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least 140% and more preferred at least 120% of the height (D2) as measured in a direction transverse the longitudinal extension (L) of the blank (1) between the imaginary top line (7) and the imaginary bottom line (9). The upper portion (16) is configured to be folded 180 degrees along a crease line (50). Also a method of erecting a display box and a display box is disclosed.

BLANK FOR A DISPLAY BOX, A METHOD OF ERECTING A DISPLAY BOX,
AND A DISPLAY BOX

Technical field

The present invention refers to a blank for a display box, a method of erecting
5 a display box based on such blank, and the use of such display box.

Technical background

Display boxes have for long been used for transport and display of goods
without detracting therefrom. This applies to both smaller items such as candy, toys
10 etc., where the display box during transportation is contained in a larger protective
package, but also to large sized display boxes where the display box as such is
arranged on a Euro-pallet and hence serves the dual purpose of acting as package
during transportation and once it has reached the final destination in a store is
opened to thereby serve as a display box from which the end consumer can get
15 access to the contents. Thus, whereas a display box of the first type more or less
only should present a visually appealing and commercially attractive design to the
end consumer, a display box of the latter type must be robust enough to withstand
the often very rough conditions that apply during transportation from the producer to
the end consumer such as a ware house or store where it is opened and used for
20 display purposes to the public. The present invention is especially directed to display
boxes of the latter type.

Especially when the display box is of the size corresponding to a Euro-pallet,
which is shipped across the world and handled by trucks and forklifts, it is essential
that the display box resists impacts and rough handling. The supply chain is long and
25 it is hard to prove and claim damages. Still, no unnecessary packaging material must
be included due to weight, cost, environmental sustainability and ergonomic reasons.
Thus, the amount of packaging material is crucial and hence the blank design. This
applies both when manufacturing the blank from which the display box is to be
erected and when the end consumer opens the display box. Waste material in all
30 steps must be as low as possible. Further, the display box must be easy to open
from an ergonomic point of view. Many attempts have been made to design display
boxes and especially opening mechanisms such as perforations, tear tapes and lines
of weaknesses to facilitate the initial opening. Also, it is important that the wall

portions are not damaged or torn during opening. It is also important that the customer does not come into contact with any sharp edges, staples or the like.

One proposed solution is to provide a display box having display openings along at least one side wall. Before filling the display box, the display opening is covered by a cover panel that is inserted into the display box and arranged to abut and extend along the side wall, thereby covering the display opening. The display box is then filled with its contents and sealed by a lid. To allow a complete closing of the display opening the cover panel is oversized and typically has a size and geometry corresponding to the side wall of the display box, i.e. often quadrangular or rectangular. Upon arrival, the operator removes the lid and lifts out the cover panel. Thereby the display opening is exposed to provide an access opening. This type of display box involves a lot of waste material since the lid and cover panels are waste material. Also, the cover panels are typically provided as complementary stand-alone panels to the blank. It is also difficult to reduce the size of such cover panel since that at the same time would jeopardize the robustness of the display box with the risk of more transport related damages. Accordingly, there is a need for a blank to be used for a display box, which blank allows a minimum of waste material, while not jeopardizing the robustness of the erected display box.

20 Summary

One object of the present invention is to provide a blank to be used for a display box which generates a minimum of waste material.

Another object is to provide a blank to be used for a display box, which display box in an erected condition provides a corresponding robustness as a display box using cover panels having a size adapted to cover substantially the full side wall area of the display box.

Yet another object is to provide a blank to be used for a display box, which display box in an erected condition is robust enough to allow a stable stacking of boxes during e.g. transport.

These and other objects are solved by a blank for a display box, said blank comprising a plurality of major panels adapted to form side walls of the display box, said major panels being arranged side by side along a longitudinal extension of the blank, wherein at least one of the major panels comprises an imaginary top line defining an intended upper edge of the side wall of the display box and an imaginary bottom line defining an intended lower edge of the side wall of the display box; at least one of the major panels comprises a perforation having two top portions extending along the imaginary top line, a bottom portion and two intermediate side

portions interconnecting the bottom portion with a respective top portion; said at least one major panel further comprises an upper portion extending between the imaginary top line and an upper edge of the at least one major panel, and a lower portion extending between the imaginary bottom line and the bottom portion of the perforation; wherein a height D1 as measured in a direction transverse the longitudinal extension of the blank, between the upper edge of the at least one major panel and a lower most point of the bottom portion of the perforation corresponds to at least 140% and more preferred at least 120% of the height D2 as measured in a direction transverse the longitudinal extension of the blank between the imaginary top line and the imaginary bottom line defining the intended lower edge of the side wall of the display box; the upper portion extending between the imaginary top line and the upper edge of the at least one major panel comprises a crease line allowing folding of the upper portion; and said upper portion being configured to be folded 180 degrees along the crease line.

By a blank of the above type, a blank with a rectangular shape is provided. The blank comprises hardly no waste material forming cut-outs, but rather all material in the blank has an intended function once the blank is erected to form a display box. The blank comprises at least one removable cover blank which, until removal along a perforation, is integral with the rectangular shape of the blank and which after removal results in a display opening being formed in one of the major panels which will form a side wall in the erected display box.

The perforation, i.e. the two top portions, the bottom portion and the two intermediate side portions interconnecting the bottom portion with the two top portions defines a projection which together with the upper portion, which extends between the imaginary top line and an upper edge of the at least one major panel, form a cover panel that easily can be removed from the blank to thereby constitute a cover panel. The cover panel is intended to be removably inserted into the erected display box to thereby cover the display opening.

By making the ratio between the heights D1 and D2 larger than 100%, the upper edge of the upper portion of the cover panel will extend past the upper edge of the erected display box. The thus projecting portion can be folded over the upper edge of the display box and thereby, after folding, reinforce the upper rim portion of the erected display box. Thereby a very robust display box is provided that is very resistant to the often very rough conditions that apply during transportation. The reinforcement will be formed by some portions of the edge having triple layers of material and some portions having double layers.

During removal of the cover panel, the projecting portion may form a grasping surface, i.e. a handle.

The opposing edges of the upper portion of the cover panel, which opposing edges extend in a direction transverse the longitudinal extension of the blank, will
5 when the cover panel is inserted into the erected display box abut the corners that are formed between the side wall having the display opening and the adjacent side walls of the display box. Thereby, the cover panel will be guided by and maintained in position inside the display box until the display box is opened and the cover panel is removed. When the display box is filled with its contents, the contents will press
10 the cover panel to a closer abutment with the side walls of the display box, thereby preventing the contents from falling out.

The cover panel will once it is inserted into the erected display box and after folding of the upper portion have a height that corresponds to the height of the side wall of the display box. Thereby, the lower most point of the bottom portion of the
15 cover panel will rest against and be supported by the bottom of the display box.

The perforation may allow separation of a cover panel from the major panel, said separated cover panel comprising a top edge corresponding to the upper edge of the major panel and a lower edge defined by the top portion, the bottom portion and the two intermediate side portions of the perforation. By the perforation, the
20 outline of the display opening is automatically formed when removing the cover panel. The only measure required to make the display box ready to be presented to the end consumer in a store is to remove the cover panel by a lifting action.

