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Amended claims in accordance with Rule 137(2) EPC.

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(54) **Multipurpose storage box**

(57) A storage box (1) is disclosed having a rectangular bottom panel (13), two first side panels (11) being divided into an upper part and a lower part by a horizontal folding line (116) and also divided into a left half and a right half by a vertical folding line (115), and two second side panels (12) being divided into an upper part and a

lower part by a horizontal folding line (123) at the same elevation of the horizontal folding line of the first side panels such that the upper parts of the first and second side panels can be folded up and closely attached to the inside wall of the storage box or alternately folded into a cover that closes the top side of the storage box.

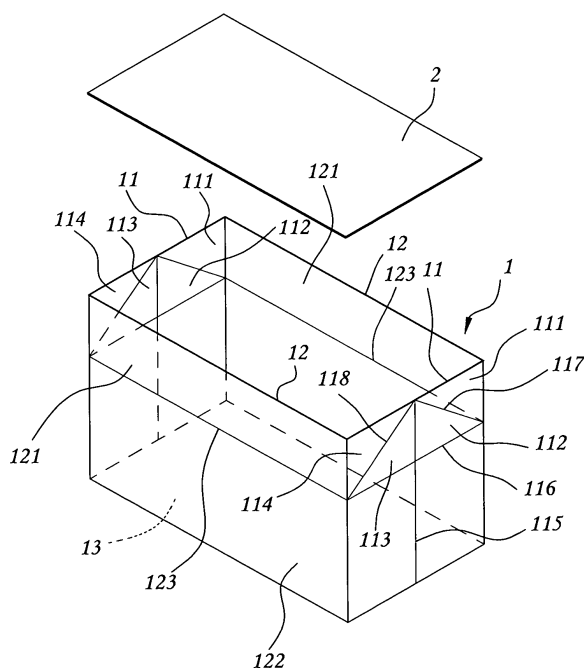


FIG. 1

Description

BACKGROUND OF THE INVENTION

1. Field of the Invention

[0001] The present invention relates a boxes and more particularly, to a multipurpose box that can be collapsed into a flat manner to save storage space, and can also be set into different forms for different storage purposes.

2. Description of the Related Art

[0002] In order to save storage space, various collapsible storage boxes have been disclosed and have appeared on the market. A commercially available collapsible storage box is known a plurality of plate members, a plurality of connection fabric strips joining the plate members to one another, and a soft cloth covering surrounding the plate members. When the plate members are extended out, they support the storage box in shape for holding things. When not in use, the storage box is collapsed into a flat condition.

[0003] Conventional collapsible storage boxes are functional, however they provide a fixed volume of storage space for keeping things when extended out. Further, these collapsible storage boxes do not provide a folding structure for enabling a part of the box body to be set into a top cover.

SUMMARY OF THE INVENTION

[0004] The present invention has been accomplished under the circumstances in view. It is the main object of the present invention to provide a multipurpose storage box, which is folding collapsible into a flat manner when not in use. It is another object of the present invention to provide a multipurpose storage box, which can be folded into different forms to provide different volumes of storage space for storing things. It is still another objects of the present invention to provide a multipurpose storage box, which can be folded into different forms with a top cover or without top cover.

[0005] To achieve these and other objects of the present invention, the multipurpose storage box comprises a folding collapsible box body. The folding collapsible box body has a rectangular bottom panel, two first side panels respectively connected to two first opposite sides of the rectangular bottom panel, and two second side panels respectively connected to two opposite second sides of the rectangular bottom panel, The first side panels each have a horizontal folding line, which divides the respective first side panel into an upper part and a lower part, a vertical folding line, which extends across the horizontal folding line of the respective first side panel on the middle and divides the respective first side panel into a left half and a right half, and a first oblique folding line and a second oblique folding line respectively extending

from the top end of the vertical folding line and two distal ends of the horizontal folding line of the respective first side panel to divide the upper part of the respective first side panel into four triangular sub panels. The second side panels each have a horizontal folding line disposed on same elevation as the horizontal folding lines on the first side panels and dividing the respective second side panel into an upper part and a lower part.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006]

FIG. 1 is an exploded view of a collapsible storage box in accordance with the present invention.

