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(54) Paper container

(57) The present invention relates to a collapsible container (1) comprising first opposing side sections (2a), second opposing side sections (2b), a bottom section (3), and a top section (4) having closing means (5) adapted for closing the container. The closing means (5) comprises flaps (6a, 6b) extending from the first opposing side sections (2a) and/or the second opposing side sections (2b), and each flap (6a, 6b) is arranged to overlap at least one of the additional flaps when closing the container (1). The first opposing side sections (2a) are provided with gusset fold lines (8) extending from the bottom section (3) to the top section (4), and the container (1) is adapted for adopting a first, a second, and a third configuration by overlapping the flaps (6a, 6b). The invention further relates to a method for closing such a container (1).

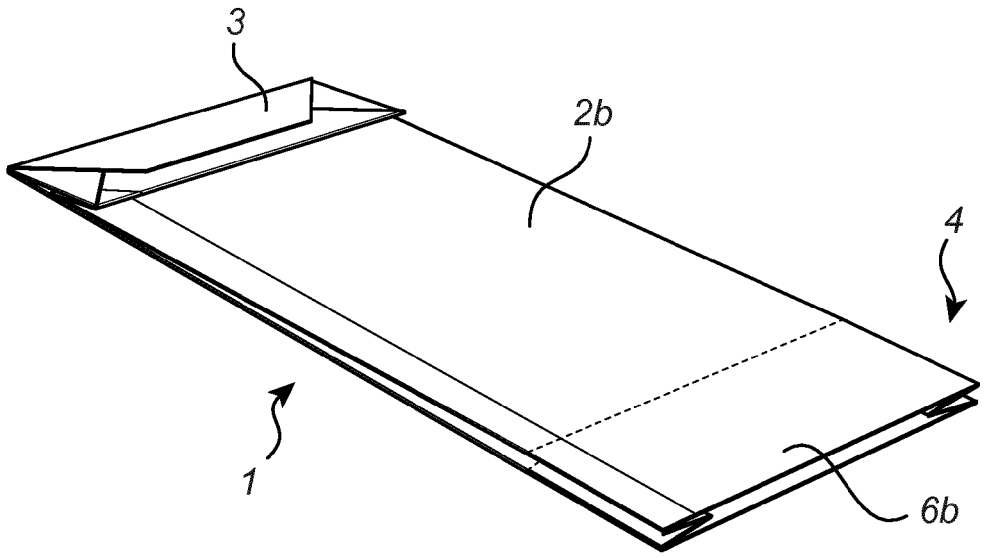

Fig. 1

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Description

Field of the invention

[0001] The present invention relates to a collapsible container comprising first opposing side sections, second opposing side sections, a bottom section, and a top section having closing means adapted for closing the container.

Background of the invention

[0002] The use of containers for, e.g., gift wrapping is common practice. US 2011/0056975 discloses one kind of container which is collapsible such that it takes up as little space as possible when being transported and stored, while still being adapted for rapid expansion by, e.g., a shop assistant wishing to place an article within the container.

[0003] Usually, such containers are unsuitable for holding a wide range of articles of different sizes and shapes, and therefore a shop often needs to store a variety of containers.

Summary of the invention

[0004] It is an object of the present invention to mitigate the above problems, and to provide an improved, collapsible container which has a variable size and shape.

[0005] According to a first aspect of the present invention, these objects are achieved by a collapsible container comprising first opposing side sections, second opposing side sections, a bottom section, and a top section having closing means adapted for closing the container, the closing means comprising flaps extending from the first opposing side sections and/or the second opposing side sections, each flap being arranged to overlap at least one of the additional flaps when closing the container, characterized by the first opposing side sections being provided with gusset fold lines extending from the bottom section to the top section, the container being adapted for adopting a first, a second, and a third configuration by overlapping the flaps.

[0006] This kind of collapsible container provides not only a container which requires little space during storage and transportation, but which also can adopt different configurations in order to accommodate articles of different sizes and shapes, hence reducing the need for differently sized containers.

[0007] The first configuration may comprise a flat, collapsed configuration in order to facilitate space-saving storage and transport.

