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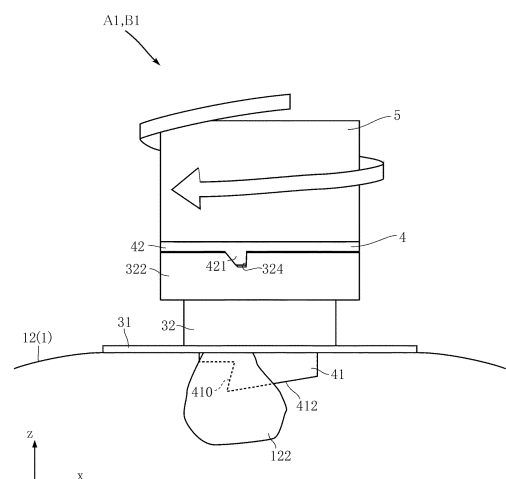
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(54) **PACKAGE BODY FOR POUCH CONTAINER AND POUCH CONTAINER PACKAGE**

(57) To provide a pouch container packaging body and a pouch container package with which a container body can be more reliably opened. A pouch container packaging body (A1) includes a container body (1) including a top sheet (12) covering the container body at a top side and a spout (2) fixed to an outer surface of the top sheet (12) and including a dispensing space (21) extending in an axial direction. The spout (2) includes a fixed portion (3) fixed to the top sheet (12), a rotating portion (4) configured to rotate relative to the fixed portion (3), and a cutting portion (410) configured to cut the top sheet (12). The top sheet (12) includes a flat portion (125) that is flat in a state where the fixed portion (3) is fixed. The cutting portion (410) is positioned away from the flat portion (125) in an initial state and moves while rotating in a direction from an external surface to an internal surface of the flat portion (125) in response to rotation of the rotating portion (4), and cuts the flat portion (125).

FIG.12



Description

Technical Field

[0001] The present invention relates to a pouch container packaging body and a pouch container package.

Background Art

[0002] A pouch container package is widely used as packaging suitable for storing beverages such as sports drinks, food products such as ice cream and jelly, and packaged materials such as pharmaceuticals. A spout fixed to the container body is used as a member for dispensing the packaged material inside the pouch. Patent Document 1 discloses an example of a pouch container package including a spout. In the pouch container package disclosed in Patent Document 1, before being used, the spout does not break the seal of the container body and the container body is maintained in a sealed state. When the packaged material in the pouch container is to be dispensed at the time of use, a portion of the spout is rotated so that the spout pierces the container body. This can suppress degradation of the packaged material before use.

Citation List

Patent Literature

[0003] Patent Document 1: EP 2143658 B1

Summary of Invention

Technical Problem

[0004] The pouch container package disclosed in Patent Document 1 has a structure in which a sharp tip portion of the spout is pressed against the container body so that the tip portion pierces the container body. In such a configuration, the ductility of the container body may result in the container body being insufficiently pierced.

[0005] The present invention has been made in light of the forgoing, and has an object to provide a pouch container packaging body and a pouch container package with which a container body can be more reliably opened.

Solution to Problem

[0006] A pouch container packaging body provided by one aspect of the present invention includes a container body including a top sheet covering the container body at a top side and a spout fixed to an outer surface of the top sheet and including a dispensing space extending in an axial direction. The spout includes a fixed portion fixed to the top sheet, a rotating portion configured to rotate relative to the fixed portion, and a cutting portion config-

ured to cut the top sheet. The top sheet includes a flat portion that is flat in a state where the fixed portion is fixed. The cutting portion is positioned away from the flat portion in an initial state and moves while rotating in a direction from an external surface to an internal surface of the flat portion in response to rotation of the rotating portion, and cuts the flat portion.

[0007] In a preferred embodiment of the present invention, the fixed portion includes a flange portion having a flat and annular shape, and the flange portion is fixed to an outer surface of the top sheet.

[0008] In a preferred embodiment of the present invention, the spout includes a rotation angle regulator configured to regulate rotation of the rotating portion to less than 360° after the cutting portion starts to cut the top sheet.

[0009] In a preferred embodiment of the present invention, the rotating portion includes a first cylindrical portion configured to screw into the fixed portion, and the cutting portion is formed on an endmost side in the axial direction of the first cylindrical portion.

[0010] In a preferred embodiment of the present invention, the cutting portion is inclined and protrudes further in a rotation direction closer to a tip end in the axial direction.

[0011] In a preferred embodiment of the present invention, the endmost side in the axial direction of the first cylindrical portion is formed into an inclined edge, the inclined edge increasing in inclination, from a tip end of the cutting portion to a base end in the axial direction, along a direction opposite to a rotation direction.

[0012] In a preferred embodiment of the present invention, the top sheet is formed with an easy-cut line configured to be easier to cut than adjacent portions, and the easy-cut line overlaps at least a portion of a rotation path of the cutting portion when viewed along the axial direction.

[0013] In a preferred embodiment of the present invention, the easy-cut line includes an outer guide portion located radially outward from the rotation path of the cutting portion and provided near a terminal of the rotation path of the cutting portion as viewed along the axial direction.

[0014] In a preferred embodiment of the present invention, the spout includes a band-like portion being removable and configured to prevent rotation of the rotating portion relative to the fixed portion.

[0015] A pouch container package provided by a second aspect of the present invention includes the pouch container packaging body provided by the first aspect of the present invention and a packaged material stored in the container body in a sealed state. Advantageous Effects of Invention

[0016] According to the present invention, a container body can be more reliably opened.

[0017] Other features and advantages of the present invention will become more apparent from the following detailed description made with reference to the accom-

panying drawings.

Brief Description of Drawings

[0018]

FIG. 1 is a front view illustrating a pouch container packaging body according to a first embodiment of the present invention.

FIG. 2 is a plan view illustrating the pouch container packaging body according to the first embodiment of the present invention.

FIG. 3 is a front view illustrating a pouch container package according to the first embodiment of the present invention.

FIG. 4 is an enlarged cross-sectional view of a main part taken along line IV-IV in FIG. 2.

FIG. 5 is an exploded perspective view illustrating a spout of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 6 is an exploded front view illustrating the spout of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 7 is an exploded cross-sectional view illustrating the spout of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 8 is a cross-sectional view of a main part illustrating a body sheet of a container body of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 9 is a cross-sectional view of a main part illustrating a top sheet of the container body of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 10 is a front view of a main part illustrating opening of the pouch container package according to the first embodiment of the present invention.

FIG. 11 is a front view of a main part illustrating opening of the pouch container package according to the first embodiment of the present invention.

FIG. 12 is a front view of a main part illustrating opening of the pouch container package according to the first embodiment of the present invention.

FIG. 13 is a front view of a main part illustrating opening of the pouch container package according to the first embodiment of the present invention.

FIG. 14 illustrates opening of the pouch container package according to the first embodiment of the present invention, where (a) is a schematic diagram illustrating a rotation angle, and (b) is an enlarged perspective view of a main part.

FIG. 15 illustrates opening of the pouch container package according to the first embodiment of the present invention, where (a) is a schematic diagram illustrating a rotation angle, and (b) is an enlarged perspective view of a main part.

FIG. 16 illustrates opening of the pouch container

package according to the first embodiment of the present invention, where (a) is a schematic diagram illustrating a rotation angle, and (b) is an enlarged perspective view of a main part.

FIG. 17 illustrates opening of the pouch container package according to the first embodiment of the present invention, where (a) is a schematic view illustrating a rotation angle, and (b) is an enlarged perspective view of a main part.

FIG. 18 illustrates opening of the pouch container package according to the first embodiment of the present invention, where (a) is a schematic diagram illustrating a rotation angle, and (b) is an enlarged perspective view of a main part.

FIG. 19 illustrates opening of the pouch container package according to the first embodiment of the present invention, where (a) is a schematic diagram illustrating a rotation angle, and (b) is an enlarged perspective view of a main part.

FIG. 20 is an exploded front view illustrating a first modification of the spout of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 21 is an exploded front view illustrating a second modification of the spout of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 22 is an exploded front view illustrating a third modification of the spout of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 23 is an exploded front view illustrating a fourth modification of the spout of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 24 is a cross-sectional view illustrating a fifth modification of the spout of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 25 is an enlarged perspective view of a main part illustrating a first modification of the top sheet of the container body of the pouch container packaging body according to the first embodiment of the present invention.

FIG. 26 is an enlarged perspective view of a main part illustrating a second modification of the top sheet of the container body of the pouch container packaging body according to the first embodiment of the present invention.

Description of Embodiments

[0019] Preferable embodiments of the present invention will now be described with reference to the drawings.

[0020] In the following description, an upper side in the up-down direction may be referred to as a "top" side, and a lower side in the up-down direction may be referred to as a "bottom" side. Further, the terms "up-down direction"

and "front-back direction" are merely used for convenience to explain configurations, and the orientation of the pouch container packaging body and the pouch container package is not limited to these directions. Terms such as "first" and "second" used herein are merely used for convenience to distinguish between components and are not intended to denote an order to the components.

First Embodiment

[0021] FIGS. 1 to 9 illustrate a pouch container packaging body and a pouch container package according to a first embodiment of the present invention. A pouch container packaging body A1 according to the present embodiment includes a container body 1 and a spout 2. The pouch container packaging body A1 is a packaging body used in a pouch container package B1.

[0022] FIG. 1 is a front view illustrating the pouch container packaging body A1. FIG. 2 is a plan view illustrating the pouch container packaging body A1. FIG. 3 is a front view illustrating the pouch container package B1. FIG. 4 is an enlarged cross-sectional view of a main part taken along line IV-IV in FIG. 2. FIG. 5 is an exploded perspective view illustrating a spout of the pouch container packaging body A1. FIG. 6 is an exploded front view illustrating the spout of the pouch container packaging body A1. FIG. 7 is an exploded cross-sectional view illustrating the spout of the pouch container packaging body A1. FIG. 8 is a cross-sectional view of a main part illustrating a body sheet of the container body of the pouch container packaging body A1. FIG. 9 is a cross-sectional view of a main part illustrating a top sheet of the container body of the pouch container packaging body A1.

Container Body 1

[0023] In the pouch container package B1, a packaged material 7 is stored in the container body 1 in a sealed state. The container body 1 includes a pair of body sheets 11 and a top sheet 12. Note that the specific configuration of the container body 1 in the pouch container packaging body A1 and the pouch container package B1 is not particularly limited. The container body 1 may include only the pair of body sheets 11 and the top sheet 12, or may have a configuration further including a side gusset sheet or a bottom gusset sheet.

[0024] The pair of body sheets 11 overlap in the y-direction. The shape and size of the pair of body sheets 11 are not particularly limited. The body sheet 11 has, for example, a rectangular shape, a polygonal shape, or another appropriately selected shape. In this embodiment, the body sheet 11 has a substantially rectangular shape. The body sheets 11 are configured to maintain the sealed state of the container body 1 before the pouch container package B1 is used, and do not include a through hole or a cut portion in communication with the inside. Note that the pair of body sheets 11 constituting the container body 1 is not limited to separate sheet ma-

terials. For example, the pair of body sheets 11 overlapping in the y-direction may be formed by joining the ends of one sheet material in the width direction and folding this cylindrical sheet to be flat.

[0025] The top sheet 12 covers the pair of body sheets 11 at the top side (the upper side in the z-direction in FIGS. 1 and 3). The shape and size of the top sheet 12 are not particularly limited. The top sheet 12 has, for example, a rectangular shape, a polygonal shape, a circular shape, an elliptical shape, or another appropriately selected shape. In this embodiment, the top sheet 12 has a substantially hexagonal shape as illustrated in FIG. 2. The top sheet 12 is configured to maintain the sealed state of the container body 1 before the pouch container package B1 is used, and does not include a through-hole or cutting portion in communication with the inside. As illustrated in FIG. 4, the top sheet 12 includes a flat portion 125. The flat portion 125 is a portion that is flat in a state where a fixed portion 3 described below is fixed.

[0026] The pair of body sheets 11 and the top sheet 12 are typically each formed of a resin film. The resin film is required to have basic packaging performance, such as impact resistance, wear resistance, and heat resistance. The sheet is also required to have heat sealing properties in order to form a seal portion 17 (described below), which is typically formed by heat sealing. The spout 2 to be described below is fixed to the top sheet 12 by ultrasonic welding, for example. Suitable examples of the sheet include a multilayer sheet including a base film layer and a sealant film layer that imparts heat sealing properties. When high gas barrier properties or light shielding properties is required, a barrier layer is preferably provided between the base film layer and the sealant film layer. Note that the base film layer itself may impart barrier properties. In this case, the barrier layer is used as the base film layer, and the multilayer sheet includes the barrier layer and the sealant film layer.

[0027] As illustrated in FIG. 8, in the present embodiment, a case in which the body sheet 11 is formed by layering a base film layer 101, a sealant film layer 102, and a barrier film layer 104 will be described as an example. Also, as illustrated in FIG. 9, a case in which the top sheet 12 is formed by layering the base film layer 101, the sealant film layer 102, a sealant film layer 103, and the barrier film layer 104 will be described as an example.

[0028] As illustrated in FIG. 8, in the body sheet 11, the base film layer 101 is disposed on the outer surface side, and the sealant film layer 102 is exposed to the inner surface. Further, the barrier film layer 104 is present between the base film layer 101 and the sealant film layer 102. Note that in FIG. 8, the left side in the y-direction denotes the outer surface side, and the right side denotes the inner surface side.

[0029] In the top sheet 12, the sealant film layer 103 is exposed to the outer surface, and the sealant film layer 102 is exposed to the inner surface. The base film layer 101 is present between the sealant film layer 102 and

the sealant film layer 103. The barrier film layer 104 is present between the base film layer 101 and the sealant film layer 102. Note that the barrier film layer 104 may be present between the base film layer 101 and the sealant film layer 103. Additionally, the barrier film layer 104 may be provided on both sides of the base film layer 101. Note that in FIG. 9, the upper side in the z-direction denotes the outer surface side, and the lower side denotes the inner surface side.

[0030] In the present embodiment, the top sheet 12 includes an easy-cut line 120. The easy-cut line 120 is a linear portion formed in the flat portion 125 and configured to be easier to cut than adjacent portions. The easy-cut line 120 is constituted by a groove recessed from the sealant film layer 103 on the outer surface side, for example. The specific configuration of the easy-cut line 120 is not particularly limited, and the easy-cut line 120 may be constituted by a cavity portion, for example. Examples of such a cavity portion include a cavity formed in only the base film layer 101 among the sealant film layer 103, the base film layer 101, the barrier film layer 104 and the sealant film layer 102 that constitute the top sheet 12 illustrated in FIG. 9, where the cavity is formed by altering the base film layer 101 by irradiation with laser light. However, from the perspective of protecting the packaged material 7, the easy-cut line 120 is preferably configured not to extend through the barrier film layer 104. The easy-cut line 120 can be formed by, for example, irradiating the material sheet of the top sheet 12 with a laser beam from the sealant film layer 103 side. The position at which the easy-cut line 120 is provided and its function will be described later.

[0031] Examples of the constitutional materials of the base film layer 101, the sealant film layers 102, 103, and the barrier film layer 104 will now be described. These layers can be layered by using a conventional laminating method such as co-extrusion lamination, dry lamination with an adhesive, and thermal lamination in which the layers are heat-bonded with a heat-adhesive layer in between.

