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## (54) CONTAINER

(57) A blank (100) for a container for the transit of goods, the blank configured to form a container comprising a base and sidewalls, the blank comprising: an adhesive (110a) applied to an internal surface of the blank for receiving an item (300) to be secured within a container formed from the blank; a flexible retainer (110b) fixed to the blank and configured to be foldable over and adherable to the adhesive to secure an item between the flexible retainer and the adhesive.

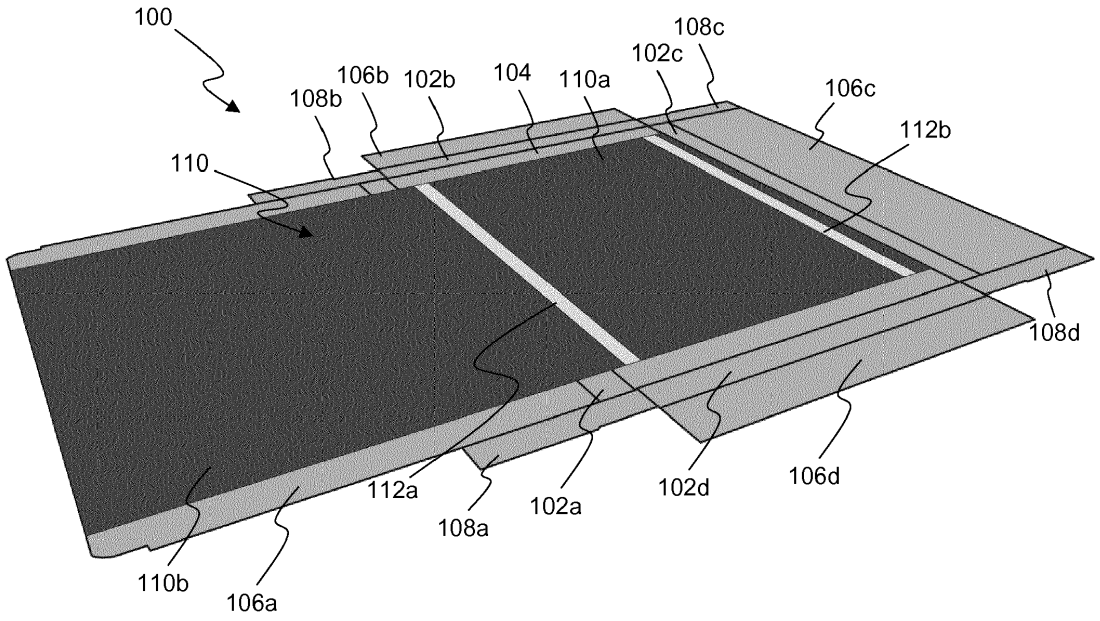


**Fig. 1**

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## Description

### Technical field

**[0001]** The invention relates to containers, more specifically boxes, for the transit of goods. In particular, the invention relates to, but is not limited to, containers for the transit of consumer goods by postal or courier networks. The invention also relates to blanks for such containers.

### Background

**[0002]** Consumer purchases over the Internet are increasing year-on-year and, as such, Internet retailers are dealing with higher and higher volumes of goods that must be packaged for transit by post or courier.

**[0003]** When dealing with such high volumes, speed of packaging is a key factor. In addition, cost of packaging and protection from damage of goods contained within the packaging are important.

**[0004]** In view of the above, there is a need to improve packaging methods to provide increased efficiency of packaging, at lower cost and with improved security.

### Summary

**[0005]** According to the invention in a first aspect, there is provided a blank for a container for the transit of goods, the blank configured to form a container comprising a base and sidewalls, the blank comprising: an internal surface for receiving an item to be secured within a container formed from the blank; a flexible retainer fixed to the blank and configured to be foldable over and adherable to the internal surface to secure an item between the flexible retainer and the internal surface.

**[0006]** Optionally, the blank further comprises an adhesive applied to the internal surface.

**[0007]** It is noted that the term "applied" as used above may encompass applying a liquid adhesive directly to the internal surface and also fixing a sheet of material to the internal surface, the sheet of material having an adhesive on at least one side.

**[0008]** Optionally, the adhesive comprises a cohesive material, and wherein a corresponding cohesive material at least partially covers an internal surface of the flexible retainer.

