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(54) **Folding collapsible storage box**

Zusammenfaltbarer Lagerbehälter

Réceptient de stockage pliable

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Description

[0001] The present invention relates to a folding collapsible storage box, particularly to such a folding collapsible storage box which has a simple structure, and can easily be collapsed into a flat condition and more particularly to such a folding collapsible storage box that is strong when stretched up and, that can be conveniently collapsed by twisting one corner.

[0002] Regular storage boxes, either made of plastics, wood, or metal, are commonly not collapsible. These storage boxes occupy the same storage space in use and when not in use. Further, because these storage boxes are not collapsible, the transportation of these storage boxes is inconvenient. There are also known certain storage boxes that can be collapsed into a flat manner when not in use. However, it is complicated to set up these collapsible storage boxes into the operative condition, or to arrange these collapsible storage boxes into a collapsed condition.

[0003] DE 299 12 268 U discloses a folding collapsible storage box comprising:

a fabric box body, said fabric box body comprising a rectangular horizontal top side, a rectangular horizontal bottom side, and four rectangular vertical peripheral sides connected to one another between said rectangular horizontal top side and said rectangular horizontal bottom side along the border of said rectangular horizontal bottom side and said rectangular horizontal top side;

four horizontal rods respectively fastened to said rectangular vertical peripheral sides of said fabric box body and arranged along said rectangular open top side of said fabric box body;

four vertical rods respectively fastened to said rectangular vertical peripheral sides of said fabric box body, and arranged between each two adjacent rectangular vertical peripheral sides of said fabric box body; and

a hard bottom board mounted inside said box body and supported on said rectangular horizontal bottom side of said box body; wherein said vertical rods and said horizontal rods support said box body and enable said box body to be collapsed into a flat condition by twisting the rectangular horizontal top side of said box body.

[0004] The folding collapsible storage box of the invention is characterised in that the rectangular horizontal top side of said box body is formed of a rectangular top panel and a zip fastener, said rectangular top panel having one side formed integral with said box body, and three other sides separably connected to said box body by said zip fastener;

and in that said box body comprises two pairs of turn-locks symmetrically disposed at two opposite vertical peripheral sides near said rectangular horizontal

top side, and two hanging straps respectively and detachably fastened to the turn-locks, said hanging straps each having two elongated mounting slots at two distal ends for coupling to said turn-locks.

[0005] Preferably said box body comprises two second hanging straps respectively provided at two opposite vertical peripheral sides near said rectangular horizontal bottom side, said second hanging straps each having a first end fixedly fastened to said vertical peripheral sides by stitches and a second end made with an elongated mounting slot detachably fastened to a respective turn-lock at said rectangular vertical peripheral sides of said box body.

[0006] Preferred embodiments of the invention are described below by way of example only with reference to Figures 1 to 5A of the accompanying drawings wherein:

Figure 1 is an exploded view of a folding collapsible storage box, showing a zip fastener unfastened, and a rectangular top panel collapsed;

Figure 2 is a perspective view of the folding collapsible storage box of Figure 1;

Figure 3 shows the folding collapsible storage box of Figure 1 twisted, the vertical peripheral sides of the box body folded up and lowered.

Figure 4 shows the folding collapsible storage box of Figure 1 fully collapsed;

Figure 5 shows a folding collapsible storage box of the present invention;

Figure 5A is an enlarged view of a part of Figure 5.

[0007] Referring to Figures from 1 to 4, a folding collapsible storage box comprises a box body 101, four horizontal rods 102, four vertical rods 103 and a hard bottom plate 104. The box body 101 is made of fabric, for example, canvas, having a horizontal top side, a horizontal bottom side, four vertical peripheral sides connected between the horizontal top side and the horizontal bottom side. The top side of the box body 101 is formed of a rectangular top panel 111 and a zip fastener 112. The rectangular top panel 111 has one side formed integral with the box body 101, and the other three sides separably connected to the box body 101 by the zip fastener 112. When the zip fastener 112 is unfastened, the top panel 111 is collapsed, and an opening is shown at the top side of the box body 101. The four horizontal rods 102 are respectively fastened to the box body 101 and wrapped in the fabric of the box body 101, and horizontally arranged along the topmost edge of each of the four vertical peripheral sides of the box body 101. The horizontal rods 102 are slightly shorter than the width of each of the vertical peripheral sides of the box body 101. The four vertical rods 103 are respectively fastened to the box body 101, and wrapped in the fabric of the box body 101 along the connecting area between each two adjacent vertical peripheral sides of the box body 101. The length of the vertical rods 103 is slightly shorter than

the height of the vertical peripheral sides of the box body 101. After installation of the horizontal rods 102 and the vertical rods 103, the rods 102 and 103 are prohibited from touching one another.