[0008] The second configuration may comprise the first opposing side sections having a triangular shape when the container is closed, facilitating a partial expansion of the volume within the container.

[0009] The third configuration may comprise the first opposing side sections having a rectangular shape when the container is closed, facilitating a full expansion of the volume within the container.

[0010] In one embodiment, each flap is essentially rectangular.

[0011] In a further embodiment, each flap is essentially tapered. In addition, at least one flap may comprise at least one groove adapted to receive an adjacent flap. By introducing a tapered flap into the groove of an adjacent flap an interlocking between these two flaps will be created and the container can be secured in a reliable way. A further advantage with this configuration is that the container will be more rigid and stable when closed. Naturally, the at least one flap may comprise a plurality of grooves for interlocking with further adjacent flaps of the container.

[0012] Also, the first opposing flaps, extending from the first opposing side sections, may have a first common configuration and the second opposing flaps, extending from the second opposing side sections, may have a second common configuration.

[0013] Further, the first opposing flaps, extending from the first opposing side sections, may be provided with extended gusset fold lines being extensions of the gusset fold lines provided on the first opposing side sections.

[0014] According to a second aspect of the present invention, these objects are achieved by a method for closing a collapsible container, the container comprising first opposing side sections, second opposing side sections, a bottom section, and a top section having closing means comprising flaps, the method comprising the step of arranging the flaps such that each flap overlaps at least one additional flap, the container being adapted for adopting one of two different closed configurations depending on the overlap arrangement of the flaps.

[0015] In one embodiment, the flaps are arranged to overlap by folding the first opposing side sections, and any corresponding first opposing flaps, at least partially by means of gusset fold lines extending from the bottom section, across the top section, and across the flaps.

[0016] In a further embodiment, the flaps are arranged to overlap by folding first opposing flaps, extending from the first opposing side sections, and second opposing flaps, extending from the second opposing side sections, towards the interior of the container, such that the flaps extend and overlap in a plane perpendicular to the faces of the first and second opposing side sections.

[0017] Generally, all terms used in the claims are to be interpreted according to their ordinary meaning in the technical field, unless explicitly defined otherwise herein. All references to "a/an/the [element, device, component, means, etc]" are to be interpreted openly as referring to at least one instance of said element, device, component, means, etc., unless explicitly stated otherwise. Further, by the term "comprising" it is meant "comprising but not limited to" throughout the application.

Brief description of the drawings

[0018] This and other aspects of the present invention will now be described in more detail, with reference to the appended drawings showing currently preferred embodiments of the invention.

Figure 1 shows a perspective view of a collapsible container according to a first embodiment of the present invention when in a first configuration.
Figure 2 shows a perspective view of the collapsible container in Figure 1 when in an expanded state in which the flaps are unfolded.
Figure 3a shows a perspective view of the collapsible container in Figure 1 when in a second configuration.
Figure 3b shows a perspective view of the collapsible container in Figure 1 when in a third configuration.
Figure 4 shows a perspective view of the collapsible container according to a second embodiment of the present invention.
Figure 5 shows a perspective view of the collapsible container according to a third embodiment of the present invention.

Detailed description

[0019] Figures 1 and 2 show a container 1 comprising a pair of first opposing side sections 2a and a pair of second opposing side sections 2b arranged between the first opposing side sections 2a. Each second opposing side section 2b is joined at its lateral edges to one lateral edge of each first side section 2a such that a parallelepiped is formed. A closed bottom section 3 is joined to the bottom edges of each first 2a and second 2b side section, and a top section 4 is arranged at the opposing top edges. By lateral edges are meant the edges of each side section 2a, 2b which extend vertically when the container 1 is placed on its bottom on a flat surface such as a table.