**[0009]** Optionally, the adhesive comprises a sheet of material fixed to the internal surface of the blank, the adhesive being applied to an internal surface of the sheet.

**[0010]** Optionally, the sheet of material is fixed to the internal surface of the blank by an adhesive.

**[0011]** Optionally, the sheet of material also comprises the flexible retainer, a first portion of the sheet being the adhesive and a second portion of the sheet being the flexible retainer.

**[0012]** Optionally, the flexible retainer comprises a further sheet of material.

**[0013]** Optionally, the sheet of material and/or the further sheet of material comprise a sheet of paper.

**[0014]** Optionally, the flexible retainer is fixed to the blank along an edge, such that the remainder of the flexible retainer is foldable over the adhesive.

**[0015]** Optionally, the adhesive is applied to a base section of the blank.

**[0016]** Optionally, the flexible retainer is fixed to a base section of the blank.

**[0017]** Optionally, the adhesive is applied at least to a peripheral region of the internal surface of the blank.

**[0018]** Optionally, the adhesive is applied to at least half the surface area of the internal surface of the blank.

**[0019]** Optionally, the adhesive is applied to at least 90% of the surface area of the internal surface of the blank.

**[0020]** Optionally, the adhesive is applied to substantially all of the surface area of the internal surface of the blank.

**[0021]** Optionally, the corresponding cohesive material is applied at least to a peripheral region of the internal surface of the flexible retainer.

**[0022]** Optionally, the corresponding cohesive material is applied at least to half the surface area of the internal surface of the flexible retainer.

**[0023]** Optionally, the corresponding cohesive material is applied at least to 90% of the surface area of the internal surface of the flexible retainer.

**[0024]** Optionally, the corresponding cohesive material is applied to substantially all of the surface area of the internal surface of the flexible retainer.

**[0025]** According to the invention in a second aspect, there is provided a container formed from a blank according described above.

### Brief description of figures

**[0026]** Exemplary embodiments of the invention are described herein with reference to the accompanying drawings, in which:

Figure 1 is a perspective view of a blank for a container for transit of goods;

Figure 2 is an exploded perspective view of a blank for a container for transit of goods;

Figure 3a is a perspective view of a blank with an item placed on an adhesive area of the base;

Figure 3b is a perspective view of a blank with a flexible retainer folded over an adhesive area to secure an item; and

Figure 4 is a perspective view of a blank for a container for transit of goods.

### Detailed description

**[0027]** Generally, disclosed herein is a container and a blank for a container comprising an adhesive applied to an internal surface and a flexible retainer configured

to be foldable over the adhesive to retain an item between the adhesive and the flexible retainer. In particular, the adhesive may be a cohesive material and a corresponding cohesive material may be applied to an internal surface of the flexible retainer. The container may be a cardboard box.

**[0028]** It is noted that relative terms such as upper, lower, inner and outer are used herein to aid description of the exemplary blanks and containers and need not limit the scope of the claimed invention. In particular, the terms inner and outer may refer to the inner and outer faces of a constructed container and the terms upper and lower may respectively refer to the top and base of a constructed container.

**[0029]** Further, as used herein, the term "cohesive material" encompasses materials that adhere to themselves but substantially do not adhere to other materials. For example, if a first surface is coated with a cohesive material, then that cohesive material will adhere to other features also coated with the cohesive material; however it will not adhere to features not coated with the cohesive material. A cohesive material is a type of adhesive that bonds much more securely to itself than to other materials.

**[0030]** Figure 1 shows a blank 100 for a container. The blank 100 comprises four sidewall sections 102a-d. The sidewall sections 102a-d become the sidewalls of the container when the blank 100 is formed into the container. Each of the sidewall sections 102a-d is connected to a base section 104 by way of a foldable seam allowing the sidewall sections 102a-d to be folded at right angles to the base section 104 when forming the blank 100 into a container.