[0008] Referring to Figures 1 and 2 again, after installation of the rods 102 and 103 in the box body 101, the box body 101 is stretched out and supported in shape by the vertical rods 103, then the hard bottom board 104 is put inside the box body 101 and stopped below the vertical rods 103. When storage items are put in the box body 101, the zip fastener 112 is fastened up to close the top panel 111.

[0009] Referring to Figures 3 and 4, when not in use, the top side of the box body 101 is twisted by hand through 90°, causing the four vertical peripheral sides of the box body 101 to be lowered and folded up (see Figure 3), and therefore the storage box is collapsed into a flat condition (see Figure 4).

[0010] Referring to Figures 5 and 5A, two first hanging straps 113 and two second hanging straps 114 are respectively provided on two opposite vertical peripheral sides of the box body 201 at different elevations. The first hanging straps 113 each have two elongated mounting slots 116 respectively provided at two distal ends, and detachably coupled to a respective turn-lock 115 at the box body 201. The second hanging straps 114 each have one end (the fixed end) fixedly fastened to the box body 201 by stitches, and an opposite end (the free end) provided with an elongated mounting slot 116 and detachably connected to a respective turn-lock 115 at the box body 201. By means of the first hanging straps 113 and the second hanging straps 114, a plurality of folding collapsible storage boxes can be arranged in a string and hung on a rod.

[0011] It is to be understood that the drawings are designed for purposes of illustration only, and are not intended for use as a definition of the limits and scope of the invention disclosed. For example, handle means may be provided at the peripheral side walls of the box body 4 for holding by hand.

Claims

1. A folding collapsible storage box comprising:

a fabric box body (101), said fabric box body comprising a rectangular horizontal top side, a rectangular horizontal bottom side, and four rectangular vertical peripheral sides connected to one another between said rectangular horizontal top side and said rectangular horizontal bottom side along the border of said rectangular horizontal bottom side and said rectangular horizontal top side;
four horizontal rods (102) respectively fastened to said rectangular vertical peripheral sides of said fabric box body (101) and arranged along

said rectangular open top side of said fabric box body;

four vertical rods (103) respectively fastened to said rectangular vertical peripheral sides of said fabric box body, and arranged between each two adjacent rectangular vertical peripheral sides of said fabric box body; and
a hard bottom board (104) mounted inside said box body and supported on said rectangular horizontal bottom side of said box body;

wherein said vertical rods (103) and said horizontal rods (102) support said box body (101) and enable said box body (101) to be collapsed into a flat condition by twisting the rectangular horizontal top side of said box body;

characterised in that the rectangular horizontal top side of said box body is formed of a rectangular top panel (111) and a zip fastener (112), said rectangular top panel having one side formed integral with said box body, and three other sides separably connected to said box body by said zip fastener;

and in that said box body (201) comprises two pairs of turn-locks (115) symmetrically disposed at two opposite vertical peripheral sides near said rectangular horizontal top side, and two hanging straps (113) respectively and detachably fastened to the turn-locks, said hanging straps each having two elongated mounting slots (116) at two distal ends for coupling to said turn-locks.

2. The folding collapsible storage box of claim 1 wherein said box body (201) comprises two second hanging straps (114) respectively provided at two opposite vertical peripheral sides near said rectangular horizontal bottom side, said second hanging straps each having a first end fixedly fastened to said vertical peripheral sides by stitches and a second end made with an elongated mounting slot detachably fastened to a respective turn-lock at said rectangular vertical peripheral sides of said box body.