The width of the upper portion as seen along the longitudinal extension of the blank may correspond to the width of the corresponding major panel minus a
25 distance corresponding to twice the material thickness of the blank. Accordingly, when the cover panel is inserted into the erected display box, the opposing edges of the upper portion, which opposing edges extend in a direction transverse the longitudinal extension of the blank, will abut the corners that are formed between the side wall having the display opening and the adjacent side walls of the display box.
30 Thereby, the cover panel will be guided by and maintained in position inside the display box until the display box is opened and the cover panel is removed. Thus, there is no risk of the cover panel accidentally slides out of position and thereby accidentally exposes the display opening.

The blank may further comprise bottom panels, each bottom panel having an
35 extension along the imaginary bottom line delimiting the intended lower edge of the respective side wall.

Crease lines may be formed between adjacent major panels as seen in the longitudinal extension of the blank and between major panels and respective bottom panels as seen in a direction transverse the longitudinal extension of the blank.

The two intermediate side portions of the perforation may be inwardly inclined
5 towards the bottom portion of the perforation. When the cover panel has been inserted into the erected display box, the lower most edge of the cover panel rests against the bottom wall of the display box. Thus, in this inserted position the cover panel has been vertically displaced relative to the lower imaginary line of the blank. By the two intermediate side portions of the perforation being arranged to incline
10 inwardly towards the bottom portion of the perforation, the projecting portion of the cover panel will completely cover not only the display opening as such but also overlap an adjacent portion of the side wall around the display opening. When the display box is filled with its contents, the contents will press the cover panels to a closer abutment with the side walls of the display box thereby preventing the
15 contents from falling out.

The perforation may comprise a plurality of nick-points. By the nick-points, the exposed edge along the display opening will be essentially smooth with no risk of hands being scratched or cloths being hooked up.

The blank may be made of cardboard, paper board or well pap. This kind of
20 material provides a self-supporting structure which at the same time provides a low weight. Further the material is easy recyclable.

The blank may further comprise a joining panel arranged along a free edge of one of the major panels, said joining panel having an extension transverse the longitudinal extension of the blank. When erecting the blank to form a display box,
25 the joining panel maybe joined to the opposite free edge of the major panel by e.g. adhesive or staples.

According to another aspect, the invention refers to a method of erecting a display box. The method involves the steps of providing a blank of the design previously disclosed; separating the at least one cover panel from the respective
30 major panel along the perforation; folding the blank along the crease lines that are arranged between the major panels, the bottom panels and the joining panel to thereby form an erected display box comprising a bottom wall and a plurality of side walls extending at an angle from the bottom wall, each side wall having an upper edge; removably arranging the separated cover panel in a position inside the erected
35 display box in which position the cover panel extends in parallel with and abuts an inner surface of the side wall formed by the major panel from which the cover panel was separated, and in which position a lower edge of the cover panel abuts the

bottom wall of the erected display box and in which position a portion of the cover panel projects past the upper edge of the side wall as seen in a direction transverse the longitudinal extension of the blank; and folding the projecting portion 180 degrees along the crease line, thereby arranging the projecting portion to abut an exterior surface of the side wall of the erected display box.

The blank and its transformation into an erected display box has been thoroughly discussed above, and to avoid undue repetition, reference is made to the paragraphs above.

According to yet another aspect, the invention refers to a display box formed by a blank of the previously disclosed and discussed design. Especially, the invention refers to the use of such a display box for transportation of goods and for later display of such contents to customers in a ware house without intermediate re-loading. The only measure required is to remove any lid and then to also remove the at least one cover panel. The contents are then readily accessible to the customers.

The bottom wall of the display box may have a surface area corresponding to the size of a Euro-pallet. Thereby easy shipping and handling is provided for.

Further objects and advantages of the present invention will be obvious to a person skilled in the art reading the detailed description given below describing different embodiments.

Brief description of the drawings

The invention will be described in detail with reference to the schematic drawings.

Figs. 1A and 1B disclose one embodiment of a display box according to prior art.

Fig. 2A discloses one embodiment of a blank according to the invention.

Fig. 2B discloses the step of removing the cover panels from the blank.

Figs 3A and 3B disclose the interaction between the cover panels and an erected display box.

Fig. 4 discloses schematically a system comprising a pallet, an erected display box, cover panels and a lid.

Fig. 5A discloses a closed display box arranged on a pallet.

Fig. 5B discloses the display box with the lid removed.

Fig. 5C discloses the display box during removal of the cover panels.

Fig. 5D discloses the display box with its contents freely exposed.

Detailed description

In the following description the terms vertical direction and horizontal direction will be used. The vertical direction extends in a direction from the bottom to the top of an erected box as seen in a position when the box stands on a floor. Also, the
5 horizontal direction extends in a direction in parallel with the extension of a bottom wall of an erected box.

Now turning to Figs. 1A and 1B, one embodiment of a display box 100 according to prior art is disclosed. The display box 100 is disclosed in a disassembled condition and in an assembled condition together with four cover
10 panels 101 and an optional lid 102. The display box 100 is formed by a creased blank (not disclosed) which in its erected condition comprises a folded bottom 103 and four side walls 104. Each side wall 104 comprises a display opening 105 constituting an access opening to the intended contents. It is to be understood that the geometry of the display opening 105, the number of display openings 105 and
15 the number of side walls 104 may differ. The cover panels 101 are provided with a cross section corresponding to the area of the respective side wall 104 of the display box 100. Hence, when inserted into the display box 100, the cover panel 101 lies in flush with the folded bottom 103 of the display box 100 and in flush with an upper free edge 106 of the display box 100. Further, the cover panel 101 has an extension
20 in the horizontal direction so that it extends between two corner edges 107 of the display box 100.

The oversized cover panel 101 provides rigidity of the display box 100 during handling and transportation. However, whereas the display box 100 can be provided from one single creased blank, the cover panels 101 must be provided as separate
25 items. Also, the production of the blank results in a large amount of waste material since the material corresponding to the display openings 105 is not further used.

Now turning to Fig. 2A one example of a blank 1 according to the invention is disclosed. The blank 1 is intended to form, once erected, a rectangular display box 2 where each side wall 3 is provided with a display opening 4 covered by a cover
30 panel 5, see Figs. 3A and 3B.

The blank 1 may be made of cardboard, paper board or well pap. It is to be understood that also other types of materials may be used. The material preferably has a thickness that allows the display box, once erected, to be self-supporting.

The blank 1 comprises four major panels 6 arranged side by side along the
35 longitudinal extension L of the blank 1. Each major panel 6 is intended to form a side wall 3 of the erected display box 2.

Each major panel 6 comprises an imaginary top line 7 defining an intended upper edge 8 of the side wall 3 of the display box 2. Also, each major panel 6 comprises an imaginary bottom line 9 defining an intended lower edge 10 of the side wall 3 of the display box 2.

