



US 2025000222A1

(19) **United States**

(12) **Patent Application Publication**
ITO

(10) **Pub. No.: US 2025/0002222 A1**

(43) **Pub. Date: Jan. 2, 2025**

(54) **ZIPPER TAPE AND CONTAINER EQUIPPED WITH ZIPPER TAPE**

Publication Classification

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(51) **Int. Cl.**
B65D 33/25 (2006.01)

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(52) **U.S. Cl.**
CPC **B65D 33/2533** (2013.01); **B65D 33/2541**
(2013.01)

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(57) **ABSTRACT**

(21) Appl. No.: **18/707,474**

Contents of a container are prevented from adhering to a zipper prior to unsealing, and a film of a container body is easily and linearly cut upon unsealing. Provided is a zipper tape including: a first base; a tear strip disposed in parallel with the first base at a first side in a width direction of the first base; a second base having a width larger than a width of an area including the first base and the tear strip; a first engagement portion and a second engagement portion that respectively protrude from the first base and the second base, and are engageable with each other; and a peeling portion provided on a surface of a part of the second base, the surface being located near the first base, the part extending beyond the first base at a second side opposite to the first side.

(22) PCT Filed: **Oct. 28, 2022**

(86) PCT No.: **PCT/JP2022/040431**

§ 371 (c)(1),

(2) Date: **May 3, 2024**

(30) **Foreign Application Priority Data**

Nov. 5, 2021 (JP) 2021-181347

120

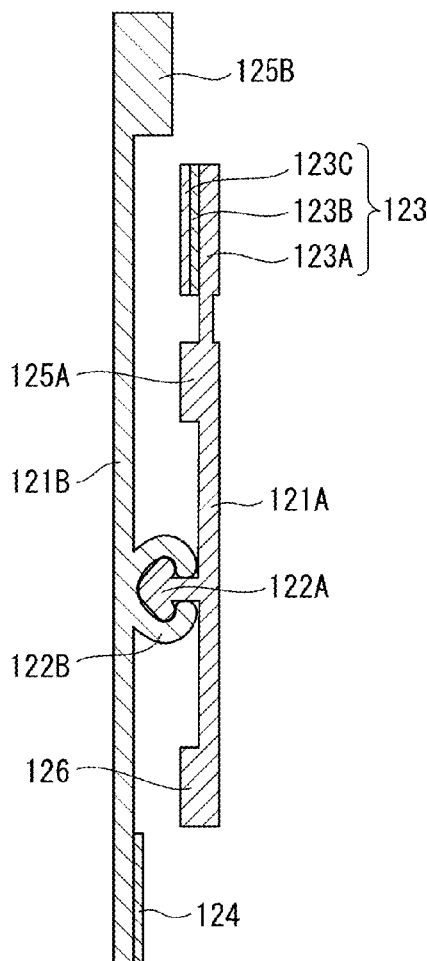


FIG. 1

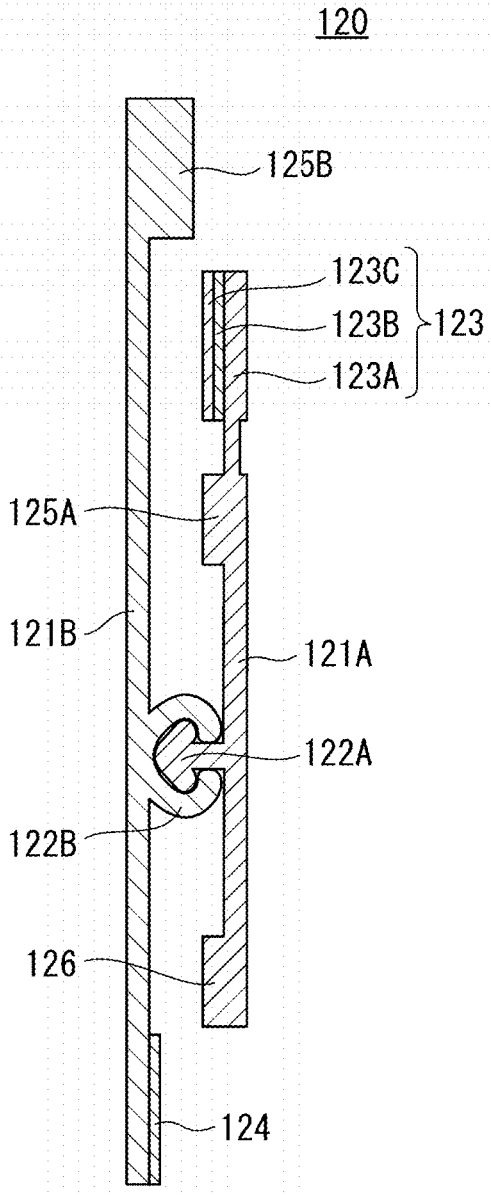


FIG. 2

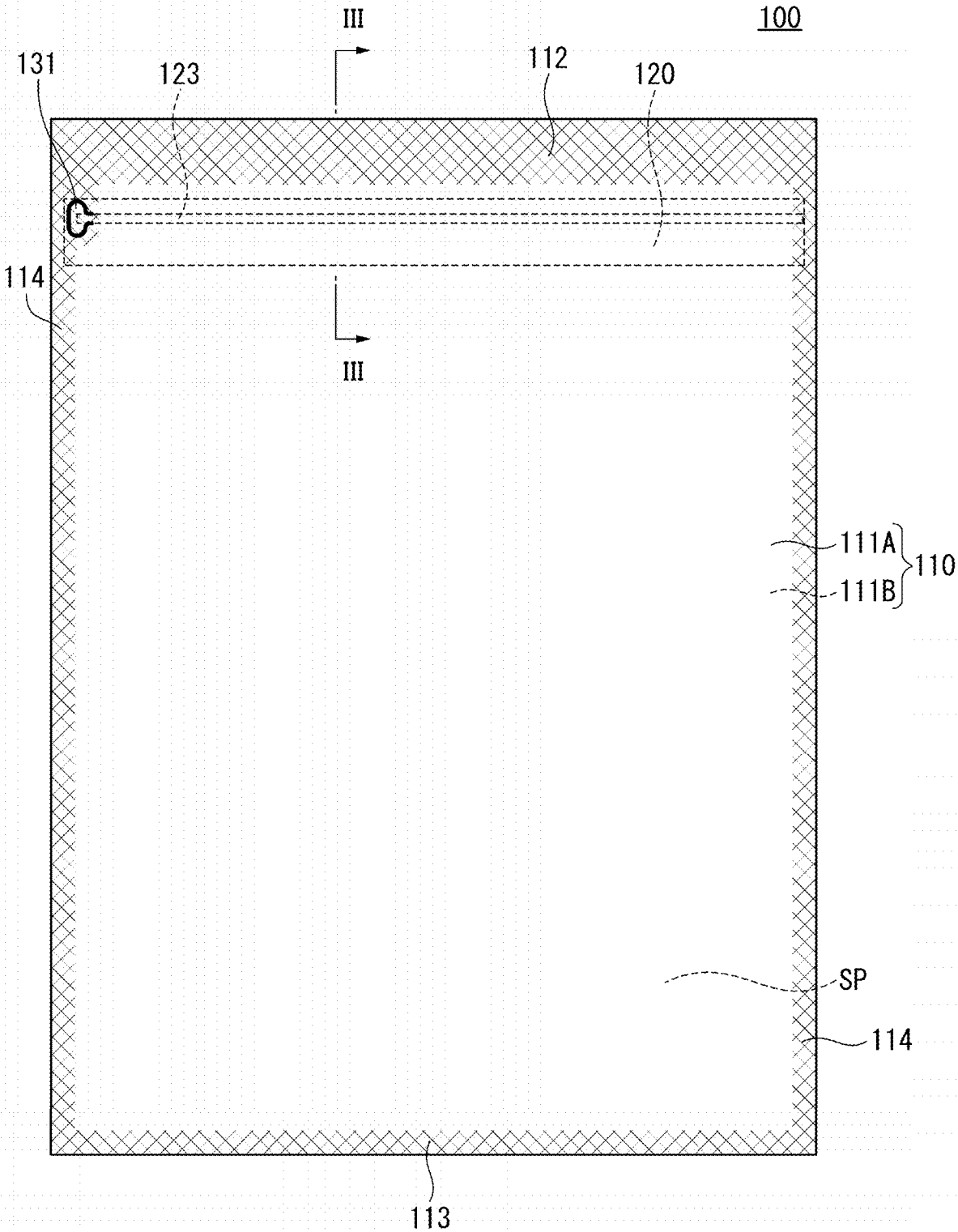


FIG. 3

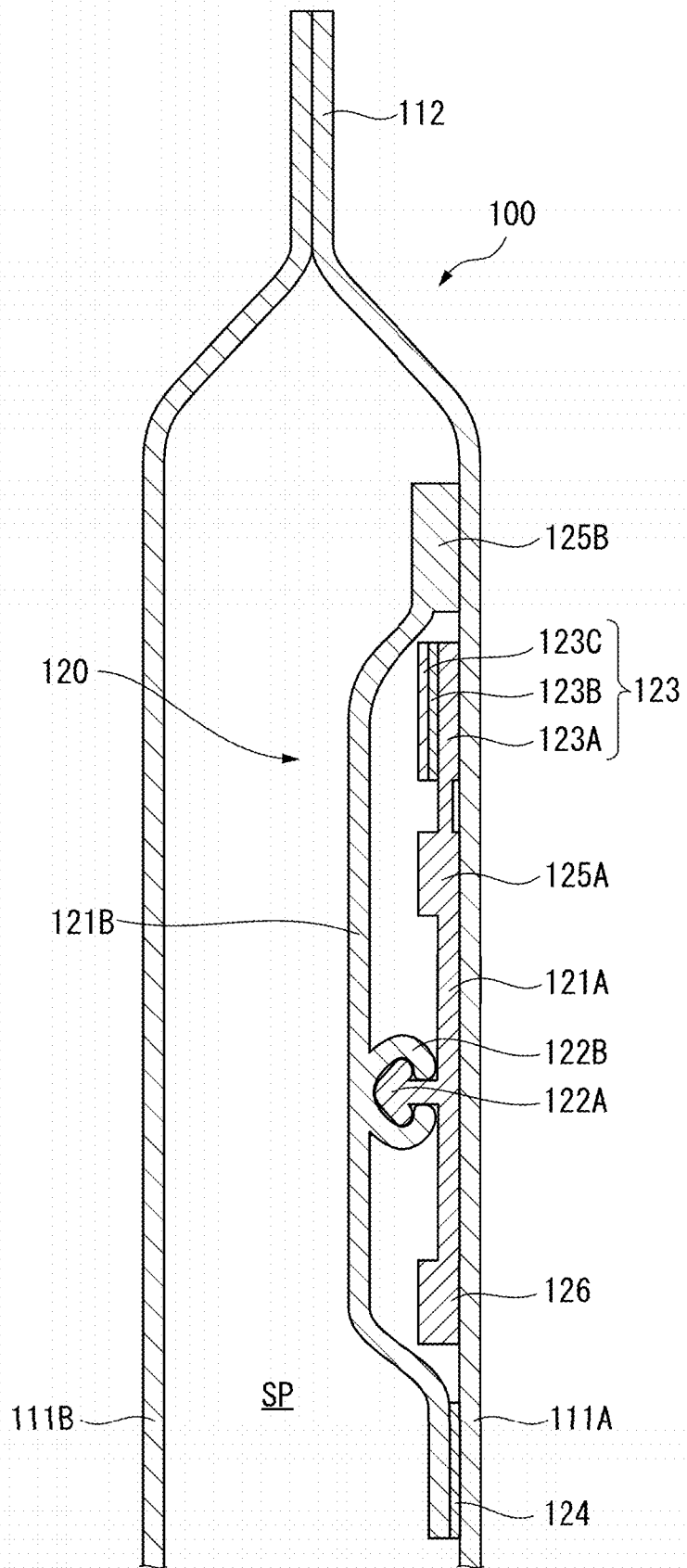
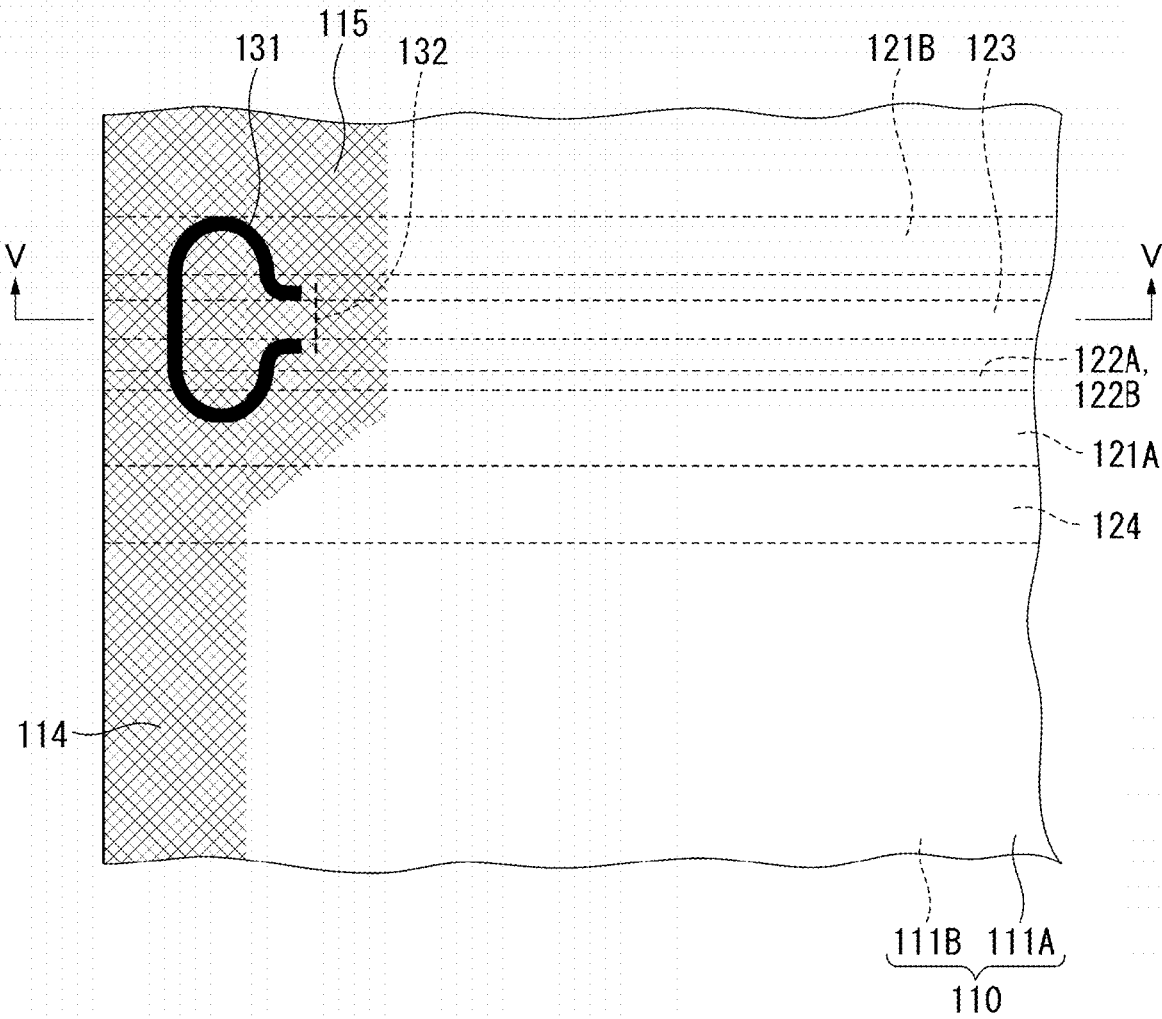


