



(12) **EUROPEAN PATENT APPLICATION**
published in accordance with Art. 153(4) EPC

(43) Date of publication:
06.09.2023 Bulletin 2023/36

(51) International Patent Classification (IPC):
B65D 27/06 (2006.01)

(21) Application number: **20959138.7**

(86) International application number:
PCT/CN2020/124906

(22) Date of filing: **29.10.2020**

(87) International publication number:
WO 2022/087975 (05.05.2022 Gazette 2022/18)

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR
Designated Extension States:
BA ME
Designated Validation States:
KH MA MD TN

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(54) **STORAGE DEVICE AND EXTERNAL HARDWARE**

(57) A storage device and external hardware, with the storage device including a storage body which is provided with a storage chamber having storage openings. A first plate of the storage body is connected to a first folding flap. A first security mechanism is used to connect to the first folding flap and a second plate so that the storage openings are closed. The second plate is provided with a second security mechanism, which is used to connect the second plate to the first folding flap, or so that the adjacent storage opening of the first plate is con-

nected to the adjacent storage opening of the second plate so as to seal the storage openings. The storage body can use the first security mechanism and the second security mechanism to seal the storage openings two or more times, so as to facilitate the reuse of the storage body and improve environmental protection. External hardware can reseal the storage openings of the used storage body so as to extend the usage life of the storage body, facilitating the reuse of the storage body and improving environmental protection.

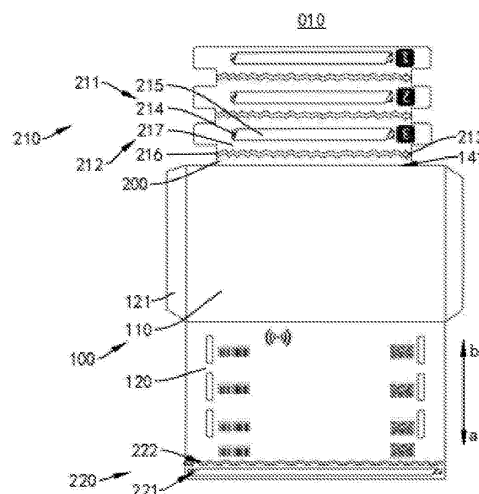


Fig. 2

Description

FIELD

[0001] The present disclosure relates to the field of storage technology, and in particular, to storage devices and external hardware.

BACKGROUND

[0002] In the related art, many types of self-sealing envelopes are provided as storage devices for storing letters, express mail and other items.

[0003] The envelope provided by the related art has a short service life, is difficult to reuse after being unsealed once, that would cause environmental problem.

SUMMARY

[0004] The purpose of the present disclosure is to provide a storage device and external hardware, which can prolong the service life of each storage device, facilitate repeated use, and improve environmental protection.

[0005] The embodiments of the present disclosure are implemented as follows: In a first aspect, the present disclosure provides a storage body, which includes a storage body, a first folding flap, and at least one first security mechanism, the storage body includes a first plate and a second plate that are connected to each other, and the first plate and the second plate can be folded along a folding line to form a storage chamber, and when the first plate and the second plate are folded along the folding line, the storage body consists of the storage chamber with an opening; the first plate is connected with the first folding flap, and the first folding flap is used for turning over relative to the first plate around a first setting axis to overlap with the second plate surface to seal the storage opening, or the first folding flap is used to turn relative to the first plate about the first setting axis to extend from the storage opening into the storage chamber; the first security mechanism is used to connect the first folding flap and the second plate when the first folding flap is overlapped on the surface of the second plate, so that the storage opening is sealed. Alternatively, the connection between the first folding flap and the second plate is disconnected, so that the storage opening can be opened. The second plate is provided with a second security mechanism, and when the first folding flap extends into the storage chamber, the second plate is connected with the first folding flap to seal the storage opening. When the first folding flap is overlapped on the surface of the second plate, the first plate adjacent to the storage opening and the second plate adjacent to the storage opening are connected to seal the storage opening.

[0006] Optionally, the first security mechanism includes a first self-adhesive component and a first safety inspection portion, the first self-adhesive component is set up on the first folding flap or the second plate, the

first safety inspection portion is arranged on the first folding flap, and the first self-adhesive component is used to connect the first folding flap to the second plate so that the storage opening is sealed. The first safety inspection portion is used for disconnecting the connection between the first folding flap and the second plate, so that the storage chamber can be opened. The first self-adhesive component and the first safety inspection portion are arranged in sequence along a preset direction, wherein the preset direction and the first set axis are set at an angle.

[0007] Optionally, the first security mechanism further includes a tearing part, which is connected with the first safety inspection portion, and the tearing part is used for applying an external force to cause the first safety inspection portion to disconnect the connection between the first folding flap and the second plate.

[0008] Optionally, the storage device further includes a plug-in component, which includes a slot and a latch that are plugged and matched with each other. Either the slot or the latch is set up at the first security mechanism, and the other is set up on the second plate.

[0009] Optionally, the second security mechanism includes a second self-adhesive component and a second safety inspection portion, the second self-adhesive component is arranged on the second plate through the second safety inspection portion, and the second self-adhesive component is used to make the second plate connected to the first folding flap extend into the storage chamber so that the storage opening is sealed, or is used to connect the adjacent storage opening of the first plate and the adjacent storage opening of the second plate, so that the storage opening is sealed. The second safety inspection portion is used to disconnect the second plate from the first folding flap extending into the storage chamber so that the storage opening can be opened, or the second safety inspection portion is used to break the connection between the storage opening and the adjacent storage opening of the second plate, so that the storage opening can be opened; the second self-adhesive component and the second safety inspection portion are sequentially arranged along a preset direction, wherein the preset direction is set at an angle to the first setting axis.

[0010] Optionally, the storage device further includes a first digital code, and the first digital code is set up on the first plate and the second plate or either plate.

[0011] Optionally, the first digital code includes at least one of a machine-readable optical label component and a wireless radio frequency chip.

[0012] Optionally, the first digital code includes a machine-readable optical label component, the machine-readable optical label component is set up on the second plate, and the quantity of the machine-readable optical label component is the same as the quantity of the first security mechanism. When the first folding flap is overlapped with the second plate, the first security mechanism and the machine-readable optical label are arranged in a one-to-one correspondence.

[0013] Optionally, the storage device further includes

a third security mechanism; the second plate is connected with a second folding flap, and the second folding flap is used for turning relative to the second plate around a second setting axis, so as to overlap on the surface of the first plate to seal or open the storage opening, or the second folding flap is used to flip about the second setting axis relative to the second plate to seal the storage opening. The third security mechanism is used to make the second folding flap when the second folding flap overlaps the surface of the first plate and closes the storage opening connected with the first plate.

[0014] Optionally, the third security mechanism includes a third self-adhesive component and a third safety inspection portion, the third self-adhesive component is set up on the second folding flap or the first plate, the third safety inspection portion is arranged on the second folding flap, and the third self-adhesive component is used to make the second folding flap and the first plate is connected so that the storage opening is sealed. The third safety inspection portion is used for disconnecting the second folding flap from the first plate so that the storage opening can be opened. The third self-adhesive component and the third safety inspection portion are arranged in sequence along a preset direction, wherein the preset direction and the second setting axis are arranged at an angle.

[0015] Optionally, the storage device further includes external hardware, the external hardware includes the third plate and fourth plate that are connected to each other, the third plate can be connected to one of the first plate and the second plate, and the fourth plate can be flipped relative to the third plate about a third setting axis to overlap a surface of the other of the first plate and the second plate to seal or open the storage opening.

[0016] Optionally, the fourth plate is provided with a fourth security mechanism, and the fourth security mechanism is used to connect the first plate or the second plate overlapped with the fourth plate to the fourth plate.

[0017] Optionally, the fourth security mechanism includes a fourth self-adhesive component and a fourth safety inspection portion, the fourth self-adhesive component is connected to the fourth plate through the fourth safety inspection portion. The fourth self-adhesive component is used to make the first plate or the second plate overlapped with the fourth plate is connected with the fourth plate to seal the storage opening. The fourth safety inspection portion is used to make the first plate or the second plate overlapped with the fourth plate, the storage opening can be opened upon the break-up of the connection. The fourth self-adhesive component and the fourth safety inspection portion are sequentially arranged along a preset direction, wherein the preset direction and the third preset axis are set at an angle.

[0018] Optionally, the external hardware further includes a second digital code, and the second digital code is set up on the third plate and the fourth plate or at least onto one of the plates.

[0019] Optionally, the second digital code includes at

least one of a machine-readable optical label component and a wireless radio frequency chip.

[0020] In a second aspect, the present disclosure provides an external hardware, which is used for setting on a storage body, the external hardware includes the third plate and fourth plate that are connected to each other, the third plate is used for connecting with the storage body, and the fourth plate is set up with the fourth security mechanism. The third and fourth plates are to turn around to each other along the third axis for closing or opening the storage opening of the storage body. The fourth security mechanism includes a fourth self-adhesive component and a fourth safety inspection portion, the fourth self-adhesive component is connected to the fourth plate through the fourth safety inspection portion. The fourth self-adhesive component is used to connect the fourth plate with the storage body to seal the storage opening, and upon the fourth safety inspection portion disconnected from the storage body so that the storage opening can be opened.

[0021] Optionally, the external hardware further includes a second digital code, and the second digital code is set up on the third plate and the fourth plate or at least onto the one of the plates.

[0022] Optionally, the second digital code is one of a machine-readable optical label component and a wireless radio frequency chip.

[0023] The achievement of the storage device of the present disclosure include: the storage device of the present disclosure includes a storage body, a first folding flap and a first security mechanism, the storage body includes a first plate and a second plate that are connected to each other. The two plates can be folded along the folding line to form a storage chamber. When the first and second plates are folded along the folding line, the storage body consists with storage opening and storage chamber, and items can be placed in the storage chamber from the storage opening. The first plate is connected with a first folding flap, the first folding flap can be turned relative to the first plate relative to the first setting axis to seal or open the storage opening, or the first folding flap is used to wrap around relative to the first plate. The first setting axis is turned over to extend into the storage chamber from the storage opening. The first security mechanism is used to connect the first folding flap and the second plate when the first folding flap is overlapped on the surface of the second plate, so that the storage opening is sealed, or the connection between the first folding flap and the second plate is disconnected, so that the storage opening can be opened. The second plate is set up with a second security mechanism. When the first folding flap extends into the storage chamber, the second plate is connected with the first folding flap to seal the storage opening; or, the second security mechanism is used for when the first folding flap overlaps the surface of the second plate, connect the adjacent storage opening of the first plate and the adjacent storage opening of the second plate to seal the storage opening. In

this way, the first security mechanism or the second security mechanism can be used to seal the storage opening, so that a storage body can use the first security mechanism and the second security mechanism to seal the storage opening more than or equal to twice, and use the first security mechanism and the second security mechanism to seal the storage opening more than twice. Such extends the service life of each storage device, facilitates reuse, and improves the environmental friendliness.

[0024] The achievement of the external hardware of the present disclosure include: the external hardware provided by the present disclosure can be arranged on the storage body and used together with the storage body, the external hardware includes the third plate and fourth plate that are connected to each other, the fourth security mechanism is arranged on the fourth plate, and the third plate is used to connect with the storage body. The fourth security mechanism includes a fourth self-adhesive component and a fourth safety inspection portion, and the fourth self-adhesive component is connected with the fourth safety inspection portion through the fourth safety inspection portion adheres onto the fourth plate. The fourth self-adhesive component is used to connect the fourth plate with the storage body to seal the storage opening, and upon the fourth safety inspection portion is disconnected the connection between the fourth plate and the storage body to make the storage opening can be opened. In this way, the storage opening of the used storage body can be closed again by using external hardware, so as to prolong the service life of the storage body, facilitate the repeated use of the storage body, and improves the environmental friendliness.

BRIEF DESCRIPTION OF THE DRAWINGS

[0025] In order to illustrate the technical solutions of the embodiments of the present disclosure more clearly, the following drawings will briefly introduce the drawings that need to be used in the embodiments. It should be understood that the following drawings only illustrate certain embodiments of the present disclosure, and therefore are not to be regarded as a limitation of the scope, and for those of ordinary skill in the art may also obtain other related drawings based on these drawings without any creative effort.

Fig. 1 is a schematic structural diagram of the storage device without the second folding flap according to one embodiment of the present disclosure;

Fig. 2 is a first schematic structural view of the storage device according to the one embodiment of the present disclosure;

Fig. 3 is a second schematic structural view of the storage device in the one embodiment of the present disclosure;

Fig. 4 is the first schematic structural view of the storage device when the first folding flap is overlapped

with the second plate according to the one embodiment of the present disclosure;

Fig. 5 is the second schematic structural view of the storage device when the first folding flap is overlapped with the second plate according to the one embodiment of the present disclosure;

Fig. 6 is a third schematic structural view of the storage device when the first folding flap is overlapped with the second plate according to the one embodiment of the present disclosure;

Fig. 7 is a fourth schematic structural view of the storage device when the first folding flap is overlapped with the second plate according to the one embodiment of the present disclosure;

Fig. 8 is a schematic structural diagram of the storage device when the first folding flap is not overlapped with the second plate according to the one embodiment of the present disclosure;

Fig. 9 is a schematic structural diagram of a check section according to the other embodiment of the present disclosure;

Fig. 10 is a first schematic structural view of the storage device according to the other embodiment of the present disclosure;

Fig. 11 is a second schematic structural view of the storage device according to the other embodiment of the present disclosure;

Fig. 12 is a schematic structural diagram of the storage device when the first folding flap is extended into the storage chamber according to the one embodiment of the present disclosure;

Fig. 13 is a first schematic structural view of the storage device that includes a second folding flap according to the one embodiment of the present disclosure;

Fig. 14 is a second schematic structural view of the storage device that includes a second folding flap according to the one embodiment of the present disclosure;

Fig. 15 is a schematic structural diagram of the external hardware according to the one embodiment of the present disclosure;

Fig. 16 is a schematic structural diagram of the set up external hardware on the storage body according to the one embodiment of the present disclosure;

Fig. 17 is a third schematic structural view of the storage device according to the one embodiment of the present disclosure; and

Fig. 18 is a schematic structural diagram of the set up external hardware on the storage body in the other embodiment of the present disclosure.