5 Each major panel 6 comprises a perforation 11 which has an extension corresponding to the extension of the display opening 4 in the display box 2. The perforation 11 has two top portions 12 that extend along the imaginary top line 7. Also, the perforation 11 has a bottom portion 13 and two intermediate side portions 14 which interconnect the bottom portion 13 with the respective top portion 12. In the
10 disclosed embodiment, the intermediate portions 14 and the bottom portion 13 are essentially straight, however it is to be understood that other extensions are possible. The perforation 11 comprises a plurality of nick-points 15. The nick-points 15 are preferably equally distributed along the longitudinal extension of the perforation 11. The term “**nick-point**” in this aspect is to be interpreted as a weak
15 connection point which easily can be manually broken.

The two intermediate side portions 14 of the perforation 11 are preferably inwardly inclined towards the bottom portion 13 of the perforation 11.

It is to be understood that the width of the top portions 12 and/or the bottom portion 13 as seen in the longitudinal extension L can be close to zero with remained
20 function. It is also to be understood that the top portions 12 on the respective sides of the bottom portion 13 can have different widths.

Each major panel 6 further comprises an upper portion 16 that extends between the imaginary top line 7 and an upper edge 17 of the respective major panel 6. The upper edge 17 of the respective major panel 6 has an essentially straight,
25 horizontal extension. The upper portion 16 together with a projection 18 that is delimited by the perforation 11 is arranged to form the cover panel 5 to be discussed below.

The respective upper portion 16 is provided with a crease line 50. The crease line 50 divides the upper portion 16 into a first portion 16a and a second portion 16b.

30 Each major panel 6 further comprises a lower portion 19 that extends between the imaginary bottom line 9 and the bottom portion 13 of the perforation 11.

The height D1 as measured in a direction transverse the longitudinal extension L of the blank 1, between the upper edge 17 of the at least one major panel 6 and a lower most point of the bottom portion 13 of the perforation 11
35 corresponds to at least 140% and more preferred at least 120% of the height D2 as measured in a direction transverse the longitudinal extension L of the blank 1

between the imaginary top line 7 and the imaginary bottom line 9 defining the intended lower edge 10 of the side wall 3 of the display box 2.

Thereby, the height A of the upper portion 16, as seen in the vertical direction, and accordingly as seen in a direction transverse the longitudinal extension L of the blank 1, exceeds to the shortest distance B between a lower most point of the bottom portion 13 of the perforation 11 and the imaginary bottom line 9.

The blank 1 further comprises bottom panels 20. Each bottom panel 20 has an extension along the imaginary bottom line 9 delimiting the intended lower edge 10 of the respective side wall 2. Thus, each bottom panel 20 is arranged adjacent a respective major panel 6.

The blank 1 comprises crease lines 21. Crease lines 21 are arranged between the respective major panels 6 and also between the major panels 6 and their respective bottom panels 20.

The blank 1 comprises vertical cuts 22 separating the respective bottom panels 20 as seen in the longitudinal extension of the blank 1. Also, the blank 1 comprises vertical cuts 23 separating the respective upper portions 16 of the major panels 6 as seen in the longitudinal extension of the blank 1. As a result of the cuts 22, 23, the width w1 of the upper portion 16 as seen along the longitudinal extension L of the blank 1 corresponds to the width w2 of the corresponding major panel 6 minus a distance corresponding to twice the material thickness t of the blank 1.

In addition to the major panels 6, the blank 1 further comprises a joining panel 24. The joining panel 24 is arranged to extend along a free edge of the one of the major panels 6. The joining panel 24 has an extension transverse the longitudinal extension L of the blank 1. A crease line 21 is arranged to extend along the vertical transition between the major panel 6 and the joining panel 24.

Now turning to Fig 2B, the blank 1 is disclosed before erecting the same to form the display box 2. The respective cover panels 5 are removed from the blank 1 by separating the cover panels 5 along the perforations 11. Since the perforations 11 are provided with nick-points (not shown), an essentially notch-free edge is provided along the resulting curved edge of the display opening 4 and along the respective cover panel 5.

Now turning to Fig. 3A the resulting display box 2 is disclosed in an erected condition with the respective cover panels 4 removably inserted into the display box 2, but before folding the first portions 16a of the upper portions 16.

As a result of the height D1 being larger than the height D2, a portion 16a of the upper portion 16 of the cover panel 5 will in this non-folded condition project past the intended upper edge 8 of the side wall 3 of the erected display box 2.

When erecting the display box 2, the joining panel 24, the major panels 6 and the bottom panels 20 are all folded along the crease lines 21 and folded into a rectangular display box 2 having an essentially flat bottom wall 25 composed of the four bottom panels 20 and the four vertical side walls 3. In order to maintain the erected shape, the joining panel 24 is joined to the opposing major panel 6 by e.g. adhesive, staples or the like. The bottom wall 25 of the display box 2 may have a surface area corresponding to the size of a Euro-pallet.

The respective display openings 4 are covered by a respective cover panel 5. The cover panels 5 are removably arranged to extend in parallel with and abut the respective side wall 3. When inserted, the bottom edge 28 of the cover panel 5 abuts the bottom wall 25 of the erected display box 2.

The opposing vertical edge portions 29 of the upper portion 16 of the cover panel 5 are guided by the vertically extending corner edges 30 of the display box 2. Also, the bottom edges 28 of the cover panels 4 rest against the bottom wall 25 of the display box 2. Thus, in this inserted position the cover panel 5 has been vertically displaced relative to the lower imaginary line 9 of the blank 1. As a result of this displacement and also as a result of the two intermediate side portions 14 of the perforation 11 being inwardly inclined towards the bottom portion 13 of the perforation 11, the projecting portion 18 of the cover panel 5 will completely cover not only the display opening 4 in the side wall 3 but also overlap a portion of the side wall 3 around the display opening 4. When the display box 2 is filled with contents (not shown), the contents will press the cover panel 5 to a closer abutment with the side wall 3 of the display box 2 thereby preventing the contents from falling out.

Now turning to Fig. 3B, the display box 2 is disclosed in its fully erected position ready to be used. The first portion 16a which forms a projecting portion has been folded 180 degrees along the crease line 50, whereby the first portion 16a after folding abuts the exterior surface of the side wall 3 of the erected display box 2. Thereby a reinforcement of the upper edge of the erected display box 2 is provided for during handling of the display box 2. The reinforcement is formed by some areas along the upper edge of the display box having three layers of materials, while other areas having two layers.

To facilitate the folding along the crease line 50, the crease line 50 may optionally be provided as two parallel crease lines. The crease line 50 may also be provided with a plurality of cut-outs 51 coinciding with the longitudinal extension of the crease line 50.

Now turning to Figs. 4, 5A -5D, a highly schematic view of the display box 2 with its cover panels 5 and optional lid 30 is disclosed as arranged on a Euro-pallet

40. When the Euro-pallet 40 with the closed and filled display box 2 (Fig. 5A) has reached its final destination, the operator removes the lid 30 (Fig. 5B) and lifts out the cover panels 5 (Fig. 5C) thereby exposing the contents to the end consumer (Fig. 5D). The lifting-out may be made without unfolding the upper portions 16. During the
5 lifting-out, the upper portions 16 may even be used as handles.

