1.11), such that the latter is folded along the fifth folding line (1.15) and faces the front part of the tray (1).

[0024] One option that supplies great sturdiness is that the cardboard is corrugated cardboard, in which case it is preferable that the fourth folding line(1.13) and the thirteenth folding line (1.32) are each doubled to facilitate folding the corrugated cardboard.

Claims

1. Display tray (1) with integrated handle for moving closer the products (3) placed on the tray, configured from a cardboard sheet (1.1) comprising a quadrangular base (1.2) on which the products are stacked horizontally, said base (1.2) prolonged on the rear side (1.3) thereof by a first portion (1.4) with the same width as said rear side (1.3), the first portion (1.4) is followed by a second portion (1.5) with the same width as the former, the rear side (1.3) coincides with a first folding line, between the first portion (1.3) and the second portion (1.4) is a second folding line (1.6), **characterised in that** in the base (1.2) a first slit (1.7) is made with a shorter length than the total length of said base (1.2) ending at the first folding line (1.3), the first slit (1.7) followed by a second slit (1.8) in the first portion (1.4) with a greater width than the former, and a third slit (1.9) is made the front side of which coincides with the front side (1.10) of the base (1.2) and with a third folding line, the second portion (1.5) presents an l-shaped cut-out (1.11) with a first arm (1.12) joined to the second portion (1.5) by a fourth folding line (1.13) and located at the farthest side of the base (1.2), the first arm (1.12) followed by a gap (1.14), having a fifth transverse folding line (1.15), and a second arm (1.16), the width of the second slit (1.8) is such that when the tray (1) is formed by folding the first (1.3) and second (1.6) folding line said second arm 81.16) is inserted in the second slit (1.8) and the width of the first slit (1.7) is such that the gap (1.14) can move inside thereof, elastic means (2) are attached to the gap (1.14) and to the third slit (1.9) such that they provide a constant traction on the second portion (1.5), akin to a handle, towards the front side (1.10) pushing the products (3) towards said side.

2. Tray according to claim 1 where the second portion (1.5) is followed by a third portion (1.17) with the same width as the second portion (1.5), and between said portions (1.5, 1.17) is placed a sixth folding line (1.18) such that when the tray (1) is formed the third portion (1.17) is facing up and rests on the products (3).