FIG. 4



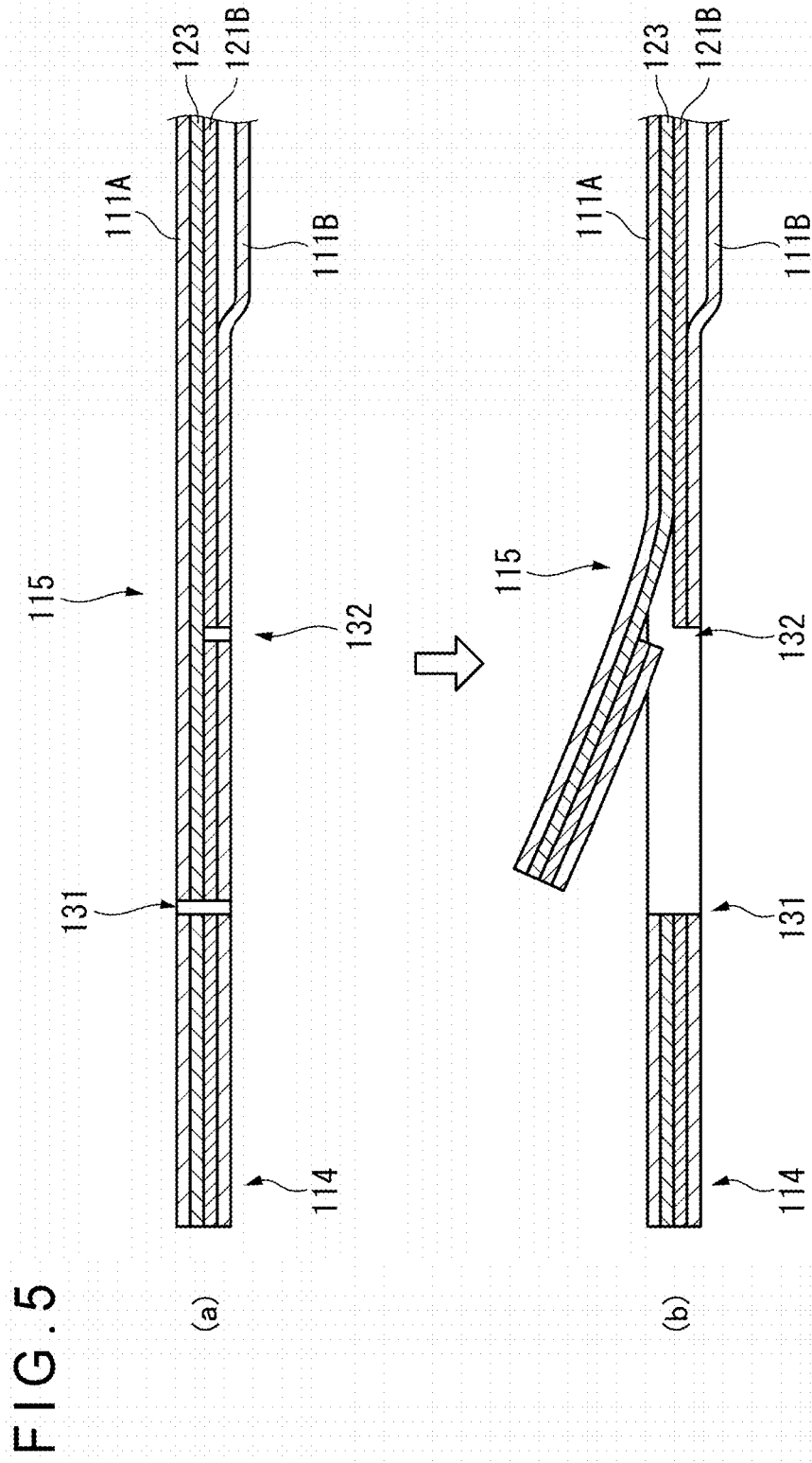


FIG. 6

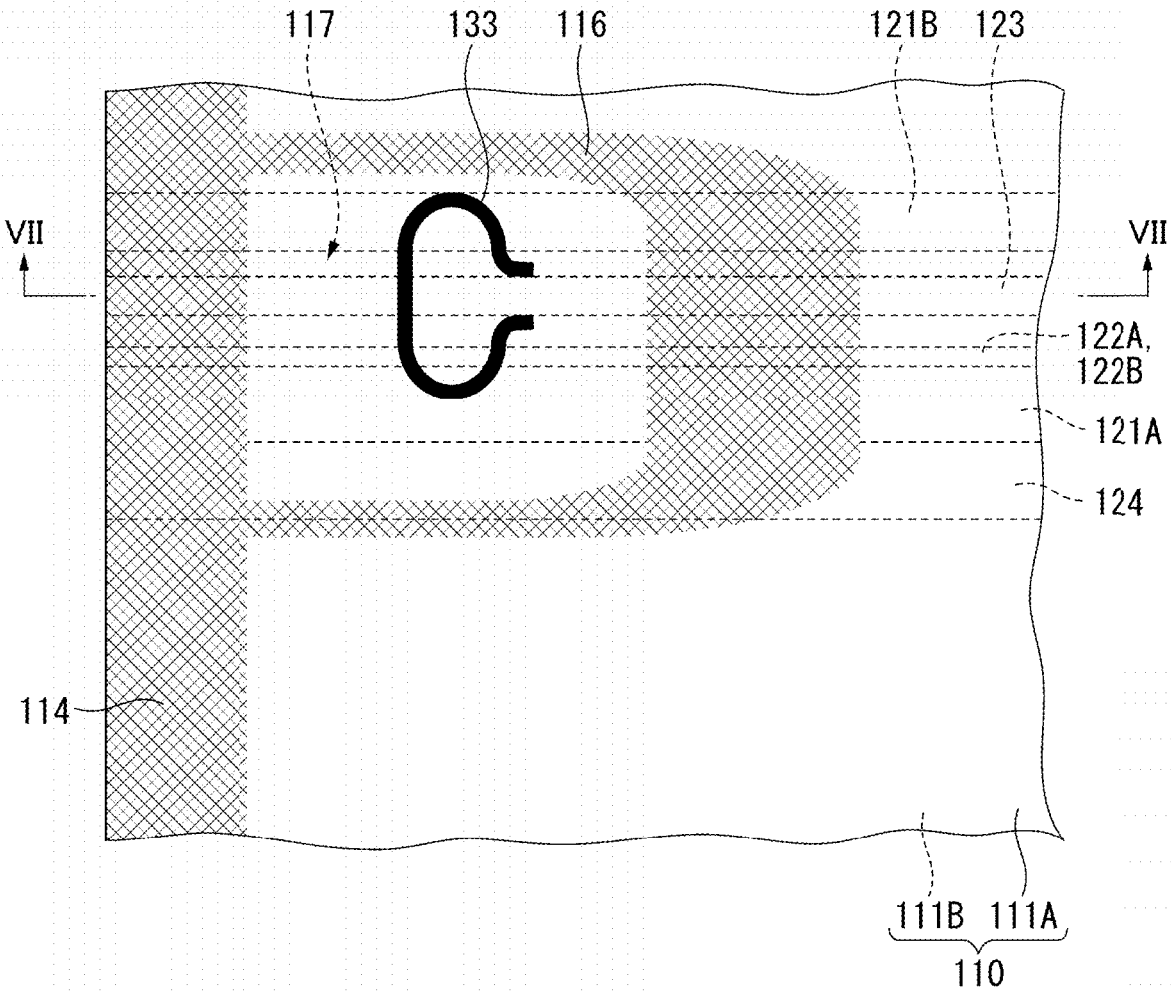


FIG. 7

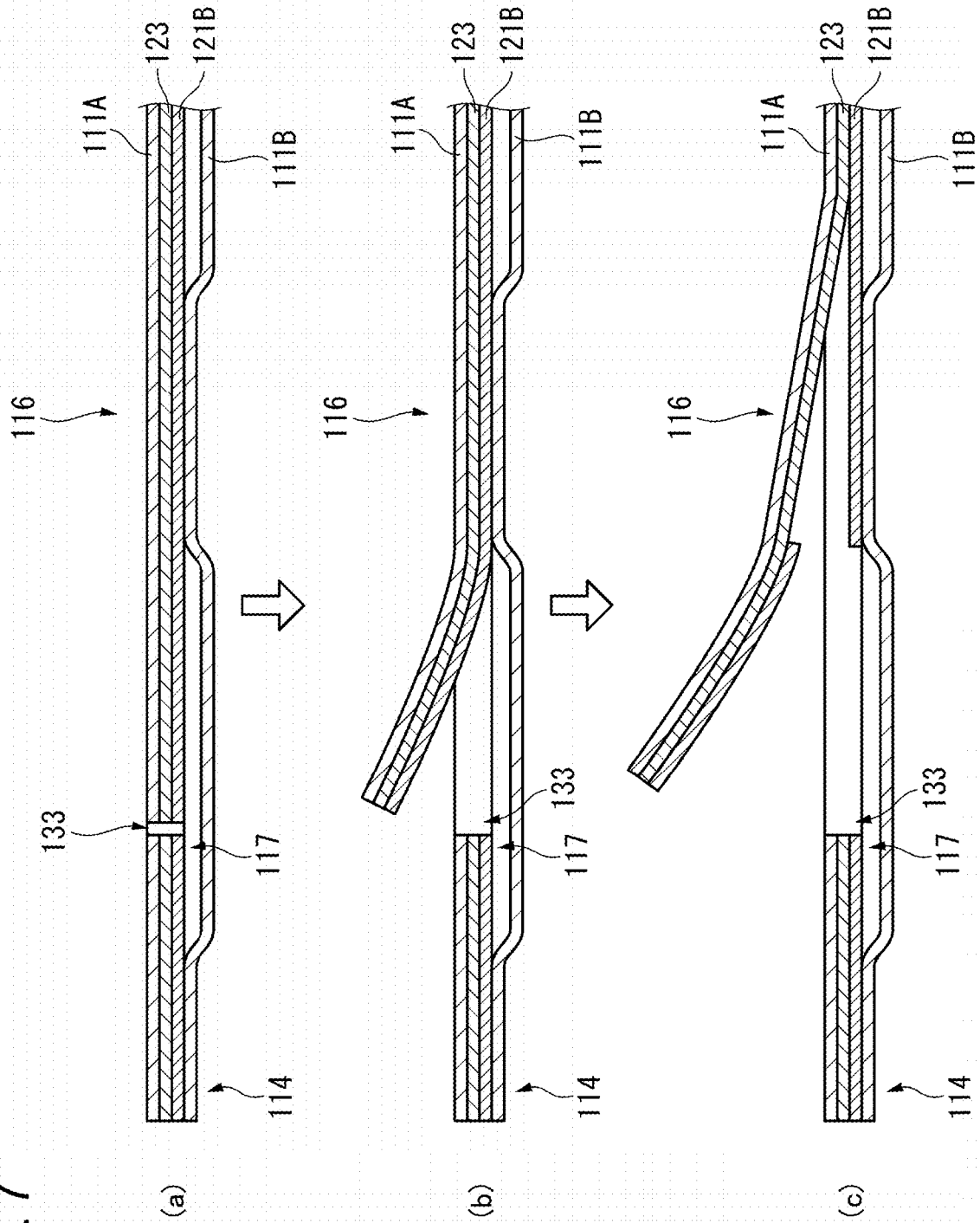


