FOLDABLE OPEN-RESISTANT CONTAINER

BACKGROUND

Technical Field

[0001] The present disclosure relates to a container, and in particular, to a foldable open-resistant container that can prevent from being opened and cannot be recovered if being opened.

Related Art

[0002] Various types of plastic containers currently on the market, such as boxes, cups, or bowls, are mainly used to hold items. At present, when food is sold in stores, most of the food is packaged in boxes made of transparent materials, so that consumers can know the status of their contents when buying, so as to increase consumers' willingness to buy.

[0003] However, in stores, some consumers open the outer packaging container by themselves even they know the status of the contents. In the situation, not only may they be stolen, but also improper additives may be added to the food. In addition, the contents may deteriorate due to unauthorized opening of the outer packaging container. These circumstances will lead to subsequent disputes, which is very troublesome for the stores.

SUMMARY

[0004] The instant disclosure provides a foldable open-resistant container comprises a first box body and a second box body. The first box body comprises a first body portion and an extension portion. The extension portion is extending from an end corner of the first body portion. The extension portion comprises a holding member, a first latching member, and a perforation line. The holding member is extending from the first body portion. The perforation line connects the holding member and the first latching member. The second box body comprises a second body portion, a bending member, and a second latching member. The bending member comprises a bending area extending from an end corner of the second body portion. The second latching member is on the bending member. When the first box

body is combined with the second box body, the bending member is bent along the bending area, and the first latching member is fitted into the second latching member to position the first box body with the second box body when the first box body is separated from the second box body, the perforation line is broken so that the first latching member is separated from the holding member and fixed to the second latching member.

[0005] In some embodiments, the holding member further comprises concave structure, the perforation line is located on a periphery of the concave structure and is connected to the first latching member, so that the first latching member is received in the concave structure.

[0006] In some embodiments, the holding member further comprises a plurality of curved areas located at two ends of the concave structure when the first latching member is separated from the holding member, the concave structure and the plurality of curved areas are exposed.

[0007] In some embodiments, the holding member further comprises a plurality of anti-slip convex point areas located on two sides of the concave structure, the plurality of curved areas formed on the outer edges of the plurality of anti-slip convex point areas.

[0008] In some embodiments, the second latching member comprises an inner fastening member and an outer fastening member, the inner fastening member and the outer fastening member are located on two sides of the bending area, and the inner fastening member is located on the side of the bending member close to the second box body, the outer fastening member is located on the side of the bending member far from the second box body; when the bending member is bent along the bending area, the outer fastening member latches the first latching member, and the first latching member is received in the inner fastening member.

[0009] In some embodiments, the inner fastening member protrudes toward a first vertical direction, the outer fastening member protrudes toward a second vertical direction, and the first vertical direction and the second vertical direction are opposite directions.

[0010] In some embodiments, an inner diameter of the inner fastening member is greater than an inner diameter of the outer fastening member, an inner diameter of the first latching member is slightly larger than the inner diameter of the outer fastening member so that the

outer fastening member fits tightly into the first latching member, and the inner diameter of the first latching member is smaller than the inner diameter of the inner fastening member so that the first latching member is received in the inner fastening member.

[0011] In some embodiments, when the first latching member is received in the inner fastening member, a center point of a horizontal plane on which the inner fastening member is projected differs a center point of the horizontal plane on which the first latching member is projected, so that the inner fastening member and the first latching member formed a staggered structure.

[0012] In some embodiments, the bending member comprises a first fold line and a second fold line, the bending area is formed between the first fold line and the second fold line.

[0013] In some embodiments, the first box body further comprises a first fixing structure surrounding the first body portion, the second box body further comprises a second fixing structure surrounding the second body portion, and the first fixing structure and the second fixing structure is combined to form a sealed space between the first body portion and the second body portion.

[0014] In some embodiments, further comprising a connecting portion, wherein the first box body further comprises a first side and a second side opposite to the first side, the connecting portion is located on the first side of the first box body and connects the first box body with the second box body, so that the first box body is rotated relative to the second box body along the connecting portion, and the extension portion is located at an end corner of the second side of the first box body.