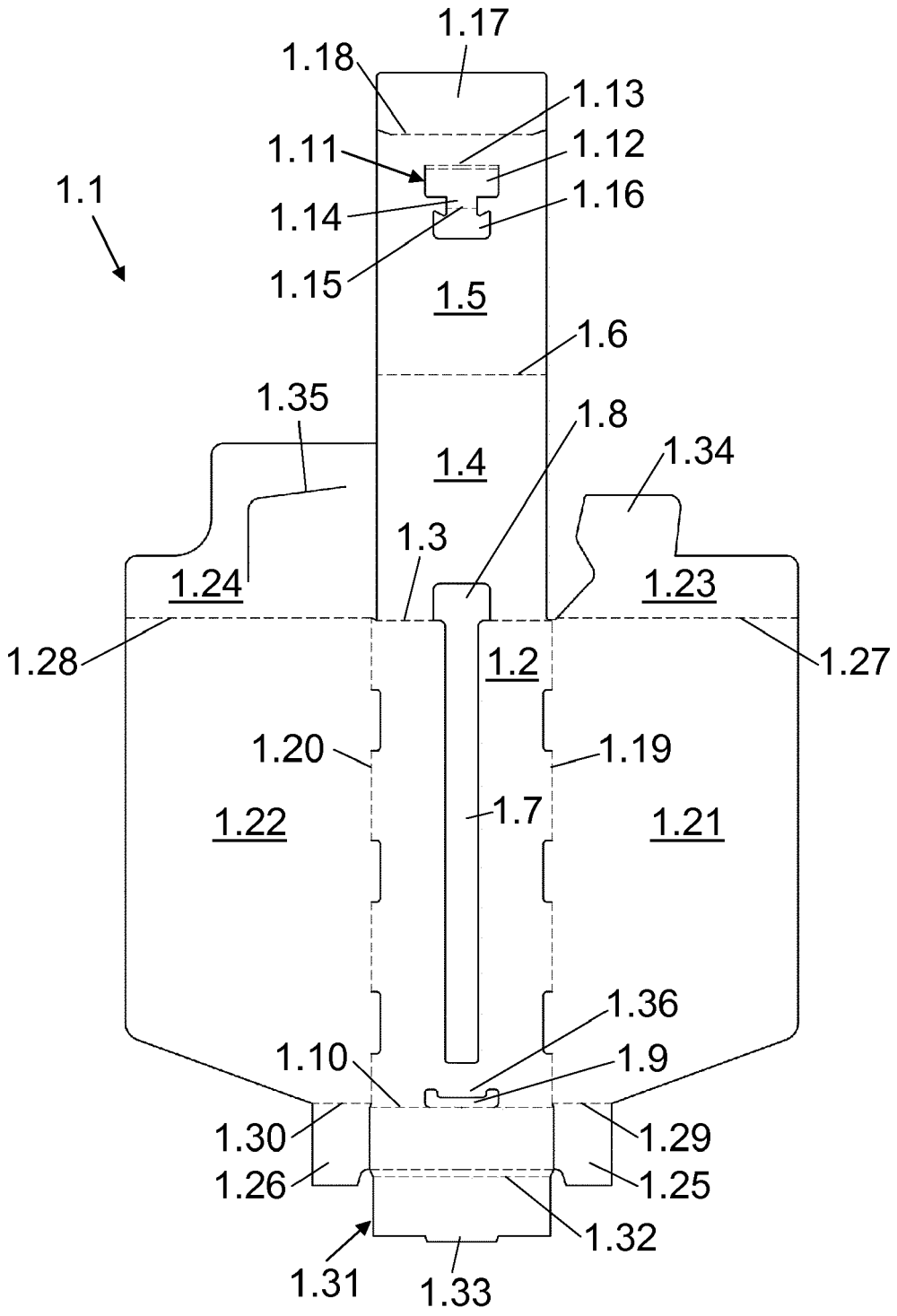
3. Tray according to any of the preceding claims wherein from each side of the base (1.2), first side (1.19) and second side (1.20) coinciding respectively with the seventh and eighth folding lines, emerge corresponding first (1.21) and second (1.22) central tabs with the same width as said sides (1.19, 1.20) at the connection therewith, from each central tab (1.21,1.22) emerge towards the rear first (1.23) and second (1.24) rear tabs, and emerge towards the front part first (1.25) and second (1.26) front tabs, between each central tab (1.21,1.22) and each rear tab (1.23, 1.24) is disposed a folding line, ninth (1.27) and tenth (1.28) folding line, between each central tab (1.21, 1.22) and each front tab (1.25, 1.26) is disposed a folding line, eleventh (1.29) and twelfth (1.30) folding line, the base (1.2) is prolonged at its front side (1.10) as a fourth portion (1.31) with the same width as said base (1.2) at the connection thereto, said fourth portion (1.31) presents a thirteenth folding line (1.32) and a flap (1.33) at the anterior face thereof, such that when the tray (1) is formed by folding along the seventh (1.19), eighth (1.20), eleventh (1.29) and twelfth (1.30) folding lines, the fourth portion (1.31), by the folding of the thirteenth folding line (1.32), embraces the front tabs (1.25, 1.26) and the flap (1.33) is inserted in the third slit (1.9).

4. Tray according to claim 3 wherein the first rear tab (1.23) presents a first projection (1.34) which, when the tray (1) is formed by folding the ninth (1.27) and tenth (1.28) folding lines, is inserted in a notch (1.35) of the second rear tab (1.24).

5. Tray according to any of the preceding claims wherein the elastic means (2) are an elastic band that embraces a second projection (1.36) of the third slit (1.9) and the gap (1.14) of the cut-out (1.11), such that the latter is folded along the fifth folding line (1.15) and faces the front part of the tray (1).