The invention has been described as relating to a rectangular box. It is to be understood that the same principle is equally applicable to other cross sections. Also, it is to be understood that other geometries of the cover panels and the display openings are possible.

CLAIMS

1. Blank (1) for a display box (2), said blank (1) comprising a plurality of major panels (6) adapted to form side walls (3) of the display box (2), said major
5 panels (6) being arranged side by side along a longitudinal extension (L) of the blank (1), wherein

at least one of the major panels (6) comprises an imaginary top line (7) defining an intended upper edge (8) of the side wall (3) of the display box (2) and an imaginary bottom line (9) defining an intended lower edge (10) of the side wall (3) of
10 the display box (2);

at least one of the major panels (6) comprises a perforation (11) having two top portions (12) extending along the imaginary top line (7), a bottom portion (13) and two intermediate side portions (14) interconnecting the bottom portion (13) with a respective top portion (12);

15 said at least one major panel (6) further comprises an upper portion (16) extending between the imaginary top line (7) and an upper edge (17) of the at least one major panel (6), and a lower portion (19) extending between the imaginary bottom line (9) and the bottom portion (13) of the perforation (11); wherein

a height (D1) as measured in a direction transverse the longitudinal extension (L) of the blank (1), between the upper edge (17) of the at least one major panel (6) and a lower most point of the bottom portion (13) of the perforation (11) corresponds to at least 140% and more preferred at least 120% of the height (D2) as measured in a direction transverse the longitudinal extension (L) of the blank (1) between the
20 imaginary top line (7) and the imaginary bottom line (9) defining the intended lower edge (10) of the side wall (3) of the display box (2);

25 the upper portion (16) extending between the imaginary top line (7) and the upper edge (17) of the at least one major panel (6) comprises a crease line (50) allowing folding of the upper portion (16); and

said upper portion (16) being configured to be folded 180 degrees along the
30 crease line (50).

2. A blank according to claim 1, wherein the perforation (11) allows separation of a cover panel (5) from the major panel (6), said separated cover panel (5) comprising a top edge (26) corresponding to the upper edge (17) of the major panel (6) and a lower edge defined by the top portion (12), the bottom
35 portion (13) and the two intermediate side portions (14) of the perforation (11).

3. A blank according to claim 1 or 2, wherein the width (w1) of the upper portion (16) as seen along the longitudinal extension (L) of the blank (1) corresponds to the width (w2) of the corresponding major panel (6) minus a distance corresponding to twice the material thickness t of the blank (1).

5

4. A blank according to any of the preceding claims, further comprising bottom panels (20), each bottom panel (20) having an extension along the imaginary bottom line (9) delimiting the intended lower edge (10) of the respective side wall (3).

10

5. A blank according to any of the preceding claims, wherein crease lines (21) are formed between adjacent major panels (6) as seen in the longitudinal extension (L) of the blank (1) and between major panels (6) and respective bottom panels (20) as seen in a direction transverse the longitudinal extension (L) of the blank (1).

15

6. A blank according to any of the preceding claims, wherein the two intermediate side portions (14) of the perforation (11) are inwardly inclined towards the bottom portion (13) of the perforation (11).

20

7. A blank according to any of the preceding claims, wherein the perforation (11) comprises a plurality of nick-points (15).

8. A blank according to any of the preceding claims, wherein the blank (1) is made of cardboard, paper board or well pap.

25

9. A blank according to any of the preceding claims, wherein the blank (1) further comprises a joining panel (24) arranged along a free edge of one of the major panels (6), said joining panel (24) having an extension transverse the longitudinal extension (L) of the blank (1).

30

10. Method of erecting a display box, comprising the steps of:
providing a blank (1) according to any of features 1-9;
separating the at least one cover panel (5) from the respective major panel (6) along the perforation (11);
folding the blank (1) along the crease lines (21) that are arranged

35

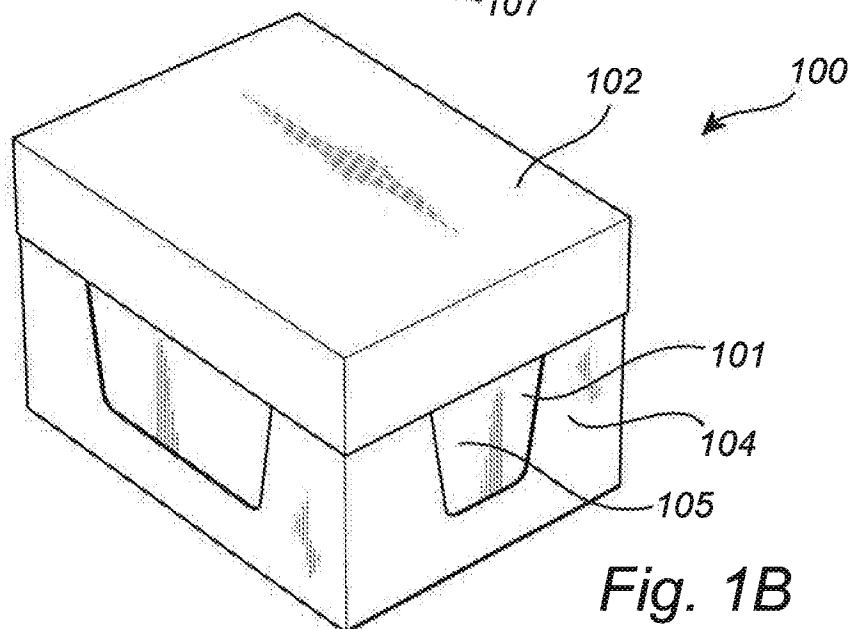
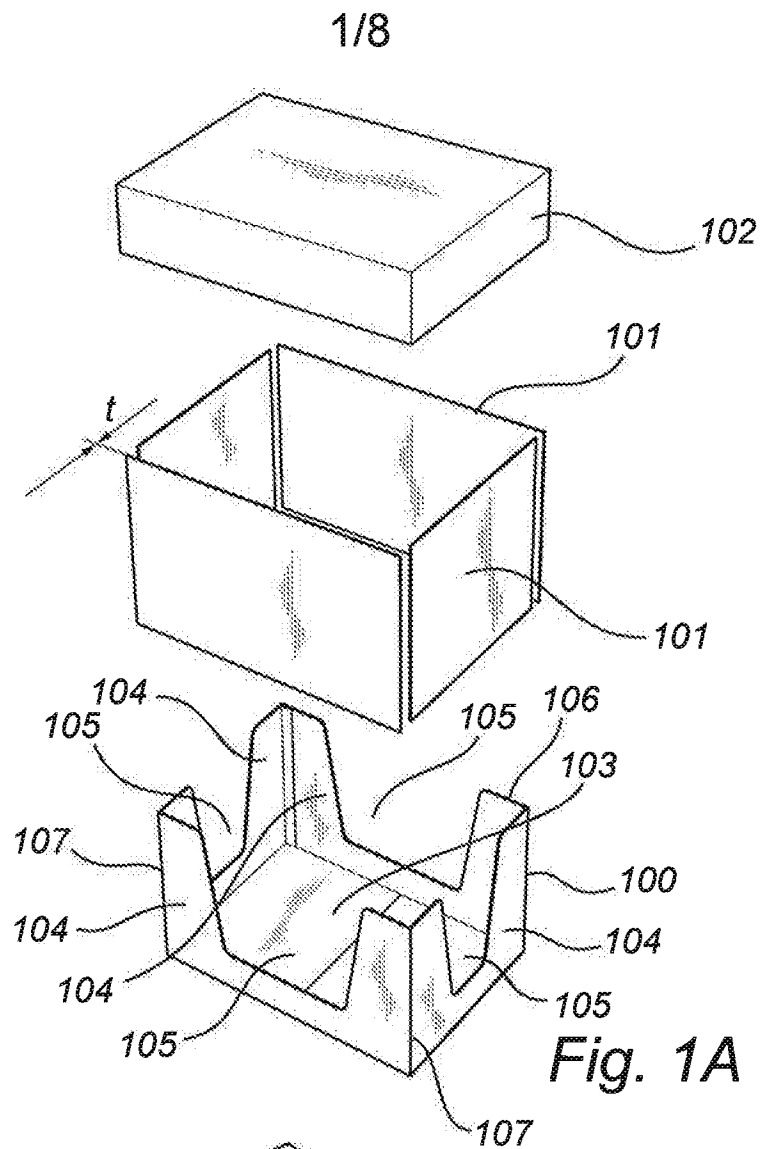
between the major panels (6), the bottom panels (20) and the joining panel (24) to thereby form an erected display box (2) comprising a bottom wall (25) and a plurality of side walls (3) extending at an angle from the bottom wall (25), each side wall (3) having an upper edge (8);