Patentansprüche

1. Zusammenfaltbarer Lagerbehälter, der folgendes umfasst:

einen Behälterkörper aus Stoff (101), wobei der Behälterkörper aus Stoff eine rechteckige, horizontale Oberseite, eine rechteckige, horizontale Unterseite und vier rechteckige, vertikale periphere Seiten umfasst, die zwischen der genannten rechteckigen, horizontalen Oberseite und der genannten rechteckigen, horizontalen Unterseite entlang des Rands der genannten

rechteckigen, horizontalen Unterseite und der genannten rechteckigen, horizontalen Oberseite miteinander verbunden sind;

vier horizontale Stangen (102), die entsprechend an den genannten rechteckigen, vertikalen peripheren Seiten des genannten Behälterkörpers aus Stoff (101) angebracht und entlang der genannten rechteckigen, offenen Oberseite des genannten Behälterkörpers aus Stoff angeordnet sind;

vier vertikale Stangen (103), die entsprechend an den genannten rechteckigen, vertikalen peripheren Seiten des genannten Behälterkörpers aus Stoff angebracht und zwischen jeweils zwei benachbarten rechteckigen, vertikalen peripheren Seiten des genannten Behälterkörpers aus Stoff angeordnet sind; und eine harte Bodenplatte (104), die in dem genannten Behälterkörper angebracht ist und an der genannten rechteckigen, horizontalen Unterseite des genannten Behälterkörpers gestützt werden;

wobei die genannten vertikalen Stangen (103) und die genannten horizontalen Stangen (102) den genannten Behälterkörper (101) stützen und das Zusammenfallen des genannten Behälterkörpers (101) in einen flachen Zustand ermöglichen, indem die genannte rechteckige, horizontale Oberseite des genannten Behälterkörpers verdreht wird;

dadurch gekennzeichnet, dass die rechteckige, horizontale Oberseite des genannten Behälterkörpers aus einem rechteckigen oberen Feld (111) und einem Reißverschluss (112) gebildet ist; wobei das genannte rechteckige obere Feld eine Seite aufweist, die integral mit dem genannten Behälterkörper ausgebildet ist, und mit drei weiteren Seiten, die einzeln durch den genannten Reißverschluss mit dem genannten Behälterkörper verbunden sind;

und dass der genannte Behälterkörper (201) zwei Paare von Drehverschlüssen (115) umfasst, die symmetrisch an zwei entgegengesetzten vertikalen peripheren Seiten nahe der genannten rechteckigen, horizontalen Oberseite angeordnet sind, und mit zwei Hängeriemen (113), die entsprechend und lösbar an den Drehverschlüssen angebracht sind, wobei die genannten Hängeriemen jeweils zwei lang gestreckte Befestigungsschlitze (116) an zwei distalen Enden zur Kopplung mit den genannten Drehverschlüssen aufweisen.

2. Zusammenfaltbarer Lagerbehälter nach Anspruch 1, wobei der genannte Behälterkörper (201) zwei zweite Hängeriemen (114) umfasst, die entsprechend an zwei entgegengesetzten vertikalen peripheren Seiten nahe der genannten rechteckigen,

horizontalen Unterseite vorgesehen sind, wobei die genannten Hängestreifen jeweils ein erstes Ende aufweisen, das durch Nähte fest an den genannten vertikalen peripheren Seiten angebracht ist, und mit einem zweiten Ende mit einem lang gestreckten Befestigungsschlitz, der lösbar an einem entsprechenden Drehverschluss an den genannten rechteckigen, vertikalen peripheren Seiten des genannten Behälterkörpers angebracht ist.

Revendications

1. Récipient de stockage pliable comprenant :

un corps de récipient en toile (101), le dit corps de récipient en toile comportant une face supérieure horizontale rectangulaire, une face inférieure horizontale rectangulaire, et quatre faces périphériques verticales rectangulaires connectées les unes aux autres entre la dite face supérieure horizontale rectangulaire et la dite face inférieure horizontale rectangulaire le long du bord de la dite face inférieure horizontale rectangulaire et de la dite face supérieure horizontale rectangulaire ;
quatre tiges horizontales (102) attachées respectivement aux dites faces périphériques verticales rectangulaires du dit corps de récipient en toile et disposées entre deux faces périphériques verticales rectangulaires adjacentes respectives du dit corps de récipient en toile ; et un panneau de fond rigide (104) monté à l'intérieur du dit corps de récipient et supporté sur la dite face inférieure horizontale rectangulaire du dit corps de récipient ;

dans lequel les dites tiges verticales (103) et les dites tiges horizontales (102) supportent le dit corps de récipient (101) et permettent de plier le dit corps de récipient (101) à un état plat par torsion de la face supérieure horizontale rectangulaire du dit corps de récipient ;