[0026] Reference numbers in Fig. 1-18 are presented as follows: storage device 010; storage body 100; first plate 110; second plate 120; side flap 121; storage chamber 130; storage opening 131; first folding line 132; second folding line 133; first setting axis 141; second setting axis 142; first folding flap 200; first security mechanism

210; first self-adhesive component 211; first safety inspection portion 212; force applying portion 213; self-sealing adhesive tape 214; protective layer 215; check section 216; connecting portion 217; through-hole cluster 218; second security mechanism 220; second self-adhesive component 221; second safety inspection portion 222; first plug-in component 230; second plug-in component 231; latch 232; slot 233; insert piece 234; card slot 235; protrusion 236; first digital code 240; second digital code 241; bar code 242; two-dimensional code 243; radio frequency chip 244; second folding flap 250; third security mechanism 260; third self-adhesive component 261; third safety inspection portion 262; first machine-readable optical label component 271; second machine-readable optical label component 272; third machine-readable optical label component 273; fourth machine-readable optical label component 274; external hardware 300; third plate 310; third setting axis 311; fourth plate 320; fourth security mechanism 330; fourth self-adhesive component 331; fourth safety inspection portion 332; and fifth plate 340.

DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

[0027] In order to make the purposes, technical solutions and advantages of the embodiments of the present disclosure clearer, the technical solutions in the embodiments of the present disclosure will be described clearly and completely below with reference to the drawings in the embodiments of the present disclosure. Obviously, the described embodiments represent some of the embodiments of the present disclosure, but not all of them. The components of the embodiments of the present disclosure generally described and illustrated in the drawings herein may be arranged and designed in a variety of different configurations.

[0028] Thus, the following detailed description of the embodiments of the present disclosure provided in the accompanying drawings is not intended to limit the scope of the application as claimed, but is merely representative of selected embodiments of the application. Based on the embodiments in the present disclosure, all other embodiments obtained by those of ordinary skill in the art without creative work fall within the protection scope of the present disclosure.

[0029] It should be noted that like numerals and letters refer to like items in the following figures, so once an item is defined in one figure, it does not require further definition and explanation in subsequent figures.

[0030] In the description of this application, it should be noted that the orientation or positional relationship indicated by the terms "inside", "outside", etc. is based on the orientation or positional relationship shown in the accompanying drawings, or is usually placed when the product of the application is used. The orientation or positional relationship is only for the convenience of describing the present disclosure and simplifying the de-

scription, rather than indicating or implying that the indicated device or element must have a specific orientation, be constructed and operated in a specific orientation, and therefore should not be construed as a limitation on the present disclosure. Furthermore, the terms "first", "second", "third", and etc. are only used to differentiate the description and should not be construed as indicating or implying relative importance.

[0031] In the description of this application, it should also be noted that, unless otherwise expressly specified and limited, the terms "arrangement" and "connection" should be understood in a broad sense, for example, it may be a fixed connection or a detachable connection, or it can be connected in one piece; it can be a mechanical connection or an electrical connection; it can be directly connected or indirectly connected through an intermediate medium; and it can be internal communication between two components. For those of ordinary skill in the art, the specific meanings of the above terms in this application can be understood in specific situations.

[0032] In this embodiment, unless otherwise specified, the term "preset direction" refers to the direction of an arrow in the figure.

[0033] This embodiment provides a storage device, such as an envelope, a document bag, and etc., which can be used to store letters, documents and other items. The following uses an envelope as an example for detailed description.

[0034] A storage device 010 is shown in Figs. 1, 2 and 3. The storage device 010 includes a storage body 100 that includes a first plate 110 and a second plate 120 connected to each other, and the first plate 110 and the second plate 120 can be along a folding line (hereinafter referred to as a first folding line 132) is folded to form a storage chamber 130. The storage body 100 has a storage opening 131 connected with the storage chamber 130 when the first plate 110 and the second plate 120 are folded along a first folding line 132. For the device 10 stores items, the items are placed in the storage chamber 130 through the storage opening 131.

[0035] It should be noted that the connection method of the first plate 110 and the second plate 120 can be selected according to needs. The following connection methods of the first plate 110 and the second plate 120 are only a partial list, and the specific connection methods are not limited thereto.

[0036] Optionally, please refer to Fig. 1, the first plate 110 and the second plate 120 are integrally formed in a plate-like structure, and there is the first folding line 132 between the first plate 110 and the second plate 120. Two of the plates 120 are folded along the first folding line 132, so that the storage chamber 130 is formed between the first plate 110 and the second plate 120, and the end of the first plate 110 is away from the first folding line 132 and the second plate 120 is away from the first plate 120. One end of the first folding line 132 forms the storage opening 131.

[0037] Optionally, the storage body 100 can be made

of hard board, such as cardboard, plastic board, and etc. That is, the first plate 110 and the second plate 120 can be made of hard board.

[0038] Optionally, referring to Fig. 1, along the extending direction of the first folding line 132, at least one side of the first plate 110 is connected with a side flap 121, which can be folded relative to the first plate 110 and connected with the second plate 120. Optionally, along the extending direction of the first folding line 132, both sides of the first plate 110 are connected with the side flap 121, so that the two sides of the first plate 110 are connected to the second plate 120 through the side flap 121, respectively.

[0039] Optionally, the first plate 110 and the side flap 121 are integrally formed, and there is a second folding line 133 between the side flap 121 and the first plate 110, and the side flap 121 are turned relative to the first plate 110 along the second folding line 133, and the connected to the surface of the second plate 120. The connection method between the side flap 121 and the second plate 120 may be bonding, or connection with fasteners such as staples, etc., which are not specifically limited herein.

[0040] Optionally, the first plate 110 and the side flap 121 are bonded or connected with fasteners, such as staples, and etc., which are not specifically limited herein.

[0041] Optionally, the first plate 110 and the second plate 120 are adhesively connected, and the first end of the first plate 110 and the first end of the second plate 120 are bonded to each other, so that the first plate 110 and the second plate 120 are stacked, and the storage chamber 130 is formed between the first plate 110 and the second plate 120, and the storage opening 131 is formed at the second end of the first plate 110 and the second end of the second plate 120.

[0042] Of course, in other embodiments, the first plate 110 is not connected to the side flap 121, and along the extending direction of the first folding line 132, the two sides of the first plate 110 and the two sides of the second plate 120 are connected in a one-to-one correspondence. It may be glued, or connected with fasteners such as staples, and etc., which are not specifically limited here.

[0043] Optionally, the first plate 110 and the second plate 120 are connected by fasteners such as staples, and the first end of the first plate 110 and the first end of the second plate 120 are connected by fasteners such as staples, so that the first plate 110 and the second plate 120 are stacked, and the storage chamber 130 is formed between the first plate 110 and the second plate 120, and the second end of the first plate 110 and the second end of the second plate 120 form the storage opening 131.

[0044] Referring to Figs. 1-3, the storage device 010 further includes a first folding flap 200, the first plate 110 is connected to the first folding flap 200, when the first plate 110 and the second plate 120 are folded along the first folding line 132, the first folding flap 200 is used for flipping around a first setting axis 141 relative to the first

plate 110 to overlap the surface of the second plate 120 to seal the storage opening 131, or the first folding flap 200 is used for relative to the first setting axis 141. The first plate 110 is turned around the first setting axis 141 to extend from the storage opening 131 into the storage chamber 130. The storage device 010 further includes at least one first security mechanism 210, and the first security mechanism 210 is used to make the first folding flap 200 overlap when the first folding flap 200 overlaps the surface of the second plate 120 and closes the storage opening 131. When connecting with the second plate 120, the first folding flap 200 can be used to seal the storage opening 131, or the connection between the first folding flap 200 and the second plate 120 can be disconnected, so that the storage opening 131 can be opened. In this way, when the item is placed in the storage chamber 130 and stored by the storage device 010, the first folding flap 200 can be inserted into the storage chamber 130, so that the first folding flap 200 is clamped between the second plate 120 and the item. The first folding flap 200 is sometimes clamped between the first plate 110 and the item, or the first folding flap 200 can be turned around the first setting axis 141 so that the first folding flap 200 overlaps the second plate 120 and connect the first folding flap 200 with the second plate 120 by using the first security mechanism 210 to prevent the items placed in the storage chamber 130 from accidentally falling out of the storage opening 131. When the item is taken out, the first security mechanism 210 is used to disconnect the connection between the first folding flap 200 and the second plate 120, so that the first folding flap 200 can rotate around the first setting axis 141 to open the storage opening 131.

[0045] It should be noted that the above-mentioned first folding flap 200 is used to turn around the first setting axis 141 relative to the first plate 110 to overlap with the surface of the second plate 120 to seal the storage opening 131, meaning that the first folding flap 200 are used to flip around the first setting axis 141 relative to the first plate 110 to overlap the surface of the second plate 120 facing away from the first plate 110 to seal the storage opening 131.

[0046] The first folding flap 200 is overlapped on the surface of the second plate 120, and the first folding flap 200 is connected with the second plate 120 by the first security mechanism 210, and the first folding flap 200 is raised to overlap with the second plate. The stability of the second plate 120 ensures that the first folding flap 200 can reliably close the storage opening 131, thereby effectively improving the reliability of the storage of items.

[0047] Referring to Figs. 1 and 2, the second plate 120 is provided with a second security mechanism 220, which is used to make the second plate 120 and the first folding flap 200 extend into the storage chamber 130. A folding flap 200 is connected to seal the storage opening 131. In this way, when the storage device 010 is used to store items and the storage opening 131 needs to be sealed, the first security mechanism 210 or the second security

mechanism 220 can be selected to be close the storage opening 131 as required.

[0048] In this embodiment, when the storage device 010 is used to store items for the first time and the storage opening 131 needs to be sealed, the first folding flap 200 can be turned and inserted into the storage chamber 130 from the storage opening 131, and the first folding flap 200 can be clamped between the second plate 120 and the items in the storage chamber 130. The first folding flap 200 is connected to the second plate 120 by the second security mechanism 220, so that the storage opening 131 is covered by the second plate 120 and the first folding flap 200. When the item needs to be taken out, the second security mechanism 220 can be destroyed, so that the connection between the first folding flap 200 and the second plate 120 is disconnected, and reversing the first folding flap 200, so that the first folding flap 200 can take out from the storage chamber 130, the items in the storage chamber 130 can be taken out through the storage opening 131. When the storage device 010 is used to store items for the second time, the storage opening 131 needs to be sealed, the first folding flap 200 can be turned and overlapped on the surface of the second plate 120, the first security mechanism 210 can be used to connect the first folding flap 200 with the second plate 120, so that the storage opening 131 is sealed by the first folding flap 200. For the item needs to be taken out, the first security mechanism 210 can be destroyed, so that the connection between the first folding flap 200 and the second plate 120 is disconnected. The storage opening 131 can be opened by inverting the first folding flap 200, so that the items in the storage chamber 130 can be taken out through the storage opening 131.

[0049] Optionally, in other embodiments, when the storage device 010 is used to store items for the first time and the storage opening 131 needs to be sealed, the first folding flap 200 can be turned forward and overlapped on the surface of the second plate 120. The first security mechanism 210 connects the first folding flap 200 and the second plate 120, so that the storage opening 131 is sealed by the first folding flap 200. When the item needs to be taken out, the first security mechanism 210 needs to be destroyed, so that the first folding flap 200 is disconnected to the second plate 120. By reversing action the first folding flap 200 to open the storage opening 131, so that the items in the storage chamber 130 can be taken out from the storage opening 131. When the storage device 010 is used to store items for the second time and the storage opening 131 needs to be sealed, the first folding flap 200 can be turned forward and inserted into the storage chamber 130 from the storage opening 131, and the first folding flap 200 can be clamped to the second plate 120. Between the second plate 120 and the items in the storage chamber 130, the second security mechanism 220 is used to connect the first folding flap 200 to the second plate 120, so that the storage opening 131 is jointly sealed by the second plate 120 and the first folding

flap 200. When the item needs to be taken out, the second security mechanism 220 can be destroyed, so that the connection between the first folding flap 200 and the second plate 120 is disconnected, and the first folding flap 200 is reversed, so that the first folding flap 200 is removed from the storage chamber 130, allowing the items in the storage chamber 130 to be taken out from the storage opening 131.

[0050] The envelope provided by the related art usually needs to be provided with a structure for gluing at the storage opening 131, so that the storage opening 131 of the envelope is sealed by gluing. During the opening process, the edge of the envelope needs to be cut with a knife, or the edge of the envelope needs to be cut with force to tear open the envelope and take out the items stored in the envelope. After each envelope is unsealed and taken out the item, the envelope does not have the structure of re-bonding to seal the storage opening 131, so that the envelope provided by the related art has a short service life and poor environment protection, noting that it is unsealed once, and therefore difficult to be re-used. The storage device 010 provided in this application can use the first security mechanism 210 or the second security mechanism 220 to seal the storage opening 131, so that a storage body 100 can use the first security mechanism 210 and the second security mechanism 220 to seal for storage. The openings 131 can be sealed at least twice, thereby prolonging the service life of each storage device 010, facilitating repeated use, and improving environmental protection.

[0051] Optionally, in another embodiment, the second security mechanism 220 is configured to seal the storage opening 131 of the second plate 120 by connecting the first plate 110 adjacent to the storage opening 131 of the second plate 120 when the first folding flap 200 overlaps the surface of the second plate 120. With this arrangement, the first security mechanism 210 can be used to seal the storage opening 131 when the items are stored for the first time, and the second security mechanism 220 can be used when the items are stored for the second time. Alternatively, when storing the item for the first time and the storage opening 131 needs to be sealed by the second security mechanism 220, and when the item is stored for the second time and the storage opening 131 needs to be sealed by the first security mechanism 210. In this way, the storage device 010 can also be used to reliably store items for at least twice, so as to prolong the service life of the storage device 010, facilitate repeated usages, and improve the environmental protection.

[0052] The quantity of the first security mechanism 210 can be defined according to requirements. When the larger quantity of the first security mechanism 210 is used, the number of times the storage device 010 is to use for repeated usages is also increased. Referring to Fig. 2, in this embodiment, the storage device 010 includes three groups of first security mechanism 210. In this way, the storage device 010 stores items and the storage opening 131 is sealed for four secure storage times. One

of the secure storage is performed by connecting the second security mechanism 220 with the second plate 120, simply seals the storage opening 131 by the first folding flap 200, and the other three secure storages are realized by the first security mechanism 210 to connect the second plate 120 and the first folding flap 200 to seal the storage opening 131. Of course, in other embodiments, the number of groups of the first security mechanism 210 can be one group (as shown in Fig. 1), two groups, four groups, and etc., which are not specifically limited herein.