FIG. 8

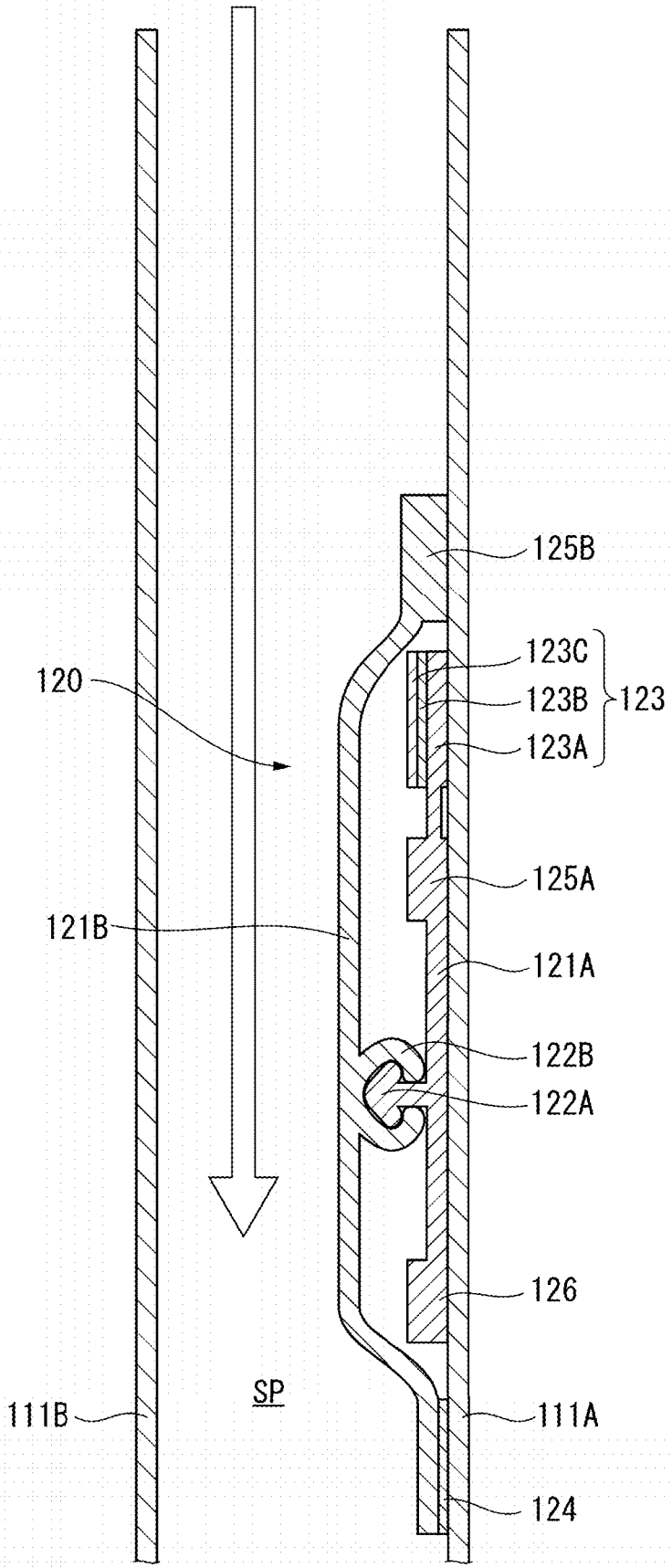


FIG. 9

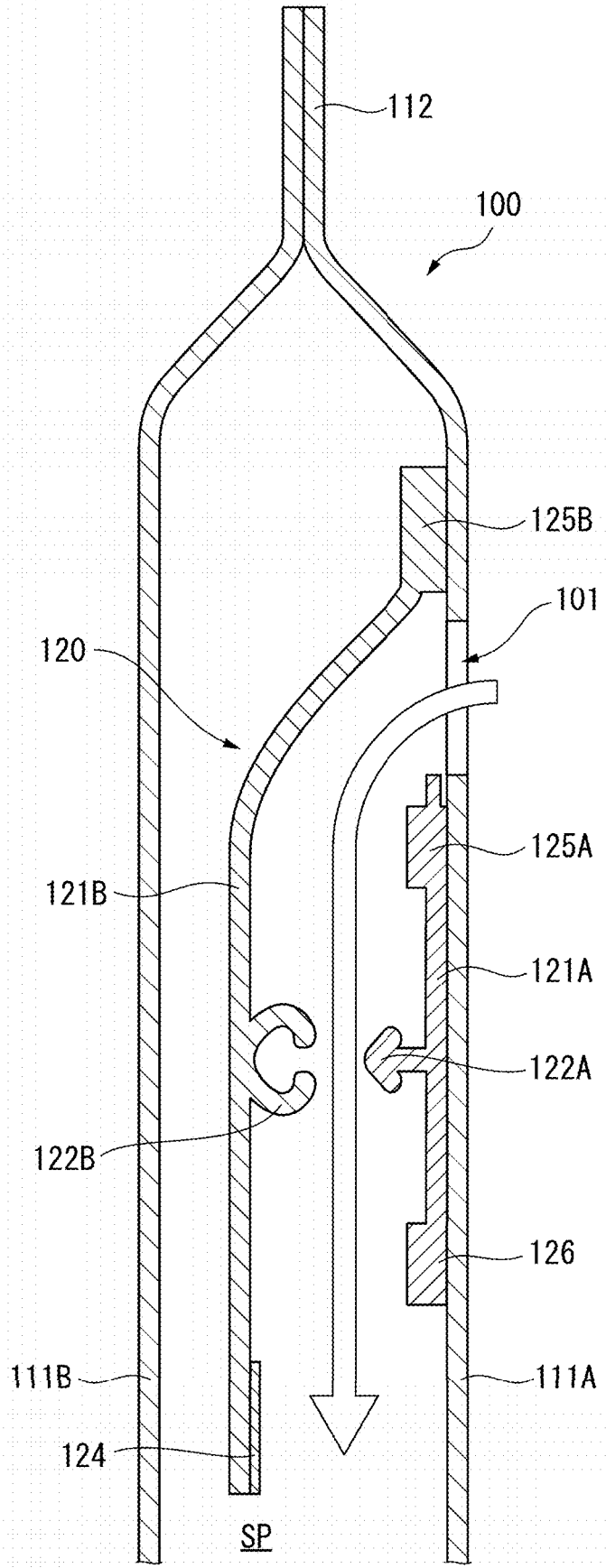
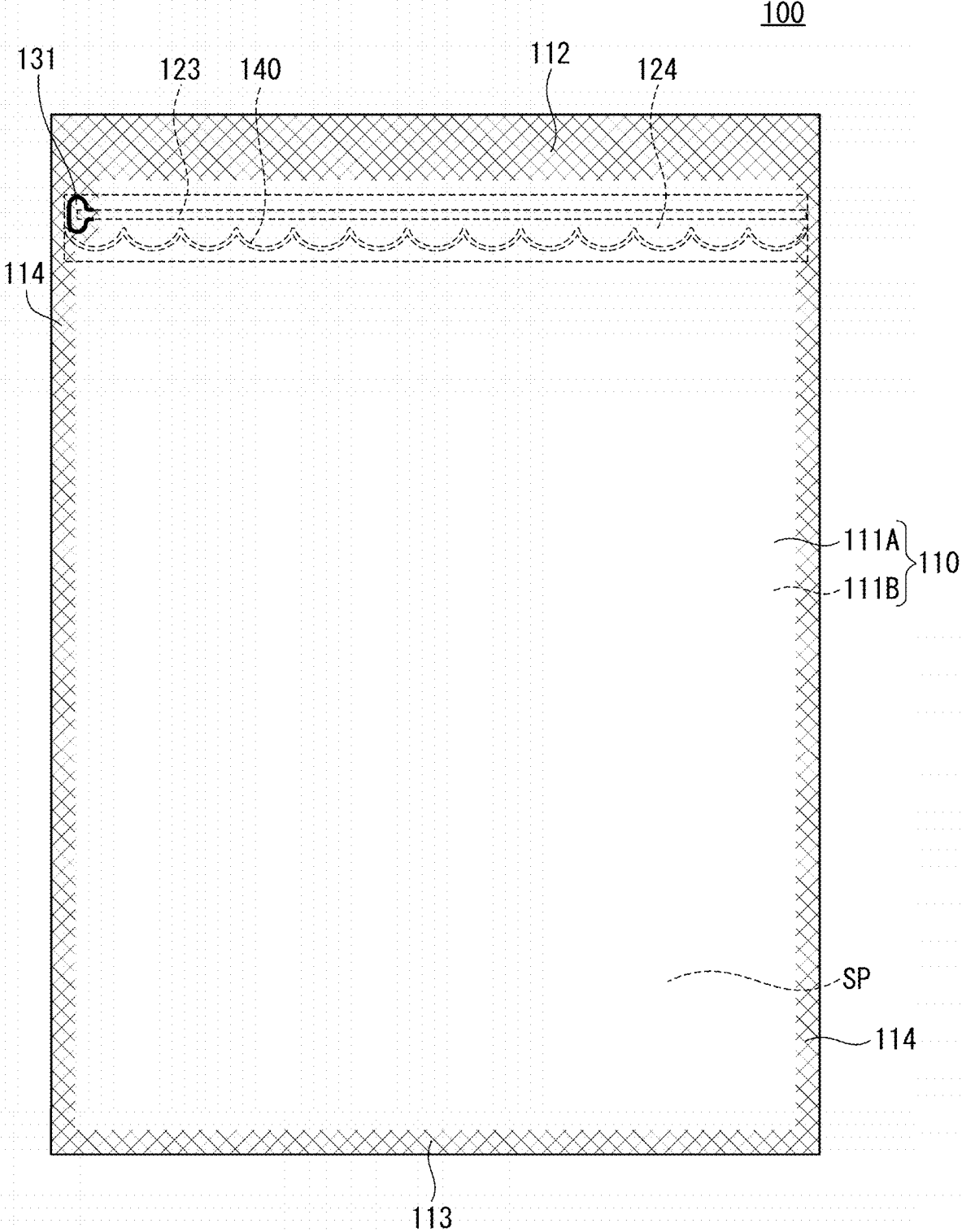