**[0031]** The blank 100 also comprises four top sections 106a-d. Each of the top sections 106a-d is joined to a corresponding sidewall section 102a-d by way of a foldable seam. When forming the blank 100 into a container, this allows the top sections 106a-d to be folded to form a top or lid of the container at right angles to the sidewall sections 102a-d. In exemplary container blanks 100, one or more of the top sections 106a-d may comprise a securing means for securing the lid of the box in a closed position. The securing means may comprise an adhesive in the form of a peel and seal strip, that is, an adhesive may be covered by a shroud that may be removed by a user to reveal the adhesive and allow it to be adhered to another surface. One or more of the top sections 106a-d may comprise an opening means to facilitate easy opening of the box. The opening means may comprise a rip strip comprising a tab that may be pulled by a user and a strip configured to rip open the container when the tab is pulled.

**[0032]** The blank 100 also comprises sidewall tabs 108a-d. In the exemplary blank 100 of Figure 1, the sidewall tabs 108a-d are elongate rectangular members joined to an adjacent sidewall 102a-d by way of a foldable seam. The foldable seam comprises one of the shorter edges of the elongate sidewall tabs 108a-d. For example, sidewall tabs 108a, 108d are connected to sidewall 102d, and sidewall tabs 108b, 108c are connected to sidewall 102b. Although they are shown abutting other features of the blank 100, the sidewall tabs 108a-d are not connected to those features. When forming the container, the sidewall tabs 108a-d are folded inwards at right angles to the sidewall 102a-d to which they are connected along the foldable seam. The sidewall tabs 108a-d are placed inside an adjacent sidewall to which they are not connected. The sidewall tabs 108a-d therefore provide increased rigidity to the formed container.

**[0033]** The blank 100 also comprises a sheet of material 110. The sheet of material 110 comprises a first portion 110a and a second portion 110b. An internal surface of the sheet of material (facing upwards in Figure 1) is coated with a cohesive material. The first portion 110a therefore forms an adhesive applied to an internal surface of the blank 100. In the exemplary blank 100 of Figure 1, the internal surface of the blank 100 is an internal surface of the base section 104. The second portion 110b forms a flexible retainer that is foldable over the first portion 110a such that the cohesive materials of each portion adhere together. In this way, items placed on the first portion 110a may be secured between the flexible retainer and the adhesive.

**[0034]** The first portion 110a is fixed to the base section 104 by adhesive strips 112a, 112b. The strips of adhesive 112a, 112b may be in the range from 1 cm to 2 cm wide. As such, the adhesive is held in position on the internal surface of the base section 104. The second portion 110b forming the flexible retainer is fixed to the base section 104 along one edge by the adhesive strip 112a, such that the remainder of the flexible retainer is free to be folded over the adhesive of the first portion 110a. In other exemplary blanks, the first and second portions 110a, 110b of the sheet of material 110 may be fixed to the blank 100 by other means.

**[0035]** In exemplary blanks, the base, sidewall and top sections may be formed from cardboard and, optionally, corrugated cardboard. The sheet of material 110 may comprise a sheet of paper. An adhesive, optionally a cohesive material, may be applied to an inner surface of the sheet of paper.

**[0036]** Figure 2 shows an exploded perspective view of the blank 100, in which the sheet of material 110 is shown away from the main body of the blank 100. The vertical arrows show how the sheet of material 110 is applied to the blank 100.

**[0037]** In use, an item 300 is placed on the adhesive comprising the first portion 110a of the sheet of material 110, as shown in Figure 3a. In exemplary blanks in which the adhesive is a cohesive material, the item 300 will not stick to the cohesive material. The flexible retainer comprising the second portion 110b of the sheet of material 110 is folded over the first portion 110a, as shown in Figure 3b. The flexible retainer is adhered to the first portion 110a and in exemplary blanks in which the adhesive is a cohesive material, the flexible retainer does not ad-

here to the item 300.

**[0038]** The flexible retainer 110b is adhered to the adhesive area 110a in the region surrounding the item 300, thereby securing the item 300 between the flexible retainer 110b and the adhesive area 110a. Once the item 300 is secured, the container may be formed from the blank in the normal way.

**[0039]** In one exemplary blank, the adhesive area 110a may be around a peripheral region of the base section 104, leaving a central region of the adhesive area without any adhesive in it. This may be configured such that the item 300 does not adhere to the adhesive area when securing it between the adhesive area 110a and the flexible retainer 110b. In another exemplary blank, the adhesive area comprises a cohesive material and the cohesive material covers all of the adhesive area, which may be substantially all of the area of an internal surface of the base section 104. In such arrangements, a corresponding cohesive material is applied to an internal surface of the flexible retainer 110b. A corresponding cohesive material encompasses one that is configured to adhere to the cohesive material of the base section 104. In this way, the flexible retainer 110b may be folded over the adhesive area 110b such that the corresponding cohesive materials meet and the flexible retainer 110b adheres to the adhesive area 110a.