[0053] It should be noted that, in other embodiments, the second plate 120 is not provided with the second security mechanism 220. In order to prolong the service life of the storage device 010, the storage device 010 includes at least two sets of the first security mechanism 210. When the storage device 010 stores items and closes the storage opening 131, a set of first security mechanism 210 are used to connect the first folding flap 200 and the second plate 120 to realize the closure of the storage opening 131.

[0054] Referring to Fig. 2, the first security mechanism 210 of this embodiment includes a first self-adhesive component 211 and a first safety inspection portion 212. The first safety inspection portion 212 is set up on the first folding flap 200. The first self-adhesive component 211 is set up on the first folding flap 200 through the first safety inspection portion 212. The first self-adhesive component 211 is used to connect the first folding flap 200 and the second plate 120, so that the storage opening 131 is sealed. The safety inspection portion 212 is used to disconnect the connection between the first folding flap 200 and the second plate 120, so that the storage opening 131 can be opened. The first self-adhesive component 211 and the first safety inspection portion 212 are arranged in sequence along a preset direction, whereby the preset direction is set at an angle with the first setting axis 141. In this way, when the first folding flap 200 connected to the second plate 120 needs to be turned over to open the storage opening 131, it is only necessary to destroy the structure of the first safety inspection portion 212 to break the connection between the first folding flap 200 and the second plate 120, and enabling the first folding flap 200 to rotate freely around the first setting axis 141, so as to be turned over to open the storage opening 131, so as not to damage the structure of the storage body 100, and so as to facilitate the subsequent reuse of the storage body 100 to stores items.

[0055] It should be understood that, in other embodiments, the first self-adhesive component 211 is set up on the second plate 120, the first safety inspection portion 212 is set up on the first folding flap 200, and the first self-adhesive component 211 is used for the first folding. When the first folding flap 200 overlap the surface of the second plate 120, the first folding flap 200 and the second

plate 120 are connected, so that the storage opening 131 is sealed. That is, when the first folding flap 200 overlaps the surface of the second plate 120, the first self-adhesive component 211 is connected with the first folding flap 200 through the first safety inspection portion 212. The first safety inspection portion 212 is used to disconnect the first folding flap 200 from the second plate 120 so that the storage opening 131 can be opened. In this way, when the first folding flap 200 connected to the second plate 120 needs to be turned over to open the storage opening 131, it is only necessary to destroy the structure of the first safety inspection portion 212 to break the connection between the first folding flap 200 and the second plate 120, and enabling the first folding flap 200 to rotate freely around the first setting axis 141, so as to be turned over to open the storage opening 131, so as not to damage the structure of the storage body 100, and so as to facilitate the subsequent reuse of the storage body 100 to stores items.

[0056] It should be noted that the preset direction in this embodiment is set perpendicular to the first setting axis 141, that is, the angle between the preset direction and the first setting axis 141 is 90°. Certainly, in other embodiments, the angle between the preset direction and the first setting axis 141 may also be 88°, 93°, and etc., which is not specifically limited herein.

[0057] It should be noted that, when the quantity of the first security mechanism 210 is greater than or equal to two groups, all the first security mechanism 210 are arranged in sequence along the preset direction, and one of the first security mechanism 210 is closest to the first setting axis 141, and the first safety inspection portion 212 closest to the first setting axis 141 is directly connected to the first folding flap 200, and the first safety inspection portions 212 of the remaining first security mechanism 210 would be used according to the distance away from the first setting axis 141. The mentioned first safety inspection portion 212 of another first security mechanism 210 that would set up on the first folding flap 200. For example, the three groups of first security mechanism 210 in this embodiment are numbered 1, 2 and 3 in order from the group further away from the first setting axis 141 to the group close to the first setting axis 141. The first safety inspection portion 212 of the No. 3 of the first security mechanism 210 is directly connected to the first folding flap 200, the first safety inspection portion 212 of the No. 2 first security mechanism 210 is connected to the first folding flap 200 through the No. 3 first security mechanism 210, and the first safety inspection portion 212 of the No. 1 first security mechanism 210 is connect to the first folding flap 200 through the No. 2 first security mechanism 210. The sequence of using the first security mechanism 210 to connect the first folding flap 200 and the second plate 120 may be to use the first security mechanism 210 furthest from the first setting axis 141 first, and then use the first security mechanism 210 in sequence relative to the previous first security mechanism 210 nearest to the first setting axis 141. In this

way, the first safety inspection portion 212 of the previous first security mechanism 210 can be destroyed, so that the first folding flap 200 and the second plate 120 can be discounted and avoid damaging the next first security mechanism 210, and then ensure that the storage device 010 is reused under the condition that other first security mechanism 210 is not damaged. Referring to Figs. 4-8, for example, the storage device 010 of the present embodiment uses the three groups of first security mechanism 210 in an order of first using the No. 1 first security mechanism 210, then using the No. 2 first security mechanism 210, and finally using the No. 3 first security mechanism 210 so that when the No. 1 first security mechanism 210 is used and destroyed, the No. 2 and No. 3 first security mechanism 210 are still intact, and therefore the storage device 010 can continue to be reused.

[0058] Referring to Fig. 2, the first self-adhesive adhesive component 211 of this embodiment includes a self-sealing adhesive tape 214 and a protective layer 215 detachably covering the self-sealing adhesive tape 214, and the self-sealing adhesive tape 214 is covered with the protective layer 215 and sets next to the first safety inspection portion 212 which is arranged with the first folding flap 200. When the first folding flap 200 overlaps the surface of the second plate 120, and the protective layer 215 needs to be removed before the first self-adhesive component 211 connects the first folding flap 200 to the second plate 120. Then use the self-sealing adhesive tape 214 with the first safety inspection portion 212 to connect the first folding flap 200 with the second plate 120. By destroying the first safety inspection portion 212, the connection between the first folding flap 200 and the second plate 120 can be disconnected, so that the first folding flap 200 can be freely turned around the first setting axis 141. The protective layer 215 is for covering the self-sealing adhesive tape 214 next to the first security check section 212, when the first folding flap 200 does not need to be bonded to the second plate 120, the self-sealing adhesive tape 214 remains covered by the protective layer 215.

[0059] Optionally, in other embodiments, to remove the protective layer 215 that is attached onto the self-sealing adhesive tape 214 and then adhered to the surface of the second plate 120, the first safety inspection portion 212 connects with the first folding flap 200. The first folding flap 200 is overlapped on the surface of the second plate 120, this would need to use the first self-adhesive component 211 to connect the first folding flap 200 and the second plate 120, by removing the protective layer 215 and then the self-sealing adhesive tape 214 can be used to connect the second plate 120 with the first safety inspection portion 212, so that the first folding flap 200 can be connected with the second plate 120. By destroying the first safety inspection portion 212, the first folding flap 200 and the second plate 120 can be disconnected, so that the first folding flap 200 can be freely turned around the first setting axis 141.

[0060] Referring to Fig. 2, the first safety inspection

portion 212 of this embodiment includes a check section 216 and a connecting portion 217. The self-sealing adhesive tape 214 is connected with the connecting portion 217, and the check section 216 is used for connecting the connecting portion 217 to the first folding flap 200. The check section 216 of the first safety inspection portion 212 closest to the first setting axis 141 is directly connected with the first folding flap 200, and the check section 216 of the first safety inspection portion 212 farther from the first setting axis 141 is connected to the first folding flap 200 through the connecting portion 217 of the first safety inspection portion 212 which is closer to the first setting axis 141. The check section 216 of the first safety inspection portion 212 of the No. 3 first security mechanism 210 of this embodiment is directly connected with the first folding flap 200. The check section 216 of the first safety inspection portion 212 of the No. 2 first security mechanism 210 and the No. 3 first security mechanism 210 of the connecting portion 217 of the first safety inspection portion 212 is connected. The check section 216 of the first safety inspection portion 212 of the No. 1 first security mechanism 210 is connected with the connecting portion 217 of the first safety inspection portion 212 of the No. 2 first security mechanism 210. The setting manner of the first safety inspection portion 212 having other numbers of the first security mechanism 210 is similar to that of the present embodiment, and details are not repeated here.

[0061] Optionally, the self-sealing adhesive tape 214 adhered to the connecting portion 217 and the check section 216 is spaced apart along a preset direction. This arrangement makes it more convenient to attach the first folding flap 200 and the second plate 120 to the self-sealing adhesive tape 214. When connected, the structure of the check section 216 is individually destroyed, so as to disconnect the connection between the first folding flap 200 and the second plate 120, thereby reliably avoiding damage to the structure of the storage body 100, so as to facilitate the repeated use of the storage body 100.

[0062] Optionally, the distance between the self-sealing adhesive tape 214 adhered to the connecting portion 217 and the check section 216 may be 1 mm, 1.5 mm, 1.2 mm, and etc., which is not specifically limited herein.

[0063] Optionally, please refer to Fig. 9, the check section 216 is a connecting strip, and the connecting strip is connected with the connecting portion 217 and/or the first folding flap 200 in the form of perforation holes. As an example, the connecting strip is connected to the connecting portion 217 in the perforation holes, and such perforation holes connection refers to: along the length extending direction of the first setting axis 141, the connection between the connection strip and the connecting portion 217 has a number of through holes or openings that are not connected at intervals. That is, the connection between the connecting strip and the connecting portion 217 is not a complete connection along the extending direction of the connection between the two. The use of

the perforation holes connection can make the connecting strip and the connecting portion 217 easily disconnected under the action of external force.

[0064] Take the example that the first folding flap 200 of this embodiment is provided with three groups of first security mechanism 210 as an example for illustration. In this embodiment, one side of the check section 216 of the No. 3 first security mechanism 210 is connected to the first folding flap 200 in a breakpoint shape, and the other side of the check section storage body 216 of the No. 3 first security mechanism 210 is connected to the connecting portion 217 in a breakpoint shape, so that the connecting strip serving as the check section 216 is easily 5
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teared with the first folding flap 200 and the No. 3 first folding flap under the external force. The connection portion 217 of the first security mechanism 210 is disconnected, so that the connection between the first folding flap 200 and the connection portion 217 and the first self-adhesive component 211 adhered to the connection portion 217 is disconnected. When the first self-adhesive component 211 is also bonded to the second plate 120 at the same time, then when the connection between the check section 216 and the first folding flap 200 and the connecting portion 217 is disconnected at the same time, the connection between the first folding flap 200 and the second plate 120 is also disconnected. Similarly, one side of the check section 216 of the No. 2 first security mechanism 210 is connected to the connecting portion 217 of the No. 3 first security mechanism 210 in a breakpoint shape, and the check section of the No. 2 first security mechanism 210, the other side of the 216 is connected to the connecting portion 217 of the No. 2 first security mechanism 210 in the form of a break point, and one side of the check section 216 of the No. 1 first security mechanism 210 is connected to the No. 2 first security mechanism 210. The connecting portion 217 is connected in a breakpoint shape, and the other side of the check section 216 of the No. 1 first security mechanism 210 is connected with the connecting portion 217 of the No. 1 first security mechanism 210 in a breakpoint shape. The working principle of the check section storage body 216 of the No. 1 and No. 2 first security mechanism 210 is similar to that of the check section 216 of the No. 3 first security mechanism 210, and details are not repeated here.

[0065] Optionally, the connecting strip serving as the check section 216 can be in a zigzag shape. Firstly, when there is no external force applying on the check section 216 to tear the check section, by doing the check, ensure the section 216 does not accidentally break apart with the connecting portion 217 or the first folding flap 200. Secondly, the check section 216 can be easily torn to be disconnected from the first folding flap 200 or the connecting portion 217 under the action of external force.

[0066] Optionally, the connecting strip serving as the check section 216 is provided with a zigzag-shaped breakpoint, so that the check section 216 can be broken from the zigzag-shaped breakpoint under the action of

external force, so that the check section 216 is disconnected from the connecting portion 217. Referring to Fig. 9, taking the check section 216 of the No. 1 first security mechanism 210 as an example, the two sides of the check section storage body 216 are respectively connected to the connecting portions 217 of the No. 1 first security mechanism 210 and the No. 2 first security mechanism 210, and the check section 216 are provided with a plurality of zigzag-shaped breakpoints, and the zigzag-shaped breakpoints are arranged at intervals along the length extending direction of the first setting axis 141 .

[0067] Optionally, referring to Fig. 9, the check section 216 is a connecting strip, and the connecting strip is connected with the connecting portion 217 and/or the first folding flap 200 , and the check section 216 of the No. 2 first security mechanism 210 as an example, the two sides of the connecting strip are respectively connected to the connecting portion 217 of the No. 3 first security mechanism 210 and the connecting portion 217 of the No. 2 first security mechanism 210, and the connecting strip is provided with two rows of through-hole clusters 218. Along the longitudinal extension direction of the first setting axis 141, each row of through-hole clusters 218 includes a plurality of through holes arranged in sequence and spaced apart.

[0068] Optionally, the connection between the check section 216 and the connecting portion 217 is integrally formed, and the connection between the check section 216 and the first folding flap 200 is also integrally formed, and the through holes in the through-hole cluster 218 provided in the check section 216 can be formed by die-cutting, punching, and etc., or can die-cut or punch out a breakpoint without connection at the connection between the check section 216 and the connecting portion 217, which is not specifically limited here.

[0069] Optionally, referring to Fig. 9, the check section 216 is a tearing strip, and the tearing strip is connected to the connecting portion 217 and/or the first folding flap 200, taking the check section 216 of the No. 3 first security mechanism 210 as an example. It is explained that the two sides of the tearing strip are respectively connected to the first folding flap 200 and the connecting portion 217 of the No. 3 first security mechanism 210, the length extension direction of the tearing strip is consistent with the extension direction of the first setting axis 141, and the external force tears the tearing strip so that the tearing strip can be disconnected from the connection portion 217 and the first folding flap 200 at the same time.

[0070] It should be noted that, no matter whether the check section 216 is connected by breakpoints, provided with through-hole clusters 218 or used as the check section 216, when the structure of the check section 216 needs to be destroyed to disconnect the connection between the first folding flap 200 and the second plate 120, the structure of the check section 216 can be easily destroyed without using a cutter, and the structure of the storage body 100 and the structure of the unused first

security mechanism 210 will not be damaged, thereby effectively ensures that the storage device 010 can be reused.