FIG. 2 is a schematic drawing showing the folding action of the upper parts of the first and second side panels of the folding collapsible box body of the multipurpose storage box in accordance with the present invention.

FIG. 3 illustrates the upper parts of the first and second side panels of the folding collapsible box body of the multipurpose storage box folded up and attached to the associating lower parts of the first and second side panels of the folding collapsible box body of the multipurpose storage box in accordance with the present invention.

FIG. 4 is a schematic drawing showing a first example of a top cover folding procedure of the multipurpose storage box according to the present invention (I).

FIG. 5 is a schematic drawing showing the first example of a top cover folding procedure of the multipurpose storage box according to the present invention (II).

FIG. 6 is a schematic drawing showing the first example of a top cover folding procedure of the multipurpose storage box according to the present invention (III).

FIG. 7 is a schematic drawing showing a second example of a top cover folding procedure of the multipurpose storage box according to the present invention (I).

FIG. 8 is a schematic drawing showing the second example of a top cover folding procedure of the multipurpose storage box according to the present invention (II).

FIG. 9 illustrates the collapsed status of the multipurpose storage box according to the present invention.

FIG. 10 is a perspective view of an alternate form of the present invention, showing the bottom panel of the folding collapsible box body provided with a zip fastener.

FIG. 11 illustrates an ornamental cover strip attached to the upper parts of the second side panels of the folding collapsible box body according to the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0007] Referring to FIGS. 1, and 2, a multipurpose storage box in accordance with the present invention is shown comprised of a folding collapsible box body **1**. The folding collapsible box body **1** is formed of a cloth covering and a plurality of rigid plate members embedded in the cloth covering. The cloth covering define a plurality of folding lines between each two adjacent rigid plate members so that the folding collapsible box body **1** can be alternatively set between an extended operated condition and a collapsed flat manner. The folding collapsible box body **1** has a rectangular bottom panel **13**, two first side panels **11** respectively connected to two opposite sides of the rectangular bottom panel **13**, and two second side panels **12** respectively connected to the other two opposite sides of the rectangular bottom panel **13**. Each first side panel **11** has a horizontal folding line **116**, which divides the respective first side panel **11** into an upper part and a lower part, a vertical folding line **115**, which extends across the horizontal folding line **116** on the middle and divides the respective first side panel **11** into a left half and a right half, and a first oblique folding line **117** and a second oblique folding line **118** respectively extending from the top end of the vertical folding line **115** and the two distal ends of the horizontal folding line **116** to divide the upper part of the respective first side panel **11** into four triangular sub panels, namely, the first triangular sub panel **111**, the second triangular sub panel **112**, the third triangular sub panel **113**, and the fourth triangular sub panel **114**.

[0008] Further, each second side panel **12** has a horizontal folding line **123** that divides the respective second side panel **12** into an upper part **121** and a lower part **122**. Further, the horizontal folding lines **123** of the second side panel **12** and the horizontal folding lines **116** of the first side panels **11** are on the same elevation.

[0009] The bottom panel **13** can be directly made out of a soft cloth, and then a rigid bottom board **2** is placed on the top side of the bottom panel **13**. Alternatively, the rigid bottom board **2** can be embedded in the cloth bottom panel **13**.

[0010] For holding a big amount of things, the first side panels **11** and the second side panel **12** are fully extended out as shown in FIG. 1. For holding a less amount of things, the upper parts of the first side panels **11** and the second side panels **12** are respectively folded up and closely attached to the inner sides of the associating lower parts of the first side panels **11** and the second side panels **12** as shown in FIGS. 2 and 3.

[0011] Alternatively, the multipurpose storage box can be folded into a box having a top cover as shown in FIGS. 4~6. As illustrated, the upper parts **121** of the second side panels **12** are respectively turned toward each other (see FIG. 4) to have the upper part of each first side panel **11** to be folded into an outwardly protruding triangular shape (see FIG. 5), and then the outwardly protruding triangular shape of the upper part of each first side panel

11 is respectively bent downwards and closely attached to the outer surface of the lower part of the respective first side panel **11** (see FIG. 6).