**[0040]** Figure 4 shows a blank 400 wherein an adhesive 410a and a flexible retainer 410b comprise discrete sheets of material. The adhesive 410a comprises a sheet of material, optionally paper, that is fixed to the base section 404 and has an adhesive applied to an internal surface. The adhesive sheet of material 410a is fixed to the base section 404 by two strips of adhesive, as set out above. In addition, the flexible retainer 410b is separately fixed to the base section 404 by a third strip of adhesive along one edge, such that the remainder of the flexible retainer 410b is free to be folded over the adhesive sheet of material 410a.

**[0041]** As above, in an exemplary blank 400, the adhesive sheet of material 410a and the flexible retainer 410b comprise corresponding cohesive materials on their internal surfaces. In addition, any other features, optional or otherwise, of the blank 100 may be incorporated into the blank 400. Only those features that are different are discussed here for brevity.

**[0042]** In other exemplary blanks, the flexible retainer 410b may be fixed to a sidewall section 402a-d or to the top section 406a. In other exemplary blanks, the adhesive, which in a particular blank is a cohesive material, of the adhesive area may be applied directly to the base section 404.

**[0043]** The skilled person will be able to envisage other embodiments of the invention without departing from the scope of the appended claims.

## Claims

1. A blank for a container for the transit of goods, the blank configured to form a container comprising a base and sidewalls, the blank comprising:

   an internal surface for receiving an item to be secured within a container formed from the blank;
   a flexible retainer fixed to the blank and configured to be foldable over and adherable to the internal surface to secure an item between the flexible retainer and the internal surface.

2. A blank according to claim 1, further comprising an adhesive applied to the internal surface.

3. A blank according to claim 2, wherein the adhesive comprises a cohesive material, and wherein a corresponding cohesive material at least partially covers an internal surface of the flexible retainer.

4. A blank according to claim 2 or 3, wherein the adhesive comprises a sheet of material fixed to the internal surface of the blank, the adhesive being applied to an internal surface of the sheet.

5. A blank according to claim 4, wherein the sheet of material also comprises the flexible retainer, a first portion of the sheet being the adhesive and a second portion of the sheet being the flexible retainer.

6. A blank according to claim 4, wherein the flexible retainer comprises a further sheet of material.

7. A blank according to any of claims 4 to 6, wherein the sheet of material and/or the further sheet of material comprises a sheet of paper.

8. A blank according to any preceding claim, wherein the flexible retainer is fixed to the blank along an edge, such that the remainder of the flexible retainer is foldable over the internal surface.

9. A blank according to any preceding claim, wherein the internal surface is a base section of the blank.

10. A blank according to any preceding claim, wherein the flexible retainer is fixed to a base section of the blank.

11. A blank according to any of claims 2 to 10, wherein the adhesive is applied at least to a peripheral region of the internal surface of the blank.