[0071] It should be noted that, when the storage device 010 is used, the first folding flap 200 is overlapped with the second plate 120, and the self-sealing adhesive tape 214 is used to connect the first folding flap 200 and the second plate 120. It is not only possible to break the connection between the first folding flap 200 and the second plate 120 by destroying the structure of the check section 216 so that the first folding flap 200 can be freely turned around the first setting axis 141 to open the storage opening 131, and take out items, but it is also possible to visually check whether the structure of the check section 216 has been destroyed in advance before destroying the structure of the check section 216 so as to ensure the security and safety of the items stored in the storage device 010. Before the connection of the second plate 120, the structure of the check section 216 has been damaged, and it is determined that the items stored in the storage device 010 are not safely stored. If the connection between the first folding flap 200 and the second plate 120 needs to be disconnected before, the structure of the check section 216 is not damaged, then it is determined that the items stored in the storage device 010 are safely stored.

[0072] Referring to Fig. 2, the first security mechanism 210 of this embodiment further includes a force applying portion 213, which is connected with the first safety inspection portion 212. The force applying portion 213 is used to drive the first safety inspection portion 212 under the action of external force. The first safety inspection portion 212 disconnects the first folding flap 200 from the second plate 120. When the first folding flap 200 is overlapped with the second plate 120 and the first self-adhesive component 211 connects the first folding flap 200 with the second plate 120, an external force is applied to the force applying portion 213, which can break the structure of the first safety inspection portion 212, causing the connection between the first folding flap 200 and the second plate 120 to be effortless disconnected.

[0073] Along the extending direction of the first setting axis 141, the force applying portion 213 is provided at one end of the first safety inspection portion 212. Of course, in other embodiments, along the extending direction of the first setting axis 141, both ends of the first safety inspection portion 212 are provided with force applying portion 213.

[0074] Optionally, the force applying portion 213 and the check section 216 are integrally formed. This arrangement can ensure the unify setup between the force applying portion 213 and the check section 216. When an external force acts on the force applying portion 213 is not easily broken with the check section 216, so that the external force needs to apply to the force applying portion 213 to tear off the check section 216, so that the connection between the first folding flap 200 and the second plate 120 is disconnected. Of course, in other em-

bodiments, the connection between the force applying portion 213 and the check section 216 may also be bonding, or connection with fasteners such as staples, and etc., which are not specifically limited herein.

[0075] Optionally, referring to Figs. 2 and 3, the storage device 010 further includes a plug-in component (hereinafter referred to as a first plug-in component 230), and the first plug-in component 230 includes a slot 233 and a latch 232 that are plugged and matched with each other. One slot 233 and latch 232 are provided in the first security mechanism 210. Another slot 233 and latch 232 are provided in the second plate 120. When the first folding flap 200 is overlapped with the second plate 120, the latch 232 can be inserted into the slot 233, so that the first folding flap 200 overlaps with the second plate 120 more stably. It should be noted that, when the storage device 010 is only used for ordinary storage, that is, the storage opening 131 does not need to be sealed. That means, the first security mechanism 210 does not need to be used to bond the first folding flap 200 to the second plate 120. When the item is stored in the storage chamber 130, the first folding flap 200 can be turned over around the first setting axis 141, so that the first folding flap 200 overlaps the second plate 120, and the latch 232 is inserted into the slot 233 is sufficient. Of course, when the first folding flap 200 and second plate 120 need to be bonded, the latch 232 can also be inserted into the slot 233 to improve the stability of the connection between the first folding flap 200 and the second plate 120.

[0076] It should be understood that the first plug-in component 230 is not an essential component. That is, the storage device 010 may choose not to provide the first plug-in component 230 as required.

[0077] The latch 232 in the present embodiment is connected with the first security mechanism 210, so that the latch 232 is connected with the first folding flap 200 through the first security mechanism 210. The slot 233 is formed in the second plate 120. Of course, in other embodiments, the slot 233 can be formed in the first folding flap 200 or in the first security mechanism 210, so that the slot 233 can be built the first folding flap 200 through the first security mechanism 210, and that the latch 232 is built on the second plate 120.

[0078] Optionally, the quantity of the first plug-in components 230 may be the same as the quantity of the first security mechanism 210 (as shown in Fig. 3), or may be different (as shown in Fig. 10). In the present embodiment, the quantity of the first plug-in components 230 is the same as the quantity of the first security mechanism 210. That is, the storage device 010 in the present embodiment includes three sets of the first plug-in components 230, and three sets of the first plug-in components 230. The latches 232 in the three groups of the first security mechanism 210 are arranged in a one-to-one correspondence, and the slots 233 of the three groups of the first plug-in components 230 are arranged at intervals along the preset direction.

[0079] Optionally, referring to Figs. 2 and 3, the latches

232 in each group of the first plug-in components 230 are correspondingly arranged with the connecting portions 217 of the corresponding first security mechanism 210. That is, the latches 232 are connected to the connecting portions 217, and along the extending direction of the first setting axis 141, the latch 232 is connected to the end of the connecting portion 217. In this way, any interference among the first plug-in component 230, first self-adhesive component 211 and first safety inspection portion 212 can be avoided.

[0080] Optionally, the latch 232 is integrally formed with the connecting portion 217. In other embodiments, the latch 232 may be bonded to the connecting portion 217 and etc., which is not specifically limited herein.

[0081] Optionally, the latch 232 can be of suitable shapes as required, as shown in Fig. 11. For example, the latch 232 is of a rectangular shaped insert piece 234, which is connected to the connecting portion 217, or the latch 232 is a regular insert piece 234 that is connected with the connecting portion 217. The end of the insert piece 234 away from the connecting portion 217 is provided with two slots 235, and the two slots 235 are distributed on both sides of the insert piece 234 along a preset direction. The latch 232 includes the insert piece 234 and protrusion 236 that are connected to the connecting portion 217, and the protrusion 236 is connected to the end of the insert piece 234 away from the connecting portion 217 as well as extended toward or away from the first setting axis 141.

[0082] Optionally, as shown in Fig. 11, the slot 233 may also be of various shapes such as rectangular, curved, pentagonal, and etc., which are not specifically limited herein.

[0083] Optionally, along the extending direction of the first setting axis 141, both ends of the connecting portion 217 are connected with latches 232. Correspondingly, each group of first plug-in components 230 includes two slots 233, two latches 232 can be inserted and matched with the two slots 233 in one-to-one correspondence. This arrangement can improve the stability of the first plug-in component 230 in making the first folding flap 200 cooperate with the second plate 120.

[0084] Referring to Fig. 12, the second security mechanism 220 of the present embodiment includes a second self-adhesive component 221 and a second safety inspection portion 222. The second self-adhesive component 221 is set up on the second plate 120 through the second safety inspection portion 222. The second self-adhesive component 221 is used to connect the second plate 120 with the first folding flap 200 extending into the storage chamber 130, so as to seal the storage opening 131. The second safety inspection portion 222 is used to disconnect the second plate 120 from the first folding flap 200 extending into the storage chamber 130 so that the storage opening 131 can be opened. The second self-adhesive components 221 and the second safety inspection portion 222 are sequentially arranged along a preset direction. This arrangement makes it convenient

to use the second self-adhesive component 221 to seal the storage opening 131 when the storage device 010 is used for the first time for secure storage. That is, the items can be put into the storage chamber 130, and the first folding flap 200 can be inserted into the storage chamber 130. Yet, the first folding flap 200 clamped between the item and the second plate 120, and the second plate 120 and the first folding flap 200 bonded by the second self-adhesive component 221 to seal up the storage opening 131. Upon the second safety inspection portion 222 is broken by external force, the connection between the second plate 120 and the first folding flap 200 is disconnected, so that the items in the storage chamber 130 that formed between the first plate 110 and the second plate 120 can be easily taken out.

[0085] It should be noted that the above-mentioned second self-adhesive component 221 is used to connect the second plate 120 with the first folding flap 200 extending into the storage chamber 130 so as to seal the storage opening 131, which can be regarded as the second self-adhesive component 221 is used to connect the second plate 120 to the first plate 110 through the first folding flap 200 extending into the storage chamber 130 to seal the storage opening 131. When the second safety inspection portion 222 is damaged by an external force, the second plate 120 is disconnected to the first plate 110 for opening the storage opening 131 between the first plate 110 and the second plate 120.

[0086] It should be noted that if the storage device 010 is used for general storage that does not require the storage opening 131 to be sealed, then after the item(s) put into the storage chamber 130, the first folding flap 200 can be inserted into the storage chamber 130, so that the item would be clamped in between the first folding flap 200 and the second plate 120.

[0087] In the present embodiment, the second self-adhesive component 221 is located between the second safety inspection portion 222 and the storage opening 131. In this way, when the structure of the second safety inspection portion 222 is destroyed and the connection between the second plate 120 and first folding flap 200 is broken, the storage opening 131 that forms by the first plate 110 and the second plate 120 which becomes accessible from outside, the second self-adhesive component 221 is bonded to the first folding flap 200, and the structure of the storage body 100 will not be damaged, so that the storage body 100 can be reused for storing items again.

[0088] It should be understood that in other embodiments, the first folding flap 200 overlaps the surface of the second plate 120, and the second self-adhesive component 221 is used to make the first plate 110 adjacent to the storage opening 131 and the second plate 120 so that the storage opening 131 can be sealed. The second safety inspection portion 222 is used to disconnect the connection at the storage opening 131 of the first plate 110 and the storage opening 131 of the second plate 120, so that the storage opening 131 can be opened. In

this way, the items are put into the storage chamber 130, the first folding flap 200 is overlapped on the surface of the second plate 120, and the second self-adhesive component 221 is used to attach the first plate 110 adjacent to the storage opening 131 and the second plate 120 is being adhered, this would seal the storage opening 131.

[0089] It should be noted that the structures and working principles of the second self-adhesive component 221 and the second safety inspection portion 222 are respectively similar to the first self-adhesive component 211 and the first safety inspection portion 212. That is, the first security mechanism 210 and the first safety inspection portion 212 are respectively similar. The structure and working principle of the second security mechanism 220 are similar, and details are not repeated here.

[0090] Optionally, referring to Fig. 12, the storage device 010 can further include at least one of a first digital code 240, that is disposed on the first plate 110 and the second plate 120. The first digital code 240 is used for intelligent management of the storage device 010, which is traceable and convenient for security management, for example, used to identify and record who, when, and where the storage device 010 is used. It should be understood that the first digital code 240 is not an essential component, and the storage device 010 may not be provided with the first digital code 240 as required.

[0091] Optionally, the first digital code 240 includes at least one of a machine-readable optical label component and a wireless radio frequency chip 244. The machine-readable optical label component and radio frequency chip 244 can extract data with a scanner and a sensor respectively, and the extracted data can be transmitted to the computing hardware for further data analysis, management and other work. The above computing hardware may refer to terminals such as computers and mobile phones, which are not specifically limited herein. The machine-readable optical label component includes at least one of a barcode 242 and a two-dimensional code 243 (Quick Response (QR) Code).

[0092] In the present embodiment, the first digital code 240 includes a machine-readable optical label component (hereinafter referred to as first machine-readable optical label component 271), and first machine-readable optical label component 271 is set up on the second plate 120. The quantity of the first machine-readable optical label components 271 is the same as the quantity of the first security mechanism 210. When the first folding flap 200 is overlapped with the second plate 120, the first security mechanism 210 is to set opposite to the machine-readable optical label. In this way, when the first security mechanism 210 is used, the corresponding information can be recorded by the corresponding first machine-readable optical label component 271, so as to facilitate the traceability and security management of the storage device 010.

[0093] Optionally, the first digital code 240 further includes a second machine-readable optical label component 272, and the second machine-readable optical label

component 272 cooperates with the second security mechanism 220. The first folding flap 200 is overlapped with the second plate 120, and the second security mechanism 220 is matched with the second machine-readable optical label component 272.

[0094] In the present embodiment with reference to Fig. 12, the second machine-readable optical label component 272 and the plurality first machine-readable optical label components 271 are sequentially arranged at intervals along a predetermined direction, and the second machine-readable optical label component 272 is closest to the first setting axis 141, and is sequentially defined as No. 4, No. 3, No. 2 and No. 1 machine-readable optical label components from close to the first setting axis 141 to away from the first setting axis 141. The No. 4 machine-readable optical label component is the second machine-readable optical label component 272, and the No. 3, No. 2 and No. 1 are the first machine-readable optical label component 271.

[0095] When the storage device 010 is used for securing storage of the first closed storage opening 131, the first folding flap 200 is inserted into the storage chamber 130, and the second security mechanism 220 connects the first folding flap 200 with the second plate 120. No. 4, No. 3, No. 2 and No. 1 machine-readable optical label assemblies are located on the side of the second plate 120 away from the first plate 110. That is, No. 4, No. 3, No. 2 and No. 1 machine-readable optical label assemblies are all exposed, and the relevant information of the first secure storage is written into the No. 4 machine-readable optical label component. When the storage device 010 is reused for the second secure storage that needs the storage opening 131 to seal, as shown in Fig. 4, the first folding flap 200 overlaps the surface of the second plate 120, the No. 1 first security mechanism 210 connects the first folding flap 200 with the second plate 120, the No. 1 machine-readable optical label component is not blocked, No. 4, No. 3 and No. 2 machine-readable optical label assemblies are blocked, and No. 1 machine-readable optical label component writes the relevant information of the second secure storage into No. 1 machine-readable optical label component. As shown in Fig. 5, after the second secure storage, the first safety inspection portion 212 of the No. 1 first security mechanism 210 is destroyed, so that the connection between the first folding flap 200 and the second plate 120 is disconnected, and the first self-adhesive component 211 is torn off from the second plate 120 to facilitate the use of the No. 2 first security mechanism 210 for a third secure storage requiring the storage opening 131 to be sealed. It should be noted that since the first safety inspection portion 212 and the first self-adhesive component 211 of the No. 1 first security mechanism 210 have been removed from the second plate 120 after the second secure storage, when performing the third secure storage, the No. 2 machine-readable optical label component can be exposed, so that the relevant information of the third secure storage can be written into the No. 2 machine-readable optical

label component. The method of fourth secure storage and information recording is similar and will not be repeated here.

[0096] Optionally, each of first machine-readable optical label component 271 and the second machine-readable optical label component 272 includes the barcode 242 and two-dimensional code 243, and along the extending direction of the first setting axis 141. The barcode 242 and two-dimensional code 243 of the machine-readable optical label component are individually arranged on the second plate 120 at intervals.