[0012] In FIG. 6, the outwardly protruding triangular shape of the upper part of each first side panel **11** is set closely attached to the outer surface of the lower part of the respective first side panel **11**. Alternatively, the upper part of each first side panel **11** can be folded in the reversed direction and received to the bottom sides of the upper parts **121** of the second side panels **12**, as shown in FIGS. 7 and 8. As illustrated, the upper parts **121** of the second side panels **12** are respectively turned toward each other to have the upper part of each first side panel **11** to be folded into an inwardly protruding triangular shape (see FIG. 7) and then to have the inwardly protruding triangular shape of the upper part of each first side panel **11** to be closely attached to the inner surface of the upper part **121** of the respective second side panel **12** (see FIG. 8).

[0013] When not in use or before delivery, the folding collapsible box body **1** is folded up and received in a flat manner and then packed with the rigid bottom board **2** in a stack.

[0014] Referring to FIG. 10, the bottom panel **13** can be made having a diagonal opening closed with a zip fastener **14**. By means of operating the zip fastener **14**, the bottom panel **13** can be opened and then closed.

[0015] Referring to FIG. 11, when the multipurpose storage box can be folded into a box having a top cover, and ornamental cover strip **15** may be used and attached to the upper parts of the second side panels of the folding collapsible box body **1** to keep the gap between the two upper parts of the second side panels from sight.

[0016] Although particular embodiments of the invention have been described in detail for purposes of illustration, various modifications and enhancements may be made without departing from the spirit and scope of the invention. Accordingly, the invention is not to be limited except as by the appended claims.

Claims

1. A storage box comprising a folding collapsible box body, said folding collapsible box body having a rectangular bottom panel, two first side panels respectively connected to two first opposite sides of said rectangular bottom panel, and two second side panels respectively connected to two opposite second sides of said rectangular bottom panel, wherein said first side panels each have a horizontal folding line, which divides the respective first side panel into an upper part and a lower part, a vertical folding line, which extends across the horizontal folding line of the respective first side panel on the middle and divides the respective first side panel into a left half and a right half, and a first oblique folding line and a second oblique folding line respectively extending

from a top end of said vertical folding line and two distal ends of the horizontal folding line of the respective first side panel to divide the upper part of the respective first side panel into four triangular sub panels; said second side panels each have a horizontal folding line disposed on same elevation as the horizontal folding lines on said first side panels and dividing the respective second side panel into an upper part and a lower part.

2. The storage box as claimed in claim 1, wherein said folding collapsible box body is comprised of a plurality of rigid plate members and a soft cloth covering wrapping said rigid plate members, said soft cloth covering joining said rigid plate members and defining a folding line between each two adjacent rigid plate members.
3. The storage box as claimed in claim 1, wherein said rectangular bottom panel of said folding collapsible box body is a panel of soft cloth attached with a rigid board.

said folding collapsible box body (1) is comprised of a plurality of rigid plate members and a soft cloth covering wrapping said rigid plate members, said soft cloth covering joining said rigid plate members and defining a folding line between each two adjacent rigid plate members.

3. The storage box as claimed in claim 1, wherein said rectangular bottom panel (13) of said folding collapsible box body is a panel of soft cloth attached with a rigid board.

Amended claims in accordance with Rule 137(2) EPC.

1. A storage box comprising a folding collapsible box body (1), said folding collapsible box body having a rectangular bottom panel (13), two first side panels (11) respectively connected to two first opposite sides of said rectangular bottom panel (13), and two second side panels (12) respectively connected to two opposite second sides of said rectangular bottom panel (13), wherein said first side panels (11) each have a horizontal folding line (116), which divides the respective first side panel (11) into an upper part and a lower part and first and second oblique folding lines (117, 118), and said second side panels (12) each have a horizontal folding line (123) disposed on same elevation as the horizontal folding lines (116) on said first side panels (11) and dividing the respective second side panel (12) into an upper part (121) and a lower part (122);

characterized in that said first side panels (11) each have a vertical folding line (115), which extends across the horizontal folding line (116) of the respective first side panel (11) on the middle and divides the respective first side panel into a left half and a right half, and the first oblique folding line (117) and the second oblique folding line (118) respectively extend from a top end of said vertical folding line (115) to two distal ends of the horizontal folding line (116) of the respective first side panel (11) to divide the upper part of the respective first side panel into four triangular sub panels.