[0032] Examples of the film constituting the base film layer 101 include one layer or two or more layers of a stretched film or an unstretched film made of, for example, a polyester (polyethylene terephthalate (PET), polyethylene naphthalate (PEN), polybutylene terephthalate (PBT), polycarbonate (PC), or the like), a polyolefin (polyethylene (PE), polypropylene (PP), or the like), a polyamide (nylon-6, nylon-66, or the like), polyacrylonitrile (PAN), polyimide (PI), polyvinyl chloride (PVC), polyvinylidene chloride (PVDC), polymethyl methacrylate (PMMA), and polyethersulfone (PES).

[0033] Examples of the film constituting the sealant film layers 102, 103 include one layer or two or more layers of a stretched film or an unstretched film made of, for example, low density polyethylene (LDPE), linear low density polyethylene (LLDPE), an ethylenepropylene copolymer (EP), cast polypropylene (CPP), oriented nylon (ON), an ethylene-olefin copolymer, an ethylene-acrylic

acid copolymer (EAA), an ethylene-methacrylic acid copolymer (EMAA), and an ethylene-vinyl acetate copolymer (EVA).

[0034] Examples of the barrier film layer 104 include a metal thin film made of aluminum or the like and a resin film made of vinylidene chloride (PVDC), an ethylene-vinyl alcohol copolymer (EVOH), or any synthetic resin film (e.g., a base film layer) on which an inorganic oxide such as aluminum, aluminum oxide or silica is deposited (or sputtered).

[0035] Note that examples of the preferred configuration of the top sheet 12 having the above-described easy-cut line 120 formed of a cavity portion include a layered film including at least four layers being a polyethylene-based sealant film layer (sealant film layer 103), a polyester-based or a polyamide-based base film layer (base film layer 101), a metal thin film (barrier film layer 104), and a polyethylene-based sealant layer (sealant film layer 103).

[0036] The seal portion 17 is a portion where the pair of body sheets 11 and the top sheet 12 are joined together at suitable portions, and allows the container body 1 to store the packaged material 7 in a sealed state. The specific configuration of the seal portion 17 is not particularly limited. In the present embodiment, the seal portion 17 is formed by heat sealing. As illustrated in FIGS. 1 and 2, in the illustrated pouch container packaging body A1, the seal portion 17 includes a pair of side seal portions 171 and a top seal portion 172.

[0037] The pair of side seal portions 171 are portions where end portions of the pair of body sheets 11 in the x-direction are joined. In the present embodiment, the sealant film layers 102 of the pair of body sheets 11 are joined by heat sealing at the side seal portions 171.

[0038] As illustrated in FIG. 2, the top seal portion 172 is a portion where the top portions of the pair of body sheets 11 and the edge portion of the top sheet 12 are joined together. In the illustrated example, the sealant film layer 102 of the pair of body sheets 11 and the sealant film layer 102 of the top sheet 12 are joined by heat sealing.

[0039] Also, as illustrated in FIG. 3, in the pouch container package B1, the seal portion 17 includes a bottom seal portion 173 in addition to the pair of side seal portions 171 and the top seal portion 172. The bottom seal portion 173 is a portion where the bottom portions of the pair of body sheets 11 are joined after the container body 1 of the pouch container packaging body A1 is filled with the packaged material 7 from the bottom side of the container body 1. In the present embodiment, the sealant film layers 102 of the pair of body sheets 11 are joined by heat sealing at the bottom seal portion 173. By forming the seal portion 17 in the pouch container package B 1, the packaged material 7 is stored in the container body 1 in a sealed state.

Spout 2

[0040] The spout 2 is used for dispensing the packaged material 7 in the pouch container package B1. In the present embodiment, as illustrated in FIGS. 4 to 7, the spout 2 includes a fixed portion 3, a rotating portion 4, a cap portion 5, and a band-like portion 6. As illustrated in FIG. 4, the spout 2 includes a dispensing space 21 that extends in the z-direction, which is an axial direction. After the pouch container package B1 is opened, the packaged material 7 is dispensed via the dispensing space 21. The material of the spout 2 is not particularly limited. For example, the spout 2 is constituted by a resin material such as polyethylene. Note that the specific configuration of the spout 2 is not limited and may be changed as appropriate, provided that the intended function of the present invention can be achieved.

[0041] As illustrated in FIGS. 4, 6 and 7, the fixed portion 3 is fixed to the outer surface (upper surface in the drawing) of the top sheet 12. In the present embodiment, the fixed portion 3 includes a flange portion 31 and a second cylindrical portion 32.

[0042] The flange portion 31 has a flat shape along the xy-plane, and is annular when viewed from the z-direction. The shape of the flange portion 31 viewed from the z-direction is selected from a variety of shapes such as an annular shape, an elliptical ring shape and a polygonal ring shape. In the illustrated example, the flange portion 31 has an annular shape.

[0043] In the present embodiment, as illustrated in FIG. 4, the flange portion 31 is fixed to the outer surface of the top sheet 12. The method used for fixing the flange portion 31 is not particularly limited. In the present embodiment, ultrasonic welding is used to join the flange portion 31 to the sealant film layer 103 of the top sheet 12. Note that the flange portion 31 may be fixed to the top sheet 12 by using an adhesive or heat sealing. When the flat and annular flange portion 31 is fixed, a portion of the top sheet 12 overlapping the flange portion 31 and a portion located inward of the flange portion 31 when viewed from at least the z-direction are maintained in a flat shape, and these portions are designated as the flat portion 125 described above.

[0044] As illustrated in FIGS. 4 to 7, the second cylindrical portion 32 is a portion that is connected to an inner peripheral end of the flange portion 31 and has a substantially cylindrical shape extending toward the top side in the z-direction (upper side in the figures). In the illustrated example, the second cylindrical portion 32 includes a second thread portion 321 and a thick portion 322.

[0045] As illustrated in FIGS. 4, 5 and 7, the second thread portion 321 is formed on the inner peripheral surface of the second cylindrical portion 32. The second thread portion 321 is a portion that engages with a first thread portion 411 (described below) of the rotating portion 4.

[0046] As illustrated in FIGS. 4 and 7, the thick portion 322 is formed on the upper side in the z-direction of the

second cylindrical portion 32, and is a portion that has a partially large dimension in the radial direction when the z-direction is the axial direction. The thick portion 322 of the present embodiment includes a tapered surface 323 and a recessed portion 324.

[0047] As illustrated in FIGS. 4 and 7, the tapered surface 323 is a portion on the upper side in the z-direction of the inner peripheral surface of the thick portion 322. The tapered surface 323 is an inclined surface with a larger radial dimension closer to the upper side in the z-direction.

[0048] As illustrated in FIGS. 5 and 6, the recessed portion 324 is a portion recessed downward from the upper surface of the thick portion 322 in the drawings. The recessed portion 324 is a portion that functions with a protruding portion 421 of the rotating portion 4 to be described below to constitute a rotation angle regulator according to the present invention.

[0049] The rotating portion 4 is a member that can rotate relative to the fixed portion. As illustrated in FIGS. 4 and 7, the rotating portion 4 has an entirely cylindrical shape and forms the dispensing space 21 together with the fixed portion 3. As illustrated in FIGS. 4 to 7, in the present embodiment, the rotating portion 4 includes a first cylindrical portion 41, a rim portion 42, an outer cylinder portion 43, and a nozzle portion 44.

[0050] The first cylindrical portion 41 is a portion having a substantially cylindrical shape and, as illustrated in FIG. 4, is located on the inner side of the second cylindrical portion 32 of the fixed portion 3. As illustrated in FIGS. 4 to 7, the first cylindrical portion 41 of the present embodiment includes a cutting portion 410, the first thread portion 411, and an inclined edge 412.

[0051] The cutting portion 410 is a portion that, when the rotating portion 4 is rotated relative to the fixed portion 3 and the top sheet 12, moves in a direction from the outer surface to the inner surface of the flat portion 125 (downward in the z-direction in the drawings) while rotating about a central axis extending in the z-direction. In the present embodiment, the cutting portion 410 is integrally formed with the rotating portion 4 as a part of the first cylindrical portion 41. As illustrated in FIGS. 4 and 5, the cutting portion 410 is provided at a position separated from the central axis extending in the z-direction (axial direction) of the rotating portion 4 by a predetermined distance. In an initial state to be described below, a tip of the cutting portion 410 is separated from the flat portion 125 on the upper side in the z-direction (axial direction). Note that the cutting portion according to the present invention is not limited to being integrally formed as a part of the first cylindrical portion 41. The specific configuration of the cutting portion is not particularly limited, and the cutting portion need only be configured to move in the direction from the outer surface to the inner surface of the flat portion 125 while rotating about the central axis extending in the z-direction when the rotating portion 4 is rotated relative to the fixed portion 3 and the flat portion 125. For example, the cutting portion may be

constituted by a member separate from the first cylindrical portion 41. Further, the rotating portion 4 may be configured to move upward in the z-direction and the cutting portion may be configured to move downward in the z-direction by rotating the rotating portion 4 with a gear member present between the cutting portion and the first cylindrical portion 41.

[0052] The specific shape and size of the cutting portion 410 are not particularly limited. The cutting portion 410 need only be able to cut the flat portion 125 of the top sheet 12. In the present embodiment, the cutting portion 410 has a shape that becomes thinner closer to the tip end in the circumferential direction, and has a shape similar to a cutting blade. Note that the cutting portion 410 is not limited to a pointed shape that can smoothly cut the flat portion 125, and may have any shape with which the flat portion 125 can be cut when the rotating portion 4 is rotated as to be described below. Additionally, in the present embodiment, the cutting portion 410 is inclined and protrudes further in a rotation direction closer to a tip end in the axial direction (lower end in the z-direction), as clearly illustrated in FIGS. 5 and 6. Here, "rotation direction" refers to the direction in which the cutting portion 410 rotates when the cutting portion 410 moves in the direction from the outer surface to the inner surface of the flat portion 125 due to the rotation of the rotating portion 4. Further, at the endmost portion of the first cylindrical portion 41, the angle formed by the cutting portion 410 and the inclined edge 412 is an acute angle. This provides the advantage that, when the pouch container package B1 is opened as to be described below, the tip of the cutting portion 410 more easily pierces the flat portion 125.

[0053] As illustrated in FIGS. 4 to 7, the first thread portion 411 is formed on the outer peripheral surface of the first cylindrical portion 41. The first thread portion 411 screws into the second thread portion 321 of the fixed portion 3. In the present embodiment, when the rotating portion 4 is rotated clockwise as viewed from above in the z-direction, the rotating portion 4 moves in the direction from the outer surface to the inner surface of the flat portion 125 (moves lower in the z-direction) due to this screw configuration.

[0054] The inclined edge 412 is a lower edge of the first cylindrical portion 41 in the z-direction, and is continuous with a tip of the cutting portion 410. As illustrated in FIGS. 4 to 7, the inclined edge 412 is inclined in the axial direction from a tip end side (lower side in the z-direction) of the cutting portion 410 to a base end side (upper side in the z-direction) of the cutting portion 410, the inclination increasing from the tip end side of the cutting portion 410 further along a direction opposing the rotation direction.

[0055] As illustrated in FIGS. 4 to 7, the rim portion 42 is a portion that projects radially from an upper portion of the first cylindrical portion 41 in the z-direction (axial direction). In the illustrated example, the rim portion 42 has a substantially annular shape and has an outer di-

ameter dimension that is, for example, substantially equal to the outer dimension of the thick portion 322 of the fixed portion 3. The rim portion 42 of the present embodiment has a protruding portion 421.

[0056] As illustrated in FIGS. 5 and 6, the protruding portion 421 is a portion protruding downward from the bottom surface of the rim portion 42 in the drawings. The protruding portion 421 is a portion that constitutes, with the recessed portion 324 of the fixed portion 3 described above, the rotation angle regulator according to the present invention.

[0057] As illustrated in FIGS. 4 and 7, the outer cylinder portion 43 is disposed on the outer side of the first cylindrical portion 41 in the radial direction, and extends downward in the z-direction from the rim portion 42. The endmost portion of the outer cylinder portion 43 has a tapered shape that becomes thinner further downward in the z-direction. The outer cylinder portion 43 overlaps with the tapered surface 323 of the fixed portion 3 when viewed from the z-direction.

[0058] The nozzle portion 44 is a portion for dispensing the packaged material 7 in the pouch container package B1. As illustrated in FIGS. 4 to 7, in the present embodiment, the nozzle portion 44 extends upward in the z-direction from an upper inner edge of the rim portion 42. The shape of the nozzle portion 44 is not particularly limited. In the illustrated example, the nozzle portion 44 has a tapered cylindrical shape that decreases in diameter further upward in the z-direction.

[0059] The cap portion 5 is a member that covers the dispensing space 21 of the spout 2 from above in the z-direction. The specific configuration of the cap portion 5 is not particularly limited. In the present embodiment, the cap portion 5 is configured as a member separate from the rotating portion 4, and is configured to fit into the rotating portion 4. More specifically, when the cap portion 5 is fitted into the rim portion 42 of the rotating portion 4, a portion of the cap portion 5 covers the tip of the nozzle portion 44. Note that the cap portion 5 may be fixed by a technique such as threaded engagement with the rotating portion 4. Additionally, the cap portion 5 may be integrally formed with the rotating portion 4, or may have an open/close configuration that can switch between covering and opening the nozzle portion 44.

[0060] As illustrated in FIGS. 4 to 7, the band-like portion 6 is provided between the thick portion 322 of the fixed portion 3 and the rim portion 42 of the rotating portion 4. In the illustrated example, the band-like portion 6 surrounds the first cylindrical portion 41 and the outer cylinder portion 43 of the rotating portion 4 from the outer side in the radial direction. The band-like portion 6 can be removed from the fixed portion 3 and the rotating portion 4 and, in the illustrated example, the band-like portion 6 is connected to the rotating portion 4 at a plurality of locations. Additionally, the band-like portion 6 includes a tab portion 61. The tab portion 61 is provided at one end of the band-like portion 6 and has a shape that can be easily grasped by a user. The band-like portion 6 func-

tions to prevent the rotating portion 4 from approaching the fixed portion 3.

[0061] Opening of the pouch container package B1 will now be described with reference to FIGS. 10 to 19.

[0062] FIG. 4 illustrates the pouch container package B1 in an unopened state. As illustrated in FIGS. 10 and 11, to open the pouch container package B1 and dispense the packaged material 7, the band-like portion 6 is first removed from the rotating portion 4 by grasping the tab portion 61, for example. In this state, the rotating portion 4 is not yet rotated relative to the fixed portion 3. This state is referred to as the initial state. In the initial state, the circumferential position of the recessed portion 324 of the fixed portion 3 and the circumferential position of the protruding portion 421 of the rotating portion 4 are substantially aligned. In addition, the tip of the cutting portion 410 is separated from the flat portion 125 on the upper side in the z-direction (axial direction). In the illustrated example, a case where the circumferential position of the tip of the cutting portion 410 is substantially equal to those of the recessed portion 324 and the protruding portion 421 is described as an example, but no limitation is intended.