[0097] Referring to Fig. 12, the first digital code 240 of the present embodiment further includes the radio frequency chip 244, which is set up at one end of the second plate 120 away from the storage opening 131. Of course, in other embodiments, the radio frequency chip 244 may also be set up on the first plate 110, or directly place inside the storage chamber 130, or set up on the second plate 120 near the storage opening 131, which is not specifically limited here.

[0098] It should be understood that, in other embodiments, the first digital code 240 may include only one barcode 242, two-dimensional code 243 and radio frequency chip 244, or a combination of any two of the three above.

[0099] It should be noted that the machine-readable optical label component can be used to record postal information, such as the postal destination, origin, mailer's contact information, recipient's contact information, etc., and can also be used to record the information of the storage device 010. The number of times of reuse and the like are not specifically limited here.

[0100] It should be noted that the first digital code 240 is used for process control and data collection of the storage device 010, and may include: ISO 9001-Implementation of retrospective quality management, such as who, what purpose, where, and when to use the storage operational status and process control of the storage device 010, and storage history for big data analysis. Alternatively, ISO 14000 series to monitor environmental performance, including carbon footprint calculation, greenhouse gas emissions, and offset efficiency. The energy saving benefit can be obtained in this application by repeatedly using the same storage device as compared to the traditional single-use storage device 010, and the performance of environmental friendliness can be converted into a quantified carbon equivalent (CO₂e) value.

[0101] It should be noted that, the application program for analyzing and supervising the scanned or read data from the first digital code 240 is similar to the program provided by the related art, and the digital code information involved the data about all the usages of the storage device 010, such as understanding the users' behavior by communicating with the storage device 010 provider's website, and also retrospectively such as who, when, and where the storage device 010 is used to securely manage the storage device 010. When using the cloud server to practice ISO 9001, the service provider for the

storage device 010 can also analyze the number of times such storage device 010 is reused, as well as other valuable information. For example, the logistics companies can provide tracking information for user reference, and etc. with any specific limitation here.

[0102] Referring to Figs. 13 and 14, the storage device 010 of the present embodiment further includes a second folding flap 250 to which the second plate 120 is attached. The second folding flap 250 is used to turn around the second setting axis 142 relative to the second plate 120 to overlap the surface of the first plate 110 to seal or open the storage opening 131. The second folding flap 250 is used to flip for wrapping around the second setting axis 142 relative to the second plate 120 to extend from the storage opening 131 into the storage chamber 130. The second folding flap 250 is provided with at least one set of third security mechanism 260, and the third security mechanism 260 is used to overlap the surface of the first plate 110 with the second folding flap 250. When the storage opening 131 is sealed, the second folding flap 250 is connected with the first plate 110. In this way, the second folding flap 250 connected to the second plate 120 and the third security mechanism 260 provided on the second folding flap 250 can be used to further increase the usage times of the storage device 010.

[0103] The above-mentioned second folding flap 250 is used for flipping around the second setting axis 142 relative to the second plate 120 to overlap the surface of the first plate 110 to seal or open the storage opening 131. In other words, the second folding flap 250 is used to turn around the second setting axis 142 relative to the second plate 120, so as to overlap with the surface of the first plate 110 facing away from the second plate 120 to seal or open the storage opening 131.

[0104] It should be noted that, the storage device 010 with the second folding flap 250 connected to the second plate 120 is used for storing items including: putting the item into the storage chamber 130, extending the first folding flap 200 into the storage chamber 130. The first folding flap 200 is placed between the item and the second plate 120, the second folding flap 250 is extended into the storage chamber 130, and the second folding flap 250 is placed between the second plate 120 and the first folding flap 200. Alternatively, the second folding flap 250 can be inserted into the storage chamber 130, the second folding flap 250 can be between the first plate 110 and the item, or between the second plate 120 and the item, and then the first folding flap 200 and the second plate 120 are stuck together by using the first security mechanism 210 to overlap the side of the second plate 120 away from the first plate 110.

[0105] Optionally, the third security mechanism 260 includes a third self-adhesive component 261 and a third safety inspection portion 262. The third safety inspection portion 262 is set up on the second folding flap 250, and the third self-adhesive component 261 with the third safety inspection portion 262 that is disposed on the second folding flap 250, and the third self-adhesive component

261 is used to connect the second folding flap 250 with the first plate 110, so that the storage opening 131 can be closed. The third safety inspection portion 262 is used to disconnect the connection between the second folding flap 250 and the first plate 110, so that the storage opening 131 can be opened. The third self-adhesive component 261 and the third safety inspection portion 262 are sequentially arranged in a preset direction, wherein the preset direction is set at an angle to the second setting axis 142.

[0106] Optionally, the extension direction of the second setting axis 142 is the same as that of the first setting axis 141.

[0107] It should be noted that the structure of the second folding flap 250 is similar to that of the first folding flap 200, and details are not described herein again. The structures of the third self-adhesive component 261 and the third safety inspection portion 262 and the way they are set up on the second folding flap 250 are respectively similar to the structure of the first self-adhesive component 211, the first safety inspection portion 212, and the way they are set up on the first folding flap 200. That is, the structures and working principles of the first security mechanism 210 and the third security mechanism 260 are similar, and will not be repeated here.

[0108] Optionally, the third self-adhesive component 261 is set up on the first plate 110, the third safety inspection portion 262 is set up on the second folding flap 250, and the third self-adhesive component 261 is used to connect the second folding flap 250 to the first plate 110 so that the storage opening 131 is sealed. The third safety inspection portion 262 is used to disconnect the second folding flap 250 from the first plate 110 so that the storage opening 131 can be opened.

[0109] It should be noted that, the third self-adhesive component 261 is set up on the first plate 110, and the third safety inspection portion 262 is set up on the second folding flap 250, respectively. The first self-adhesive component 211 is set up on the first plate 110 and the first safety inspection portion 212 is set up on the first folding flap 200 in a similar manner, and therefore details are not described herein.

[0110] The quantity of the third security mechanism 260 set on the second folding flap 250 can be selected according to needs. In this embodiment, there are three groups of third security mechanism 260. In other embodiments, there may be one group, two groups, and the like.

[0111] It should be noted that, the first plate 110 in this embodiment is further provided with a third machine-readable optical label component 273, and the quantity of the third machine-readable optical label component 273 is the same as the quantity of the third security mechanism 260 and set in one-to-one correspondence. The specific setting method and working principle are similar to those of first machine-readable optical label component 271, and therefore they will not be repeated here.

[0112] Optionally, referring to Fig. 13, the storage device 010 further includes a second plug-in component

231, the structure of the second plug-in component 231 is similar to that of the first plug-in component 230, and the second plug-in component 231 includes plugs that are plugged with each other. One of the slot and the latch is provided on the second folding flap 250, and the other of the slot and the latch is provided on the first plate 110.

[0113] It should be noted that the specific structure, working principle and function of the second plug-in component 231 are similar to those of the first plug-in component 230, and will not be repeated here.

[0114] It should be understood that, in other embodiments, the storage device 010 may not be provided with the second folding flap 250.

[0115] Referring to Figs. 15 and 16, the storage device 010 of the present embodiment further includes external hardware 300, and the external hardware 300 includes a third plate 310 and a fourth plate 320 that are connected to each other. The third plate 310 can be connected to the first plate 110 or connected with the second plates 120, the fourth plate 320 can be turned around a third setting axis 311 relative to the third plate 310 to overlap the surface of the first plate 110 or the second plate 120 to seal or open the storage opening 131. In this way, the first security mechanism 210 and the second security mechanism 220 respectively provided on the first folding flap 200 and the second folding flap 250 be completely used. Upon all security mechanism had voided its function, the external hardware 300 can be used on the storage body 100 so that the external hardware 300 can seal the storage opening 131, which can further prolong the service life of the storage body 100. Each storage device 010 is configured with a plurality of external hardware 300, upon the first security mechanism 210, the second security mechanism 220 and the third security mechanism 260 of the storage device 010 are all being used, many more of reuses that would depend on applying the quantity of the external hardware 300.

[0116] The fourth plate 320 is provided with a fourth security mechanism 330, and the fourth security mechanism 330 is used to connect the first plate 110 or the second plate 120 overlapping with the fourth plate 320 to the fourth plate 320. In this way, the storage opening 131 can be reliably sealed by the external hardware 300, so as to ensure reliable and secure storage by using the storage body 100 repeatedly.

[0117] The fourth security mechanism 330 includes a fourth self-adhesive component 331 and a fourth safety inspection portion 332. The fourth self-adhesive component 331 is located next to the fourth safety inspection portion 332 that is connected to the fourth plate 320. The fourth self-adhesive component 331 is used to connect the first plate 110 or the second plate 120 overlapped to seal the storage opening 131. The storage opening 131 can be opened by the connection between the first plate 110 or the second plate 120 and the fourth plate 320 is disconnected. The fourth self-adhesive component 331 and a fourth safety inspection portion 332 are in the preset direction that is at an angle related to the third setting

axis 311. It should be noted that the direction of the third setting axis 311 and the first setting axis 141 is align to each other.

[0118] Optionally, the third plate 310 is provided with a self-adhesive component, and the third plate 310 can be connected to the first plate 110 or the second plate 120 through the self-adhesive component. It should be noted that the structure of the self-adhesive component is similar to that of the first self-adhesive component 211, and details are not described herein again.

[0119] In the following, the third plate 310 of the external hardware 300 is connected to the first plate 110, and the fourth plate 320 can be rotated around the third setting axis 311 to overlap with the second plate 120 as an example.

[0120] The third plate 310 is connected to the first plate 110, and the fourth self-adhesive component 331 is connected to the fourth plate 320 through the fourth safety inspection portion 332. When the second plate 120 is connected to the fourth plate 320, the storage opening 131 will be sealed by using the external hardware 300. When the structure of the fourth safety inspection portion 332 is destroyed by an external force, the connection between the second plate 120 and the fourth plate 320 is disconnected, and the fourth plate 320 can be freely turned around along the third setting axis 311 to open the storage opening 131.

[0121] It should be noted that the external hardware 300 is connected to the storage body 100, and the method used to seal or open the storage opening 131 will not damage the structure of the storage body 100 to ensure that the storage body 100 can be reused by replacing the external hardware 300 with a new one, and that the service life of the storage body 100 is sufficiently extended until the structure of the storage body 100 is destroyed.

[0122] The quantity of the fourth security mechanism 330 provided on the fourth plate 320 can be selected according to requirements. For example, it can be one group, two groups, three groups, and etc., which is not specifically limited herein. Referring to Fig. 17, when the external hardware 300 is installed on the storage body 100 to seal the storage opening 131, a set of fourth security mechanism 330 can be used to connect the fourth plate 320 and the second plate 120 each time to seal the storage opening 131. Therefore, the number of times each external hardware 300 can close the storage opening 131 for secure storage is determined by the quantity of the fourth security mechanism 330 provided on the fourth plate 320. It should be noted that each storage device 010 can be configured with multiple external hardware 300, such as 1, 2, 3, and etc., so as to increase the number of times of repeated use of the storage body 100 and prolong the storage period through the multiple external hardware 300. The service life of the device 010 is conducive to improving economic and environmental benefits.

[0123] It should be noted that the structure of the fourth self-adhesive component 331 and the fourth safety in-

spection portion 332 and which they are arranged on the fourth plate 320 are similar structures and the manner to the first self-adhesive component 211 and the first safety inspection portion 212 on the first folding flap 200 respectively. That is, the structures and working principles of the first security mechanism 210 and the fourth security mechanism 330 are similar, and will not be repeated here.

[0124] Optionally, referring to Figs. 15-17, along the extending direction of the third setting axis 311, both sides of the third plate 310 are connected with a fifth plate 340, and the fifth plate 340 can be turned relative to the third plate 310. When the fourth plate 320 is turned over relative to the third plate 310 along the third setting axis 311, the fifth plate 340 can overlap the back side of the fourth plate 320 as well as the third plate 310; or the fifth plate 340 is inserted between the third plate 310 and the fourth plate 320, and then the fifth plate 340 and the fourth plate 320 are connected, such connection can be constructed by gluing or using a staple, fastener, and etc. In this way, a chamber is formed between the third plate 310 and the fourth plate 320, and the first plate 110 and the second plate 120 of the storage body 100 can be inserted into the chamber, therefore the third plate 310 and the fourth plate 320 are placed on the outer sides of the first plate 110 and the second plate 120 respectively, so as to seal the storage opening 131 with the external hardware 300.

[0125] It should be noted that the third plate 310 and the fourth plate 320 are unit-body, and the third and fifth plates 340 are unit-body. Of course, in other embodiments, the connection method of the third plate 310 and the fourth plate 320 and the connection method of the third plate 310 and the fifth plate 340 can be adhered or connection with fasteners such as a stapler, and the like.

[0126] Optionally, referring to Fig. 18, the third plate 310 may not be connected to the fifth plate 340. That is, when the external hardware 300 does not have the fifth plate 340, the third plate 310 extends from the storage opening 131 into the storage chamber 130 to connect to the first plate 110. That is, the third plate 310 can extend into the storage chamber 130 and be connected to the inner side of the first plate 110 facing the second plate 120, or the third plate 310 can extend into the storage chamber 130 and the second plate 120 is connected to the inner side of the first plate 110, or the third plate 310 can be connected to the side of the first plate 110 that faces away from the second plate 120, or the third plate 310 can be connected to one side of the second plate 120 away from the first plate 110, and its function is similar to that of the first folding flap 200, which will not be repeated here.

[0127] It should be noted that, the connection method between the third plate 310 and the first plate 110 may be adhesive or connecting with fasteners such as staples, and etc., which is not specifically limited herein.

[0128] Optionally, the external hardware 300 further includes a second digital code 241, which is set up on at least one of the third plate 310 and the fourth plate 320.

The function and working principle of the second digital code 241 are similar to those of the first digital code 240, and details are not described herein.

[0129] Optionally, the second digital code 241 includes at least one of a machine-readable optical label component and the radio frequency chip 244. The machine-readable optical label component includes at least one barcode 242 and two-dimensional code 243.