[0015] Therefore, a foldable open-resistant container of the instant disclosure, after opening, the holding member and the first latching member are separated and cannot be restored, which can provide the user to identify whether the container has been opened. Therefore, the user can easily determine whether the container has been opened from the appearance, which can not only avoid the problems of mistaken buying and eating, but also reduce consumption disputes.

[0016] Detailed description of the characteristics and the advantages of the instant disclosure are shown in the following embodiments. The technical content and the implementation of the instant disclosure should be readily apparent to any person skilled in the art from the detailed description, and the purposes and the advantages of the instant disclosure should be readily understood by any person skilled in the art with reference to content, claims, and drawings in the instant disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017]

FIG. 1 illustrates three-dimensional view of a foldable open-resistant container in the closed state according to some embodiments of the instant disclosure.

FIG. 2a illustrates three-dimensional view of a foldable open-resistant container in the opened state according to some embodiments of the instant disclosure.

FIG. 2b illustrates partial enlarged view of 2b of FIG. 2a.

FIG. 3a illustrates partial enlarged view of opened state according to some embodiments of the instant disclosure (1).

FIG. 3b illustrates partial enlarged view of opened state according to some embodiments of the instant disclosure (2).

FIG. 4a illustrates partial enlarged view of closed state according to some embodiments of the instant disclosure (1).

FIG. 4b illustrates partial enlarged view of closed state according to some embodiments of the instant disclosure (2).

FIG. 5a illustrates partial enlarged view of closed and then opened state according to some embodiments of the instant disclosure (1).

FIG. 5b illustrates partial enlarged view of closed and then opened state according to some embodiments of the instant disclosure (2).

FIG. 6 illustrates partial enlarged view of opened state according to some embodiments of

the instant disclosure (3).

FIG. 7 illustrates partial enlarged view of closed state according to some embodiments of the instant disclosure (3).

FIG. 8 illustrates partial enlarged view of closed and then opened state according to some embodiments of the instant disclosure (3).

FIG. 9 illustrates three-dimensional view of some embodiments of the instant disclosure.

DETAILED DESCRIPTION

[0018] Various embodiments are presented below for detailed description. However, the embodiments are only used as examples for description, and do not limit the scope of the instant disclosure to be protected. Well-known elements and steps are not described in the embodiments to avoid unnecessary limitation of the content of the instant disclosure. In addition, some components are omitted from the drawings in the embodiments to clearly show the technical characteristics of the present invention. The same reference numerals will be used to indicate the same or similar elements in all the drawings.

[0019] The terminology used herein is for the purpose of describing particular embodiments only and is not intended to be limiting of the invention. As used herein, the term "and/or" includes any and all combinations of one or more of the associated listed items. As used herein, the singular forms "a," "an," and "the" are intended to include the plural forms as well as the singular forms, unless the context clearly indicates otherwise. It will be further understood that the terms "comprises" and/or "comprising," when used in this specification, specify the presence of stated features, steps, operations, elements, and/or components, but do not preclude the presence or addition of one or more other features, steps, operations, elements, components, and/or groups thereof.

[0020] Please refer to FIG. 1, FIG. 2a, FIG. 2b and FIG. 3a. FIG. 1 illustrates three-dimensional view of a foldable open-resistant container in the closed state according to some embodiments of the instant disclosure. FIG. 2a illustrates three-dimensional view of a foldable open-resistant container in the opened state according to some embodiments of the instant disclosure. FIG. 2b illustrates partial enlarged view of 2b of FIG. 2a. FIG. 3a

illustrates partial enlarged view of opened state according to some embodiments of the instant disclosure (1). A foldable open-resistant container 1 of the instant disclosure comprises a first box body 11 and a second box body 12. Wherein, in FIG. 1, FIG. 2a and FIG. 3a, the first box body 11 can be a lower box body (with accommodating space), and the second box body 12 is an upper cover body (usually has no accommodating space), but the instant disclosure is not limited to this.