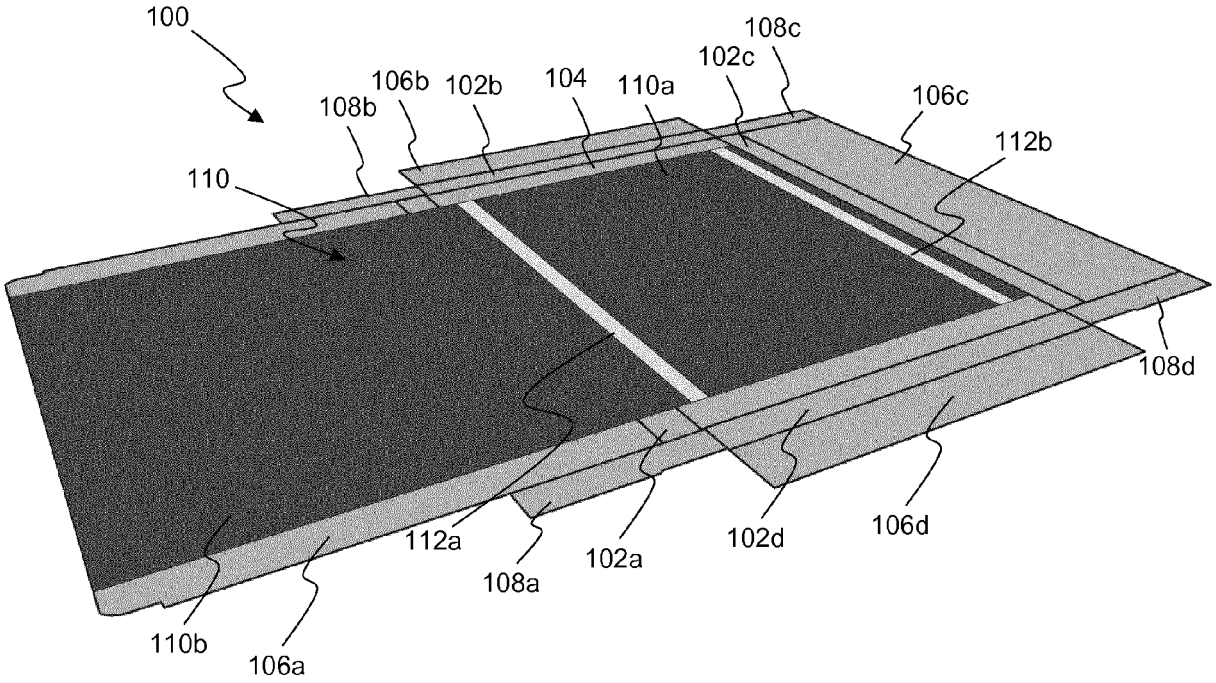
12. A blank according to claim 11, wherein the adhesive is applied to one of: at least half the surface area of the internal surface of the blank; at least 90% of the

surface area of the internal surface of the blank; and substantially all of the surface area of the internal surface of the blank.

**13.** A blank according to claim 11 or 12 when dependent on claim 3, wherein the corresponding cohesive material is applied at least to a peripheral region of the internal surface of the flexible retainer.

**14.** A blank according to claim 13, wherein the corresponding cohesive material is applied to one of: at least to half the surface area of the internal surface of the flexible retainer; at least to 90% of the surface area of the internal surface of the flexible retainer and substantially all of the surface area of the internal surface of the flexible retainer.

**15.** A container formed from a blank according to any of claims 1 to 14.


100
108c
102c
106b
102b
104
110a
108b
106c
112b
110
108d
112a
108a
102a
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106d
110b
106a