[0020] The top section 4 has closing means 5 adapted for closing the container 1. The closing means 5 comprises flaps 6a, 6b, which are arranged as extensions of the side sections 2a, 2b. The flaps 6a, 6b extend in a direction from the bottom section 3 of the container 1, i.e. upwards when the container 1 is placed on its bottom section 3. Each flap 6a, 6b is arranged to overlap at least one of the other, additional flaps when closing the container 1. By overlap is meant a position where each flap is arranged at least partially on top of at least one other flap and in direct abutment with each other. However, not all four side sections 2a, 2b need to be provided with flaps 6a, 6b. It is possible that only one pair of opposing side sections is provided with such flaps, e.g. the second opposing side sections 2b.

[0021] One of the second opposing side sections 2b is provided with a bottom folding line 7, extending near and parallel with the plane of the bottom section 3. The bottom folding line 7 allows the bottom section 3 to be folded on top of the outer face of one of the second opposing side sections 2b such that the container 1 may be folded flat.

[0022] The first opposing side sections 2a are provided with one gusset folding line 8 each. Each gusset folding line 8 extends along the middle of a side section 2a, and in parallel with the lateral edges of the side section, such that the side section 2a can be at least partially folded in half, resulting in a smaller container volume than when the container is fully expanded. The gusset folding lines 8 allow the container 1 to adopt different configurations when transported and/or stored, i.e. to be folded flat, and when in use.

[0023] If the first opposing side sections 2a are extended with flaps, i.e. first opposing flaps 6a, the gusset folding line 8 also extends, in the same way as described above, along the middle of the flap 6a such that the flap can be at least partially folded in half.

[0024] The first configuration of the collapsible container 1 comprises, as mentioned above, a flat collapsed configuration and is illustrated in Figure 1. In this configuration, the container 1 is flat with the first opposing sides 2a folded in half in a direction inwards towards the interior of the container 1 and the bottom section 3 folded upwards on top of the outer face of one of the second opposing side sections 2b. As a result, the collapsible container 1 more or less has the shape of a rectangular piece of paper. In Figure 2, the collapsible container 1 is illustrated in an expanded state in which the flaps 6a, 6b are unfolded, i.e. the container is open in the top section 4.

[0025] The second configuration of the collapsible container is illustrated in Figure 3a and comprises a container 1 having a partially expanded volume during use, i.e. when the container 1 is closed. As seen in a direction from the bottom section 3 and upwards along the first opposing side section 2a towards its flap 6a, both first opposing side sections 2a have a triangular shape. The area of the side section 2a which is closest to the bottom section 3 has its full width, while the area of the side section 2a which is closest to the flap 6a is folded completely, or almost completely, in half in a direction inwards towards the interior of the container 1. The first opposing side sections 2a are, in other words, tapered in the direction from the bottom section 3 to the flaps 6a. The flaps 6a extending from the first opposing side sections 2a are also folded more or less completely in half, in the same way as discussed above. All flaps 6a, 6b are folded on top of each other and preferably also on top of the outer face of one of the second opposing side sections 2b, and are subsequently attached to said outer face in some way, e.g. through the use of an adhesive or a string.

[0026] The third configuration of the collapsible container is illustrated in Figure 3b and comprises a container 1 having a fully expanded volume during use, i.e. when the container is closed. As seen in a direction from the bottom section 3 and upwards along the first opposing side section 2a towards its flap 6a, both first opposing side sections 2a have a rectangular shape. I.e., the side

sections 2a do not utilize the gusset folding lines 8. All flaps 6a, 6b extending from the first 2a and/or second 2b opposing side sections are, when closing the container 1, folded inwards towards the interior of the container to a position which is essentially perpendicular to that of the faces of the first 2a and second 2b opposing side sections and parallel with the bottom section 3, and are subsequently attached to each other and/or an outer face of a second opposing side section 2b, e.g. through the use of an attachment means 10 such as adhesive or a string.

[0027] In one embodiment, each flap 6a, 6b is essentially rectangular in shape. The width of each flap 6a, 6b is however somewhat smaller than the width of the corresponding side section 2a, 2b, in order to facilitate folding of the flap 6a, 6b inwards towards the interior of the container 1.

[0028] In another embodiment which is illustrated in Figure 4, each flap 6a, 6b is essentially tapered in order to further facilitate folding of the flap inwards towards the interior of the container 1.