[0021] The first box body 11 comprises a first body portion 110 and an extension portion 111. Wherein, the first body portion 110 is a hollow box body with an opening on one side, and is slightly rectangular in shape as a whole, and has four end corners. The extension 111 is located at one of the end corners or at two of the end corners. In other words, the extension portion 111 is extending from one end corner or two end corners of the first body portion 110.

[0022] The end corners or end corner portions in the foregoing description do not only refer to the four rectangular corners of the first body portion 110, and the four corners can be changed according to actual design requirements, for example, the four corners are right or round. In addition, the end corners or the end corner portions may also be positions adjacent (near) to the four corners of the rectangle, and the rectangle is an example, and is not intended to limit the instant disclosure.

[0023] Here, the extension portion 111 comprises a holding member 112, a first latching member 113 and a perforation line 114. The holding member 112 may be formed by extending the corners of the first body portion 110. As shown in FIG. 2, the holding member 112 may extend from the first body portion 110 adjacent to the side wall 1101 of the opening, and is parallel to the bottom wall 1102 of the first body portion 110, but the instant disclosure is not limited to this. The holding member 112 may be provided according to actual needs. For example, the holding member 112 may not be provided parallel to the bottom wall 1102.

[0024] Please refer to FIGS. 3a and 3b. FIG. 3b illustrates partial enlarged view of opened state according to some embodiments of the instant disclosure (2). Here, the perforation line 114 connects the holding member 112 and the first latching member 113, wherein the holding member 112 and the first latching member 113 can be integrally formed,

and the perforation line 114 is formed by knife pressing, so that the first latching member 113 can be torn apart along the perforation line 114 to be separated from the holding member 112.

[0025] In some embodiments, please refer to FIG. 3b again, the holding member 112 may be further comprises concave structure 1121. Here, the concave structure 1121 may be generally U-shaped, the perforation line 114 is located at the periphery of the concave structure 1121 and the perforation line 114 is the same as or similar to the shape of the concave structure 1121 and is generally U-shaped. Therefore, the holding member 112 is connected to the first latching member 113 via the perforation line 114 so that the first latching member 113 is received in the concave structure 1121.

[0026] Please refer to FIG. 3b again. In some embodiments, the holding member 112 further comprises a plurality of curved areas 115 located at two ends of the concave structure 1121 when the first latching member113 is separated from the holding member 112, the concave structure 1121 and (as shown in FIG. 5b) the plurality of curved areas 115 located at the two ends of the concave structure 1121 are exposed. Here, the end of the curved area 115 can generally be a smooth curve, so as to avoid scratches when the user uses it, and can present a comfortable hand feeling.

[0027] In addition, the curved area 115 and the concave structure 1121 may be located on the same plane, which means that the curved area 115 and the concave structure 1121 are coplanar. The first latching member 113 protrudes vertically and coplanar along a first vertical direction (that is, the positive direction of the Z axis shown in FIG. 3b), so that the first latching member 113 forms a hollow cylinder, and one side of the hollow cylinder has an opening, so that a second latching member 123 can be received. Here, the first latching member 113 may be a hollow cylinder, and its cross-section in the first vertical direction is generally a shape that gradually expands from the top to the bottom (the opening side of the hollow cylinder), but the instant disclosure does not limited by this.

[0028] Please refer to FIG. 3b again. In some embodiments, the holding member further comprises a plurality of anti-slip convex point areas 116 located on two sides of the concave structure 1121, the plurality of curved area 115 formed on the outer edges of the plurality of anti-slip convex point areas 116. Here, the plurality of anti-slip convex point areas 116 may

include a plurality of anti-slip convex points to increase the holding resistance and avoid slipping from the user's hand during use.

[0029] Please refer to FIG. 2a, FIG. 3a and FIG. 3b, the second box body 12 comprises a second body portion 120, a bending member 122, and a second latching member 123.

[0030] The second body portion 120 is a hollow box body with an opening on one side, and is slightly rectangular in shape as a whole, and has four end corners. The bending member 122 is located at one of the end corners or at two of the end corners. In other words, the extension portion 111 is extending from one end corner or two end corners of the first body portion 110. In addition, the bending member 122 is located at the end corner of the second body portion 120, and the extension portion 111 is located at the end corner of the first body portion 110, and the two are formed corresponding to each other.