[0130] Referring to Figs. 15 and 16, the second digital code 241 of the present embodiment includes a machine-readable optical label component (hereinafter referred to as the fourth machine-readable optical label component 274), and the fourth machine-readable optical label component 274 includes the barcode 242 and two-dimensional code 243, along the extending direction of the third axis 311. The barcode 242 and the two-dimensional code 243 are arranged at intervals, and the barcode 242 and the two-dimensional code 243 are both arranged corresponding to the fourth self-adhesive component 331. In this way, when the storage opening 131 of the storage body 100 is sealed by the external hardware 300, the postal information, such as the postal destination, the origin, the mailer's contact information, the recipient, can be recorded by using the barcode 242 and two-dimensional code 243. The contact information and etc. can also be used to record the number of usage times of the storage device 010 and etc., which are not specifically limited herein.

[0131] Optionally, the barcode 242 can be used to record the number of times the storage device 010 is repeatedly used, and the two-dimensional code 243 can be used to record the postal information. Of course, in other embodiments, the barcode 242 can be used to record the postal information, and the two-dimensional code 243 can be used to record the number of times the storage device 010 is repeatedly used.

[0132] Optionally, referring to Fig. 16, the second digital code 241 further includes the radio frequency chip 244. When the external hardware 300 is applied on the storage body 100, that is, when the third plate 310 is connected with the first plate 110 or the second plate 120, the radio frequency chip 244 of the second digital encoder 241 can be put into the storage chamber 130 through the storage opening 131. It should be noted that the function of the radio frequency chip 244 of the second digital code 241 is similar to that of the radio frequency chip 244 of the first digital code 240, and details are not described herein.

[0133] It should be understood that the external hardware 300 of the present embodiment is used in cooperation with the storage body 100 to prolong the service life of the storage body 100, even if the storage body 100 is repeatedly used for secure storage where the storage opening 131 needs to be sealed. In other embodiments, the external hardware 300 can also independently cooperate with other storage devices 10 such as envelopes and document bags of a third party to seal the storage openings 131 of other envelopes and document bags for

secure storage, and through the replacement of the new external hardware 300, extending the service life of other common envelopes and document bags, that is, to enable other envelopes and document bags to be reused and repeated for secure storage that can close the storage opening 131.

[0134] The environmental protection benefit (reuse benefit) of the storage device 010 in this embodiment can be calculated by calculating the economic benefit and expressed as a carbon equivalent (CO₂e) value, including: a single use of the storage device 010 is recorded as a unit value of 1 and used as the denominator, and this application is the first time the storage device 010 is reused (i.e., the storage device 010 is used for the second time), and the first security mechanism 210 is used for the first time when the storage device 010 is reused after the first time, and the unit value is 2, and as the numerator, the settlement is 2 then 2 times the benefit. If the storage device 010 is reused twice, such twice usage will be added to the unit value 1 that equals to 3, and its benefit is 3 times the benefit. It can be seen that the storage device 010 of the present disclosure has very considerable economic benefits through repeated use and prolonging its service life.

[0135] When the storage device 010 of the present embodiment is used for storing items, the storage opening 131 does not necessarily seal, the first folding flap 200 and the second folding flap 250 only need to be folded inward into the storage chamber. The folding flap 200 is clamped with the items in the storage chamber 130 and between the second folding flap 250, the second folding flap 250 is clamped between the second plate 120 and between the first folding flap 200. When the storage device 010 of the present embodiment is used for storing items, the storage opening 131 can be divided, mainly including the following methods. First, folding the first folding flap 200 so that the first folding flap 200 is clamped the item the storage chamber 130 and between the second plate 120, by connecting the second plate 120 and the first folding flap 200 with the second security mechanism 220, the storage opening 131 can be sealed. Second, the first folding flap 200 clamps the items in the storage chamber 130 and between the first plate 110 and the second plate 120, so that the second folding flap 250 overlaps the first plate 110 backing to the second plate 120, and the third security mechanism 260 is connected to the second folding flap 250 and the first plate 110. Third, the second folding flap 250 is folded so that the second folding flap 250 clamps the items in the storage chamber 130 and the first plate 110 so that the first folding flap 200 is overlapped the second plate 120 backing to the first plate 110, and the first folding flap 200 is connected to the second plate 120 by the first security mechanism 210. The first security mechanism 210, the second security mechanism 220 and the third security mechanism 260 of the storage device 010 in the present embodiment are all discarded after use so that the external hardware 300 can be applied on the storage body 100

in order to seal the storage opening 131, allowing the storage body 100 to be reused.

[0136] To sum up, the first security mechanism 210, the second security mechanism 220, the third security mechanism 260 and the external hardware 300 can be used to seal the storage opening 131 of the storage device 10 for secure storage in this application. Therefore, the storage body 100 can be effectively reused, and the service life of the storage body 100 can be prolonged.

[0137] The above are only exemplary embodiments of the present disclosure, and are not intended to limit the present disclosure. For a person of ordinary skill in the art, the present disclosure may have various modifications and changes. Any modification, equivalent replacement, improvement, and etc. made within the spirit and principle of this application shall be included within the protection scope of this disclosure.

Industrial Applicability

[0138] The storage device of the present disclosure uses the storage body to store items, and when the items are stored in the storage chamber of the storage body, the first security mechanism or the second security mechanism can be selected to seal the storage opening for a secure storage. After the secure storage has been performed by closing the storage opening with one of the first security mechanism and the second security mechanism, the other of the first security mechanism and the second security mechanism may be further used. The storage opening is sealed for the next secure storage, and no matter whether the first security mechanism or the second security mechanism is used to seal the storage opening for secure storage, the basic structure of the storage body will not be damaged, so that the storage device can use the first security mechanism. The first security mechanism and the second security mechanism conduct at least two secure storages that can seal the storage opening. The storage device including the second folding flap and the third security mechanism can also perform secure storage of closed storage openings for a greater number of times. Moreover, after the first security mechanism, the second security mechanism and the third security mechanism are all being used. The storage opening of the storage body can be further closed with external hardware for secure storage, so as to further prolong the service life of the storage body. Since the storage device can be repeatedly securely stored, the service life of the storage device can be effectively prolonged, such efficiency has economic and environmental value.

Claims

1. A storage device comprising:

a storage body; a first folding flap; and at least

one first security mechanism,

wherein the storage body includes a first plate and a second plate that are connected to each other, and the first plate and the second plate can be folded along a folding line to form a storage chamber, and when the first and second plates are folded along the folding line, the storage body has the storage chamber with a storage opening,

wherein the first folding flap is connected with the first plate, and the first folding flap is used to turn around and overlap onto the surface of the second plate according to the first setting axis relative to the first plate to seal the storage opening, or the first folding flap is used for turning around the first setting axis relative to the first plate, so as to insert into the storage chamber through the storage opening,

wherein the first security mechanism is used for connecting the first folding flap and the second plate when the first folding flap is overlapped onto the surface of the second plate, so that the storage opening is sealing; or by disconnecting the first folding flap and the second plate so that the storage opening can be opened, and wherein upon insertion of the first folding flap into the storage chamber, the second security mechanism can connect the second plate and the first folding flap to seal the storage opening; or the first folding flap folds over the second plate to seal the storage opening formed by the first plate and the second plate.

2. The storage device according to claim 1, wherein the first security mechanism comprises a first self-adhesive component and a first safety inspection portion; the first self-adhesive component is set up on the first folding flap or the second plate; the first safety inspection portion is located on the first folding flap; the first self-adhesive component is used to connect the first folding flap and the second plate for sealing the storage opening upon the first folding flap overlapping onto the surface of the second plate; the first safety inspection portion is used to disconnect the first folding flap and the second plate, so that the storage opening can be opened; and the first self-adhesive component and the first safety inspection portion are arranged in sequence along a preset direction in which the preset direction and the first setting axis is set at an angle.

3. The storage device according to claim 2, wherein the first security mechanism further comprises a force applying portion, which locates next to the first safety inspection portion, by applying an external force to the force applying portion that can disconnect the first folding flap from the second plate.

4. The storage device according to claim 1, wherein the storage device further comprises a plug-in component, which has a slot and a latch that are mated with each other, either the slot or the latch is set on the first security mechanism, and another of the slot or the latch is set on the second plate.

5. The storage device according to claim 1, wherein the second security mechanism comprises a second self-adhesive component and a second safety inspection portion, and the second self-adhesive component and the second safety inspection portion is located on the second plate, and the second self-adhesive component is to connect the second plate and the first folding flap upon inserts into the storage chamber, so that the storage opening is sealed, or to connect the first plate adjacent to the storage opening and the second plate adjacent to the storage opening, so that the storage opening is sealed,

wherein the second safety inspection portion is used for disconnecting the second plate from the first folding flap that extends into the storage chamber, so that the storage opening can be opened, or the second safety inspection portion is used to disconnect the connection between the first plate adjacent to the storage opening and the second plate adjacent to the storage opening, so that the storage opening can be opened, and

wherein the second self-adhesive component and the second safety inspection portion are arranged in sequence along a preset direction in which the preset direction and the first setting axis are set at an angle.

6. The storage device according to claim 1, wherein the storage device further comprises a first digital code, which is at least one of the first plate and the second plate.

7. The storage device according to claim 6, wherein the first digital code comprises at least one of a machine-readable optical label component and a radio frequency chip.

8. The storage device according to claim 7, wherein the first digital code comprises a machine-readable optical label component, which is set up on the second plate, and the quantity of the machine-readable optical label component is the same as the quantity of the first security mechanism, and when the first folding flap is overlapped with the second plate, the first security mechanism and the machine-readable optical label component are set in one-to-one correspondence.

9. The storage device according to claim 1, 4 or 6,

wherein the storage device further comprises a third security mechanism, the second plate is connected with a second folding flap, and the second folding flap is used for relative to the second plate to be flipped around a second setting axis to overlap the surface of the first plate to seal or open the storage opening, or the second folding flap to be turned over along the second setting axis relative to the second plate so that such flap can through the storage opening inserts into the storage chamber, and wherein the third security mechanism is located on the second folding flap for overlapping the surface of the first plate, so that the second folding flap can connect to the first plate and seals the storage opening.

10. The storage device according to claim 9, wherein the third security mechanism comprises a third self-adhesive component and a third safety inspection portion, the third self-adhesive component is set up on the second folding flap or the first plate, the third safety inspection portion is located on the second folding flap, the third self-adhesive component is used to connect the second folding flap and the first plate upon overlapping the second folding flap on the surface of the first plate, so that the storage opening is sealed, and the third safety inspection portion is used to disconnect the second folding flap and the first plate so that the storage opening can be opened, and wherein the third self-adhesive component and the third safety inspection portion are arranged in sequence along a preset direction in which the preset direction and the second setting axis are set at an angle.

11. The storage device according to claim 1 or 9, wherein the storage device further comprises external hardware, which comprises a third plate and a fourth plate that connected to each other, the third plate can be connected to either the first plate or the second plate, and the fourth plate can be flipped around the third setting axis relative to the third plate to overlap on the surfaces of the leave over unconnected first plate or the second plate to seal or open the storage opening.

12. The storage device according to claim 11, wherein the fourth plate is provided with a fourth security mechanism, which is used to connect the first plate or the second plate with the fourth plate.

13. The storage device according to claim 11, wherein the fourth security mechanism comprises a fourth self-adhesive component and a fourth safety inspection portion, and the fourth self-adhesive component and the fourth safety inspection portion, which is located on the fourth plate,

wherein the fourth self-adhesive component is to seal up the storage opening upon connecting the fourth plate by overlapping onto the surface of the first plate or the second plate to seal the storage opening; the fourth safety inspection portion is used to disconnect the connection between the first plate or the second plate that overlapped by the fourth plate, so that the storage opening can be opened, and wherein the fourth self-adhesive component and the fourth safety inspection portion are arranged in sequence along a preset direction in which the preset direction and the third setting axis are set at an angle.

14. The storage device according to claim 11, wherein the external hardware further comprises a second digital code, which is set up on at least either one of the third plate or the fourth plate.
15. The storage device of claim 14, wherein the second digital code comprises at least one of a machine-readable optical label component and a radio frequency chip.
16. An external hardware arranged on a storage body, the external hardware comprising:
- a third plate and a fourth plate which are connected to each other, wherein the third plate is used for connecting with the storage body, and the fourth plate is provided with a fourth security mechanism, which is used to turn over relative to the third plate around a third setting axis to seal or open the storage opening of the storage body, and wherein the fourth security mechanism includes a fourth self-adhesive component and a fourth safety inspection portion, and the fourth self-adhesive component with the fourth safety inspection portion is located on the fourth plate, the fourth self-adhesive component is used for connecting the fourth plate with the storage body to seal the storage opening, and the fourth safety inspection portion is used for disconnecting the connection between the fourth plate and the storage body, so that the storage opening can be opened.
17. The external hardware according to claim 16, wherein the external hardware further comprises a second digital code, which is located at the third plate or the fourth plate.
18. The external hardware according to claim 17, wherein the second digital code is at least one of a machine-readable optical label component and a radio frequency chip.