5 removably arranging the separated cover panel (5) in a position inside the erected display box (2) in which position the cover panel (5) extends in parallel with and abuts an inner surface of the side wall (3) formed by the major panel (6) from which the cover panel (5) was separated, and in which position a lower edge (28) of the cover panel (5) abuts the bottom wall (25) of the erected display box (2) and in
10 which position a portion (16a) of the cover panel (5) projects past the upper edge (8) of the side wall (3) as seen in a direction transverse the longitudinal extension (L) of the blank (1); and

 folding the projecting portion (16a) 180 degrees along the crease line (50), thereby arranging the projecting portion (16a) to abut an exterior surface of the side
15 wall (3) of the erected display box (2).

11. A display box formed by a blank (1) according to any of claims 1-9.

12. A display box according to claim 11, wherein the bottom wall (25) of
20 the display box (2) has a surface area corresponding to the size of a Euro-pallet (40).



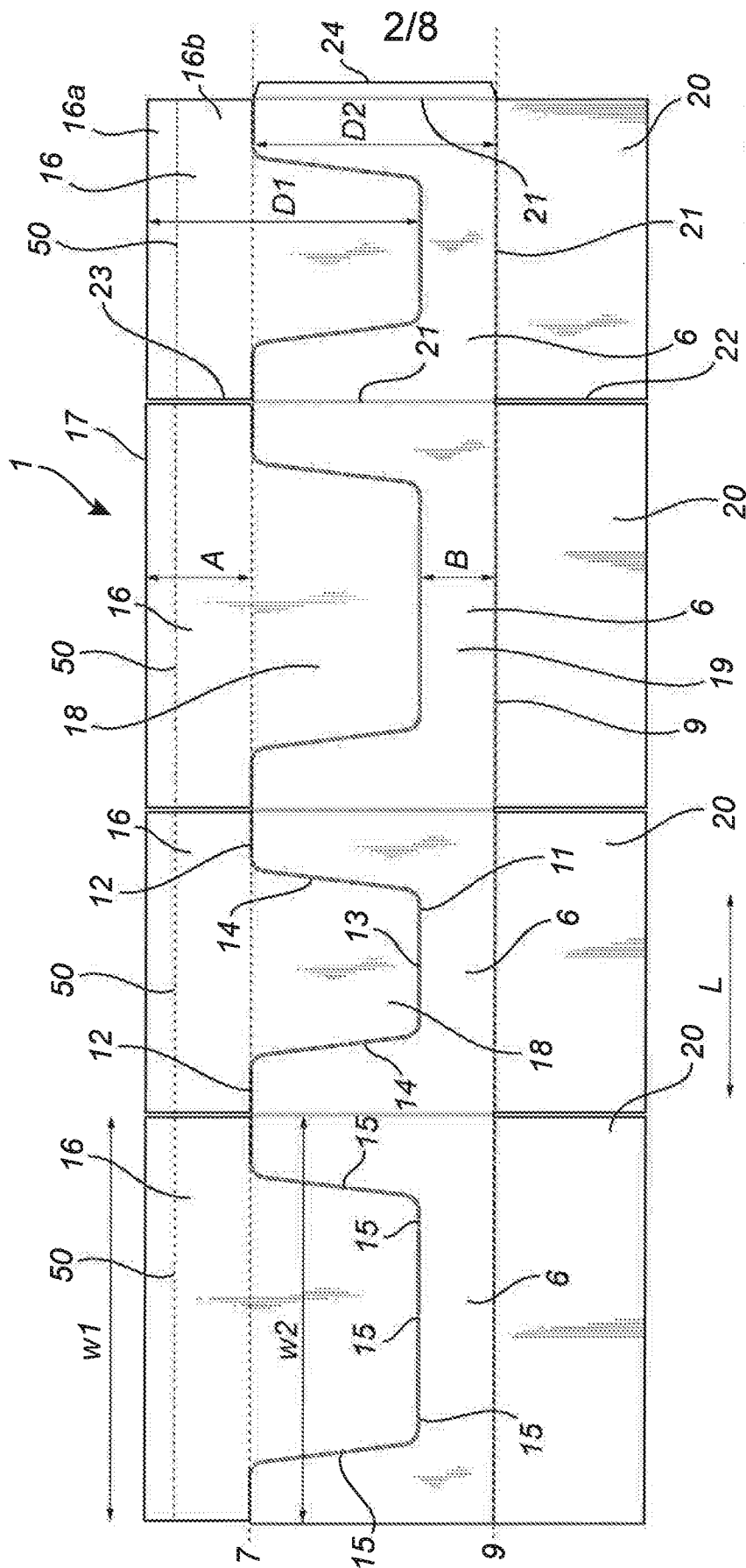
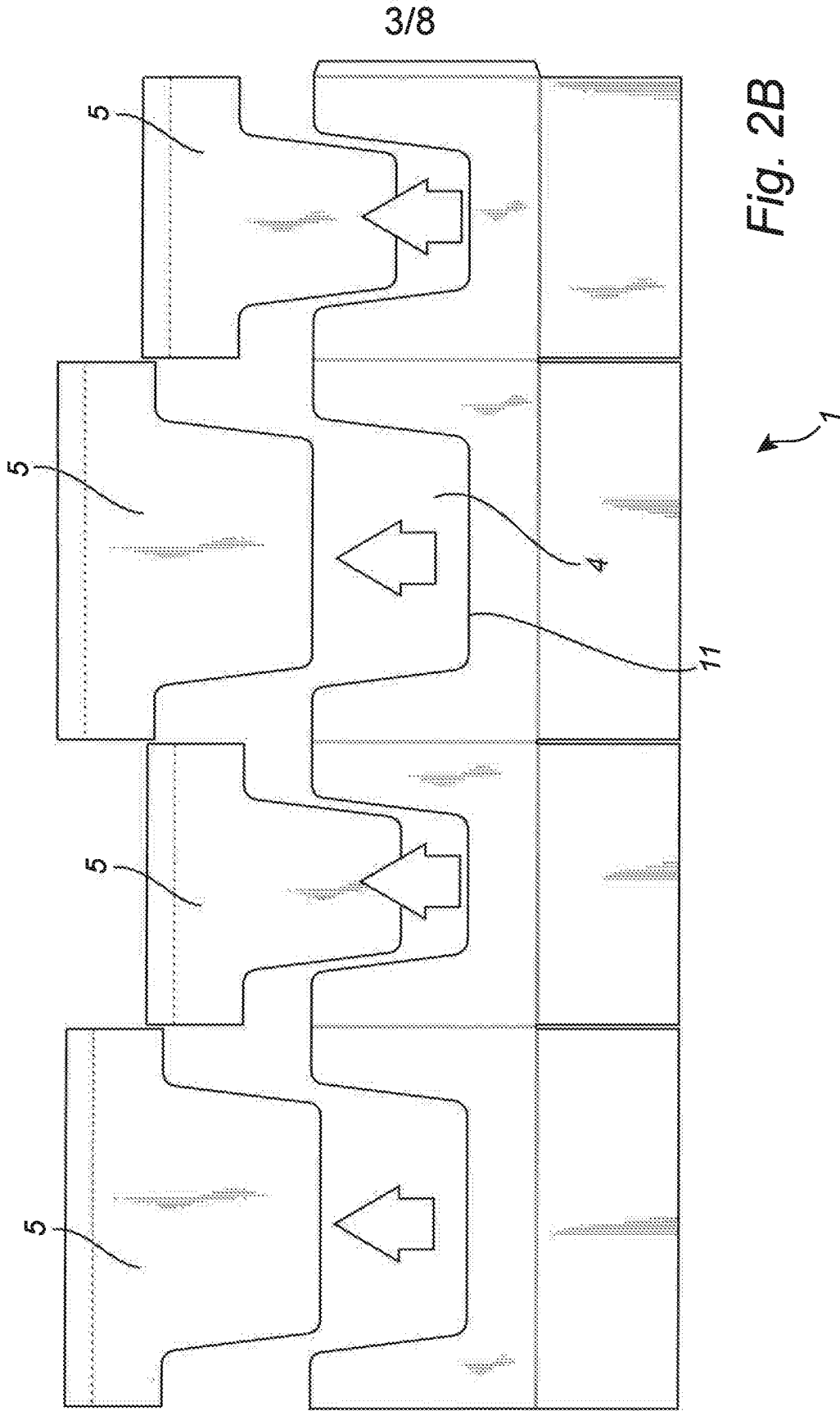