FIG. 10



ZIPPER TAPE AND CONTAINER EQUIPPED WITH ZIPPER TAPE

TECHNICAL FIELD

[0001] The present invention relates to a zipper tape and a container with a zipper tape.

BACKGROUND ART

[0002] A technique has been proposed of preventing, in a container with the zipper tape that is distributed in a state of being filled with contents, for example, the contents from adhering to a zipper prior to unsealing. For example, Patent Literature 1 discloses a retort pouch including: a zipper that reseals a cooking liquid, the zipper being heat-sealed on inner sides of upper portions of side surface films; and an easy-peel portion that further seals the cooking liquid and prevents the cooking liquid from adhering to the zipper, the easy-peel portion being provided continuously to the zipper. It is possible to prevent the cooking liquid from adhering to the zipper prior to unsealing, by filling the retort pouch with the cooking liquid in a state in which the zipper is open, and thereafter heat-sealing the easy-peel portion.

CITATION LIST

Patent Literature(s)

[0003] Patent Literature 1: Japanese Patent No. 6139086

SUMMARY OF THE INVENTION

Problem(s) to be Solved by the Invention

[0004] In a container disclosed in Patent Literature 1, an upper portion of a retort pouch is cut to form an opening above a zipper tape upon unsealing. However, for example, when nylon is used for a film of a container body, the film is not cut linearly, resulting in an unsealing failure at times.

[0005] It is therefore an object of the invention to provide a zipper tape and a container with a zipper tape that make it possible to prevent contents of a container from adhering to a zipper prior to unsealing, and to easily and linearly cut a film of a container body upon unsealing.

Means for Solving the Problem(s)

[0006] [1] A zipper tape including: a first base; a tear strip disposed in parallel with the first base at a first side in a width direction of the first base; a second base having a width larger than a width of an area including the first base and the tear strip; a first engagement portion and a second engagement portion that respectively protrude from the first base and the second base, and are engageable with each other; and a peeling portion provided on a surface of the second base near the first base, the surface being located at a portion where the second base extending beyond the first base at a second side opposite to the first side.

[0007] [2] The zipper tape according to [1], in which a resin composition forming the peeling portion is different from a resin composition forming a surface of the first base opposite to the first engagement portion, and is different from a resin composition forming a surface of the second base on a side of the second engagement portion at the first side.

[0008] [3] The zipper tape according to [1] or [2], further including a thick portion provided at an end portion of the first base at the second side.

[0009] [4] The zipper tape according to any one of [1] to [3], further including a thick portion provided at an end portion of the first base at the first side.

[0010] [5] The zipper tape according to any one of [1] to [4], further including a thick portion provided on a surface of the second base, at a side near the first base, the second base extending beyond the tear strip at the first side.

[0011] [6] The zipper tape according to any one of [1] to [5], in which the tear strip includes a strip body and a peeling layer, the peeling layer being provided on a surface, of the strip body, on a side facing the second base.

[0012] [7] A container with a zipper tape including: a container body that includes a film; and the zipper tape according to any one of [1] to [6], the zipper tape being attached to the film, in which a part of the second base extending beyond the tear strip at the first side, the tear strip, a surface of the first base opposite to the first engagement portion, and the peeling portion are each bonded to a first surface of the film.

[0013] [8] The container with the zipper tape according to [7], in which a peel strength between the peeling portion and the first surface is less than or equal to 30 N/15 mm.

[0014] [9] The container with the zipper tape according to [7] or [8], in which a bonded portion between the peeling portion and the first surface has a wavy planar shape.

[0015] [10] The container with the zipper tape according to any one of [7] to [9], in which a cut having a tab shape is formed at least in the first surface.

[0016] [11] The container with the zipper tape according to [10], in which the cut having the tab shape is formed at least in the first surface, the second base, and a second surface of the film, the second surface being opposed to the first surface, and another cut is formed in the second surface and the second base, and the other cut does not penetrate through the tear strip.

[0017] [12] The container with the zipper tape according to [10], in which the cut having the tab shape is formed in the first surface and the second base, and does not penetrate through a second surface of the film opposed to the first surface, and a bonded region in which the first surface, the tear strip, the second base, and the second surface are bonded to each other is formed, and the cut having the tab shape is formed in a non-bonded region being at least partially surrounded by the bonded region.

[0018] [13] The container with the zipper tape according to any one of [7] to [12], in which the container body has a bag shape.

[0019] [14] The container with the zipper tape according to any one of [7] to [13], further including a steaming mechanism configured to cause a containing space to communicate with an external space while keeping the first engagement portion and the second engagement portion engaged with each other when an internal pressure of the containing space is increased.

[0020] According to the above-described configurations, prior to unsealing, a layer of a second resin composition provided on the second base is bonded to the container body, thereby isolating the engagement portions of the zipper tape from the containing space of the container body and preventing the contents placed in the containing space from adhering to the engagement portions. The layer of the

second resin composition is caused to be peeled from the container body upon unsealing. Further, upon unsealing, pulling of the tear strip makes it possible to easily and linearly cut the film of the container body.

BRIEF DESCRIPTION OF DRAWINGS

[0021] FIG. 1 is a cross-sectional view of a zipper tape according to one exemplary embodiment of the invention.

[0022] FIG. 2 is a plan view of a container with a zipper tape to which the zipper tape illustrated in FIG. 1 is attached.

[0023] FIG. 3 is a cross-sectional view taken along a line III-III of FIG. 2.

[0024] FIG. 4 is an enlarged view of a tab portion of the container with the zipper tape illustrated in FIG. 2.

[0025] FIG. 5 is a cross-sectional view taken along a line V-V of FIG. 4.

[0026] FIG. 6 is a view of another example of the tab portion of the container with the zipper tape illustrated in FIG. 2.

[0027] FIG. 7 is a cross-sectional view taken along a line VII-VII of FIG. 6.

[0028] FIG. 8 is a diagram illustrating a state upon filling the container with the zipper tape illustrated in FIG. 3 with contents.

[0029] FIG. 9 is a diagram illustrating a state upon unsealing of the container with the zipper tape illustrated in FIG. 3.

[0030] FIG. 10 is a diagram illustrating a modification of the container with the zipper tape illustrated in FIG. 2.

DESCRIPTION OF EMBODIMENT(S)

[0031] The following describes preferred exemplary embodiments of the invention in detail with reference to the accompanying drawings. It is to be noted that, in this description and the accompanying drawings, components that have substantially the same functional configuration are indicated by the same codes, and thus redundant description thereof is omitted.

[0032] It is to be noted that, in this description, the term “main component” means a component whose blending amount in a resin composition is greater than or equal to 50% mass. The blending amount of the main component is preferably greater than or equal to 70 mass %, more preferably greater than or equal to 85 mass %, still more preferably greater than or equal to 90 mass %, and particularly preferably greater than or equal to 95 mass %. An upper limit of the blending amount of the main component is 100 mass %; however, inclusion of impurities is also acceptable in such a case to an extent that the inclusion does not influence a performance. It is possible that a resin that is the main component in the resin composition is identified, for example, by an IR method.