[0063] FIG. 14 illustrates the relationship between the rotating portion 4 (cutting portion 410) and the flat portion 125 of the top sheet 12 in the initial state. FIG. 14(a) is a schematic view of the flat portion 125 of the top sheet 12 as viewed from the lower side in the z-direction (axial direction). A rotation path 40 is a virtual line representing the path traveled by the tip of the cutting portion 410 when the rotating portion 4 rotates, projected onto the flat portion 125 along the z-direction. As to be described below, in the present embodiment, the rotating portion 4 rotates approximately 360° from the initial state until the flat portion 125 has finished being cut, where the rotation path 40 is a substantially true circle. Note that the rotation angle from the initial state until the top sheet 12 has finished being cut can be appropriately set and may be, for example, from 540° to 1080°. In such a case, there is a margin of 0.5 to 2 rotations for rotating the rotating portion 4 from the initial state until the cutting portion 410 comes into contact with the flat portion 125, and the tip of the cutting portion 410 can be further separated from the flat portion 125 in the z-direction by this margin in the initial state. As described above, the easy-cut line 120 is a linear portion that is provided in the flat portion 125 and configured to be easy to cut. In FIG. 14(a), to facilitate understanding, the easy-cut line 120 is indicated by a dotted line. Further, a portion of the easy-cut line 120 overlaps the rotation path 40. This portion is indicated only by the dotted line indicating the easy-cut line 120.

[0064] A point P0 is the circumferential position of the tip of the cutting portion 410 in the initial state. The rotating portion 4 of the present embodiment is configured to rotate relative to the fixed portion 3 clockwise when viewed from the upper side in the z-direction. Thus, in FIG. 14(a), the cutting portion 410 rotates counterclockwise. The easy-cut line 120 of the present embodiment is provided

at a position separated from a point P in the circumferential direction. The distance (angle) between the point P and the end portion of the easy-cut line 120 is not particularly limited, and is, for example, approximately from 15° to 60°. The easy-cut line 120 includes a portion that overlaps the rotation path 40 when viewed from the z-direction (axial direction). The entire easy-cut line 120 may be configured to overlap the rotation path 40, or some of the easy-cut line 120 may be configured to overlap the rotation path 40. In the illustrated example, 1/2 to 3/4 of the easy-cut line 120 overlaps the rotation path 40. Further, the easy-cut line 120 includes an outer guide portion 1201. The outer guide portion 1201 is provided closer to the terminal of the rotation path 40 (easy-cut line 120) of the cutting portion 410 when viewed from the z-direction (axial direction) and is positioned radially outward relative to the rotation path 40. The angle at which the easy-cut line 120 is provided is not particularly limited, and the easy-cut line 120 is provided in an angle range from 45° to 345°, for example.

[0065] FIG. 14(b) is a perspective view of a main part illustrating the flat portion 125 of the top sheet 12 when viewed from below in the z-direction (axial direction). The flat portion 125 and the cutting portion 410 are illustrated in the initial state illustrated in FIG. 14(b). In the initial state, the tip of the cutting portion 410 is separated from the flat portion 125 upward in the z-direction, and the circumferential position is at the point P0 as described above. Note that, to facilitate understanding, FIGS. 14(a) and (b) illustrate an auxiliary line passing through the point P0 and parallel to the y-direction and an auxiliary line that is orthogonal to the auxiliary line. Note that the description made with reference to FIGS. 15 to 19 is the same as the description made with reference to FIG. 14.

[0066] Next, after removing the band-like portion 6 as illustrated in FIGS. 10 and 11, the rotating portion 4 is rotated relative to the fixed portion 3. In the present embodiment, the rotating portion 4 and the cap portion 5 are integrally rotated. FIGS. 11 and 15 illustrate a state where the cutting portion 410 is rotated to a point P1 in the circumferential direction. In this state, rotation of the rotating portion 4 causes the cutting portion 410 to approach the flat portion 125 in the z-direction, and the tip of the cutting portion 410 comes into contact with the flat portion 125. This state is a state where the flat portion 125 starts to be cut by the cutting portion 410. Thus, the flat portion 125 is not cut in the range from the point P0 to the point P1 of the flat portion 125. In the present embodiment, the easy-cut line 120 is provided from near the point P1 at which the cutting portion 410 is in contact with the flat portion 125.

[0067] FIG. 16 illustrates a state where the rotating portion 4 is further rotated and the cutting portion 410 has reached a point P2 in the circumferential direction. When the rotating portion 4 rotates from the state illustrated in FIG. 15 to the state illustrated in FIG. 16, the cutting portion 410 rotates about the z-direction while moving further downward in the z-direction, and moves from the point

P1 to the point P2 in the circumferential direction. As a result, some of the flat portion 125 is cut by the cutting portion 410. In the present embodiment, the cutting portion 410 cuts the flat portion 125 from the point P1 to the point P2 along the easy-cut line 120.

[0068] FIG. 17 illustrates a state where the rotating portion 4 is further rotated and the cutting portion 410 has reached a point P3 in the circumferential direction. When the rotating portion 4 rotates from the state illustrated in FIG. 16 to the state illustrated in FIG. 17, the cutting portion 410 rotates about the z-direction while moving further downward in the z-direction, and moves from the point P2 to the point P3 in the circumferential direction. Thus, the flat portion 125 is further cut by the cutting portion 410. In the present embodiment, the cutting portion 410 cuts the flat portion 125 from the point P2 to the point P3 along the easy-cut line 120. By cutting the flat portion 125 from the point P1 to the point P3, a cut piece 122 is formed in the flat portion 125. The cut piece 122 is a portion defined by an arc-shaped cut line 121 formed by the cutting portion 410.

[0069] FIG. 18 illustrates a state where the rotating portion 4 is further rotated and the cutting portion 410 has reached a point P4 in the circumferential direction. When the rotating portion 4 rotates from the state illustrated in FIG. 17 to the state illustrated in FIG. 18, the cutting portion 410 rotates about the z-direction while moving further downward in the z-direction, and moves from the point P3 to the point P4 in the circumferential direction. As a result, the flat portion 125 is further cut by the cutting portion 410 and, in the illustrated example, is clearly no longer in a flat state. In the present embodiment, the cutting portion 410 cuts the top sheet 12 (flat portion 125) from the point P3 to the point P4 along the easy-cut line 120. The cut piece 122 is expanded due to the development of the cut in the top sheet 12 (flat portion 125).

[0070] FIGS. 12 and 19 illustrate a state where the rotating portion 4 is further rotated and the cutting portion 410 has reached a point P5 in the circumferential direction. The point P5 is substantially the same position as the point P0. When the rotating portion 4 rotates from the state illustrated in FIG. 18 to the state illustrated in FIG. 19, the cutting portion 410 rotates about the z-direction while moving further downward in the z-direction, and moves from the point P4 to the point P5 in the circumferential direction. In the present embodiment, the easy-cut line 120 overlaps with the rotation path 40 in the range from the point P0 to the point P4, and is provided with the outer guide portion 1201 located radially outward from the rotation path 40 in the range from the point P4 to the point P5. Thus, although the cutting portion 410 moves from the point P4 to the point P5, cutting of the top sheet 12 (flat portion 125) advances along the outer guide portion 1201. As a result, the cutting portion 410 exhibits a behavior of being located radially inward from the cut piece 122 as a result of moving from the point P4 to the point P5. As illustrated in FIG. 12, in this state, the protruding portion 421 is fitted into the recessed portion

324. This prevents further rotation of the rotating portion 4. In this way, the recessed portion 324 and the protruding portion 421 regulate the rotation of the cutting portion 410 starting from the point P0 and reaching the point P5.

5 That is, the recessed portion 324 and the protruding portion 421 restrict the rotation of the rotating portion 4 after the point P1 at which the cutting portion 410 starts to cut the top sheet 12 (flat portion 125) to less than 360°, and constitutes the rotation angle regulator according to the present invention. Note that the specific configuration of the rotation angle regulator is not limited to the configuration consisting of the recessed portion 324 and the protruding portion 421. For example, the rotation angle regulator may be configured by a protruding portion formed on the fixed portion 3 and a recessed portion formed in the rotating portion 4. In addition, when one of the fixed portion 3 and the rotating portion 4 is configured to cover the other, the rotation angle regulator may be configured by a protruding portion or a recessed portion formed on an inner surface of the component located on the outer side and a recessed portion or a protruding portion formed on the outer surface of the component located on the inner side.

[0071] The cutting by the cutting portion 410 forms an opening corresponding to the size of the cut piece 122 in a portion (flat portion 125) surrounded by the flange portion 31 of the top sheet 12. As a result, the container body 1 is opened. For example, as illustrated in FIG. 13, the packaged material 7 can be dispensed from the nozzle portion 44 by removing the cap portion 5 from the rotating portion 4. The above step completes the opening of the pouch container package B 1.

[0072] Next, the operation of the pouch container packaging body A1 and the pouch container package B 1 is described.

[0073] According to the present embodiment, as illustrated in FIGS. 14 to 19, the cutting portion 410 rotates about the central axis extending in the z-direction (axial direction) so as to draw the rotation path 40 while moving in the direction from the outer surface to the inner surface of the flat portion 125 of the top sheet 12, thereby cutting the flat portion 125. This allows the flat portion 125 to be more reliably cut. For example, in a configuration where the container body 1 is opened by piercing the flat portion 125, the container body may not be sufficiently pierced due to the ductility of the container body. However, this is less likely to happen in the present embodiment. Therefore, with the pouch container packaging body A1 and the pouch container package B 1, the container body 1 can be more reliably opened.

[0074] As illustrated in FIG. 5, the flange portion 31 of the fixed portion 3 has a flat annular shape. Due to this flat shape, as illustrated in FIGS. 4 and 7, the flatness of a portion of the flat portion 125 overlapping the flange portion 31 when viewed from the z-direction and a portion located inside the flange portion 31 can be reliably maintained. This makes it possible to more easily cut with the cutting portion 410.

[0075] As illustrated in FIG. 12, because the rotation angle regulator constituted by the recessed portion 324 of the fixed portion 3 and the protruding portion 421 of the rotating portion 4 is provided, the rotation of the rotating portion 4 after the cutting portion 410 starts cutting is restricted to less than 360°. Thus, as illustrated in FIG. 19, the range from the point P0 (point P5) to the point P1 of the flat portion 125 can be set to a region that is not cut by the cutting portion 410. As a result, the cut piece 122 can be prevented from accidentally detaching from the flat portion 125, and the packaged material 7 is less likely to be contaminated by the cut piece 122.

[0076] As illustrated in FIGS. 5 and 6, the cutting portion 410 is integrally formed with the rotating portion 4, and rotating the rotating portion 4 causes the cutting portion 410 to rotate. As a result, the force of rotating the rotating portion 4 is efficiently transmitted to the cutting portion 410, and the flat portion 125 can be more reliably cut.

[0077] Also, as illustrated in FIGS. 5 and 6, the cutting portion 410 is inclined so as to be positioned further in the rotation direction closer to a z-direction (axial direction) tip end. As a result, as illustrated in FIG. 19, the tip of the cutting portion 410 is positioned on the radial inner side of the cut piece 122, and this can reduce the possibility that the cut piece 122 bends inward. This is preferable for reducing the possibility that the packaged material 7 is inhibited from being dispensed due to the cut piece 122 covering the opening of the top sheet 12.

[0078] As illustrated in FIGS. 5 and 6, the first cylindrical portion 41 includes the inclined edge 412. As a result, the first cylindrical portion 41 has a shape including a portion supporting the cutting portion 410 from the direction opposite to the rotation direction. This is preferable for reducing the possibility that the cutting portion 410 unintentionally deforms or becomes damaged when the cutting portion 410 cuts the flat portion 125.

[0079] As illustrated in FIG. 9 and FIGS. 14 to 18, the easy-cut line 120 is formed in the flat portion 125. This allows the flat portion 125 to be more smoothly cut by the cutting portion 410. Additionally, this can reduce the possibility that the flat portion 125 is cut at an unintended position. In the illustrated example, the easy-cut line 120 is not provided in the range from the point P0 to the point P1. This makes it possible to set the range to a range in which cutting is difficult, and to prevent the cut piece 122 from detaching from the flat portion 125.

[0080] Additionally, the outer guide portion 1201 is provided on the easy-cut line 120. The outer guide portion 1201 is provided closer to the terminal of the rotation path 40 (easy-cut line 120) and is located radially outward from the rotation path 40. Accordingly, the flat portion 125 can be cut radially outward from the rotation path 40 and, as illustrated in FIG. 19, the cutting portion 410 can be more reliably positioned on the radially inner side of the cut piece 122. This is preferable for increasing the effect of preventing the cut piece 122 from bending due to the cutting portion 410.

[0081] Because the band-like portion 6 is provided in the spout 2, the rotating portion 4 can be prevented from unintentionally rotating and accidentally cutting the flat portion 125 during transportation or shelf stacking.

[0082] FIGS. 20 to 26 illustrate other examples of the present invention. Note that in these drawings, elements identical or similar to those of the above-described embodiments are denoted by the same reference symbols as those described above.

First Modification of Spout 2

[0083] FIG. 20 illustrates a first modification of the spout 2. In the present example, the cutting portion 410 has a shape substantially parallel to the z-direction, and is not inclined relative to the z-direction.

[0084] Even with the present modification, the container body 1 can be more reliably opened. Also, as will be appreciated from the present modification, the specific shape of the cutting portion 410, such as the inclination, is not particularly limited, and the cutting portion 410 need only be able to cut the flat portion 125.

Second Modification of Spout 2

[0085] FIG. 21 illustrates a second modification of the spout 2. In the present modification, the cutting portion 410 is inclined so as to be positioned further in a direction opposite to the rotation direction closer to a tip end in the axial direction (lower end in the z-direction in the drawings).

[0086] Even with the present modification, the container body 1 can be more reliably opened. In addition, according to the present modification, unintended deformation of the cutting portion 410 when cutting the flat portion 125 can be suppressed.

Third Modification of Spout 2

[0087] FIG. 22 illustrates a third modification of the spout 2. In the present modification, the first cylindrical portion 41 does not include the inclined edge 412 as in the example described above. The cutting portion 410 is provided at a portion of the first cylindrical portion 41 protruding downward in the z-direction.

[0088] Even with the present modification, the container body 1 can be more reliably opened. Also, as will be appreciated from the present modification, the first cylindrical portion 41 may have a configuration that does not include the inclined edge 412. The first cylindrical portion 41 need only have a configuration that can appropriately cut the flat portion 125 even with the cutting portion 410 of the present modification depending on the shape and material of the cutting portion 410 or the thickness and material of the top sheet 12.

Fourth Modification of Spout 2

[0089] FIG. 23 illustrates a fourth modification of the spout 2. In the present modification, the first cylindrical portion 41 includes a projected portion 413. The projected portion 413 is positioned in the rotation direction relative to the cutting portion 410 and projects downward from the inclined edge 412 in the z-direction. However, the projected portion 413 has a size that does not protrude from the cutting portion 410 in the z-direction.

[0090] Even with the present modification, the container body 1 can be more reliably opened. Also, since the projected portion 413 is provided, this can more reliably reduce the possibility that the cut piece 122 bends inward in the state illustrated in FIG 19. This allows the packaged material 7 to be dispensed more smoothly.