Fig. 2A



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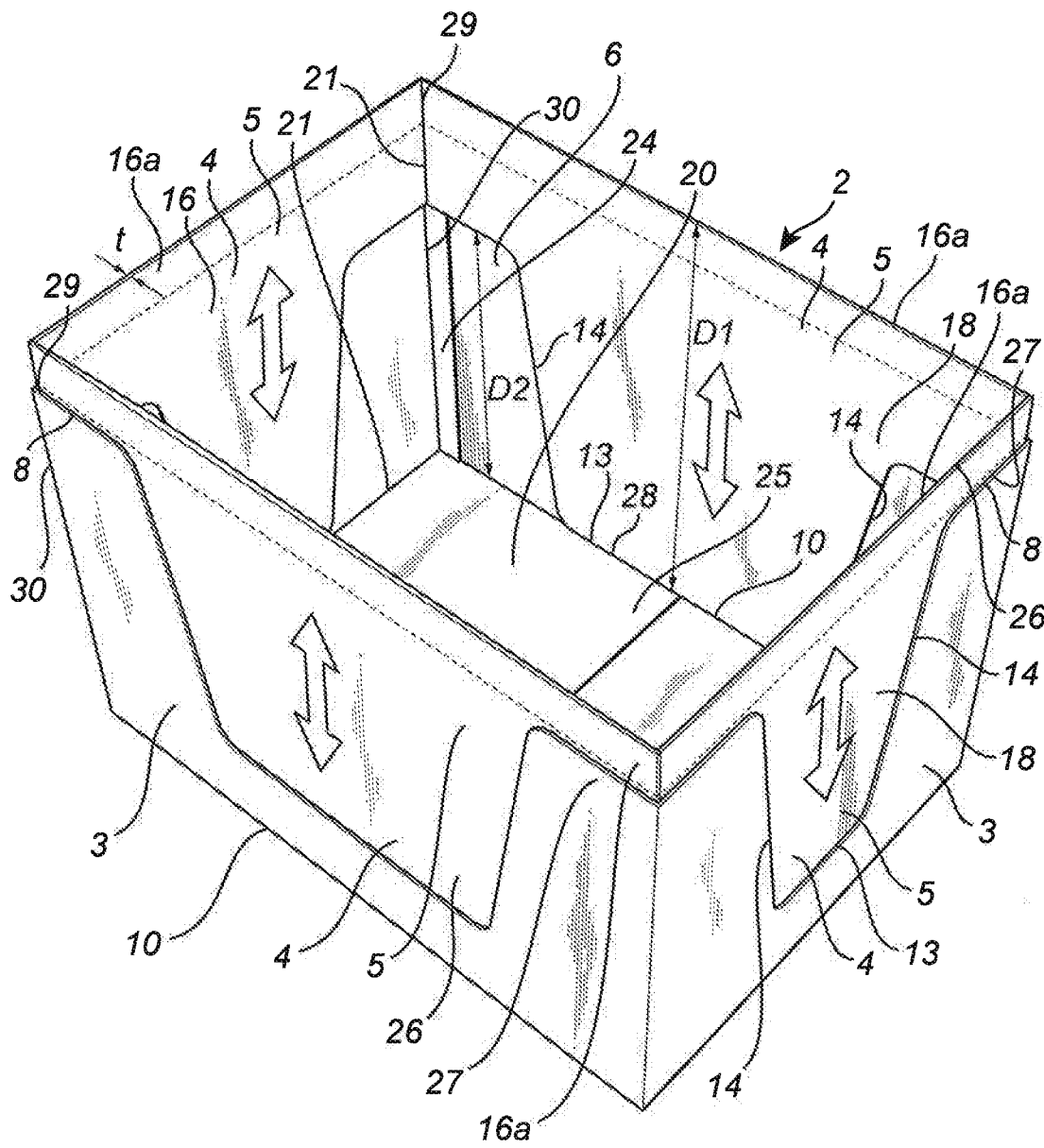