[0033] FIG. 1 is a cross-sectional view of a zipper tape according to an exemplary embodiment of the invention. As illustrated in the figure, a zipper tape 120 includes bases 121A and 121B, engagement portions 122A and 122B, a tear strip 123, and a peeling layer 124.

[0034] The bases 121A and 121B are each formed by a first resin composition that includes as a main component a polyolefin resin, specifically polypropylene, for example. The first resin composition may include, for example, low-density polyethylene (LDPE) or linear low-density polyethylene (LLDPE). At least a portion of LDPE or LLDPE may

be bio-polyethylene. The polyolefin resin that is the main component of the first resin composition is not limited to a resin derived from a fossil fuel, and may be an environmentally friendly bio-plastic (the polyolefin resin such as bio-polypropylene or bio-polyethylene derived from biomass), or a mixture of the resin derived from the fossil fuel and the bio-plastic. To the first resin composition, a known additive such as a stabilizer, an antioxidant, a lubricant, an antistatic agent, or a colorant may be added as necessary.

[0035] The engagement portions 122A and 122B respectively protrude from the bases 121A and 121B, and are engageable with each other. In the illustrated example, the engagement portion 122A has a male-shaped profile and the engagement portion 122B has a female-shaped profile; however, they may be the other way around. Further, the shapes of the engagement portions 122A and 122B are not limited to the male and female shapes, and it is possible to employ various shapes of engagement portions of known zippers having a combination of, for example, a claw shape, a hook shape, and a knob shape. In the illustrated example, one pair of engagement portions is provided; however, multiple pairs of engagement portions may be provided. The engagement portions 122A and 122B are each formed by, for example, the first resin composition similar to the first resin composition of the bases 121A and 121B described above; however, the engagement portions 122A and 122B may be each formed by a resin composition different from the first resin composition.

[0036] The tear strip 123 is disposed in parallel with the base 121A at a first side (an upper side in FIG. 1) in a width direction of the base 121A. The tear strip 123 is to be separated from the base 121A and to be pulled upon unsealing of a container, as will be described later. The tear strip 123 and the base 121A may thus be coupled to each other via an illustrated thin portion or separated from each other. In the illustrated example, the tear strip 123 includes a strip body 123A, and a peeling layer 123C stacked on a surface, of the strip body 123A, on a side facing the base 121B, and the tear strip 123 may also include a bonding layer 123B between the strip body 123A and the peeling layer 123C. In this case, the strip body 123A is formed by, for example, the first resin composition as with the base 121A. The peeling layer 123C is formed by a resin composition having a peeling property with respect to the first resin composition forming the base 121B, and the bonding layer 123B is formed by a resin composition that makes it possible to bond the strip body 123A and the peeling layer 123C to each other. For example, when the first resin composition includes polypropylene as the main component as described above, the peeling layer 123C may be formed by a resin composition including polyethylene as the main component. Providing the peeling layer 123C makes it easier to separate the tear strip 123 from the base 121B upon unsealing; however, it is also possible to omit the peeling layer 123C. In this case, for example, the entire tear strip 123 may be formed by the resin composition including polyethylene as the main component.

[0037] As illustrated in the figure, the base 121B has a width larger than a width of an area including the base 121A and the tear strip 123 that are opposed to the base 121B. In a state where the bases 121A and 121B are in predetermined locations, the base 121B extends beyond the tear strip 123 at the first side in the width direction of the base 121A, and extends beyond the base 121A at a second side (a lower side

in FIG. 1) opposite to the first side. Here, the predetermined locations of the bases **121A** and **121B** are defined, for example, in a state in which the engagement portions **122A** and **122B** are engaged with each other. However, the engagement portions **122A** and **122B** do not necessarily have to be engaged with each other, and respective positions of the engagement portions **122A** and **122B** only have to be aligned with each other with respect to the width direction of the bases **121A** and **121B**. In the illustrated example, a thick portion **125B** is provided on a part, of the base **121B**, that extends beyond the tear strip **123** at the first side. Further, a thick portion **125A** is provided also at the first side of the base **121A**, that is, at an end portion, of the base **121A**, on a side of the tear strip **123**. Providing the thick portions **125A** and **125B** makes it possible to induce pulling of the tear strip **123** upon unsealing as will be described later, and to more reliably form an opening having an intended shape; however, it is also possible to omit the thick portions **125A** and **125B**.

[0038] The peeling layer **124** is provided on a part, of the base **121B**, that extends beyond the base **121A** at the second side. The peeling layer **124** is formed by a second resin composition that is different from the first resin composition forming the bases **121A** and **121B**. Specifically, the second resin composition is a resin composition having a peeling property with respect to a film of a container body to be described later. In the present specification, the term “having a peeling property” means that a peel strength with respect to a target is less than or equal to 30 N/15 mm. The peel strength in this case is preferably less than or equal to 20 N/15 mm, more preferably less than or equal to 15 N/15 mm, and still more preferably less than or equal to 10 N/15 mm. A lower limit of the peel strength is not particularly limited, and is, for example, greater than or equal to 1 N/15 mm. More specifically, the peel strength is measured by a heat gradient seal tester. The peel strength between the peeling layer **124** and the film is less than or equal to 30 N/15 mm when sealing is performed at 230° C. and 0.2 MPa for 1 second.

[0039] In the illustrated example, a thick portion **126** is provided at the second side of the base **121A**, i.e., at an end portion, of the base **121A**, on a side closer to the peeling layer **124**. Providing the thick portion **126** makes it possible to: equalize a thickness in an entire width direction of the zipper tape **120** including the engagement portions **122A** and **122B** and the tear strip **123** so that more reliably bond each of the portions of the zipper tape **120** to the film when the zipper tape **120** is bonded to the film of the container body by, for example, being pressed in a thickness direction between seal bars. The thick portion **126** is so provided as to have a thickness greater than a thickness of, for example, a part of the base **121A** where the thick portion **126** is not provided. A difference in thickness is preferably greater than or equal to 100 μm , more preferably greater than or equal to 200 μm , and still more preferably greater than or equal to 300 μm . An upper limit of a ratio of the difference in thickness is not particularly limited, and is less than or equal to 600 μm when assuming a size of common engagement portions **122A** and **122B**.

[0040] In the above description, an example has been described in which the first resin composition forming the bases **121A** and **121B** includes polypropylene as the main component. However, in another example, the main component of the first resin composition may be another poly-

olefin resin, for example, polyethylene. In this case, when the tear strip **123** includes the strip body **123A** and the peeling layer **123C**, the peeling layer **123C** may be formed by a resin composition that includes polypropylene as the main component. Further, the main component of the first resin composition may be a resin other than the polyolefin resin.

[0041] The above-described zipper tape **120** as a whole may be manufactured, for example, through extrusion. In this case, the first resin composition forming the bases **121A** and **121B** and the second resin composition forming the peeling layer **124** are coextruded. In this case, a bonding layer may be stacked between the base **121B** and the peeling layer **124**. The bonding layer is formed by a resin composition which makes it possible to bond the base **121B** and the peeling layer **124** to each other. Alternatively, the zipper tape **120** may be manufactured by forming a part including the bases **121A** and **121B** through extrusion of the first resin composition, and thereafter forming the peeling layer **124** through application of the second resin composition. In this case also, another resin composition may be applied between the base **121B** and the peeling layer **124** to form an intermediate layer.

[0042] FIG. 2 is a plan view of a container with a zipper tape to which the zipper tape illustrated in FIG. 1 is attached, and FIG. 3 is a cross-sectional view taken along a line III-III of FIG. 2. FIG. 2 and FIG. 3 each illustrate the container prior to unsealing. As illustrated in the figures, a container **100** with a zipper tape includes: the container body having a bag shape including a film **110** that has a first surface **111A** facing a containing space SP; and the zipper tape **120** bonded to the first surface **111A**.

[0043] In the illustrated example, the film **110** has, in addition to the first surface **111A**, a second surface **111B** opposed to the first surface **111A**. The first surface **111A** and the second surface **111B** each face the containing space SP. The film **110** is, for example, formed by a single-layer or multi-layer thermoplastic resin. More specifically, the film **110** is, for example, formed by polypropylene, high-density polyethylene (HDPE), or linear low-density polyethylene (LLDPE). Examples of polypropylene include Polypropylene Homopolymer (HPP), Polypropylene Random Copolymer (RPP), or Polypropylene Block Copolymer (BPP). When the film **110** is a multi-layered film, biaxially oriented polypropylene (OPP), biaxially oriented polyethylene terephthalate (OPET), or biaxially oriented nylon (ONy) may be used for a surface base. These are each not limited to a resin derived from a fossil fuel, and may each be an environmentally friendly bio-plastic (the polyolefin resin such as bio-polypropylene or bio-polyethylene derived from biomass), or a mixture of the resin derived from the fossil fuel and the bio-plastic. The film **110** may include a layer of an inorganic material formed by, for example, vapor-depositing aluminum or stacking an aluminum foil.