caractérisé en ce que la face supérieure horizontale rectangulaire du dit corps de récipient est formée d'un panneau supérieure rectangulaire (111) et d'une attache rapide à glissière (112), le dit panneau supérieur rectangulaire ayant un côté solide du dit corps de récipient et trois autres côtés reliés de façon séparable au dit corps de récipient par la dite attache à glissière ;

et **en ce que** le dit corps de récipient (201) comprend deux paires de verrous pivotants (115) disposés symétriquement sur deux faces périphériques verticales opposées près de la dite face horizontale supérieure rectangulaire, et deux sangles de suspension (113) attachées respectivement et de façon détachable aux verrous pivotants, les dites sangles

de suspension comportant chacune deux fentes de montage allongées (116) à deux extrémités distales pour accouplement aux dits verrous pivotants.

2. Récipient de stockage pliable selon la revendication 1, dans lequel le dit corps de récipient (201) comprend deux deuxièmes sangles de suspension (114) respectivement prévues sur deux faces périphériques verticales opposées près de la dite face inférieure horizontale rectangulaire, les dites deuxièmes sangles de suspension ayant chacune une première extrémité, attachée de façon fixe aux dites faces périphériques verticales par des points de couture, et une deuxième extrémité dans laquelle est formée une fente de montage allongée attachée de façon séparable à un verrou pivotant respectif sur les dites faces périphériques verticales rectangulaires du dit corps de récipient.

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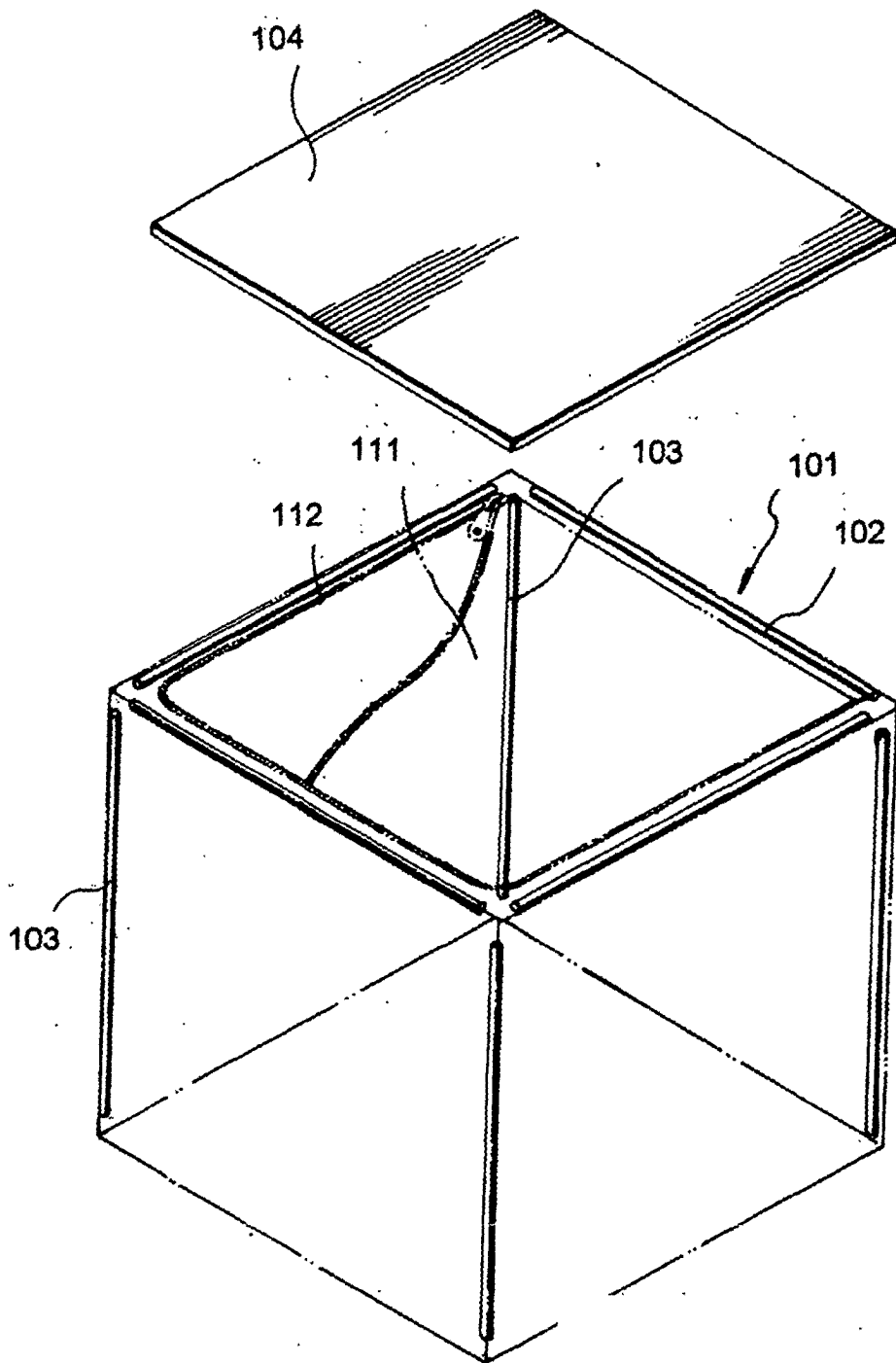