Fig. 3A

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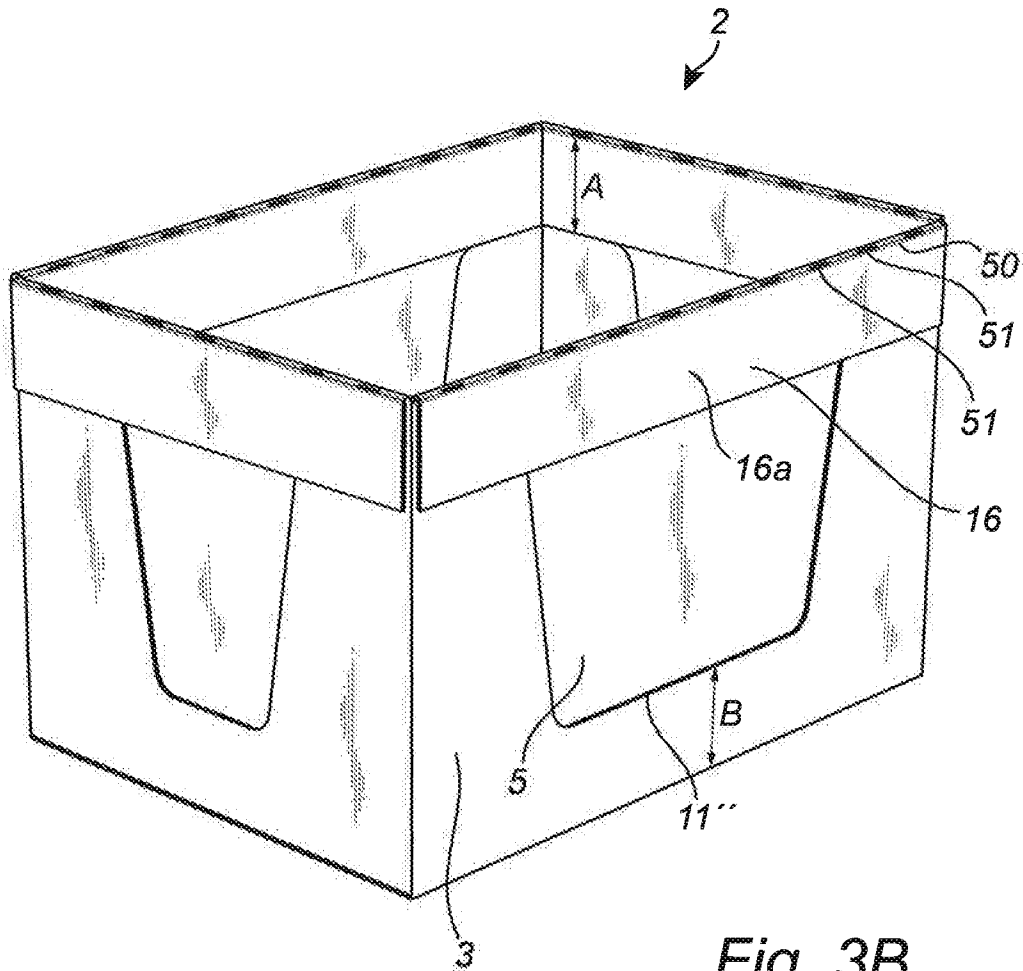
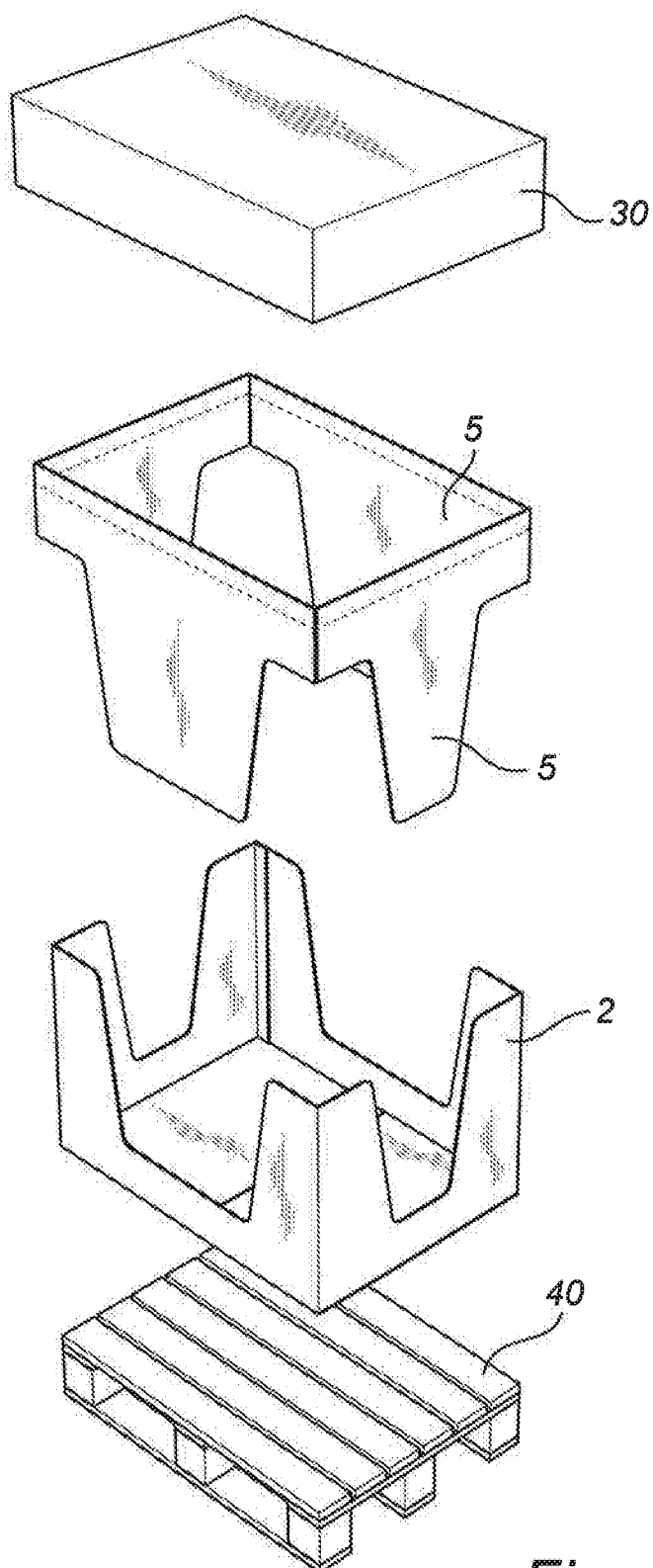