2. The storage box as claimed in claim 1, wherein

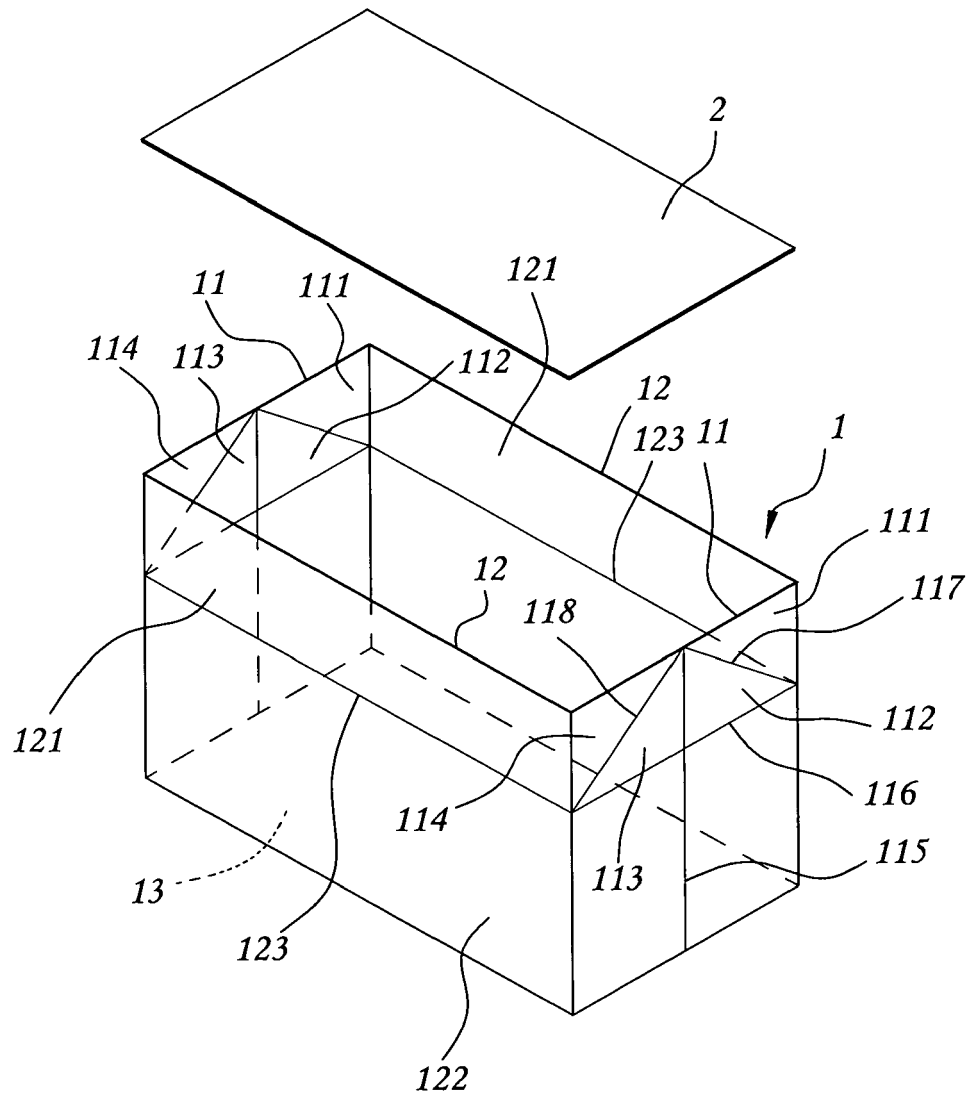


FIG. 1

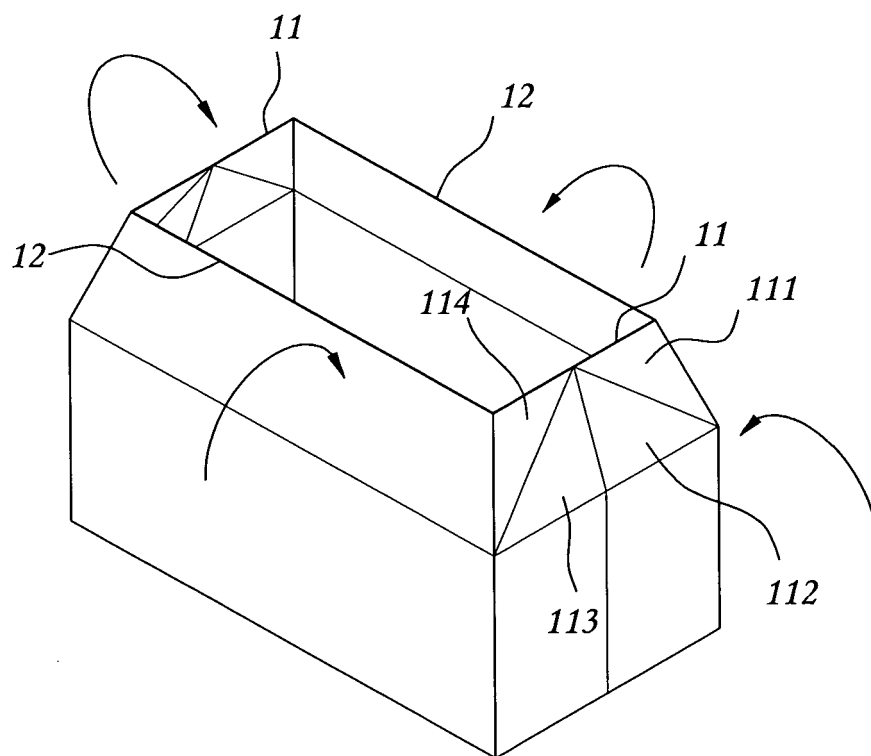


FIG. 2

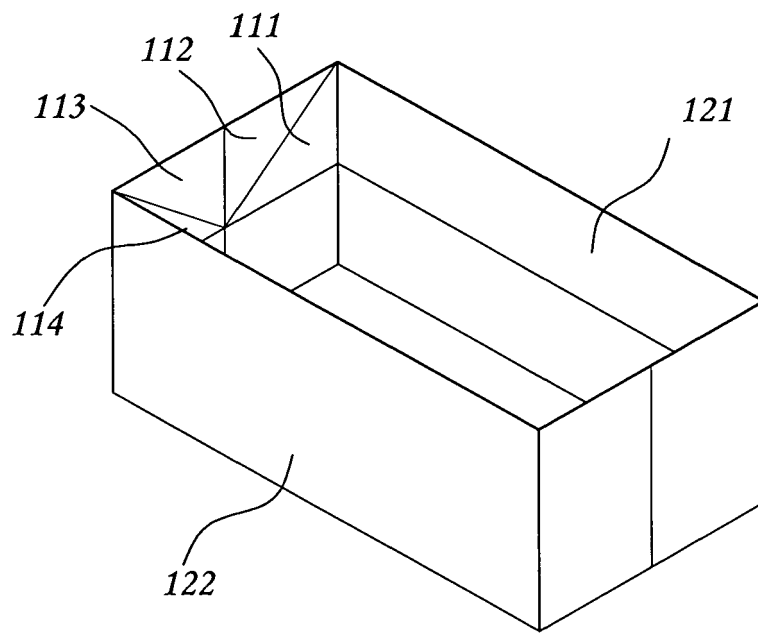


FIG. 3

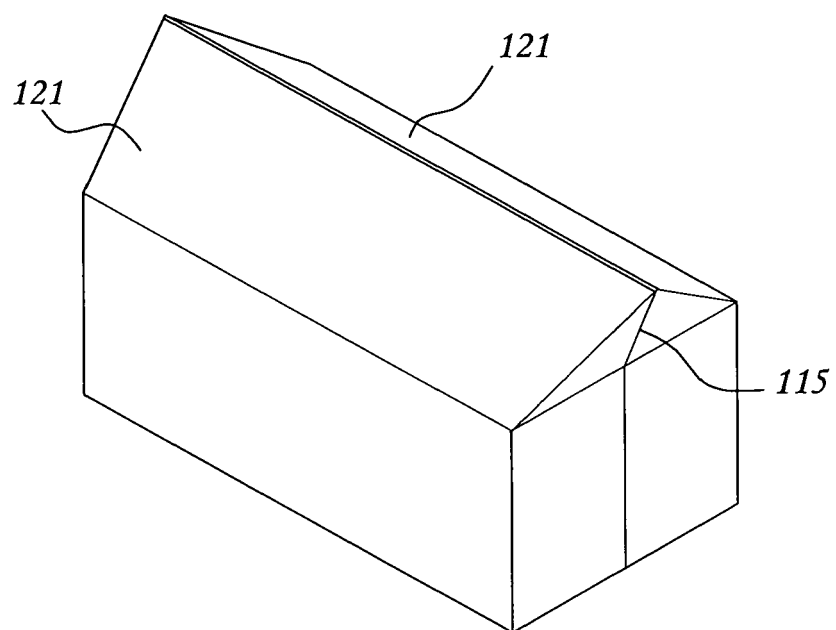