FIG. 1

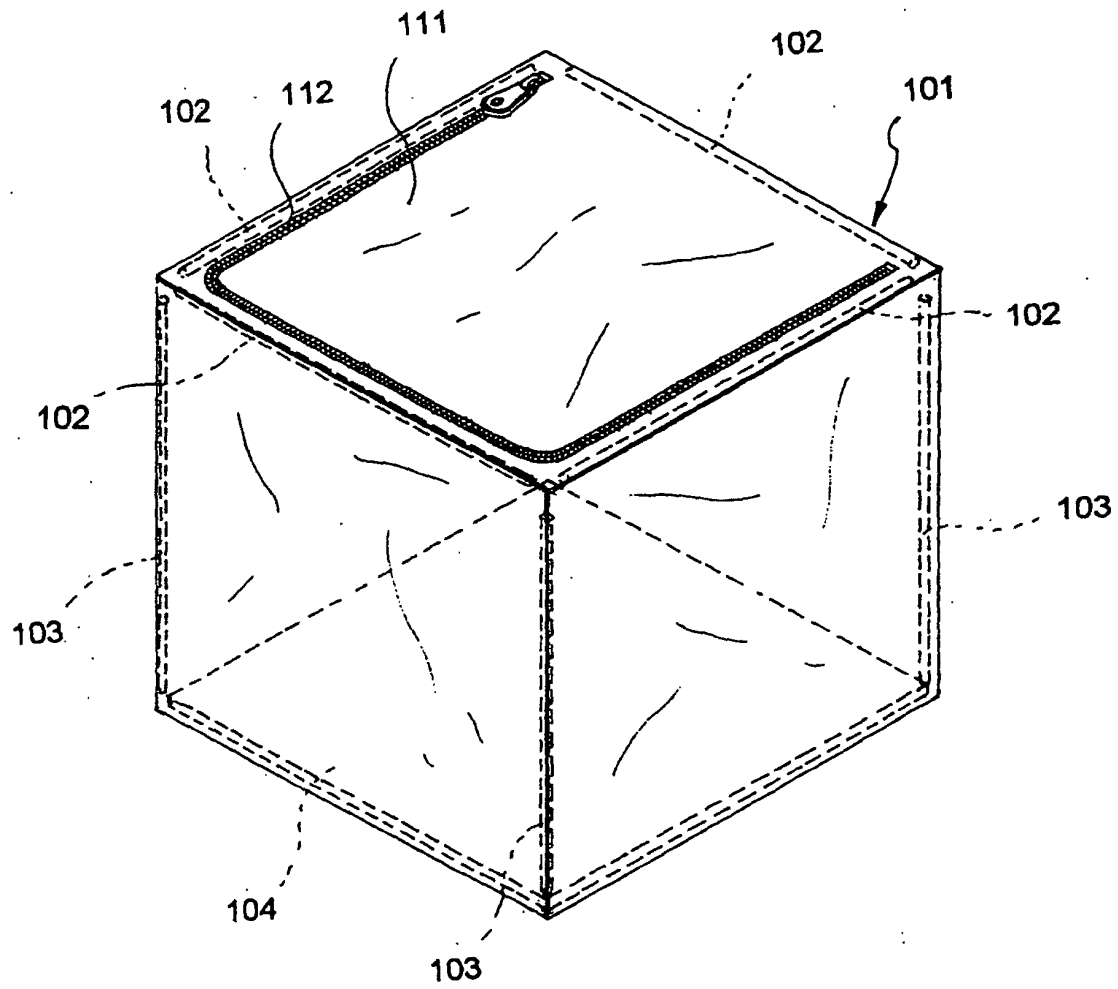


FIG. 2

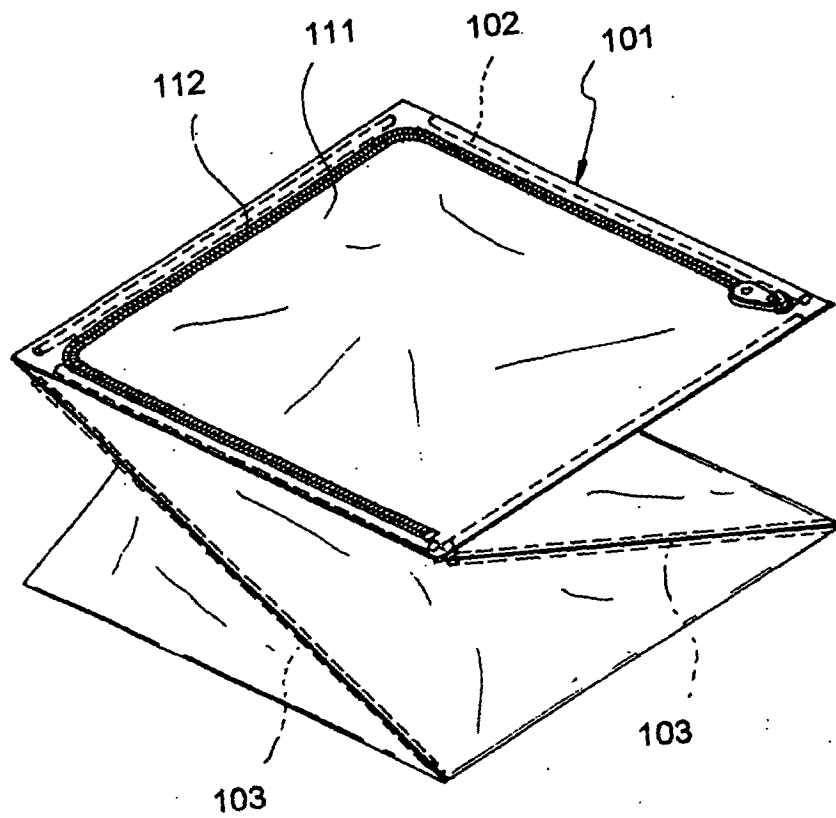