[0031] Here, the bending member 122 comprises a bending area 1221. In some embodiments, as shown in FIGS. 3a and 5a, the bending member 122 further comprises a first fold line P1 and a second fold line P2, the bending area 1221 is formed between the first fold line P1 and the second fold line P2.

[0032] Please refer to FIG. 3a, FIG. 3b, FIG. 4a and FIG. 4b. FIG. 4a illustrates partial enlarged view of closed state according to some embodiments of the instant disclosure (1). FIG. 4b illustrates partial enlarged view of closed state according to some embodiments of the instant disclosure (2). Here, the second latching member 123 can be disposed on the bending member 122. In some embodiments, the second latching member 123 comprises an inner fastening member 1231 and an outer fastening member 1232, the inner fastening member 1231 and the outer fastening member 1232 are located on two sides of the bending area 1221, and the inner fastening member 1231 is located on the side of the bending member 122 close to the second box body 12, the outer fastening member 1232 is located on the side of the bending member 122 far from the second box body 12. when the bending member122 is bent along the bending area 1221, the outer fastening member 1231 latches the first latching member 113, and the first latching member 113 is received in the inner fastening member 1231(as shown in FIG. 4a and FIG. 4b).

[0033] In some embodiments, the inner fastening member 1231 protrudes toward the

first vertical direction (that is, the positive direction of the Z axis shown in FIG. 3b), the outer fastening member 1232 protrudes toward a second vertical direction (that is, the negative direction of the Z axis shown in FIG. 3b), and the first vertical direction and the second vertical direction are opposite directions. In addition, the inner fastening member 1231 and the outer fastening member 1232 may be a hollow cylinder, and one side of the hollow cylinder has an opening. In some embodiments, cross-sections of the inner fastening member 1231 and the outer fastening member 1232 in the first vertical direction is generally a shape that gradually expands from the top to the bottom (the opening side of the hollow cylinder), but the instant disclosure does not limited by this, and the shapes of the inner fastener 1231 and the outer fastener 1232 can be designed according to actual requirements.

[0034] Moreover, in some embodiments, an inner diameter of the inner fastening member 1231 is greater than an inner diameter of the outer fastening member 1232, an inner diameter of the first latching member 113 is slightly larger than the inner diameter of the outer fastening member 1232 so that the outer fastening member 1232 fits tightly into the first latching member 113, and the inner diameter of the first latching member 113 is smaller than the inner diameter of the inner fastening member 1231 so that the first latching member 113 is received in the inner fastening member 1231.

[0035] Therefore, please refer to FIG. 3b, FIG. 4a and FIG. 4b. When the first box body 11 is buckled with the second box body 12, the inner fastening member 1231 is received in the first latching member 113, and the outer fastening member 1232 is bent from top to bottom to be received in the first latching member 1130. In addition, the outer fastening member 1232 is tightly fitted with the first latching member 113 so that the first latching member 113 tightly locks the second latching member 123. In other words, from the outside to the inside, there are the outer fastening member 1232, the first latching member 113, and the inner fastening member 1231 in sequence.

[0036] Please refer to FIG. 4a, FIG. 4b, FIG. 5a and FIG. 5b. FIG. 5a illustrates partial enlarged view of closed and then opened state according to some embodiments of the instant disclosure (1). FIG. 5b illustrates partial enlarged view of closed and then opened state according to some embodiments of the instant disclosure (2). Because the first latching

member 113 is connected to the holding member 112 by the perforation line 114. When the user pinches the holding member 112 and the combined first and second latching members 113 and 123, the perforation line 114 is broken, and the outer fastening member 1232 and the first latching member 113 that are tightly fitted to each other will disengage from the holding member 112 together. At this time, the user can partially separate the first box body 11 and the second box body 12 to open the foldable open-resistant container 1. In addition, the first latching member 113 that has been torn away can no longer be engaged with the holding member 112, so the user can know that the foldable open-resistant container 1 has been opened.