[0029] Usually, the first opposing flaps 6a, i.e. the flaps joined to the first opposing side sections 2a, have a first common configuration and the second opposing flaps 6b, i.e. the flaps joined to the second opposing side sections 2b, have a second common configuration such that opposing flaps look identical.

[0030] However, the flaps 6a, 6b could have different configurations. For example, one flap may be extra long such that it extends, e.g., from one second side section across the opening of the container, and continues far enough to at least partially overlap the upper face of the opposing second side section when the container is closed (see Figure 5).

[0031] The flaps 6a, 6b may comprise one or several grooves 9 adapted to receive an adjacent flap 6b, 6a in order to create an interlocking between the flaps. The groove 9 preferably extends in the same direction as the flap which it is arranged on, i.e. parallel with the lateral edges of the corresponding side section.

[0032] As mentioned above, the flaps 6a, 6b are attached to each other and/or the face of a side section 2a, 2b by means of attachment means 10 when closing the container 1. The attachment means 10 may be a strip of adhesive covered by a release tape, a so called peel-and-seal-arrangement, provided on the inner face of a flap 6a, 6b. The tape is removed and the flap pressed against the opposing flap or the face of the opposing side section, hence permanently closing the container 1. The adhesive could also be an adhesive activated by moisture or saliva.

[0033] However, the closure could also be facilitated by use of a string, a rubber band, stapling, and so on.

[0034] The container 1 is preferably made of paper or carton.

[0035] The invention further comprises a method for closing the collapsible container 1 described above. The method comprises the step of arranging the flaps 6a, 6b such that each flap overlaps at least one of the additional flaps. The overlapping, for closing the container 1, can be done in two different ways such that the container adopts a second or a third configuration. The flaps 6a, 6b may also overlap when giving the container 1 a first flat, collapsed configuration.

[0036] In the second configuration, the flaps 6a, 6b are arranged to overlap by folding the first opposing side sections 2a, and any corresponding first opposing flaps 6a, at least partially in half by means of the gusset fold lines 8 which extend from the bottom section 3, across the top section 4, and across the flaps 6a. The gusset folding line extends along the middle of the side section and the flap, and in parallel with the lateral edges of the side section 2a, such that the side section 2a and the flap 6a can be at least partially folded, resulting in a smaller container volume than when the container 1 is fully expanded. As a result, the first opposing side sections 2a have a triangular shape.

[0037] In the third configuration, the flaps 6a, 6b are arranged to overlap by folding first opposing flaps 6a, extending from the first opposing side sections 2a, and second opposing flaps 6b, extending from the second opposing side sections 2b, towards the interior of the container 1, such that the flaps extend and overlap at least partially in a plane perpendicular to the faces of the first 2a and second 2b opposing side sections and parallel with the bottom section 3. This results in a fully expanded container, where the first opposing side sections 2a have a rectangular shape.

[0038] The person skilled in the art realizes that the present invention by no means is limited to the preferred embodiments described above. On the contrary, many modifications and variations are possible within the scope of the appended claims. For example, the material of the container or the method of attaching the flaps to each other and/or the face of a side section could be replaced by any suitable solution within the area.

Claims

1. A collapsible container (1) comprising first opposing side sections (2a), second opposing side sections (2b), a bottom section (3), and a top section (4) having closing means (5) adapted for closing said container (1),
said closing means (5) comprising flaps (6a, 6b) extending from said first opposing side sections (2a) and/or said second opposing side sections (2b),
each flap (6a, 6b) being arranged to overlap at least one of the additional flaps (6a, 6b) when closing said container (1), **characterized by**
said first opposing side sections (2a) being provided with gusset fold lines (8) extending from said bottom section (3) to said top section (4), said container (1) being adapted for adopting a first, a second, and a third configuration by overlapping said flaps (6a, 6b).

2. A collapsible container (1) according to claim 1, wherein said first configuration comprises a flat, collapsed configuration.

3. A collapsible container (1) according to claim 1 or 2, wherein said second configuration comprises said first opposing side sections (2a) having a triangular shape when said container (1) is closed.