Fifth Modification of Spout 2

[0091] FIG. 24 illustrates a fifth modification of the spout 2. In the present modification, the rotating portion 4 and the cap portion 5 are integrally formed via a hinge 49. When the cap portion 5 is turned with the hinge 49 as the center of turn, the nozzle portion 44 of the rotating portion 4 can be switched between a closed state by the cap portion 5 and an open state. Such a configuration in which the rotating portion 4 and the cap portion 5 are integrally formed via the hinge 49 can be appropriately combined and adopted with other examples.

[0092] In the present modification, the rotating portion 4 further includes a third cylindrical portion 45. The third cylindrical portion 45 is provided on the outer side of the first cylindrical portion 41 so as to surround the first cylindrical portion 41. A first thread portion 451 is formed on an inner surface of the third cylindrical portion 45.

[0093] The fixed portion 3 includes a fourth cylindrical portion 33. The fourth cylindrical portion 33 is provided on the outer side of the second cylindrical portion 32 so as to surround the second cylindrical portion 32. A second thread portion 321 is formed on the outer surface of the second cylindrical portion 32. The second thread portion 321 and the first thread portion 451 engage with each other, similarly to the second thread portion 321 and the first thread portion 411 in the example described above, to restrict movement of the rotating portion 4 relative to the fixed portion 3. In addition, in the present modification, when the rotating portion 4 is rotated after the band-like portion 6 is removed, the lower end of the third cylindrical portion 45 comes into contact with the flange portion 31 or the upper end of the fourth cylindrical portion 33 comes into contact with the rim portion 42 when the rotating portion 4 is lowered relative to the fixed portion 3, which restricts the lowering of the rotating portion 4.

[0094] Even with the present modification, the container body 1 can be more reliably opened. Also, as will be appreciated from the present modification, the specific configuration of the spout 2 is not in any way limited, and various configurations can be appropriately combined

and adopted.

First Modification of Top Sheet 12

[0095] FIG. 25 illustrates a modification of the easy-cut line 120 on the flat portion 125 of the top sheet 12.

[0096] In the present modification, the easy-cut line 120 includes an outer guide portion 1201 and an outer guide portion 1202. The outer guide portion 1202 is located in a direction opposite to the rotation direction relative to the outer guide portion 1201. Also, the outer guide portion 1202 is positioned radially inward from the outer guide portion 1201 and radially outward from the rotation path 40.

[0097] Even with the present modification, the container body 1 can be more reliably opened. Further, by providing the outer guide portion 1202, the cutting can be guided along the rotation path 40 to the cut along the outer guide portion 1202 and further to the cut along the outer guide portion 1201. As will be appreciated from the present modification, the specific shape and size of the easy-cut line 120 are not limited. For example, the easy-cut line 120 may have a configuration without the outer guide portions 1201, 1202 or the like, and that coincides with the rotation path 40 when viewed from the z-direction (simple circle shape). Furthermore, the easy-cut line 120 may constitute a double or triple circle. In addition, some or all of the easy-cut line 120 may be positioned radially inward from the rotation path 40 when viewed from the z-direction. Further, the easy-cut line 120 may be composed of a plurality of regions separated from each other at a start point (e.g., the point P0) to an end point (e.g., the point P5).

Second Modification of Top Sheet 12

[0098] FIG. 26 illustrates a modification of the flat portion 125 of the top sheet 12. In the present example, the easy-cut line 120 described in the above example is not provided in the flat portion 125.

[0099] Even with the present modification, the container body 1 can be more reliably opened. Further, even in a configuration where the easy-cut line 120 is not provided, the flat portion 125 can be cut by the cutting portion 410 depending on the shape and material of the cutting portion 410 or the thickness and material of the top sheet 12.

[0100] According to tests conducted by the inventors, even when the flat portion 125 is not provided with the easy-cut line 120 including the outer guide portion 1201, the inventors confirmed that the flat portion 125 is cut radially outward with respect to the rotation path 40 in the range from the point P4 to the point P5 and that the cutting portion 410 tends to be located radially inward with respect to the cut piece 122, similar to the state illustrated in FIG. 19(b). For this reason, when the first cylindrical portion 41 first moves downward in the z-direction due to the rotation of the rotating portion 4, a por-

tion of the first cylindrical portion 41 positioned in the rotation direction relative to the cutting portion 410 is lowered to a position overlapping the flat portion 125 in the z-direction. This portion is arranged to depress the flat portion 125 in the z-direction preceding the cutting portion 410. This depression causes the cut line 121 of the flat portion 125 to advance forward. It was found that the cut had a tendency to advance in the direction in which the tip end of the cut line 121 faces, that is, the direction toward the tangential direction of the rotation path 40.

[0101] As a result, the cutting portion 410 is believed to exhibit behavior of being located radially inward from the cut piece 122.

[0102] The pouch container packaging body and the pouch container package according to the present invention are not limited to the embodiments described above. The specific configuration of each part of the pouch container packaging body and the pouch container package according to the present invention can be freely redesigned. Reference Signs List

[0103]

A1	Pouch container packaging body
B1	Pouch container package
1	Container body
2	Spout
3	Fixed portion
4	Rotating portion
5	Cap portion
6	Band-like portion
7	Packaged material
11	Body sheet
12	Top sheet
17	Seal portion
21	Dispensing space
31	Flange portion
32	Second cylindrical portion
33	Fourth cylindrical portion
40	Rotation path
41	First cylindrical portion
42	Rim portion
43	Outer cylinder portion
44	Nozzle portion
45	Third cylindrical portion
61	Tab portion
101	Base film layer
102	Sealant film layer
103	Sealant film layer
104	Barrier film layer
120	Easy-cut line
121	Cut line
122	Cut piece
125	Flat portion
171	Side seal portion
172	Top seal portion
173	Bottom seal portion
321	Second thread portion
322	Thick portion

323	Tapered surface
324	Recessed portion
410	Cutting portion
411	First thread portion
5	412 Inclined edge
413	Projected portion
421	Protruding portion
451	First thread portion
1201,	1202 Outer guide portion

Claims

1. A pouch container packaging body, comprising:

a container body including a top sheet covering the container body at a top side; and
a spout fixed to an outer surface of the top sheet and including a dispensing space extending in an axial direction,
wherein the spout includes a fixed portion fixed to the top sheet, a rotating portion configured to rotate relative to the fixed portion, and a cutting portion configured to cut the top sheet,
the top sheet includes a flat portion that is flat in a state where the fixed portion is fixed, and the cutting portion is positioned away from the flat portion in an initial state and moves while rotating in a direction from an external surface to an internal surface of the flat portion in response to rotation of the rotating portion, and cuts the flat portion.

2. The pouch container packaging body according to claim 1, wherein

the fixed portion includes a flange portion having a flat and annular shape, and
the flange portion is fixed to an outer surface of the top sheet.

3. The pouch container packaging body according to claim 1 or 2, wherein
the spout includes a rotation angle regulator configured to regulate rotation of the rotating portion to less than 360° after the cutting portion starts to cut the top sheet.

4. The pouch container packaging body according to any one of claims 1 to 3, wherein

the rotating portion includes a first cylindrical portion configured to screw into the fixed portion, and
the cutting portion is formed on an endmost side in the axial direction of the first cylindrical portion.

5. The pouch container packaging body according to claim 4, wherein the cutting portion is inclined and protrudes further in a rotation direction closer to a tip end in the axial direction. 5

6. The pouch container packaging body according to claim 4 or 5, wherein the endmost side in the axial direction of the first cylindrical portion is formed into an inclined edge, the inclined edge increasing in inclination, from a tip end side of the cutting edge to a base end in the axial direction, along a direction opposite to a rotation direction. 10
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7. The pouch container packaging body according to any one of claims 1 to 6, wherein
 the top sheet is formed with an easy-cut line configured to be easier to cut than adjacent portions, and 20
 the easy-cut line overlaps at least a portion of a rotation path of the cutting portion when viewed along the axial direction. 25

8. The pouch container packaging body according to claim 7, wherein the easy-cut line includes an outer guide portion located radially outward from the rotation path of the cutting portion and provided near a terminal of the rotation path of the cutting portion as viewed along the axial direction. 30

9. The pouch container packaging body according to any one of claims 1 to 8, wherein the spout includes a band-like portion being removable and configured to prevent rotation of the rotating portion relative to the fixed portion. 35

10. A pouch container package comprising: 40
 the pouch container packaging body of any one of claims 1 to 9; and
 a packaged material stored in the container body in a sealed state. 45