[0037] When the tightly fitted outer fastening member 1232 and the first latching member 113 are separated from the holding member 112, since the inner diameter of the first latching member 113 is smaller than the inner diameter of the inner fastening member 1231, the outer fastening member 1232 and the first latching member 113 will also separated from the inner fastening member 1231 together, so that the bending member 122 is no longer in a half-folded state (as shown in FIG. 5b).

[0038] Please refer to FIG. 5a and FIG. 5b, in some embodiments, the first latching member 113 is received in the inner fastening member 1231, a center point of a horizontal plane on which the inner fastening member 1231 is projected differs a center point of the horizontal plane on which the first latching member 113 is projected, so that the inner fastening member 1231 and the first latching 113 member formed a staggered structure. In this way, when the first latching member 113 and the outer fastening member 1232 are separated from the holding member 112 together, the first latching member 113 will also be separated from the inner fastening member 1231, and after being separated from the inner fastening member 1231, the first latching member 113 will be warped outwards to be easily recognized. (as shown in FIG. 5b).

[0039] It should be noted that, please refer to FIG. 5b and FIG. 2b again, the first body portion 110 of the first box body 11 comprises a first fixing structure 1113, and the second body portion 120 of the second box body 12 comprises a second fixing structure 2113. In some embodiments, the first fixing structure 1113 may be a convex structure, and the second

fixing structure 1213 may be a groove structure tightly matching the convex structure, but is not limited to this, for example, the first fixing structure 1113 may be a groove structure, and the second fixing structure 1213 may be a convex structure.

[0040] Here, the first fixing structure 1113 surrounds the first body portion 110, and the second fixing structure 1213 surrounds the second body portion 120. Therefore, when the first fixing structure 1113 and the second fixing structure 1213 are secured to each other, the foldable open-resistant container 1 is in a sealed state, that is, the first fixing structure 1113 and the second fixing structure 1213 are combined to make a closed space is formed between the first body portion 110 and the second body portion 120. Thereby, even after the outer fastening member 1232 and the first latching member 113 are separated from the holding member 112, the first box body 11 and the second box body 12 can be locked to each other to achieve a sealing effect. Here, that the first fixing structure 1113 and the second fixing structure 1213 are structures surrounding the main body are merely illustrative, and not limited to this, as long as they are partially combined to achieve the purpose of sealing.

[0041] It should be noted that although the foregoing description takes the first box body 11 as the lower box body and the second box body 12 as the upper cover body as an example, the instant disclosure is not limited to this. Please refer FIG. 6 to FIG. 8, the first box body 11 may also be an upper cover body, and the second box body 12 is a lower box body. In addition, the first box body 11 and the second box body 12 may be both box body structures (not shown in the figure).

[0042] Please refer to FIG. 1 and FIG. 2a, in some embodiments, the foldable open-resistant container 1 of the instant disclosure further comprising a connecting portion 13. Since the first box body 11 further comprises a first side 110a and a second side 110b opposite to the first side 110a, the connecting portion 13 is located on the first side 110a of the first box body 11 and connects the first box body 11 with the second box body 12, so that the first box body 11 is rotated relative to the second box body 12 along the connecting portion 13. Here, the extension portion 111 is located at an end portion of the second side 110b of the first box body 11. In other words, the connecting portion 13 and the extending portion 111 are respectively located on opposite sides of the first box body 11, but it is not limited thereto.

[0043] Please refer to FIG. 9, in some embodiments, the foldable open-resistant container 1 of the instant disclosure does not comprises the connecting portion 13 structure. Here, the first box body 11 comprises the extension portion 111 at each end corner portion, and the second box body 12 also comprises the bending member 122 at each end corner portion. The first box body 11 and the second box body 12 are positioned by the extension portion 111 and the bending member 122 provided at one end corner portion. In this aspect, the first box body 11 will not rotate relative to the second box body 12 but can be directly separated from the second box body 12.