FIG. 3

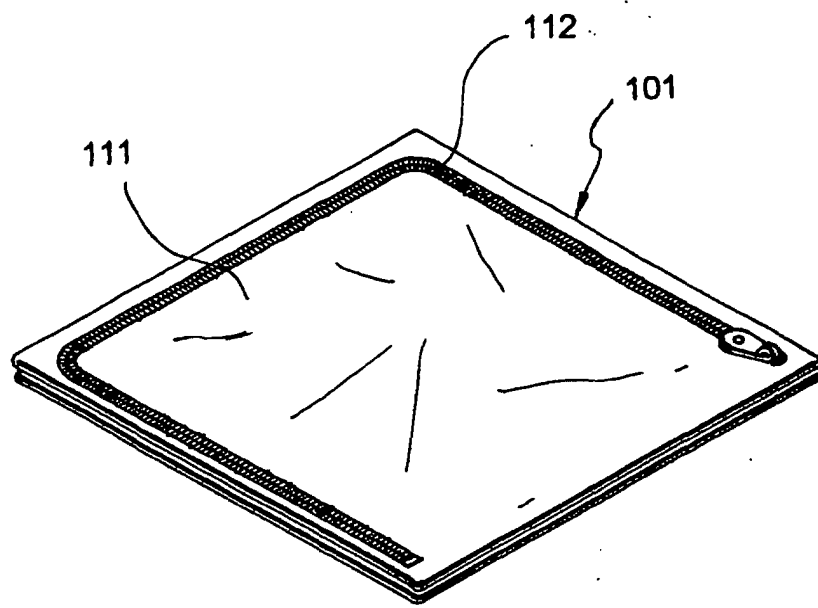


FIG. 4