6. Tray according to any of the preceding claims where the cardboard is corrugated cardboard.

7. Tray according to claim 6 where the fourth folding line (1.13) and the thirteenth folding line (1.32) are each duplicated to aid folding the corrugated cardboard.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1.4
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1.23
1.28
1.2
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1.20
1.19
1.22
1.7
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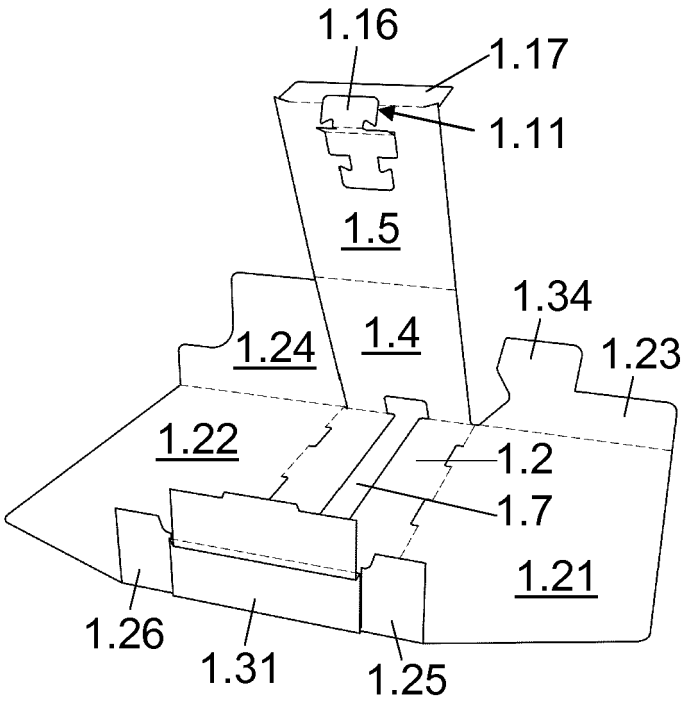
Fig.1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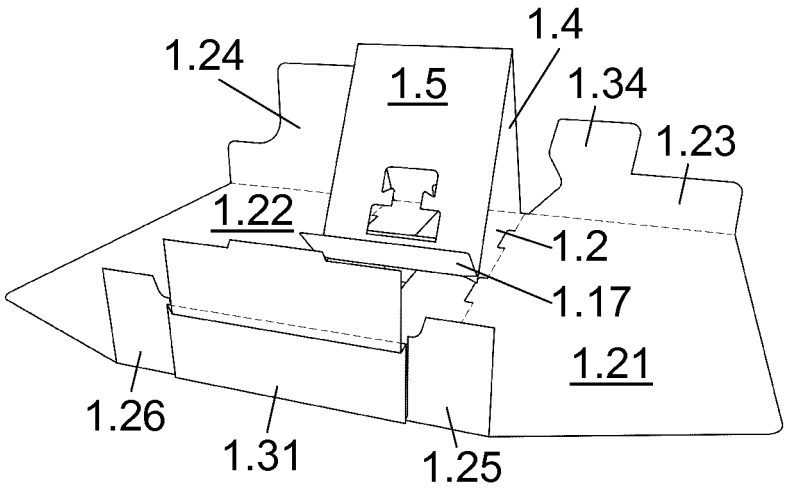
1.31
1.25