[0044] It is to be noted that, in the illustrated example, two films **110** are formed into the container body having the bag shape by being bonded to each other along a top seal portion **112**, a bottom seal portion **113**, and a side seal portion **114**; however, in another example, the container body having the bag shape may be provided by folding back one film **110** along a part corresponding to the side seal portion **114**. Further, a part in which the film **110** is folded inward, that is, what is called a gusset, may be provided along a part corresponding to the bottom seal portion **113** or the side seal

portion 114. In this case, the gusset may include the film 110, or may include another film that is bonded to the film 110. The container 100 with the zipper tape may also be a stand up pouch that is able to be placed upright by the gusset being provided at a bottom of the container 100 with the zipper tape.

[0045] The zipper tape 120 is bonded to the first surface 111A of the film 110 as described above. Specifically, bonded to the first surface 111A are: the part, of the base 121B, that extends beyond the tear strip 123 (the part at which the thick portion 125B is provided in the illustrated example); the tear strip 123 (a surface of the strip body 123A opposite to the peeling layer 123C in the illustrated example); a surface, of the base 121A opposite to the engagement portion 122A; and the peeling layer 124 provided on the part, of the base 121B, that extends beyond the base 121A on an opposite side to the tear strip 123. In the example illustrated in FIG. 3, a gap is provided between: the thin portion that couples the tear strip 123 and the base 121A to each other; and the first surface 111A. However, the thin portion may be configured to be bonded to the first surface 111A. Further, as described above, the base 121A and the tear strip 123 may be separated from each other.

[0046] Here, as described above, the peeling layer 124 is formed by the resin composition (the second resin composition) having a peeling property with respect to the film 110 having the first surface 111A. Each of the portions of the zipper tape 120 and the first surface 111A are bonded to each other by, for example, heat sealing or ultrasonic sealing. In this case, the peeling layer 124 and the first surface 111A may be subjected to heat sealing at a low temperature as compared with other portions of the zipper tape 120. Further, although the peeling layer 124 is bonded only to the first surface 111A in the illustrated example, the peeling layer 124 may also be partially bonded to the base 121A (the thick portion 126 in the illustrated example).

[0047] The second resin composition forming the peeling layer 124 includes, for example, low-density polyethylene (LDPE) or linear low-density polyethylene (LLDPE). The first resin composition forming the bases 121A and 121B may also include LDPE or LLDPE; however, in this case, the blending amount of LDPE or LLDPE differs between the first resin composition and the second resin composition. As described above, the peeling layer 124 has a peeling property with respect to the film 110. Specifically, the peel strength between the peeling layer 124 and the film 110 is less than or equal to 30 N/15 mm. The peel strength in this case is preferably less than or equal to 20 N/15 mm, more preferably less than or equal to 15 N/15 mm, and still more preferably less than or equal to 10 N/15 mm. A lower limit of the peel strength is not particularly limited, and is, for example, greater than or equal to 1 N/15 mm. In order to adjust the peel strength between the peeling layer 124 and the film 110, polypropylene may be mixed with LDPE or LLDPE in the second resin composition. Polypropylene in this case includes Polypropylene Homopolymer (HPP), Polypropylene Random Copolymer (RPP), Polypropylene Block Copolymer (BPP), propylene-ethylene-butene-1 random ternary copolymer, polyolefin special soft resin (TPO resin) mixture. The second resin composition is not limited to the examples described above, and may have another component blended therewith having a peeling property with respect to the film 110. It is to be noted that the peeling layer 123C of the tear strip 123 and the peeling layer 124

described above may be formed by the same resin composition or may be formed by respective resin compositions different from each other.

[0048] FIG. 4 is an enlarged view of a tab portion of the container with the zipper tape illustrated in FIG. 2, and FIG. 5 is a cross-sectional view taken along a line V-V of FIG. 4. In FIG. 5, (a) represents a state prior to unsealing, and (b) represents a state upon unsealing. In the illustrated example, in a vicinity of an end portion of the zipper tape 120, a cut 131 having a tab shape is formed in the first surface 111A of the film 110, the tear strip 123, the base 121B, and the second surface 111B of the film 110. In the illustrated example, a tab provided by the cut 131 has a planar shape of a pot. An open portion corresponding to a mouth of the pot shape faces a direction along which the opening is formed with use of the tear strip 123. The tab is not particularly limited in planar shape, and the planar shape of the cut 131 in another example may be, for example, a C shape, a U shape, or a horseshoe shape. As in the illustrated example, the cut 131 may pass through the base 121A at a part that is widened relative to the opening of each of those planar shapes. In the illustrated example, the cut 131 is formed in a seal portion 115 in which the side seal portion 114 protrudes toward a center in a width direction of the container body. The first surface 111A, the tear strip 123, the base 121B, and the second surface 111B are bonded to each other in the seal portion 115. The seal portion 115 is provided with a cut 132 adjacent to the open portion of the cut 131 in the planar shape. The cut 132 is formed in the second surface 111B and the base 121B. The cut 132 does not penetrate through the tear strip 123.

[0049] With such a configuration, as illustrated in (b) of FIG. 5, when the first surface 111A and the tear strip 123 are pulled along with the base 121B and the second surface 111B from the tab provided by the cut 131, from the cut 132 where the base 121B and the second surface 111B are partially broken, the tear strip 123 cuts through the first surface 111A while being peeled away from the base 121B. Accordingly, the pulling of the tear strip 123 makes it possible to smoothly form the opening on the container 100 with the zipper tape. Further, as long as the tear strip 123 and the base 121B are separable from each other as described above, the cut 132 may be partially formed in the tear strip 123. Further, although not illustrated in FIG. 5, when the tear strip 123 includes the strip body 123A and the peeling layer 123C, peeling may be performed between the peeling layer 123C and the base 121B or between the strip body 123A and the peeling layer 123C.

[0050] FIG. 6 is a diagram illustrating another example of the tab portion of the container with the zipper tape illustrated in FIG. 2, and FIG. 7 is a cross-sectional view taken along a line VII-VII line of FIG. 6. In FIG. 7, (a) represents a state prior to unsealing, and (b) represents a state upon unsealing. In the illustrated example, a cut 133 having a tab shape has a planar shape similar to that of the example of FIG. 4 described above. However, in this example, the cut 133 is formed in the first surface 111A of the film 110, the tear strip 123, and the base 121B, and does not penetrate through the second surface 111B of the film 110. It is to be noted that, for example, when the tear strip 123 is so provided as to be shorter than the base 121B, the cut 133 is not formed in the tear strip 123. The cut 133 is formed in a non-bonded region 117. The non-bonded region 117 is provided inside a surrounding seal portion 116 that is

provided continuously with the side seal portion 114. The surrounding seal portion 116 is a bonded region in which the first surface 111A, the tear strip 123, the base 121B, and the second surface 111B are bonded to each other. In the illustrated example, an entire circumference of the non-bonded region 117 is surrounded by the side seal portion 114 and the surrounding seal portion 116; however, in another example, for example, a side portion of the container body having the bag shape is folded back, and a surrounding seal portion may be provided in contact with the folded-back part. In this case, it is not necessary to provide a seal portion in the folded-back part. Thus, the surrounding seal portion does not necessarily surround the entire circumference of a non-bonded region.

[0051] With such a configuration, as illustrated in (b) of FIG. 7, when the first surface 111A and the tear strip 123 are pulled along with the base 121B from the tab provided by the cut 133, the base 121B breaks at the surrounding seal portion 116 where the base 121B is bonded to the second surface 111B, and thus the tear strip 123 cuts through the first surface 111A while being peeled away from the base 121B, from the surrounding seal portion 116. Accordingly, in this example also, the pulling of the tear strip 123 makes it possible to smoothly form the opening on the container 100 with the zipper tape. It is to be noted that cut 133 only has to penetrate through at least the first surface 111A and the tear strip 123, and needs not penetrate through the base 121B, for example, due to processing errors. It is to be noted that, for example, when the tear strip 123 is so provided as to be shorter than the base 121B, the cut 133 is not formed in the tear strip 123. Further, as long as the second surface 111B is not pulled along with the tear strip 123 and the base 121B, the cut 133 may partially penetrate through the second surface 111B, for example, due to processing errors. Further, it is not necessary to provide the surrounding seal portion 116 to break the base 121B, and it is only necessary to provide a bonded region that traverses the tear strip 123. Accordingly, the non-bonded region 117 is not necessarily completely surrounded by the bonded region such as the surrounding seal portion 116, and may only be at least partially surrounded. A form in which the non-bonded region is partially surrounded also includes a case in which the bonded region is provided only in a part that traverses the tear strip 123. Further, as described above, in another example, for example, a side portion of the container body having the bag shape is folded back, and a surrounding seal portion may be provided in contact with the folded-back part. In this case, it is not necessary to provide a seal portion in the folded-back part. Thus, the surrounding seal portion does not necessarily surround the entire circumference of a non-bonded region.