4. A collapsible container (1) according to any of the previous claims,
wherein said third configuration comprises said first opposing side sections (2a) having a rectangular shape when said container (1) is closed.

5. A collapsible container (1) according to any of the previous claims,
wherein each flap (6a, 6b) is essentially rectangular.

6. A collapsible container (1) according to any of the previous claims,
wherein each flap (6a, 6b) is essentially tapered.

7. A collapsible container (1) according to any of the previous claims,
wherein at least one flap (6a, 6b) comprises at least one groove (9) adapted to receive an adjacent flap (6a, 6b).

8. A collapsible container (1) according to any of the previous claims,
wherein first opposing flaps (6a), extending from said first opposing side sections (2a), have a first common configuration and second opposing flaps (6b), extending from said second opposing side sections (2b), have a second common configuration.

9. A collapsible container (1) according to any of the previous claims,
wherein first opposing flaps (6a), extending from said first opposing side sections (2a), are provided with extended gusset fold lines being extensions of the gusset fold lines (8) provided on said first opposing side sections (2a).

10. Method for closing a collapsible container (1), said container comprising first opposing side sections (2a), second opposing side sections (2b), a bottom section (3), and a top section (4) having closing means (5) comprising flaps (6a, 6b),
said method comprising the step of arranging said flaps (6a, 6b) such that each flap overlaps at least one additional flap, the container (1) being adapted for adopting one of two different closed configurations depending on the overlap arrangement of said flaps (6a, 6b).

11. Method according to claim 10, wherein said flaps (6a, 6b) are arranged to overlap by folding said first opposing side sections (2a), and any corresponding first opposing flaps (6a), at least partially by means of gusset fold lines (8) extending from said bottom section (3), across said top section (4), and across said flaps (6a).

12. Method according to claim 10 or 11, wherein said flaps (6a, 6b) are
arranged to overlap by folding first opposing flaps (6a), extending from said first opposing side sections (2a), and second opposing flaps (6b), extending from said second opposing side sections (2b), towards the interior of said container (1), such that said flaps (6a, 6b) extend and overlap in a plane perpendicular to the faces of said first and second opposing side sections (2a, 2b).