Fig. 1

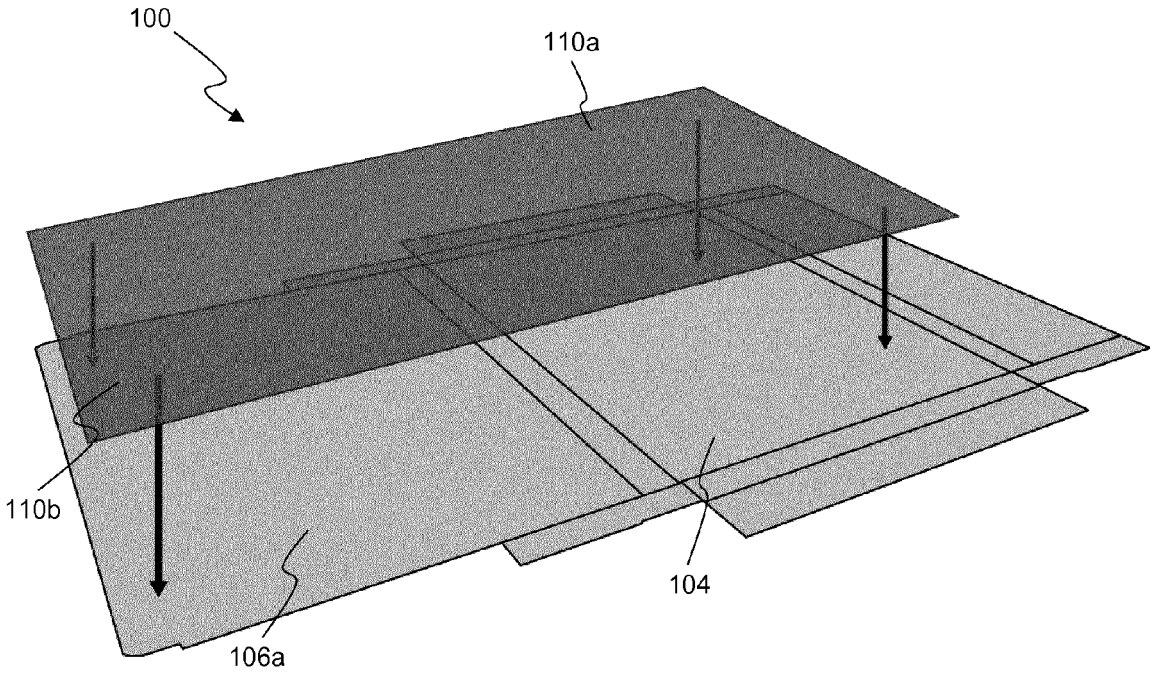


Fig. 2

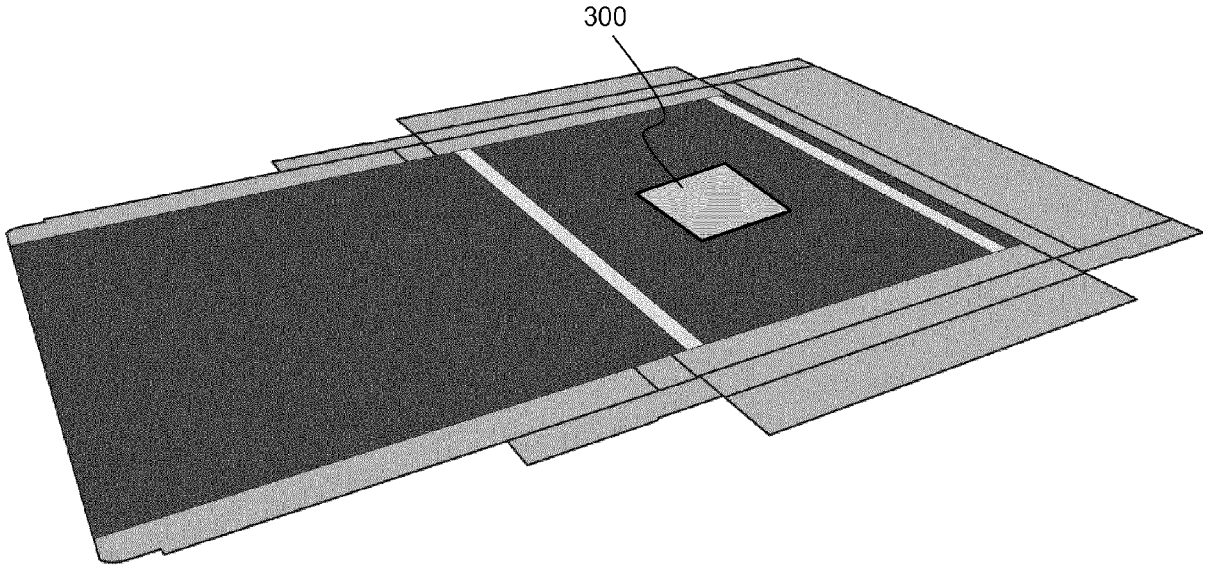


Fig. 3a

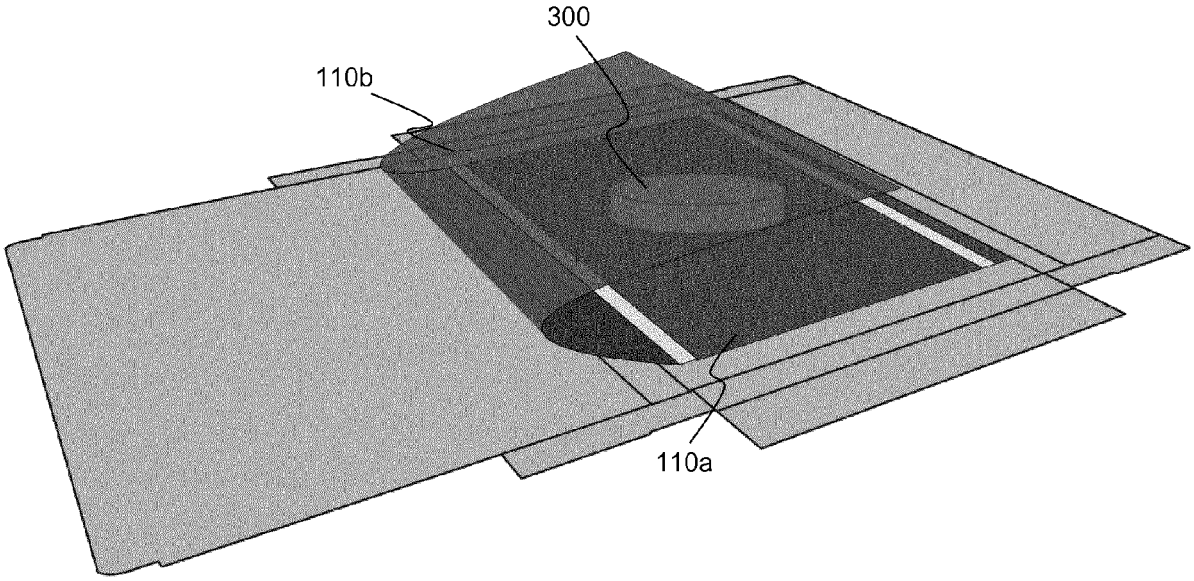


Fig. 3b

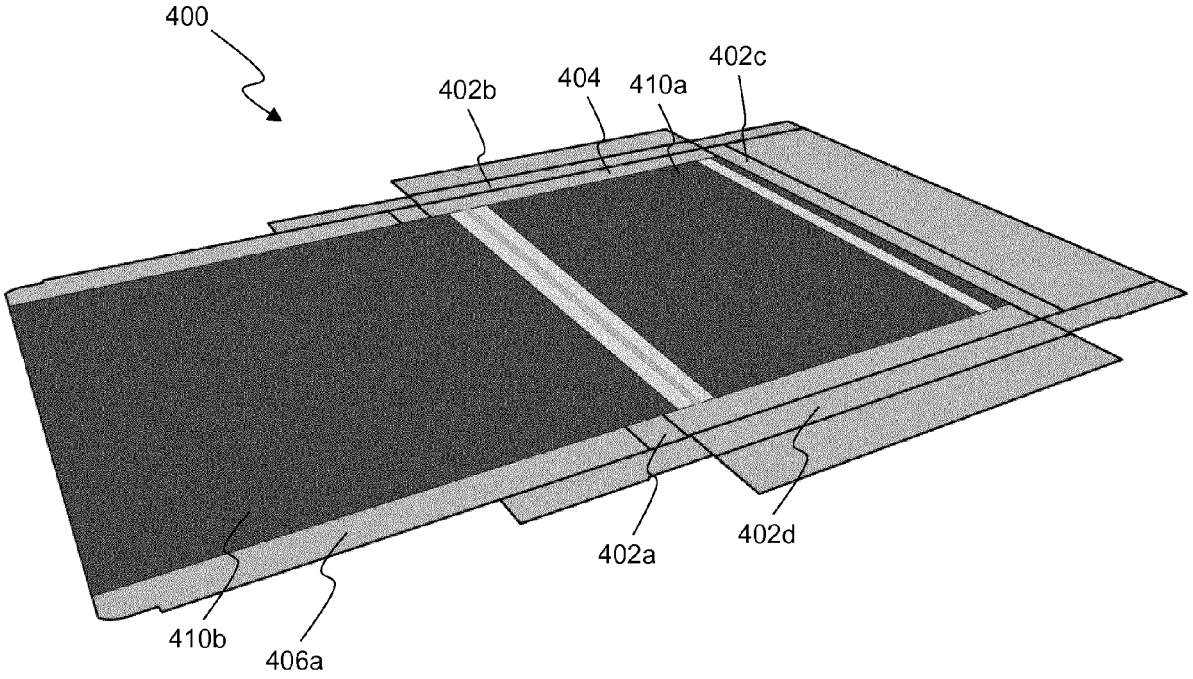


Fig. 4

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# EUROPEAN SEARCH REPORT

Application Number
EP 15 18 8816

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The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| Munich | 26 January 2016 | Grondin, David |

CATEGORY OF CITED DOCUMENTS

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