Fig.2


1.4
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1.25

Fig.3

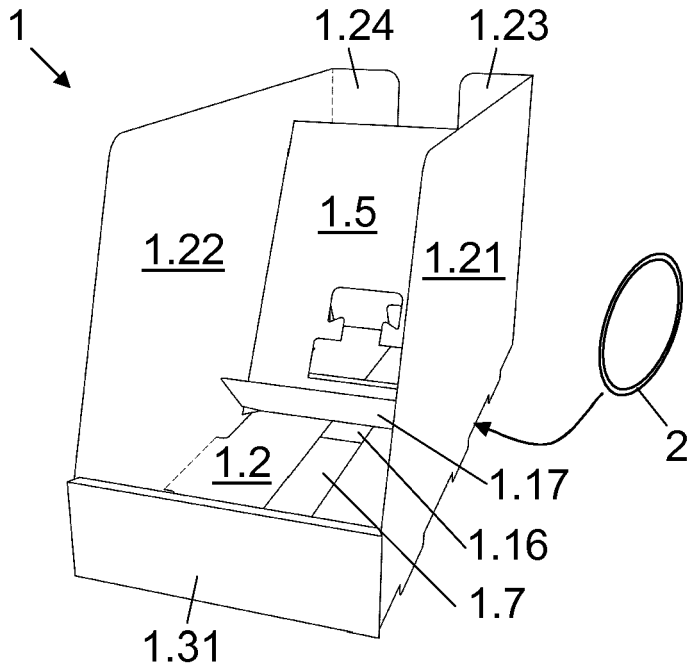

Fig.4

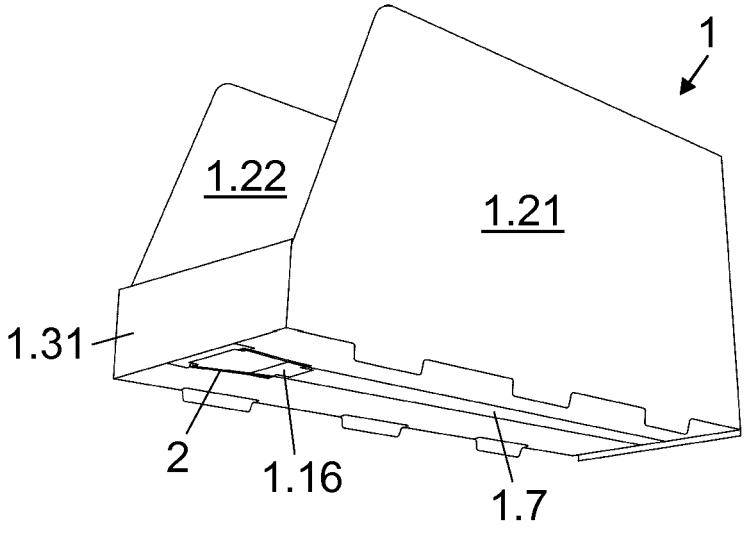

Fig.5

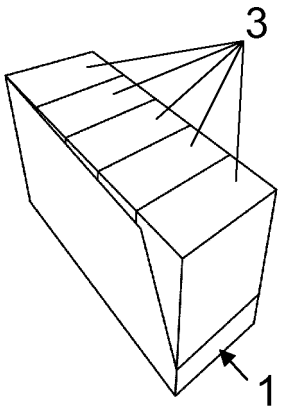

Fig.6A

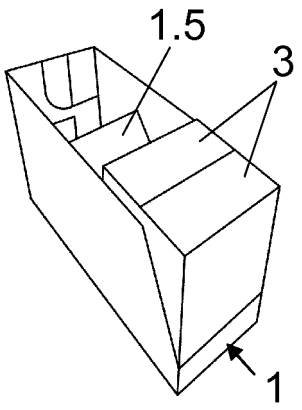

Fig.6B

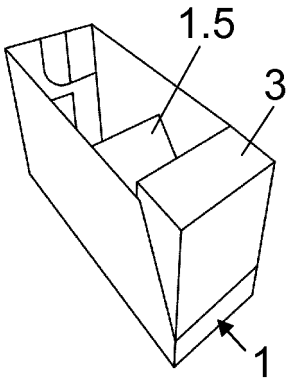

Fig.6C

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EUROPEAN SEARCH REPORT

Application Number
EP 15 38 2595

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	DE 10 2007 042764 A1 (HEUCHEMER VERPACKUNG GMBH & CO [DE]) 12 March 2009 (2009-03-12) * paragraph [0020] - paragraph [0032]; figures 1-6 *	1-7	INV. B65D5/72 B65D5/52
A	FR 2 847 886 A1 (LIMOUSINE D EMBALLAGES ET COND [FR]) 4 June 2004 (2004-06-04) * page 4, line 4 - page 7, line 6; figures 1-7 *	1-7	

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
Munich	18 March 2016	Derrien, Yannick

CATEGORY OF CITED DOCUMENTS

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18-03-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
DE 102007042764 A1	12-03-2009	NONE	
FR 2847886 A1	04-06-2004	NONE	

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Patent documents cited in the description

- WO 2011151410 A **[0002]**
- DE 8328422 **[0002]**
- FR 2762502 **[0002]**