FIG. 4

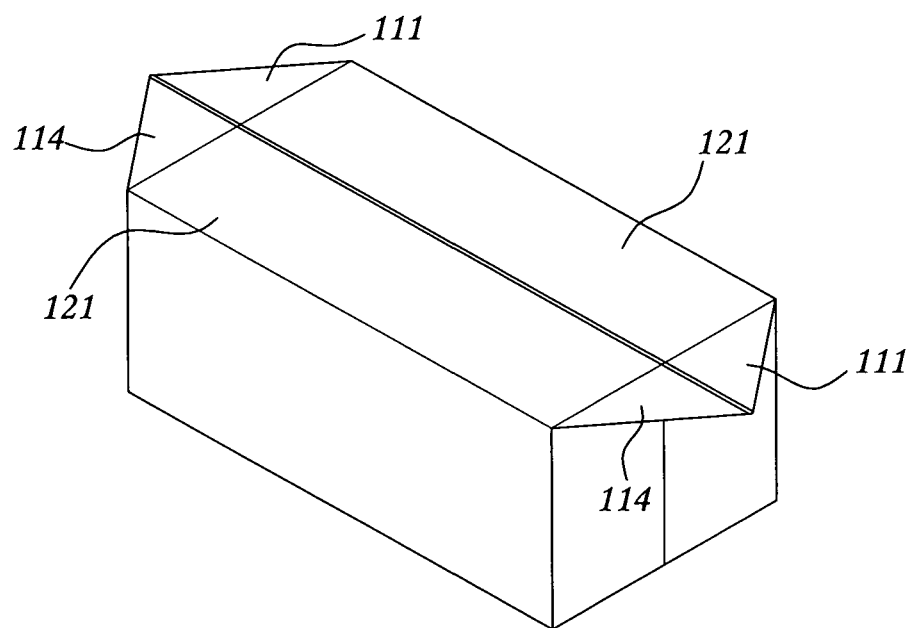


FIG. 5

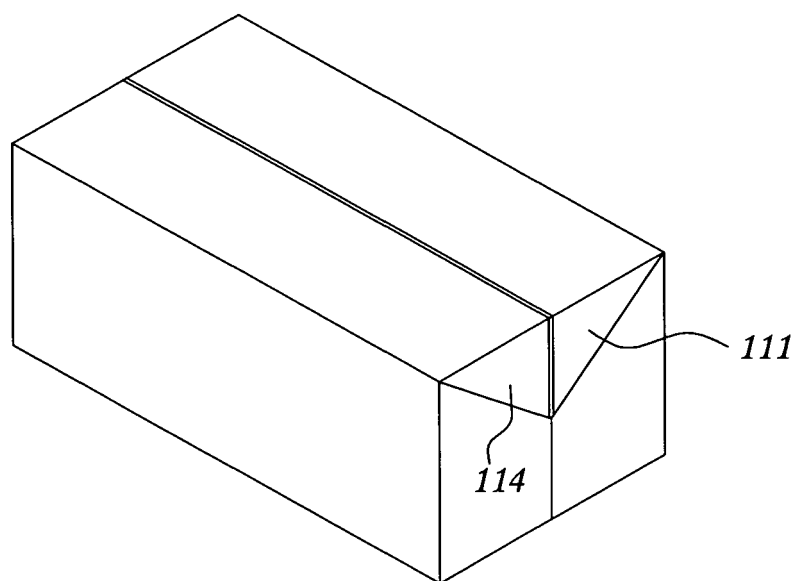


FIG. 6

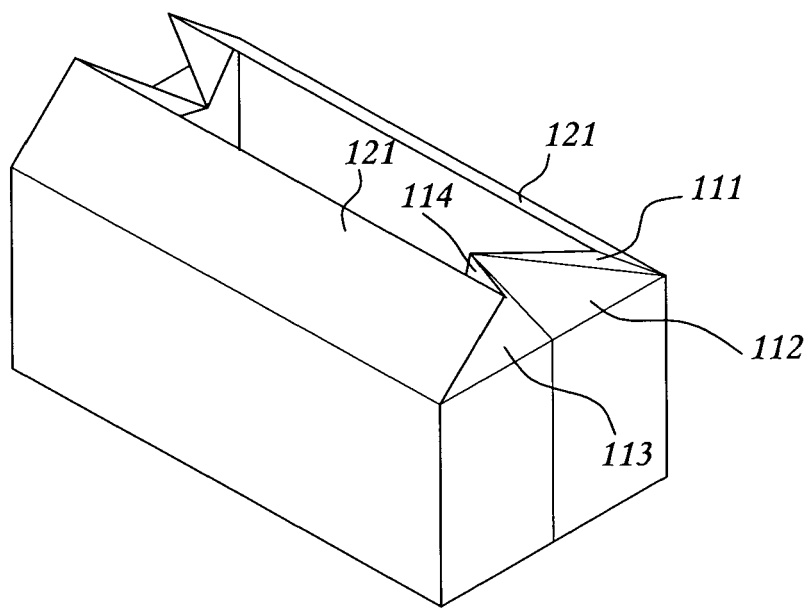


FIG. 7

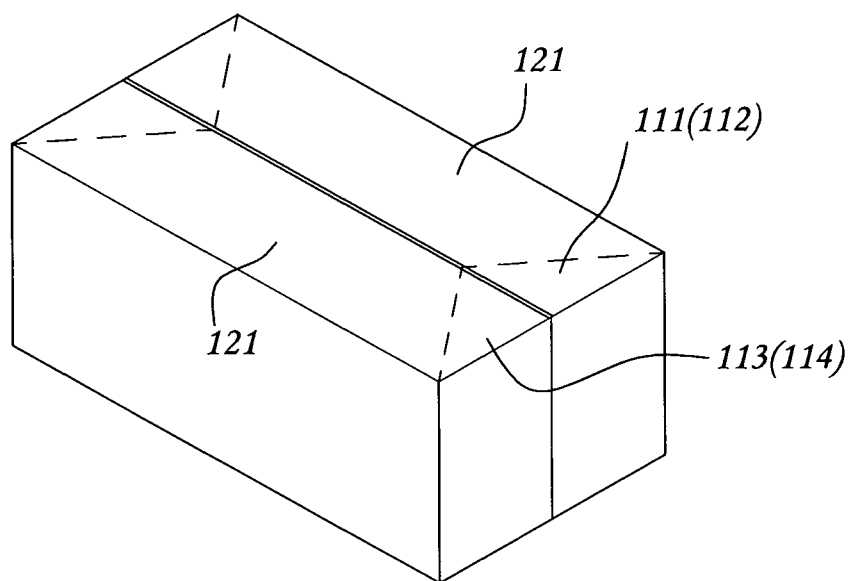


FIG. 8