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FIG.1

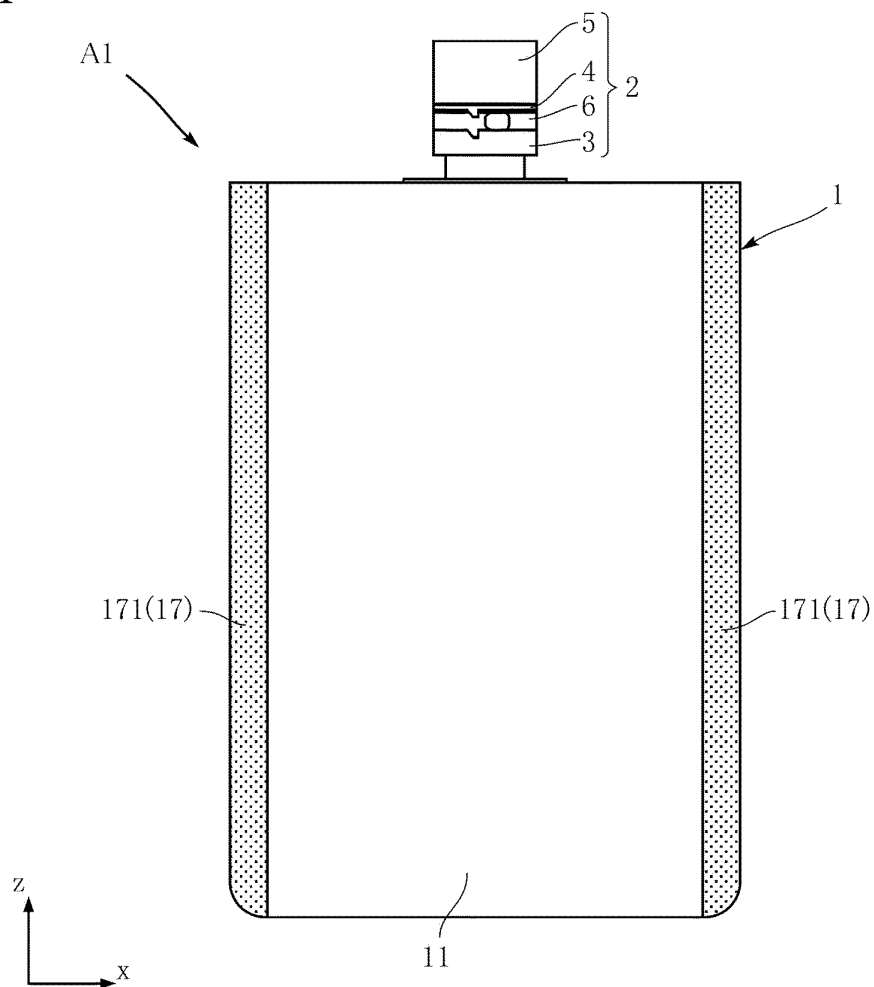


FIG.2

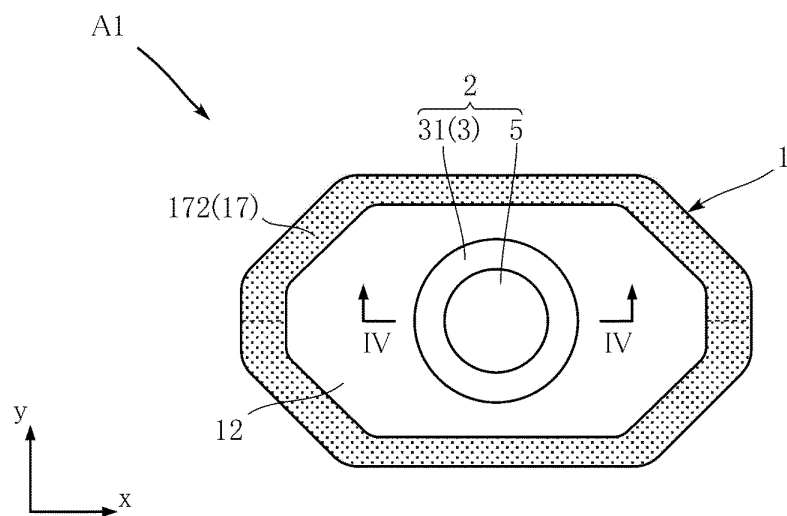


FIG.3

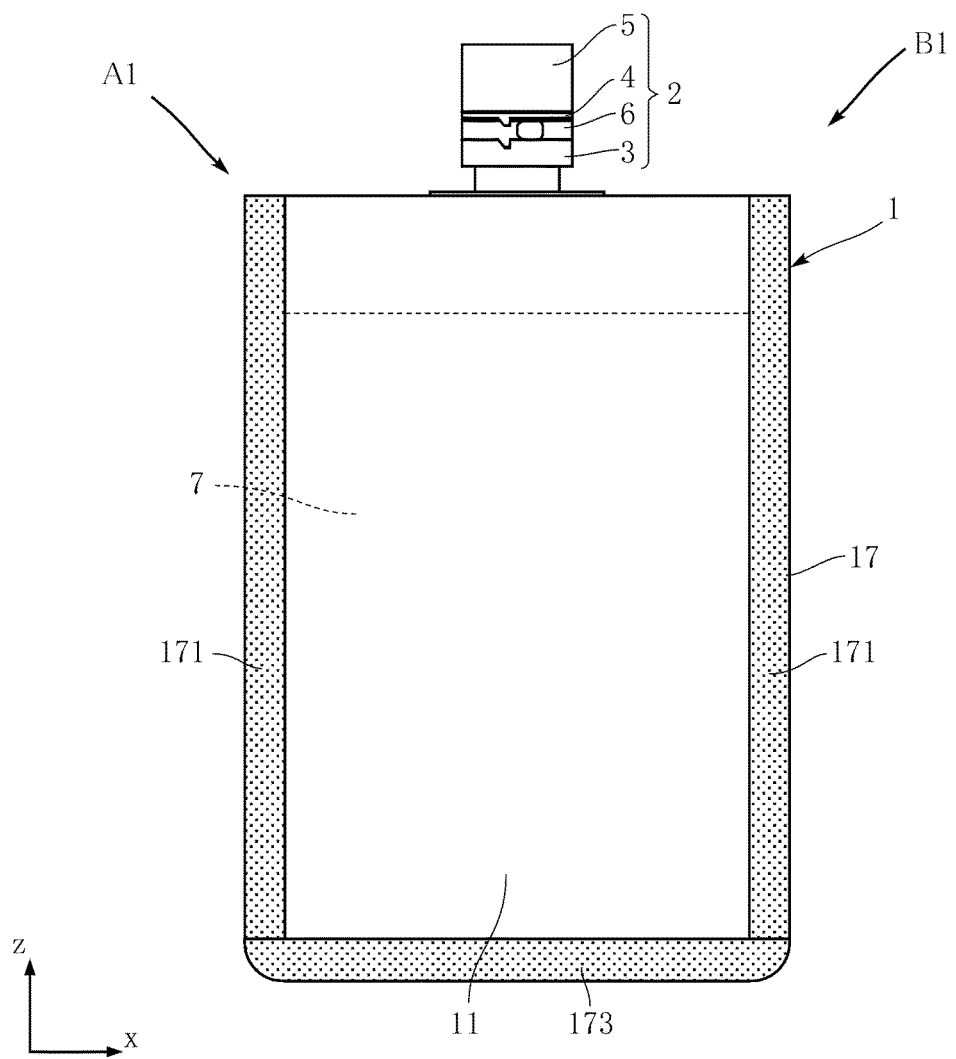


FIG.4

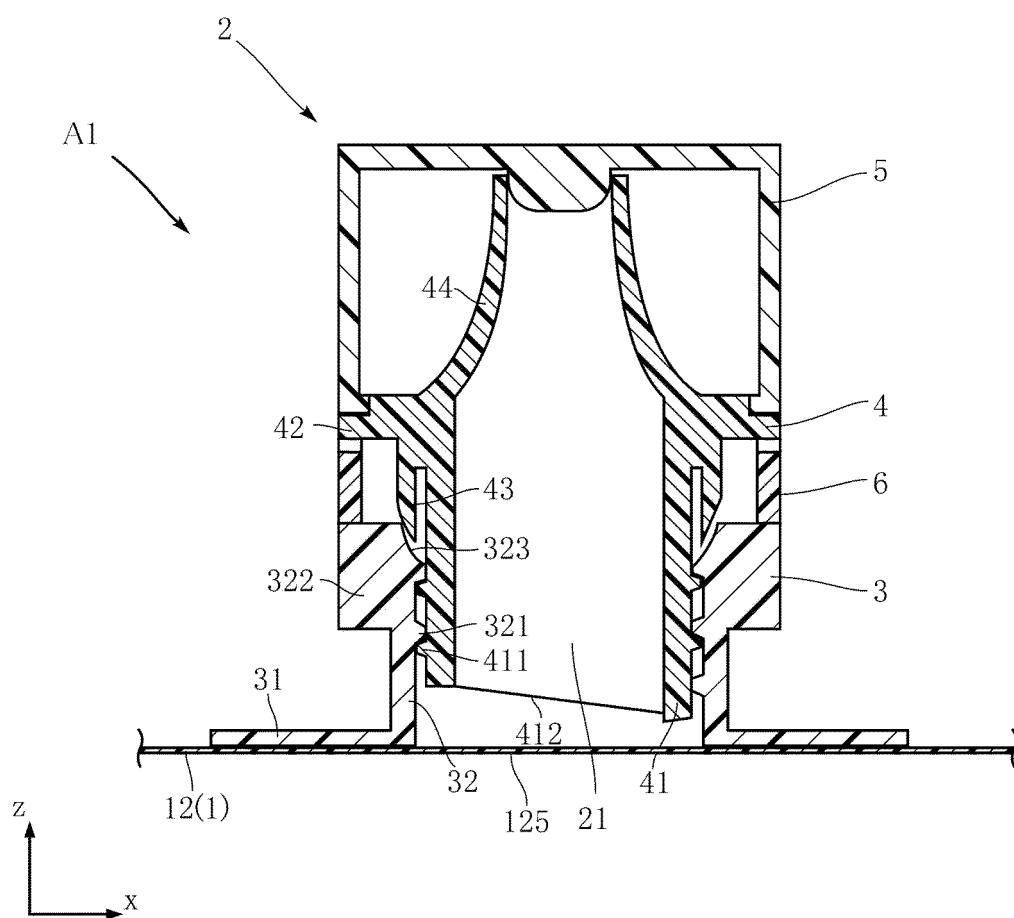


FIG.5

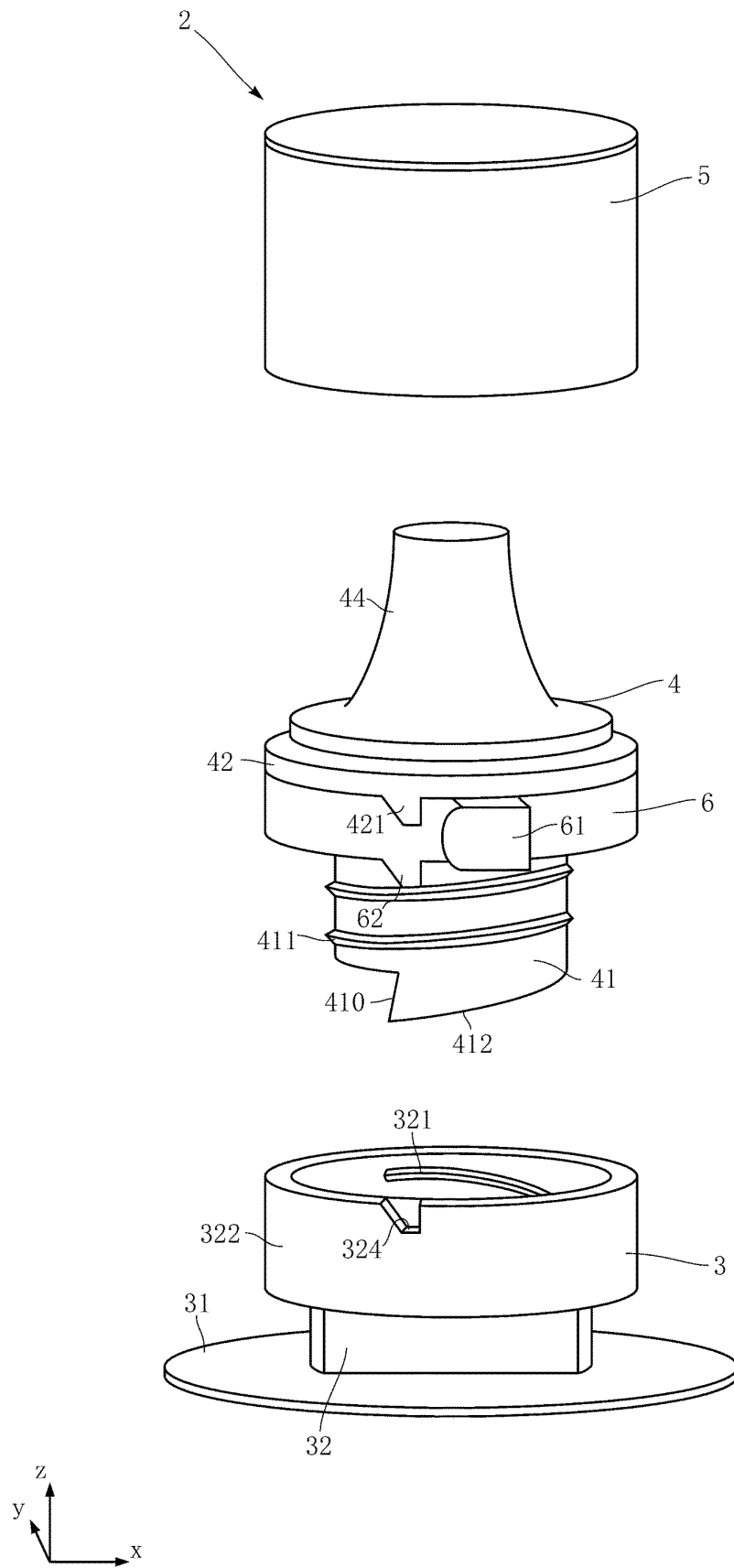


FIG.6