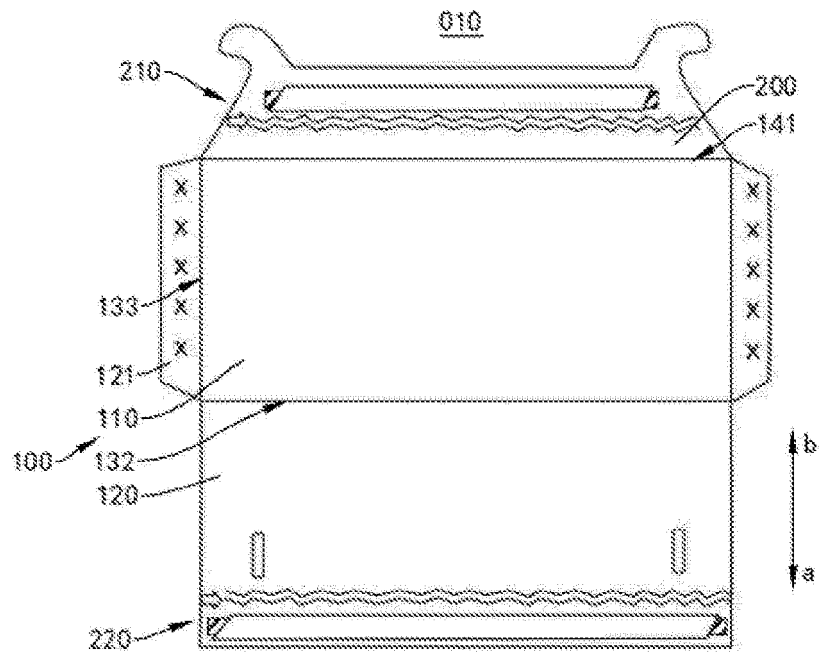


Fig. 1

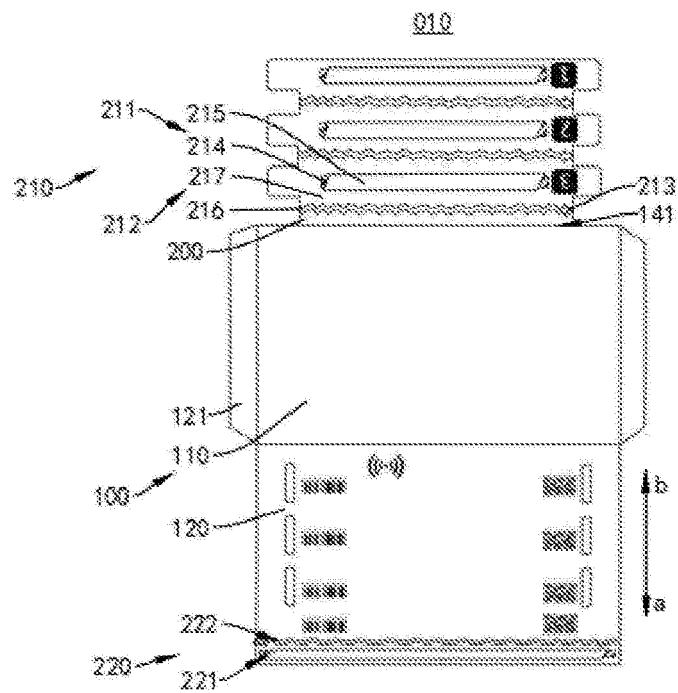


Fig. 2

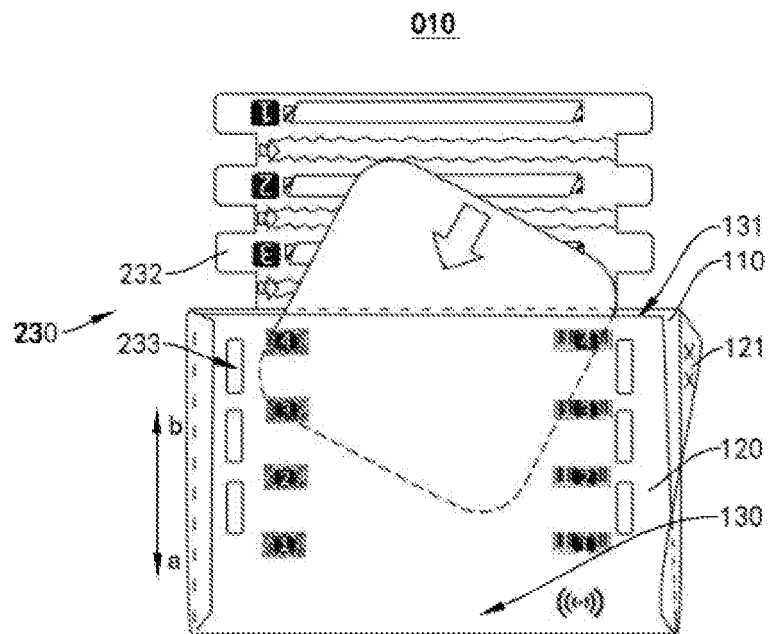


Fig. 3

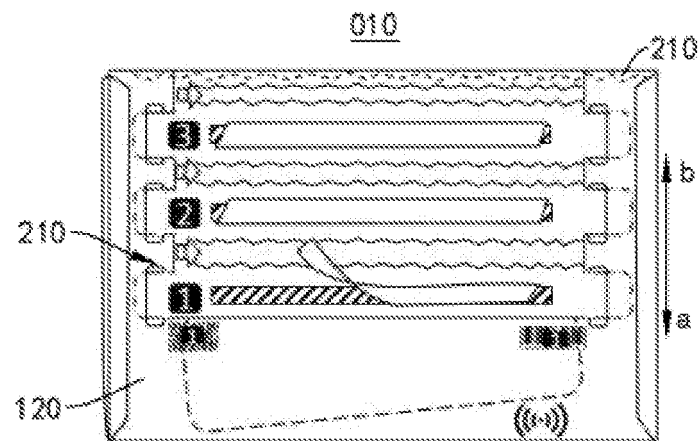


Fig. 4

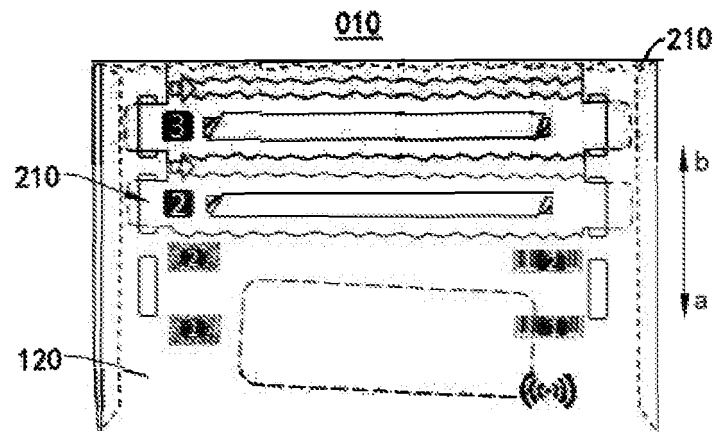


Fig. 5

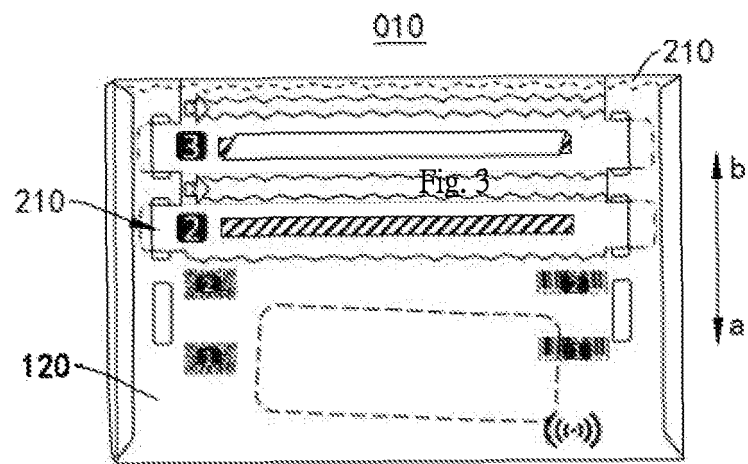


Fig. 6

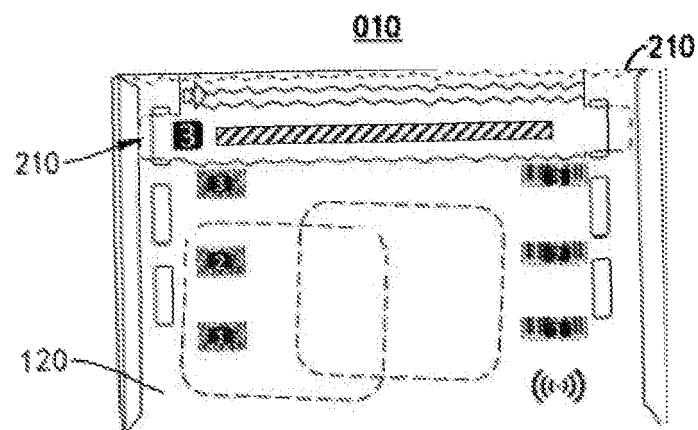


Fig. 7

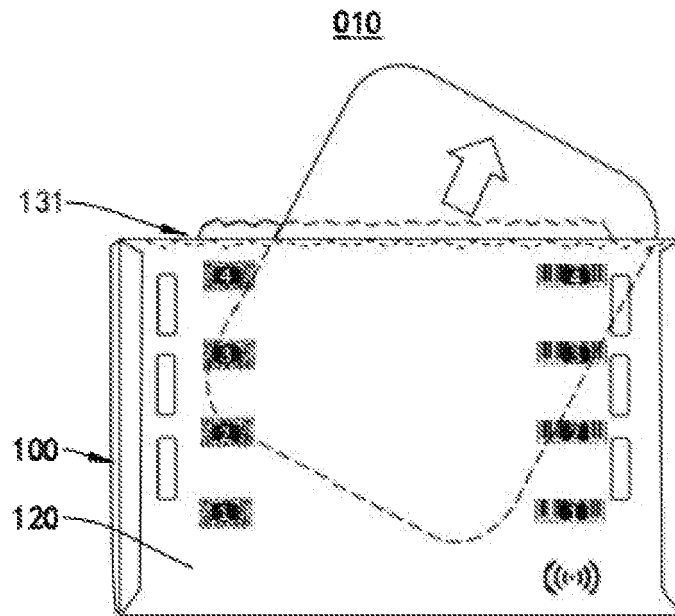


Fig. 8

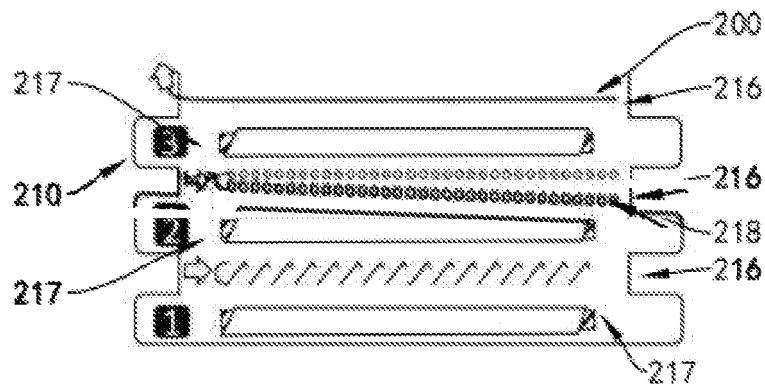


Fig. 9

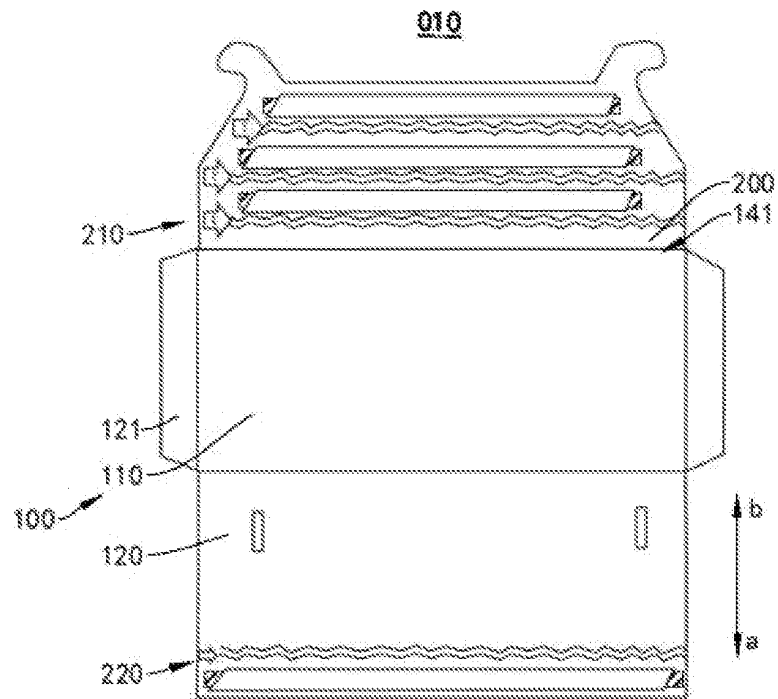


Fig. 10

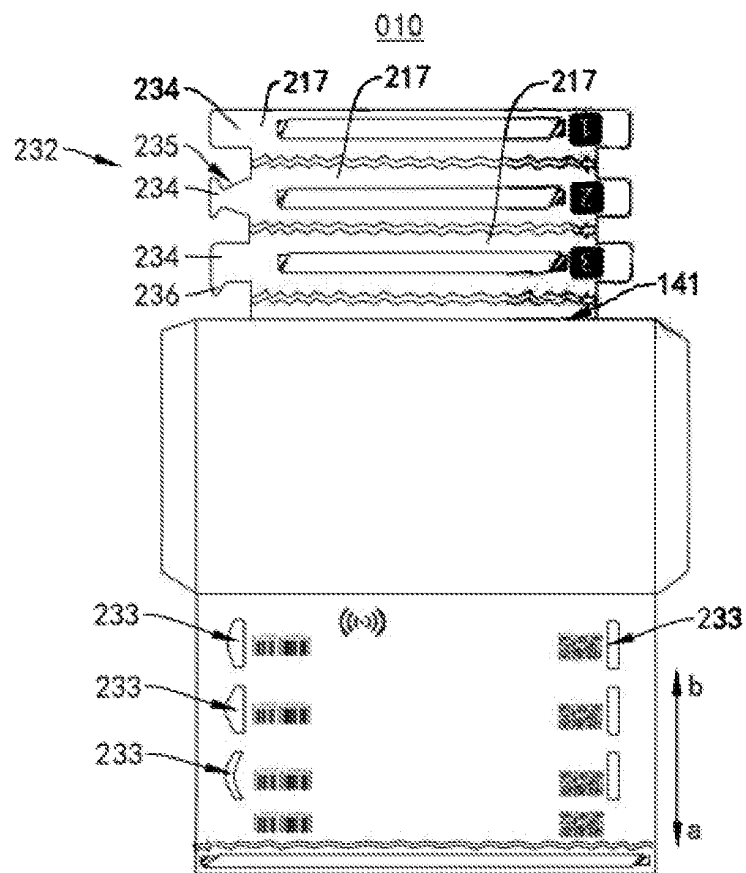


Fig. 11

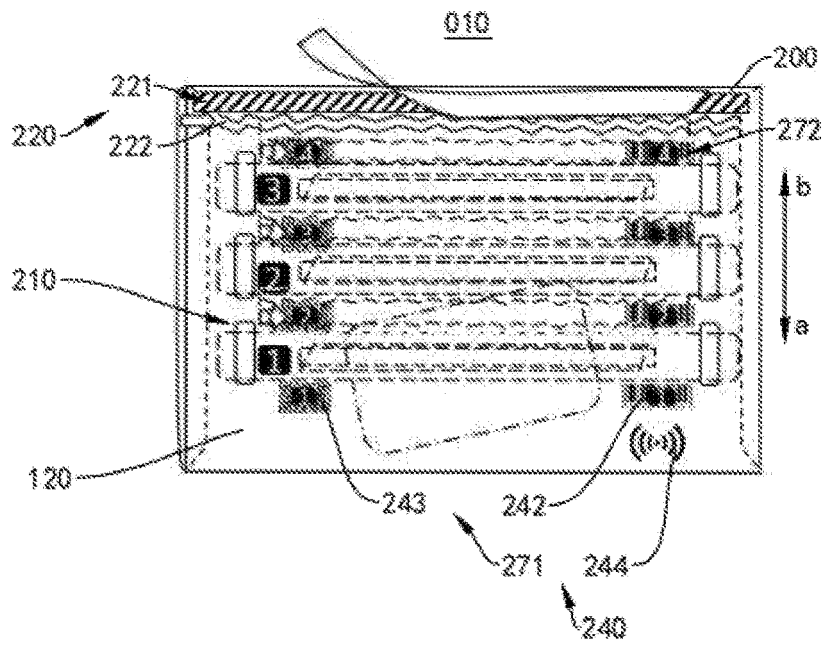


Fig. 12

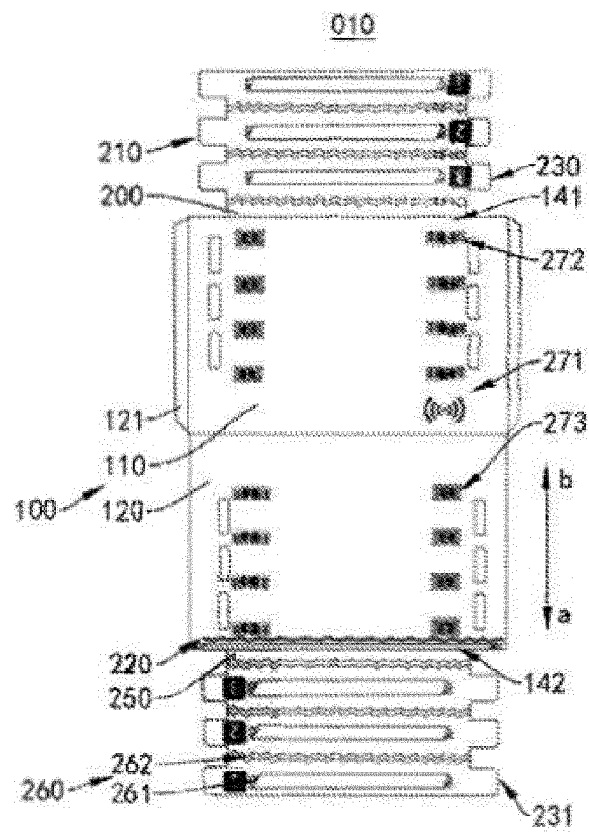


Fig. 13

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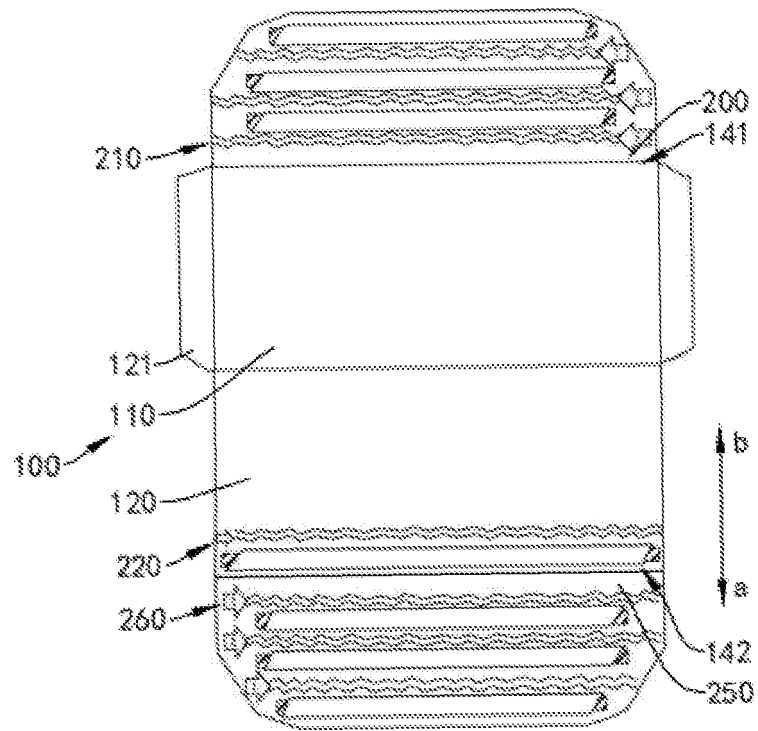


Fig. 14

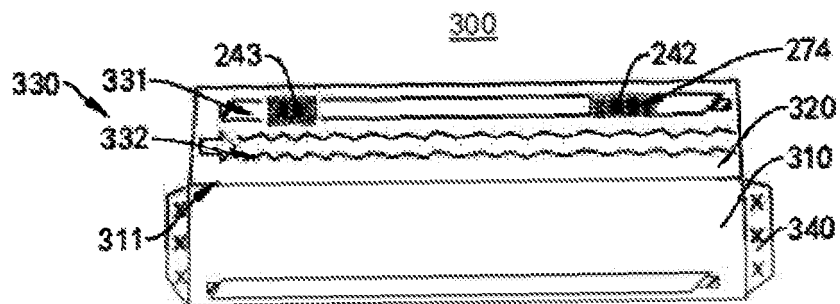


Fig. 15

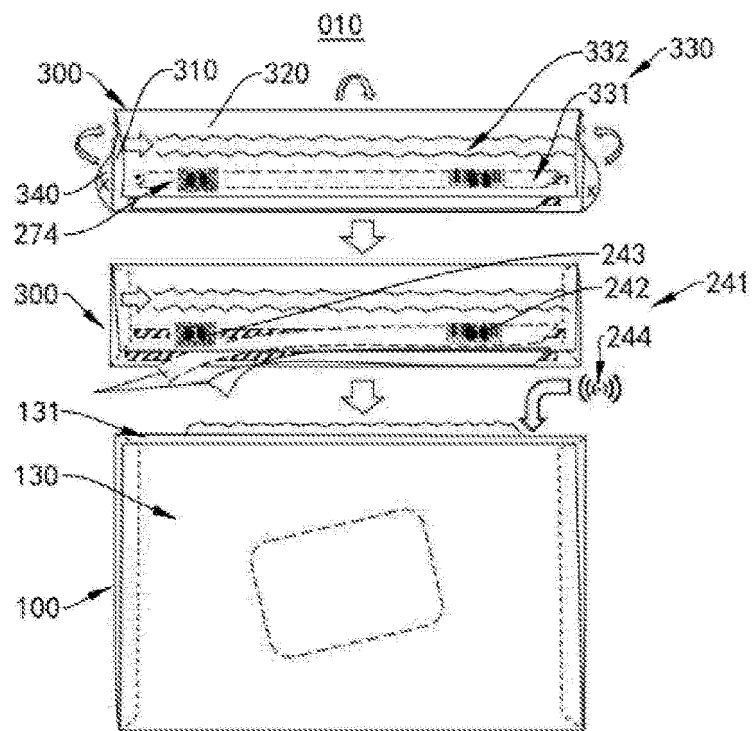


Fig. 16

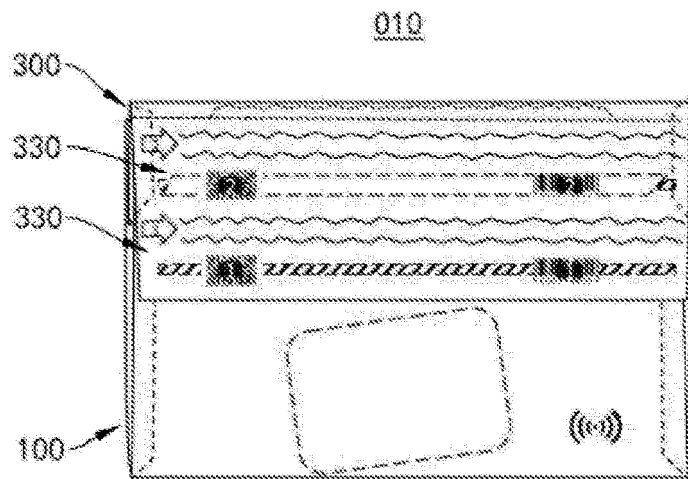


Fig. 17

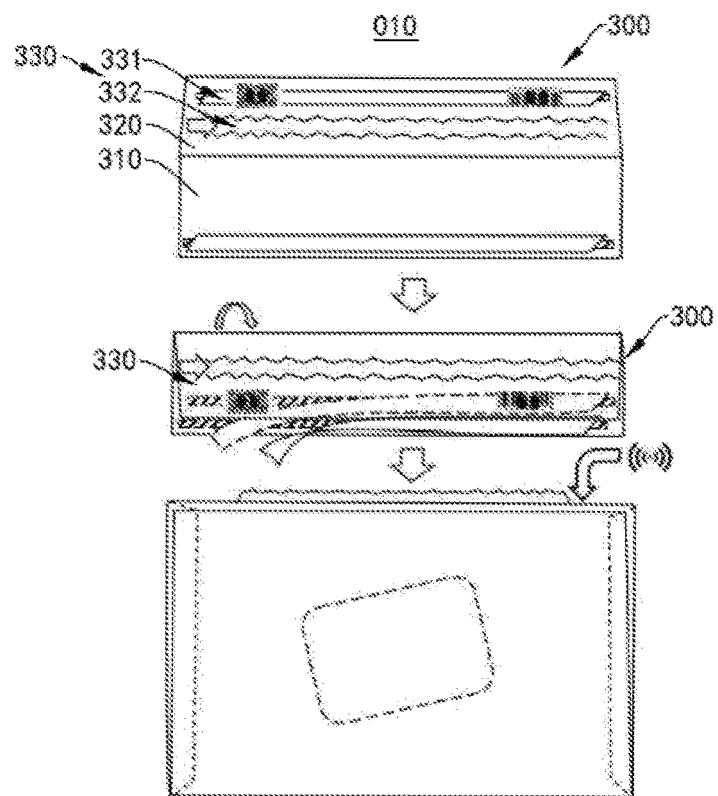


Fig. 18

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2020/124906

A. CLASSIFICATION OF SUBJECT MATTER B65D 27/06(2006.01)i 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) B65D Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched															
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) WPI, EPODOC, CNPAT, CNKI, IEEE: 信封, 袋, 折叠, 腔, 板, 第一, 第二, 表面, 封闭, 断开, envelope, bag, fold, chamber, plate, first, second, surface, sealing, closing, break, up															
C. DOCUMENTS CONSIDERED TO BE RELEVANT															
<table border="1"> <thead> <tr> <th>Category*</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>X</td> <td>CN 208393917 U (SHANGHAI ZHAOYI DIGITAL TECHNOLOGY CO., LTD.) 18 January 2019 (2019-01-18) description, paragraphs [0074]-[0260], and figures 1-26</td> <td>1-12, 14-15</td> </tr> <tr> <td>X</td> <td>CN 103072737 A (SUZHOU VOCATIONAL UNIVERSITY) 01 May 2013 (2013-05-01) description, pages 1-2, and figures 1-3</td> <td>1-12, 14-15</td> </tr> <tr> <td>X</td> <td>CN 203143227 U (SUZHOU VOCATIONAL UNIVERSITY) 21 August 2013 (2013-08-21) description, pages 1-2, and figures 1-3</td> <td>1-12, 14-15</td> </tr> <tr> <td>A</td> <td>US 2018305088 A1 (GREEN 2 GREEN PRODUCTS, INC.) 25 October 2018 (2018-10-25) entire document</td> <td>1-18</td> </tr> </tbody> </table>	Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	X	CN 208393917 U (SHANGHAI ZHAOYI DIGITAL TECHNOLOGY CO., LTD.) 18 January 2019 (2019-01-18) description, paragraphs [0074]-[0260], and figures 1-26	1-12, 14-15	X	CN 103072737 A (SUZHOU VOCATIONAL UNIVERSITY) 01 May 2013 (2013-05-01) description, pages 1-2, and figures 1-3	1-12, 14-15	X	CN 203143227 U (SUZHOU VOCATIONAL UNIVERSITY) 21 August 2013 (2013-08-21) description, pages 1-2, and figures 1-3	1-12, 14-15	A	US 2018305088 A1 (GREEN 2 GREEN PRODUCTS, INC.) 25 October 2018 (2018-10-25) entire document	1-18