Fig. 3B

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*Fig. 4*

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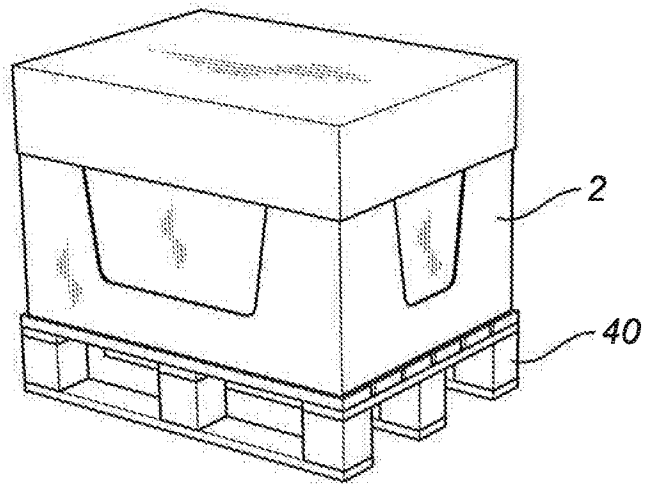


Fig. 5A

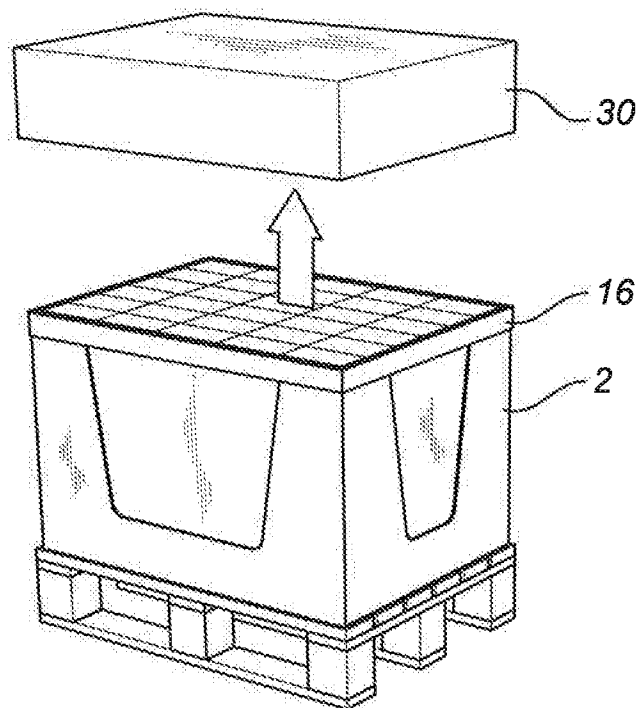


Fig. 5B

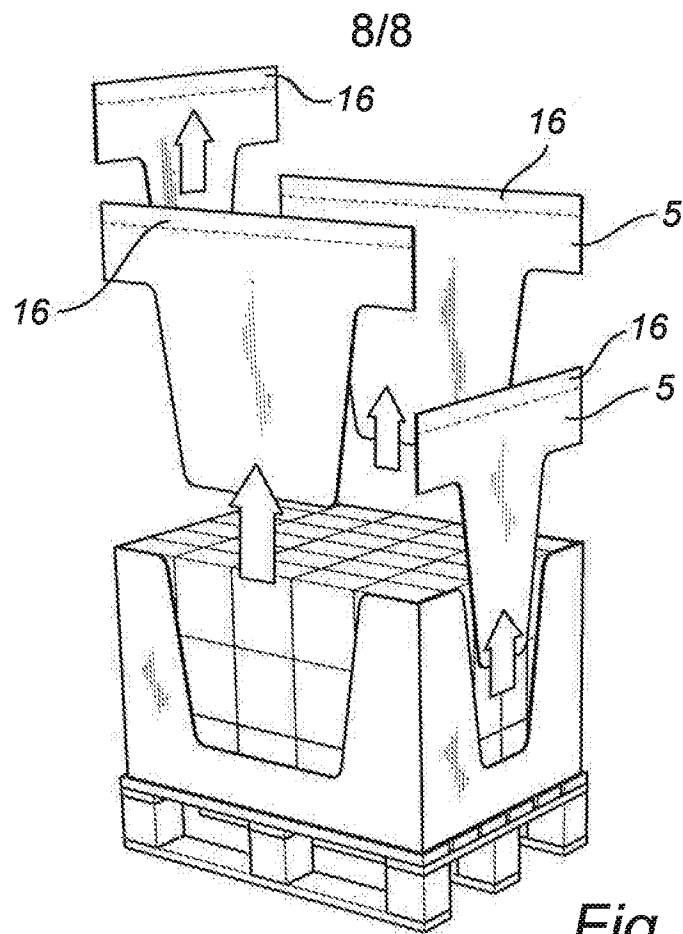


Fig. 5C

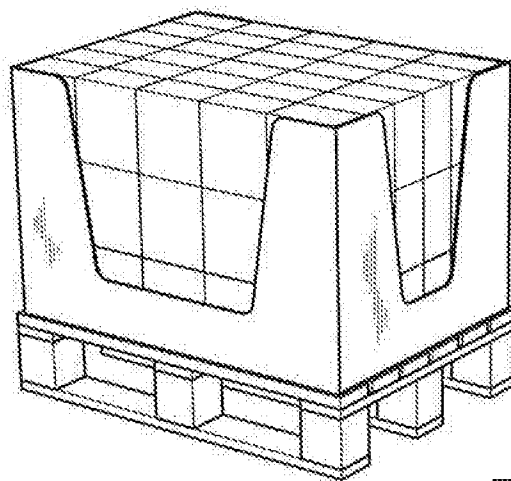


Fig. 5D

INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE2018/050452

A. CLASSIFICATION OF SUBJECT MATTER

IPC: see extra sheet

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC: B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE, DK, FI, NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EPO-Internal, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	AT 8062 U1 (MOSBURGER GES M B H), 15 January 2006 (2006-01-15); page 2, line 41 - line 45; page 4, line 6 - line 31; figures 4-7; claim 1	1-9, 11, 12
A	--	10
X	WO 2006052209 A2 (SESAM CONTAINER AB ET AL), 18 May 2006 (2006-05-18); page 4, paragraph [0001] - page 5, paragraph [0003]; figures 1-3	1-9, 11, 12
A	--	10



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

28-06-2018

Date of mailing of the international search report

29-06-2018

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/SE2018/050452

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	WO 2007111559 A1 (SESAM CONTAINER AB ET AL), 4 October 2007 (2007-10-04); figure 1 --	1-12
A	GB 2288590 A (BOWATER PACKAGING LTD), 25 October 1995 (1995-10-25); figures 1-3 --	1-12
A	US 4366916 A (GUIDO JOSEPH J ET AL), 4 January 1983 (1983-01-04); figures 2,4,9 --	1-12
A	GB 2523595 A (SAICA PACK SL), 2 September 2015 (2015-09-02); figures 1-7 -- -----	1-12

Continuation of: second sheet

International Patent Classification (IPC)

B65D 5/16 (2006.01)

B65D 5/54 (2006.01)

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/SE2018/050452

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GB	2523595 A	02/09/2015	NONE			