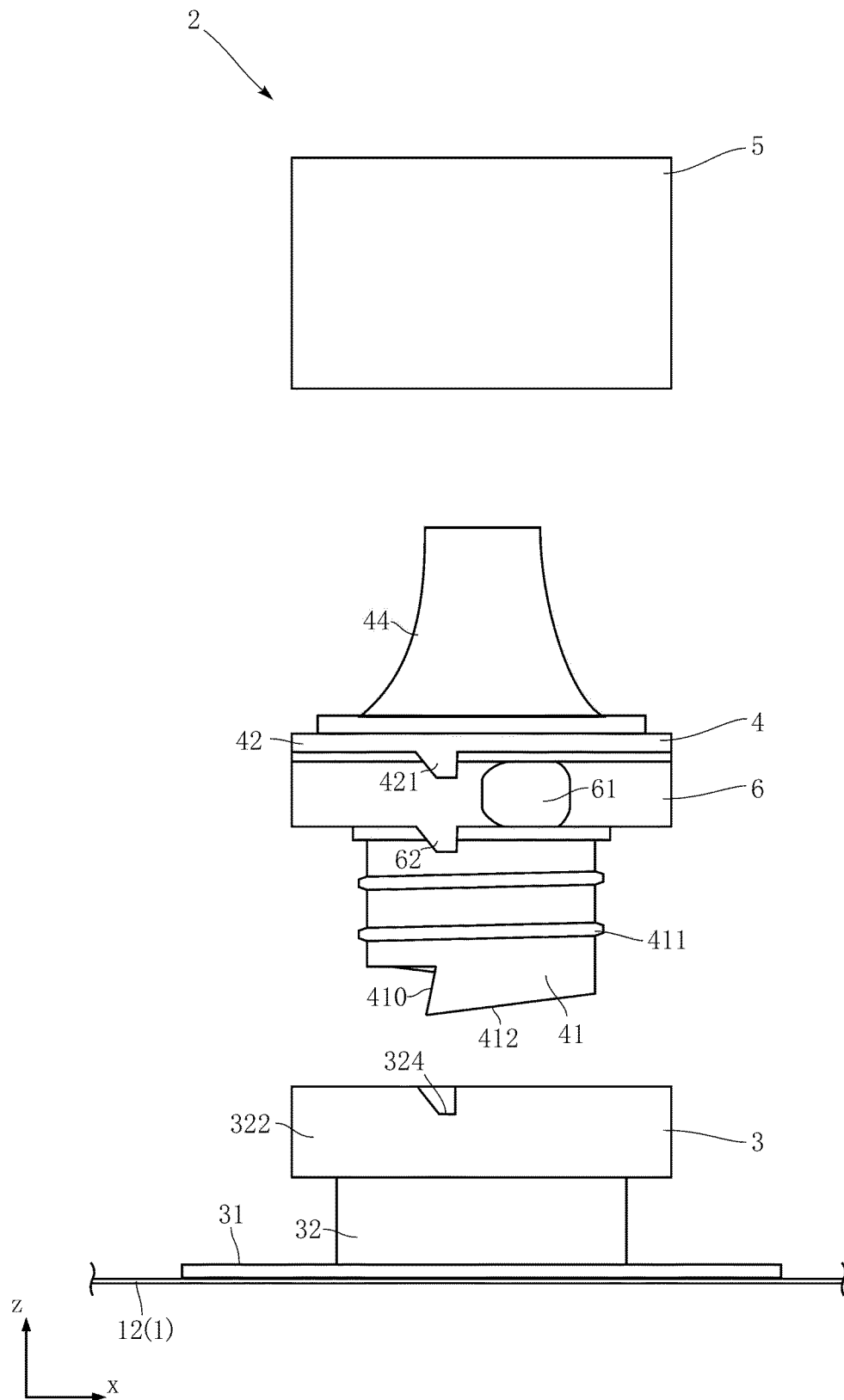


FIG.7

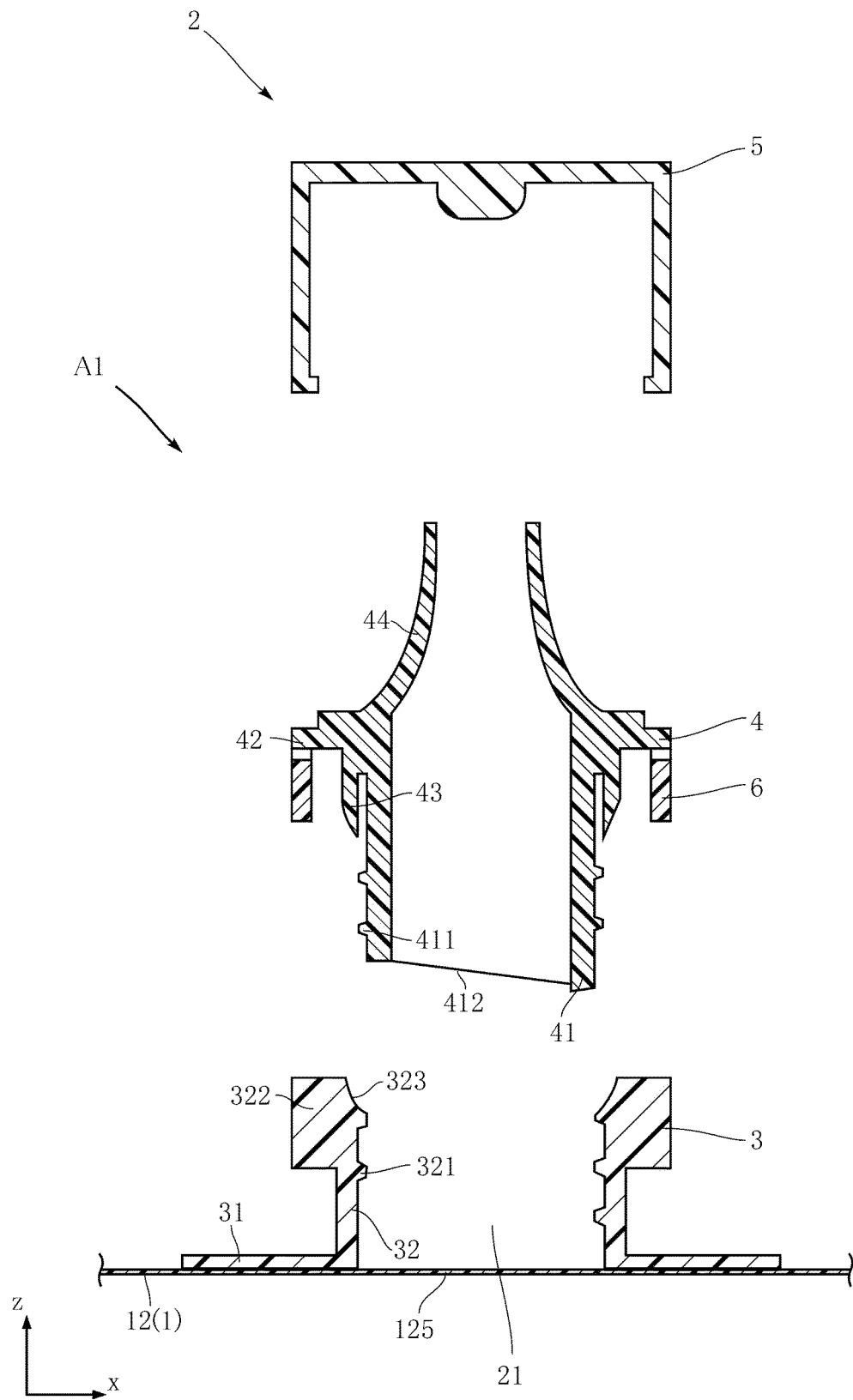


FIG.8

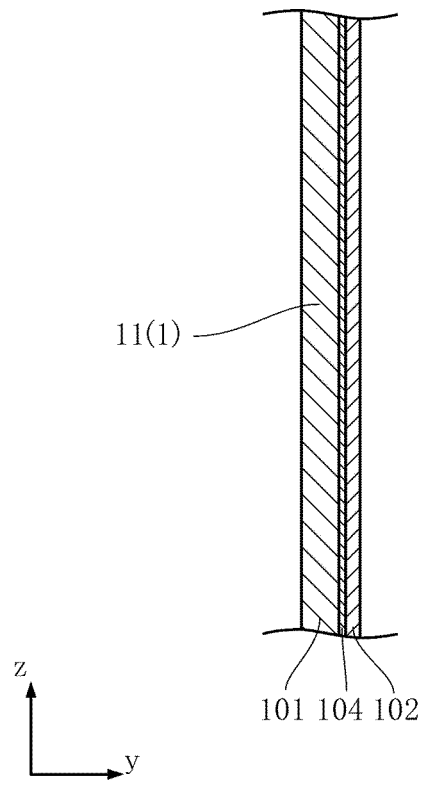


FIG.9

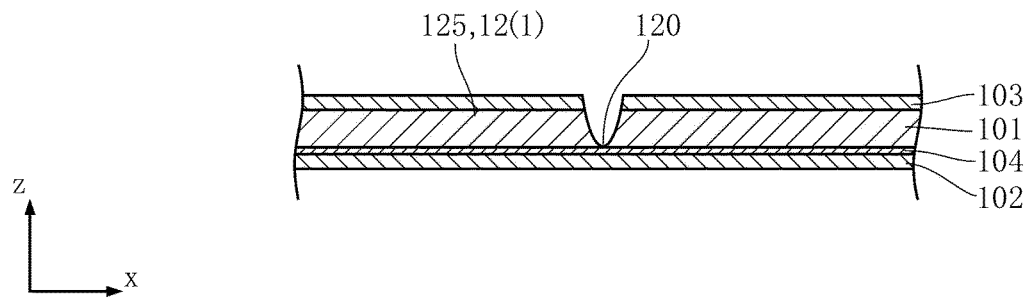


FIG.10

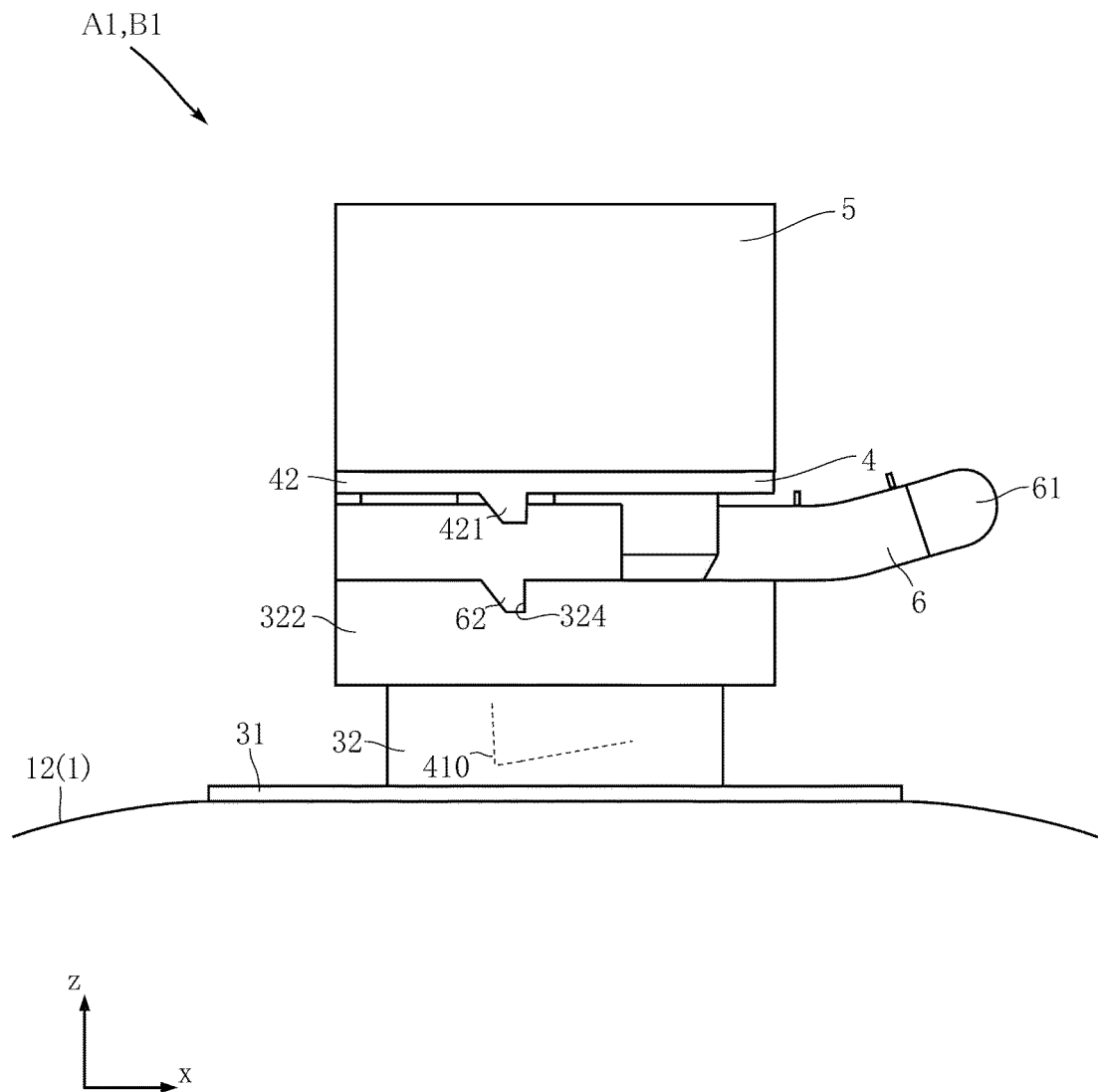


FIG.11

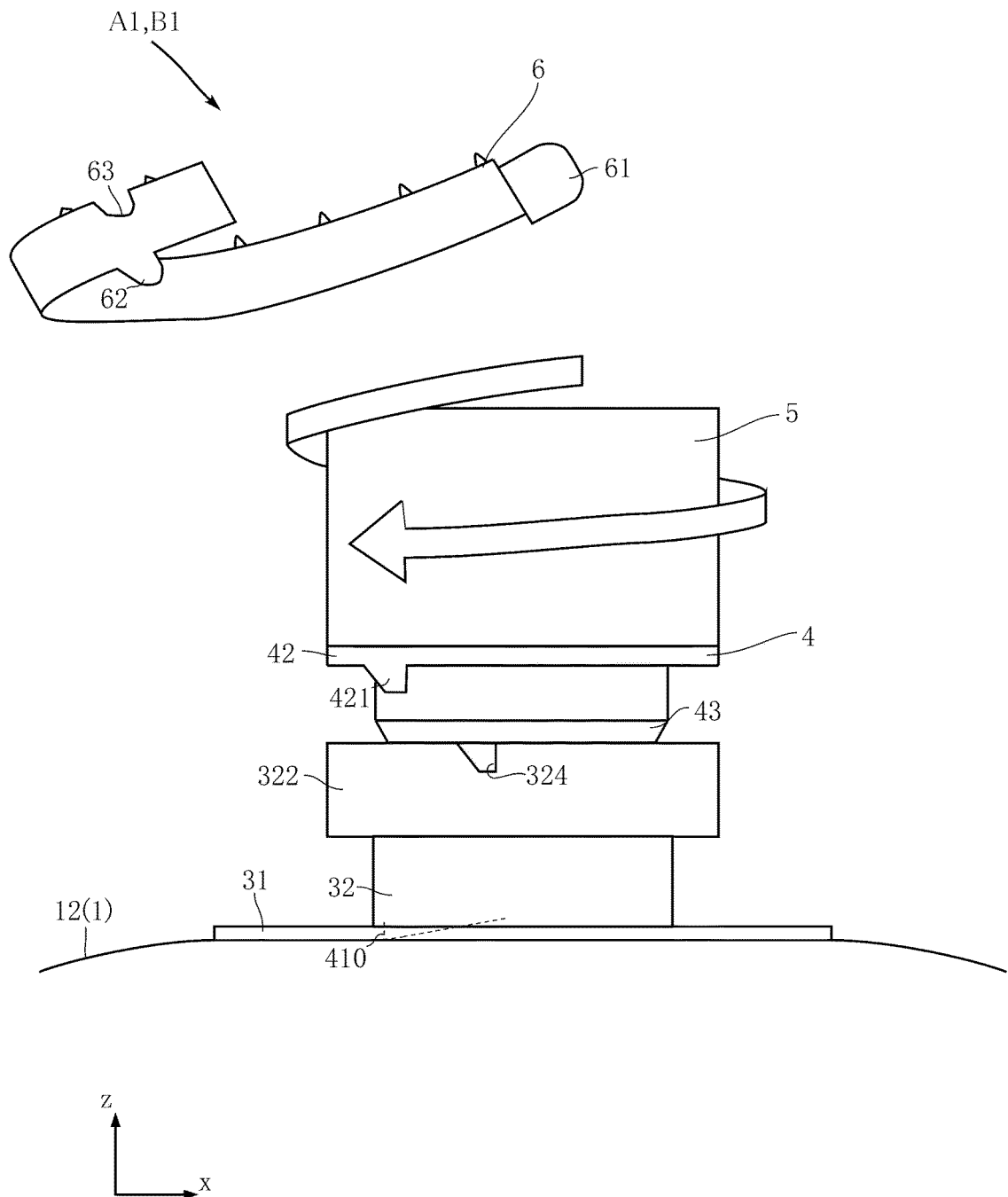


FIG.12

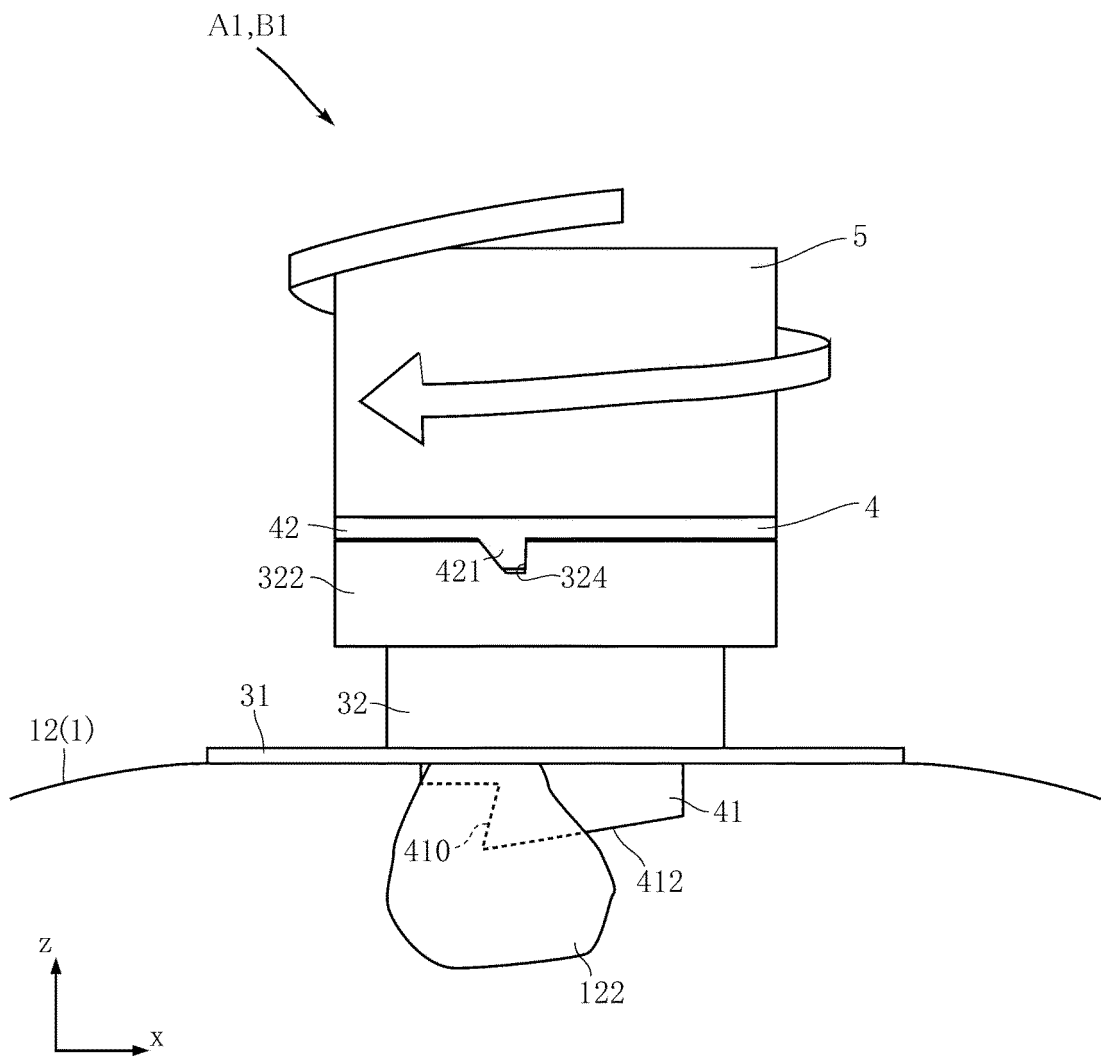


FIG.13