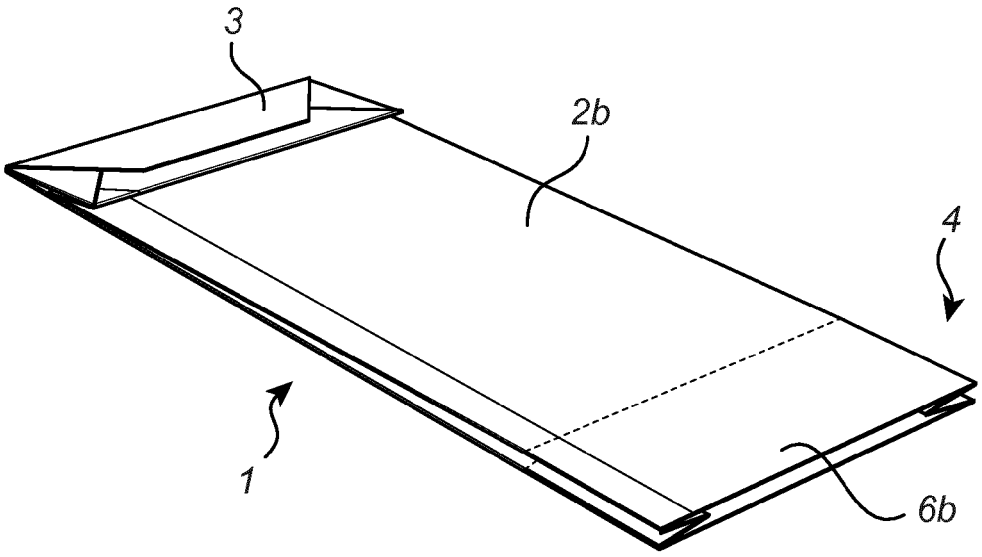

Fig. 1

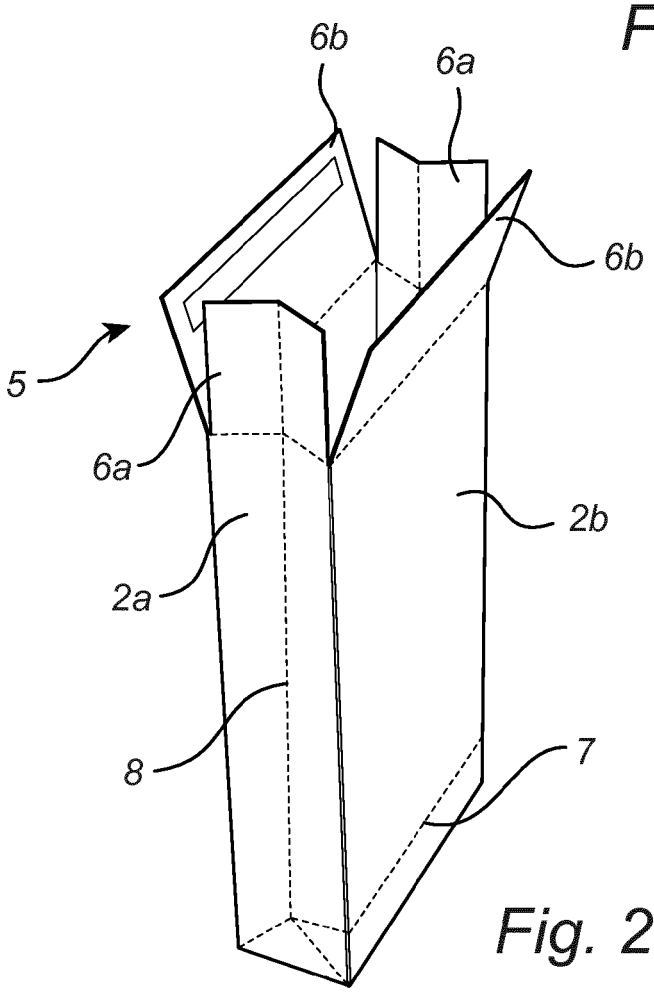

Fig. 2

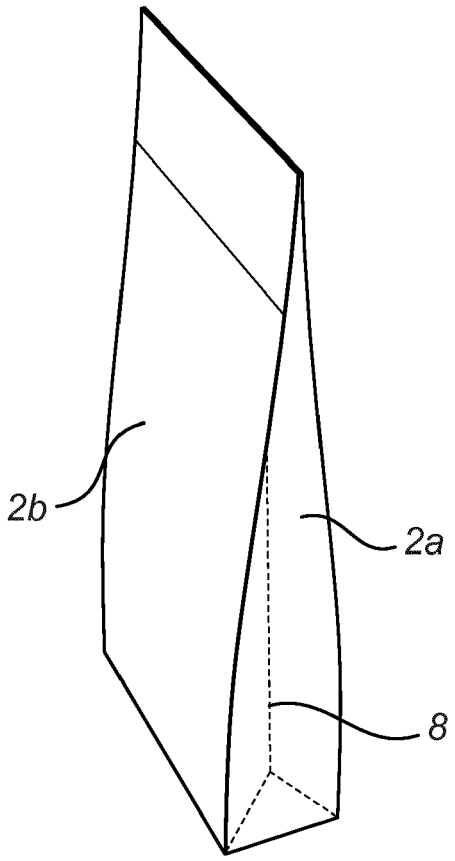

Fig. 3a

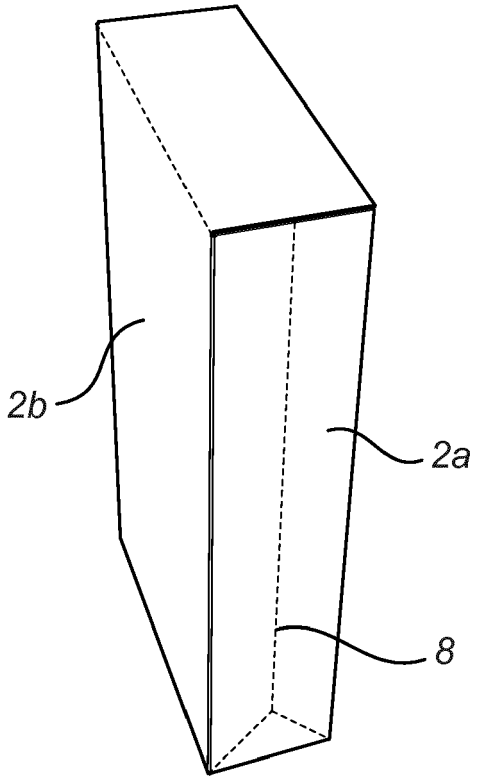

Fig. 3b

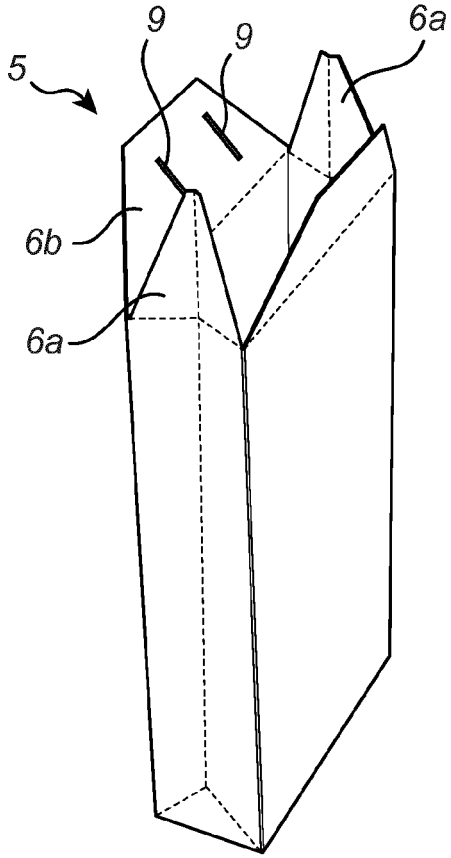

Fig. 4

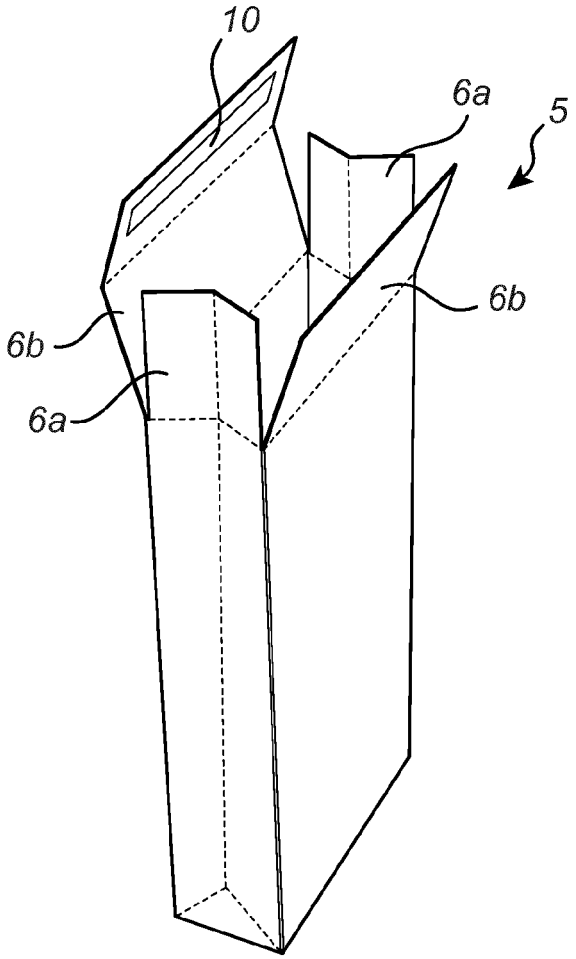

Fig. 5

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EUROPEAN SEARCH REPORT

Application Number
EP 13 16 7678

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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	8 October 2013	Grondin, David

CATEGORY OF CITED DOCUMENTS

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