[0052] FIG. 8 is a diagram illustrating a state upon filling the container with the zipper tape illustrated in FIG. 3 with contents. In the illustrated example, the top seal portion 112 is not yet provided during filling the container with the zipper tape with the contents, which makes it possible to place the contents in the containing space SP without passing through the zipper tape 120. Forming the top seal portion 112 after the placement of the contents makes it possible to seal the containing space SP in which the contents are placed, in a state where the peeling layer 124 of the base 121B is bonded to the first surface 111A of the film 110, as illustrated in FIG. 3. In this state, the engagement portions 122A and 122B of the zipper tape 120 are isolated

from the containing space SP owing to the bonding of the peeling layer 124 to the first surface 111A. In another example, the contents may be placed in the containing space SP in a state where the bottom seal portion 113 is not provided, and after the placement of the contents, the bottom seal portion 113 may be formed to seal the containing space SP.

[0053] FIG. 9 is a diagram illustrating a state upon unsealing of the container with the zipper tape illustrated in FIG. 3. Upon unsealing of the container 100 with the zipper tape, the pulling of the tear strip 123 from the tab provided by the cut 131 makes it possible to cut through the first surface 111A of the film 110 and to form an opening 101 on the container 100 with the zipper tape, as described above. A space between the bases 121A and 121B is widened from a side of the opening 101 to disengage the engagement portions 122A and 122B, and further, the peeling layer 124 provided on the base 121B is caused to be peeled from the first surface 111A. This makes it possible to access the containing space SP from an outside. As described above, while the peeling layer 124 and the first surface 111A are bonded to each other prior to unsealing, the engagement portions 122A and 122B are isolated from the containing space SP. Thus, the contents are prevented from adhering to the engagement portions 122A and 122B upon unsealing.

[0054] According to the exemplary embodiment of the invention described above, prior to unsealing, the peeling layer 124 provided on the base 121B is bonded to the first surface 111A of the film 110, thereby isolating the engagement portions 122A and 122B of the zipper tape 120 from the containing space SP and preventing the contents placed in the containing space SP from adhering to the engagement portions 122A and 122B. Further, upon unsealing, pulling of the tear strip 123 makes it possible to easily and linearly cut the first surface 111A of the film 110 to form the opening 101.

[0055] In the examples described above, a peeling portion is provided by the peeling layer 124 formed by the second resin composition that is different from the first resin composition forming the bases 121A and 121B on a surface, near the base 121A, of the base 121B extending beyond the base 121A on the opposite side to the tear strip 123. However, the invention is not limited to such examples. For example, the bases 121A and 121B may each be bonded to the first surface 111A of the film 110 via an unillustrated seal layer. In this case, the peeling layer 124 may be formed by a resin composition that is different from a resin composition forming the respective seal layers on a surface of the base 121A opposite to the engagement portion 122A and on a surface of the base 121B at a side of the engagement portion 122B at the first side in the width direction of the base 121B. Alternatively, in the above-described case, a part at which each of the bases 121A and 121B is exposed as it is may be provided instead of the peeling layer 124, and such a part may be formed by a resin composition that is different from the resin composition forming each of the seal layers, thereby operating as the peeling portion having a peeling property with respect to the film of the container body.

[0056] Further, the container 100 with the zipper tape described above may be used as a microwave cooking container in which contents such as foods are heated using a microwave oven. In this case, the container 100 with the zipper tape is provided with a steaming mechanism configured to cause the containing space SP to communicate with

an external space while keeping the engagement portions **122A** and **122B** engaged with each other when an internal pressure of the containing space **SP** is increased by steam generated from the contents during heating. Various known configurations are usable as a specific configuration of the steaming mechanism.

[0057] FIG. 10 is a diagram illustrating a modification of the container with the zipper tape illustrated in FIG. 2. In the illustrated modification, a seal portion **140** having a wavy shape is provided between the peeling layer **124** provided on the base **121B** of the zipper tape **120** and the first surface **111A** of the film **110**. The seal portion **140** may have, for example, the shape of waves in which sides close to the engagement portions **122A** and **122B** are sharpened and sides on the containing space **SP** are rounded, as in the illustrated example. Further, the seal portion **140** may also be so provided as to have a narrow width as compared with other seal portions, for example, the top seal portion **112**, the bottom seal portion **113**, and the side seal portion **114**. This makes it easier to cause the peeling layer **124** to be peeled from the first surface **111A** upon unsealing as illustrated in FIG. 9. A shape of a seal portion between the peeling layer **124** and the first surface **111A** is not limited to the example of the seal portion **140** described above, and for example, a straight seal portion may be provided, or a seal portion may be provided on an entire part at which the peeling layer **124** and the first surface **111A** are in contact with each other. Even when the seal portion is provided on the entire part, it is possible to easily peel the peeling layer **124** from the first surface **111A** upon unsealing if the peel strength between the peeling layer **124** and the first surface **111A** is low.

[0058] Preferred exemplary embodiments of the invention have been described above in detail with reference to the accompanying drawings, but the invention is not limited to such exemplary embodiments. It is apparent that a skilled person in the art of the invention can arrive at various alterations and modifications within the scope of the technical idea recited in the appended claims, and it is understood that such alterations and modifications naturally fall within the technical scope of the invention.

EXPLANATION OF CODES

[0059] **100**: container with zipper tape, **101**: opening, **110**: film, **111A**: first surface, **111B**: second surface, **112**: top seal portion, **113**: bottom seal portion, **114**: side seal portion, **115**: seal portion, **116**: surrounding seal portion, **117**: non-bonded region, **120**: zipper tape, **121A**, **121B**: base, **122A**, **122B**: engagement portion, **123**: tear strip, **123A**: strip body, **123B**: bonding layer, **123C**: peeling layer, **124**: peeling layer, **125A**, **125B**, **126**: thick portion, **131**, **132**, **133**: cut, **140**: seal portion, **SP**: containing space.

1. A zipper tape comprising:
 - a first base;
 - a tear strip disposed in parallel with the first base at a first side in a width direction of the first base;
 - a second base having a width larger than a width of an area including the first base and the tear strip;
 - a first engagement portion and a second engagement portion that respectively protrude from the first base and the second base, and are engageable with each other; and
 - a peeling portion provided on a surface of the second base near the first base, the surface being located at a portion

where the second base extending beyond the first base at a second side opposite to the first side.

2. The zipper tape according to claim 1, wherein a resin composition forming the peeling portion is different from a resin composition forming a surface of the first base opposite to the first engagement portion, and is different from a resin composition forming a surface of the second base on a side of the second engagement portion at the first side.
3. The zipper tape according to claim 1, further comprising a thick portion provided at an end portion of the first base at the second side.
4. The zipper tape according to claim 1, further comprising a thick portion provided at an end portion of the first base at the first side.
5. The zipper tape according to claim 1, further comprising a thick portion provided on a surface of the second base, at a side near the first base, the second base extending beyond the tear strip at the first side.
6. The zipper tape according to claim 1, wherein the tear strip includes a strip body and a peeling layer, the peeling layer being provided on a surface, of the strip body, on a side facing the second base.
7. A container with a zipper tape comprising:
 - a container body that includes a film; and
 - the zipper tape according to claim 1, the zipper tape being attached to the film, wherein
 - a part of the second base extending beyond the tear strip at the first side, the tear strip, a surface of the first base opposite to the first engagement portion, and the peeling portion are each bonded to a first surface of the film.
8. The container with the zipper tape according to claim 7, wherein a peel strength between the peeling portion and the first surface is less than or equal to 30 N/15 mm.
9. The container with the zipper tape according to claim 7, wherein a bonded portion between the peeling portion and the first surface has a wavy planar shape.
10. The container with the zipper tape according to claim 7, wherein a cut having a tab shape is formed at least in the first surface.
11. The container with the zipper tape according to claim 10, wherein
 - the cut having the tab shape is formed at least in the first surface, the second base, and a second surface of the film, the second surface being opposed to the first surface, and
 - another cut is formed in the second surface and the second base, and the other cut does not penetrate through the tear strip.
12. The container with the zipper tape according to claim 10, wherein
 - the cut having the tab shape is formed in the first surface and the second base, and does not penetrate through a second surface of the film opposed to the first surface, and
 - a bonded region in which the first surface, the tear strip, the second base, and the second surface are bonded to each other is formed, and the cut having the tab shape is formed in a non-bonded region being at least partially surrounded by the bonded region.
13. The container with the zipper tape according to claim 7, wherein the container body has a bag shape.
14. The container with the zipper tape according to claim 7, further comprising a steaming mechanism configured to cause a containing space to communicate with an external

space while keeping the first engagement portion and the second engagement portion engaged with each other when an internal pressure of the containing space is increased.

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