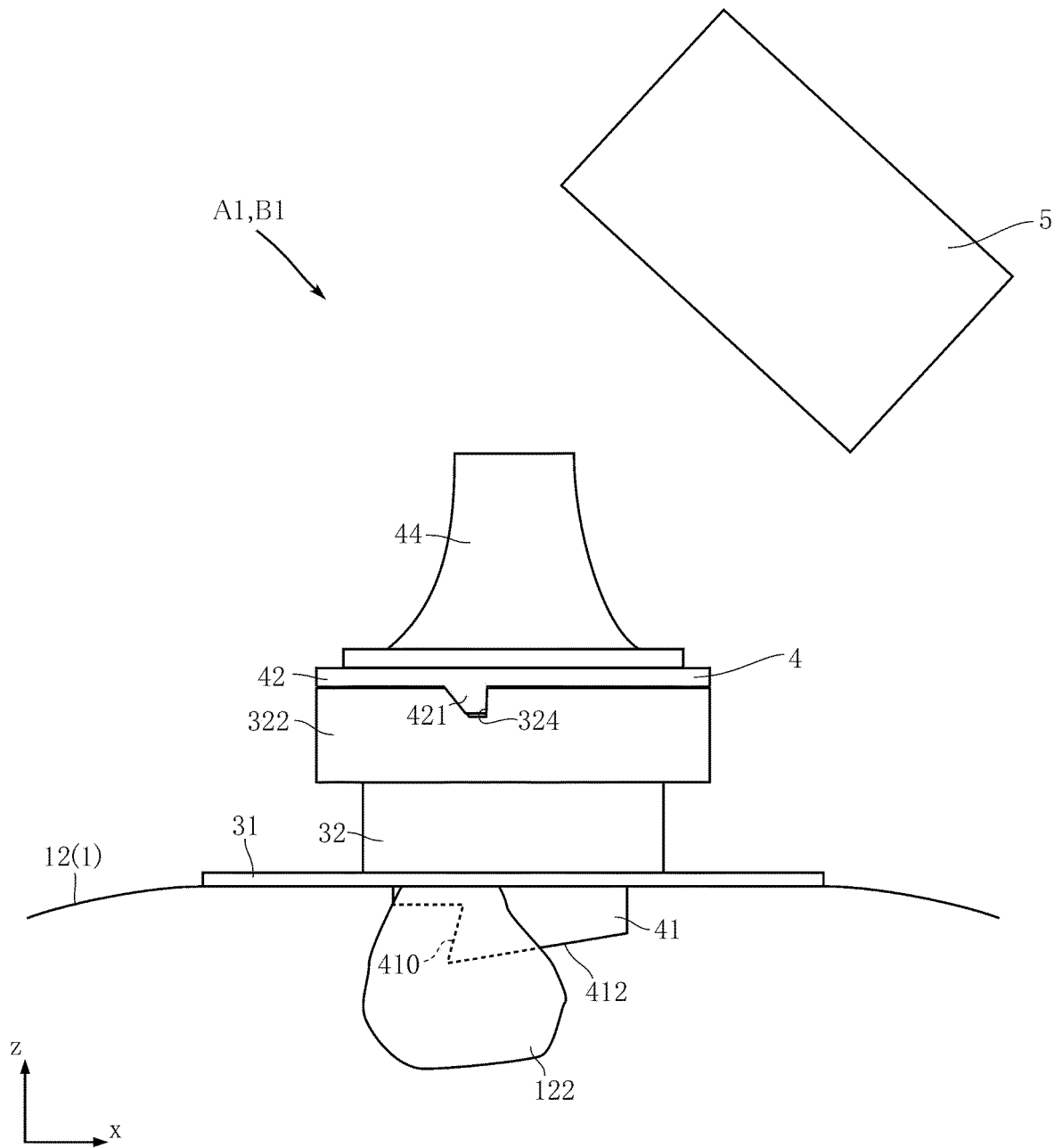


FIG.14

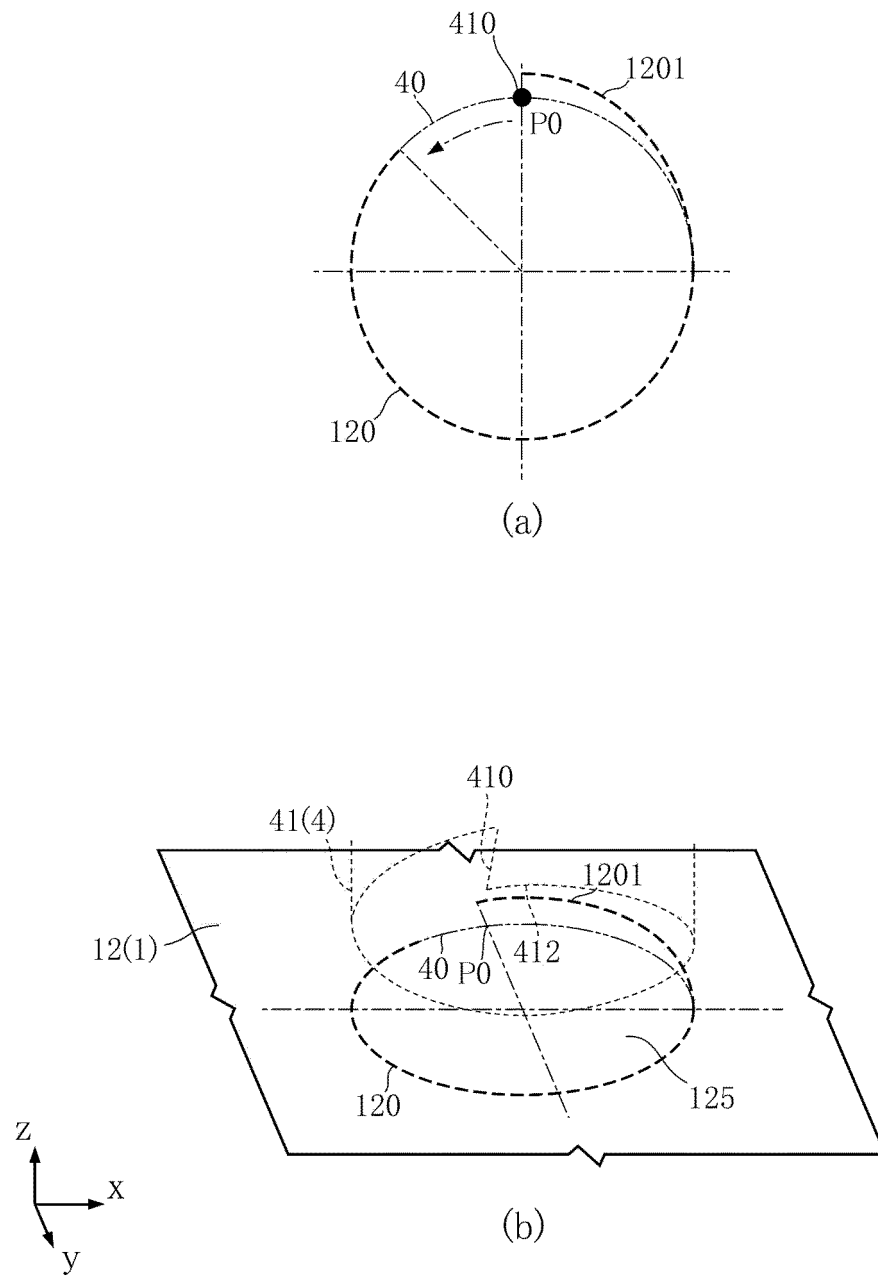


FIG.15

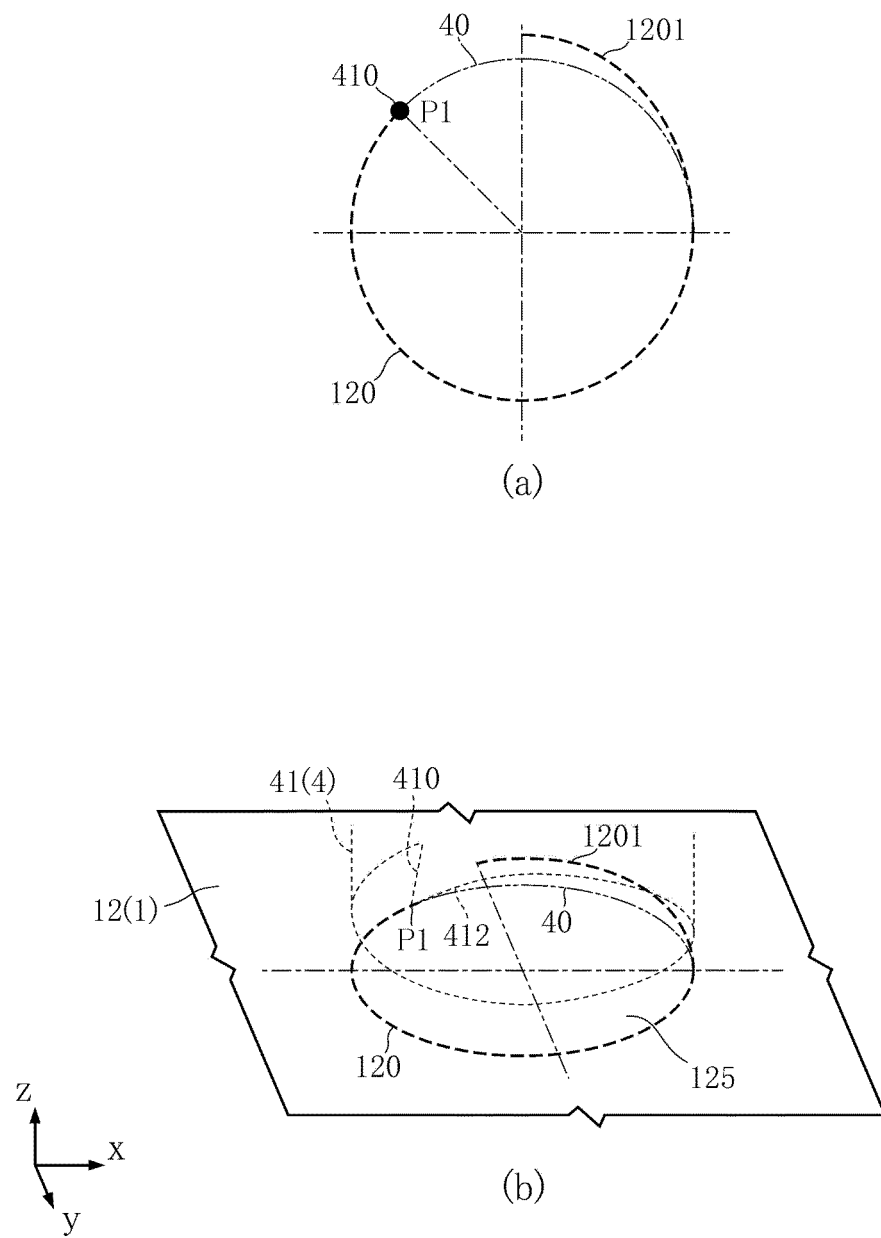


FIG.16

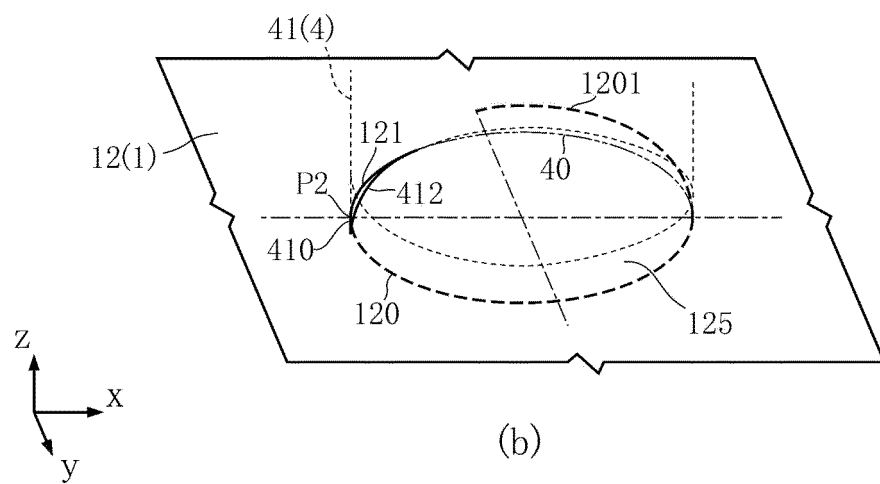
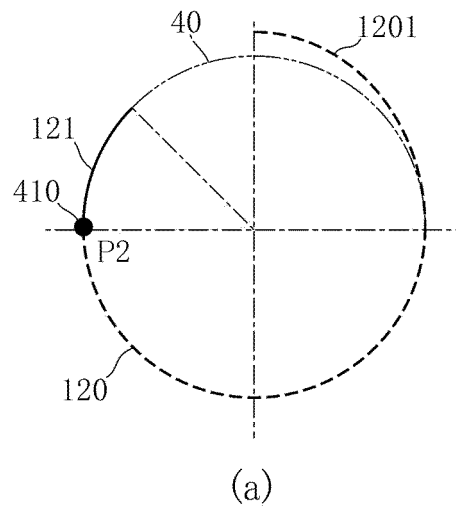


FIG.17

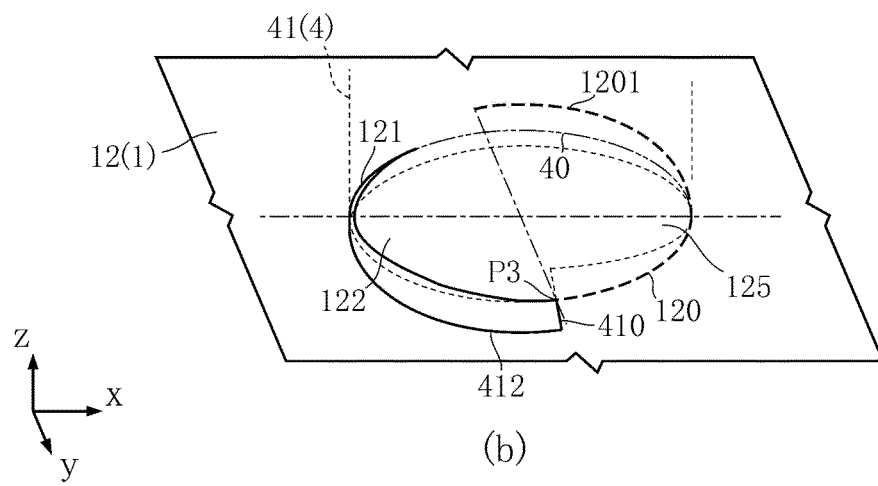
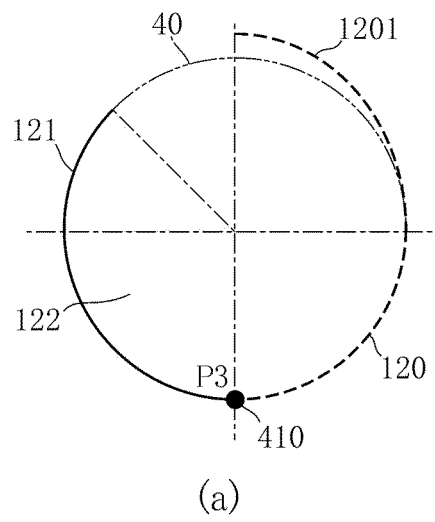