[0044] Summary, after the foldable open-resistant container 1 is opened, the holding member 112 and the first latching member 113 will be separated and cannot be restored, which can provide the user to identify whether the container has been opened. Therefore, the user can easily determine whether the container has been opened from the appearance, which can not only avoid the problems of mistaken buying and eating, but also reduce consumption disputes.

[0045] While the instant disclosure has been described by the way of example and in terms of the preferred embodiments, it is to be understood that the invention need not be limited to the disclosed embodiments. On the contrary, it is intended to cover various modifications and similar arrangements included within the spirit and scope of the appended claims, the scope of which should be accorded the broadest interpretation so as to encompass all such modifications and similar structures.

CLAIMS

What is claimed is:

1. A foldable open-resistant container, comprising:

a first box body comprising a first body portion and an extension portion, wherein the extension portion is extending from an end corner of the first body portion, the extension portion comprises a holding member, a first latching member, and a perforation line, the holding member is extending from the first body portion, and the perforation line connects the holding member and the first latching member; and

a second box body comprising a second body portion, a bending member, and a second latching member, wherein the bending member comprises a bending area extending from an end corner of the second body portion, the second latching member is on the bending member, wherein when the first box body is combined with the second box body, the bending member is bent along the bending area, and the first latching member is fitted latches the second latching member to position the first box body with the second box body; when the first box body is separated from the second box body, the perforation line is broken so that the first latching member is separated from the holding member and fixed to the second latching member.

2. The foldable open-resistant container according to claim 1, wherein the holding member further comprises concave structure, the perforation line is located on a periphery of the concave structure and is connected to the first latching member, so that the first latching member is received in the concave structure.

3. The foldable open-resistant container according to claim 2, wherein the holding member further comprises a plurality of curved areas located at two ends of the concave structure when the first latching member is separated from the holding member, the concave structure and the plurality of curved areas are exposed.

4. The foldable open-resistant container according to claim 3, wherein the holding member further comprises a plurality of anti-slip convex point areas located on two sides of the concave structure, the plurality of curved areas formed on the outer edges of the plurality

of anti-slip convex point areas.

5. The foldable open-resistant container according to claim 1, wherein the second latching member comprises an inner fastening member and an outer fastening member, the inner fastening member and the outer fastening member are located on two sides of the bending area, and the inner fastening member is located on the side of the bending member close to the second box body, the outer fastening member is located on the side of the bending member far from the second box body; when the bending member is bent along the bending area, the outer fastening member latches the first latching member, and the first latching member is received in the inner fastening member.

6. The foldable open-resistant container according to claim 5, wherein the inner fastening member protrudes toward a first vertical direction, the outer fastening member protrudes toward a second vertical direction, and the first vertical direction and the second vertical direction are opposite directions.

7. The foldable open-resistant container according to claim 5, wherein an inner diameter of the inner fastening member is greater than an inner diameter of the outer fastening member, an inner diameter of the first latching member is slightly larger than the inner diameter of the outer fastening member so that the outer fastening member fits tightly into the first latching member, and the inner diameter of the first latching member is smaller than the inner diameter of the inner fastening member so that the first latching member is received in the inner fastening member.

8. The foldable open-resistant container according to claim 5, wherein when the first latching member is received in the inner fastening member, a center point of a horizontal plane on which the inner fastening member is projected differs a center point of the horizontal plane on which the first latching member is projected, so that the inner fastening member and the first latching member formed a staggered structure.

9. The foldable open-resistant container according to claim 1, wherein the bending member comprises a first fold line and a second fold line, the bending area is formed between the first fold line and the second fold line.

10. The foldable open-resistant container according to claim 1, wherein the first box body further comprises a first fixing structure surrounding the first body portion, the second box body further comprises a second fixing structure surrounding the second body portion, and the first fixing structure and the second fixing structure is combined to form a sealed space between the first body portion and the second body portion.

11. The foldable open-resistant container according to claim 1, further comprising a connecting portion, wherein the first box body further comprises a first side and a second side opposite to the first side, the connecting portion is located on the first side of the first box body and connects the first box body with the second box body, so that the first box body is rotated relative to the second box body along the connecting portion, and the extension portion is located at an end corner of the second side of the first box body.