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X	CN 208393917 U (SHANGHAI ZHAOYI DIGITAL TECHNOLOGY CO., LTD.) 18 January 2019 (2019-01-18) description, paragraphs [0074]-[0260], and figures 1-26	1-12, 14-15													
X	CN 103072737 A (SUZHOU VOCATIONAL UNIVERSITY) 01 May 2013 (2013-05-01) description, pages 1-2, and figures 1-3	1-12, 14-15													
X	CN 203143227 U (SUZHOU VOCATIONAL UNIVERSITY) 21 August 2013 (2013-08-21) description, pages 1-2, and figures 1-3	1-12, 14-15													
A	US 2018305088 A1 (GREEN 2 GREEN PRODUCTS, INC.) 25 October 2018 (2018-10-25) entire document	1-18													
☐ Further documents are listed in the continuation of Box C.															
☒ See patent family annex. <table border="0"> <tr> <td style="vertical-align: top;"> * Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "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 </td> <td style="vertical-align: top;"> "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 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family </td> </tr> </table>	* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance "E" earlier application or patent but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "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	"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 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art "&" document member of the same patent family													
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Date of the actual completion of the international search 15 July 2021	Date of mailing of the international search report 26 July 2021														
Name and mailing address of the ISA/CN China National Intellectual Property Administration (ISA/CN) No. 6, Xitucheng Road, Jimenqiao, Haidian District, Beijing 100088, China Facsimile No. (86-10)62019451	Authorized officer Telephone No.														

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Information on patent family members

International application No.
PCT/CN2020/124906

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Patent document cited in search report			Publication date (day/month/year)	Patent family member(s)			Publication date (day/month/year)
CN	208393917	U	18 January 2019	None			
CN	103072737	A	01 May 2013	None			
CN	203143227	U	21 August 2013	None			
US	2018305088	A1	25 October 2018	US	2020369435	A1	26 November 2020
				US	2019135495	A1	09 May 2019