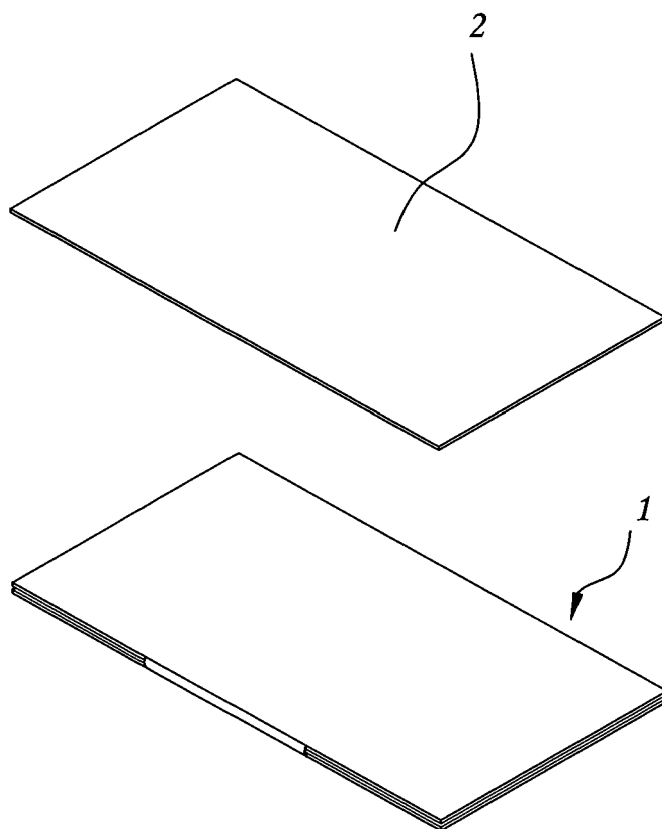


FIG. 9

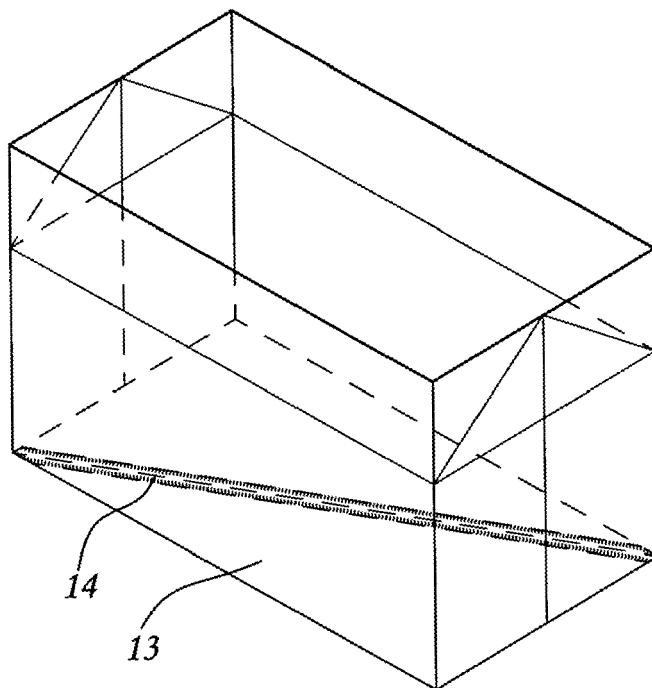


FIG. 10

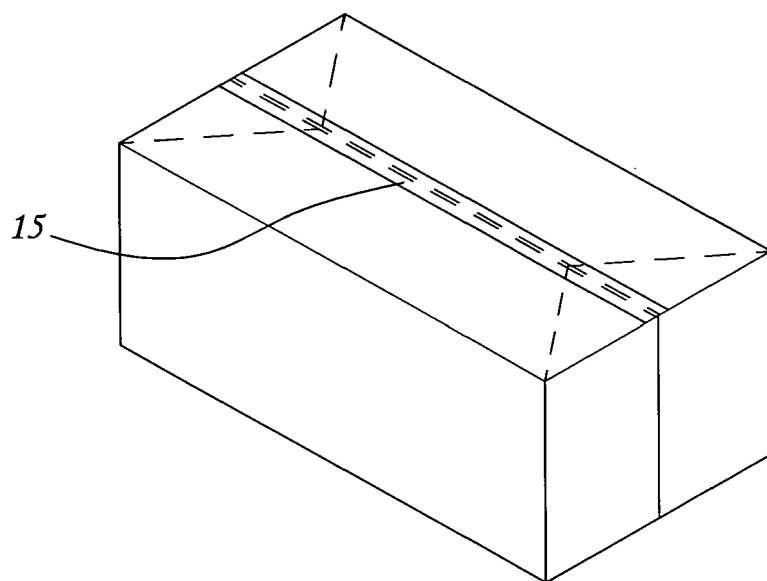


FIG. 11



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 07 00 5320

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			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
The Hague		19 September 2007	SERRANO GALARRAGA, J
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EPO FORM 1503 03.82 (P04C01)

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

EP 07 00 5320

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
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19-09-2007

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