FIG.18

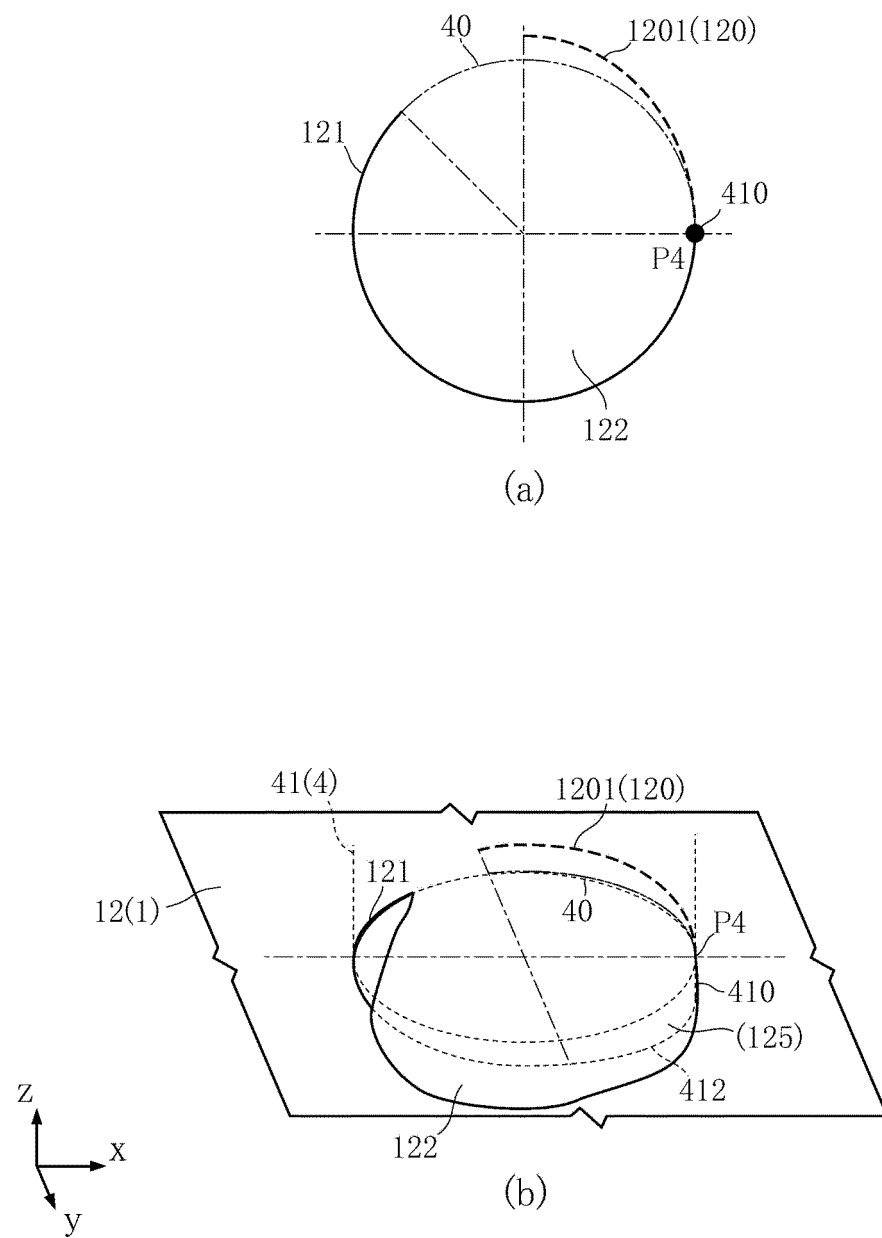


FIG.19

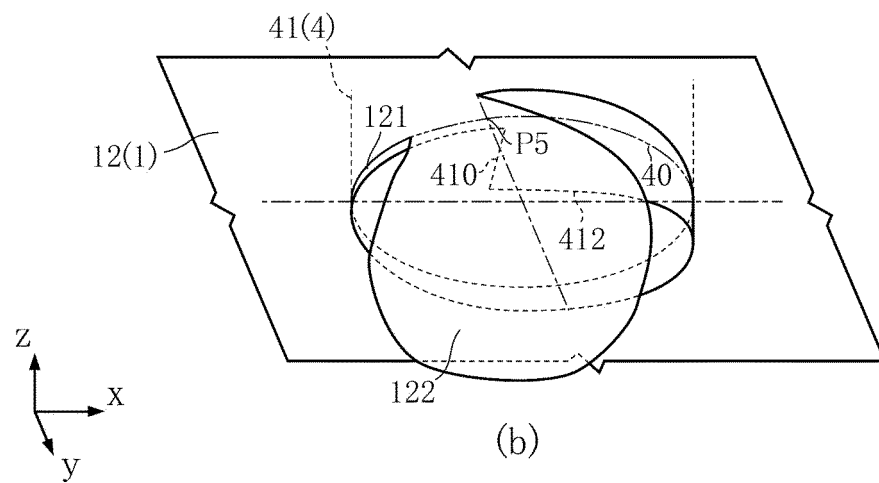
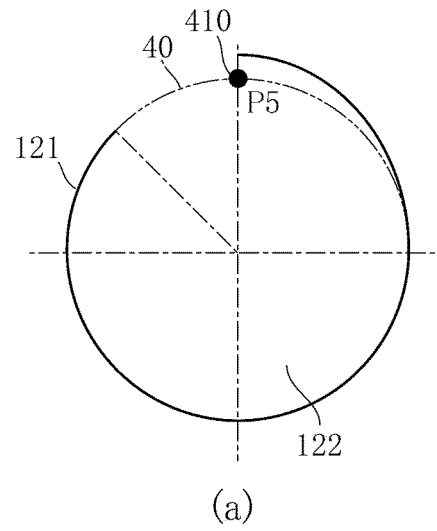


FIG.20

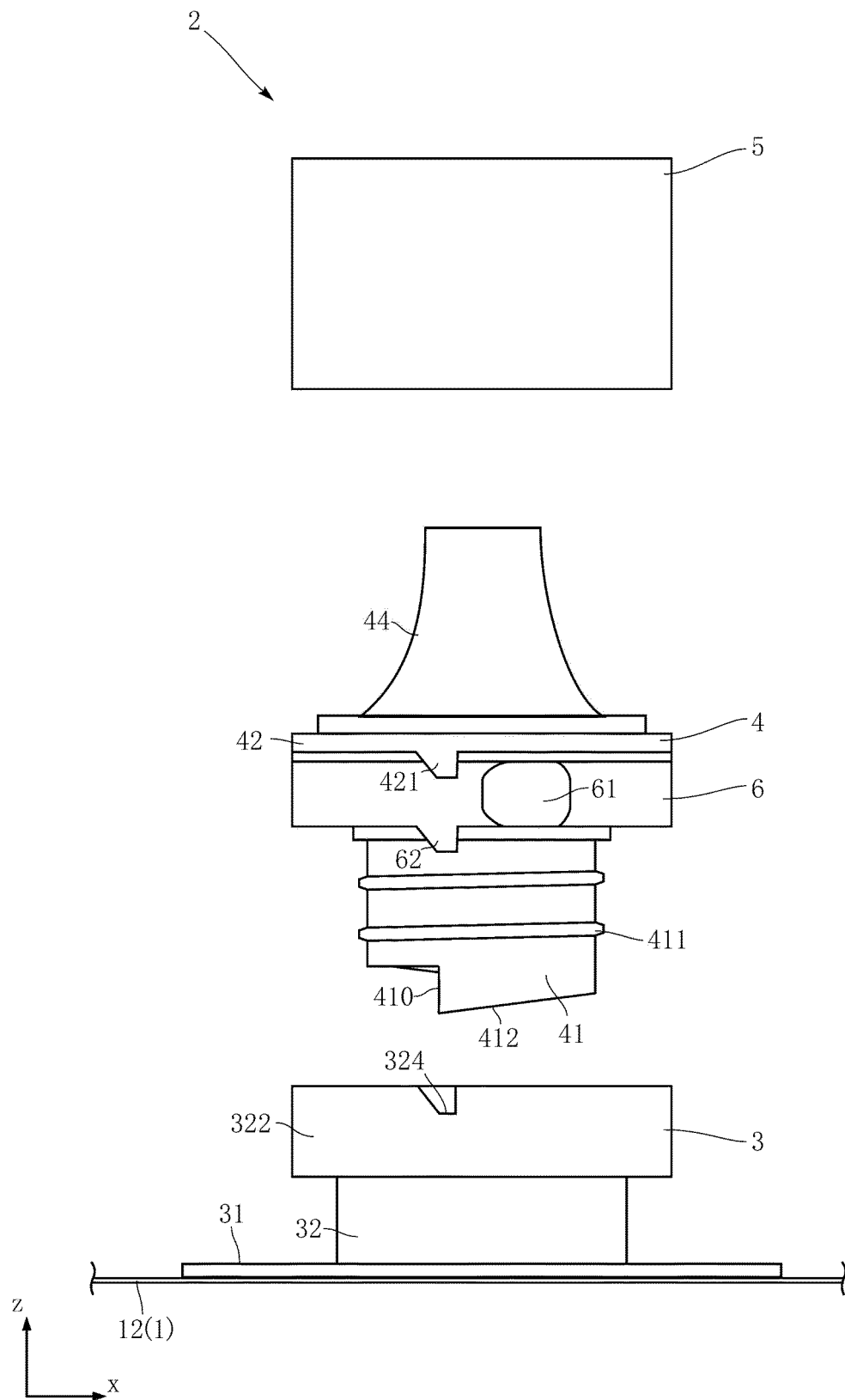


FIG.21

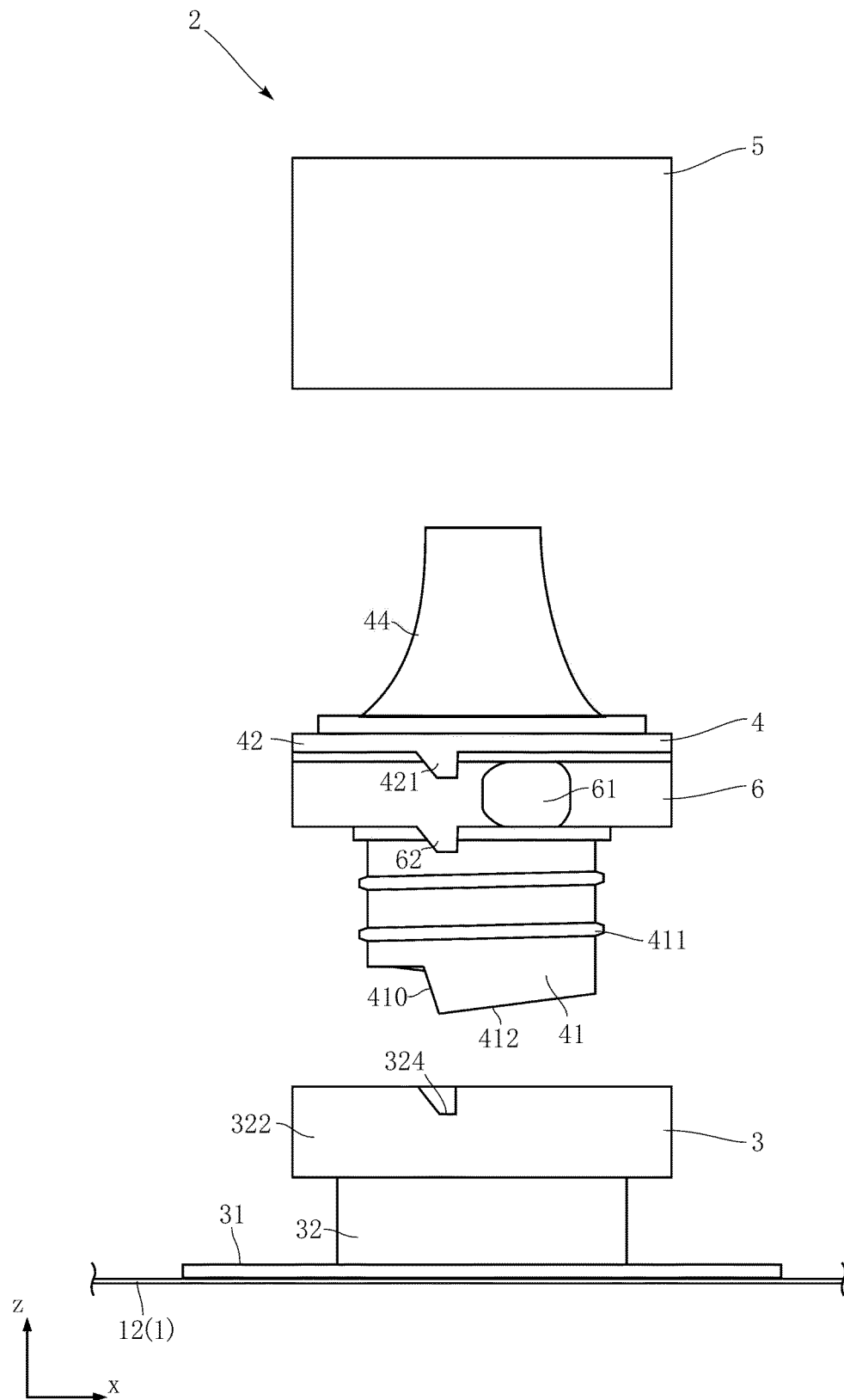


FIG.22

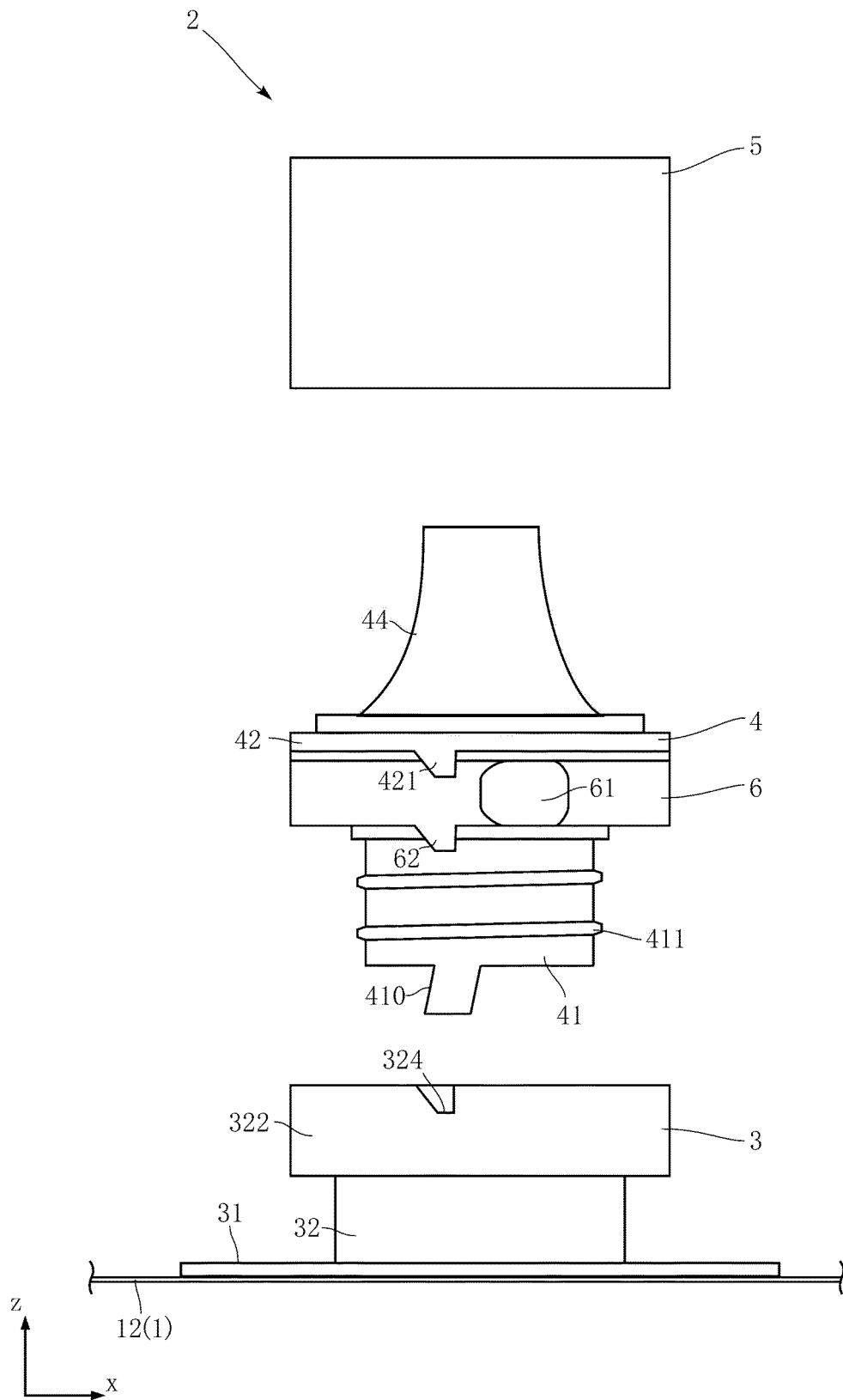


FIG.23

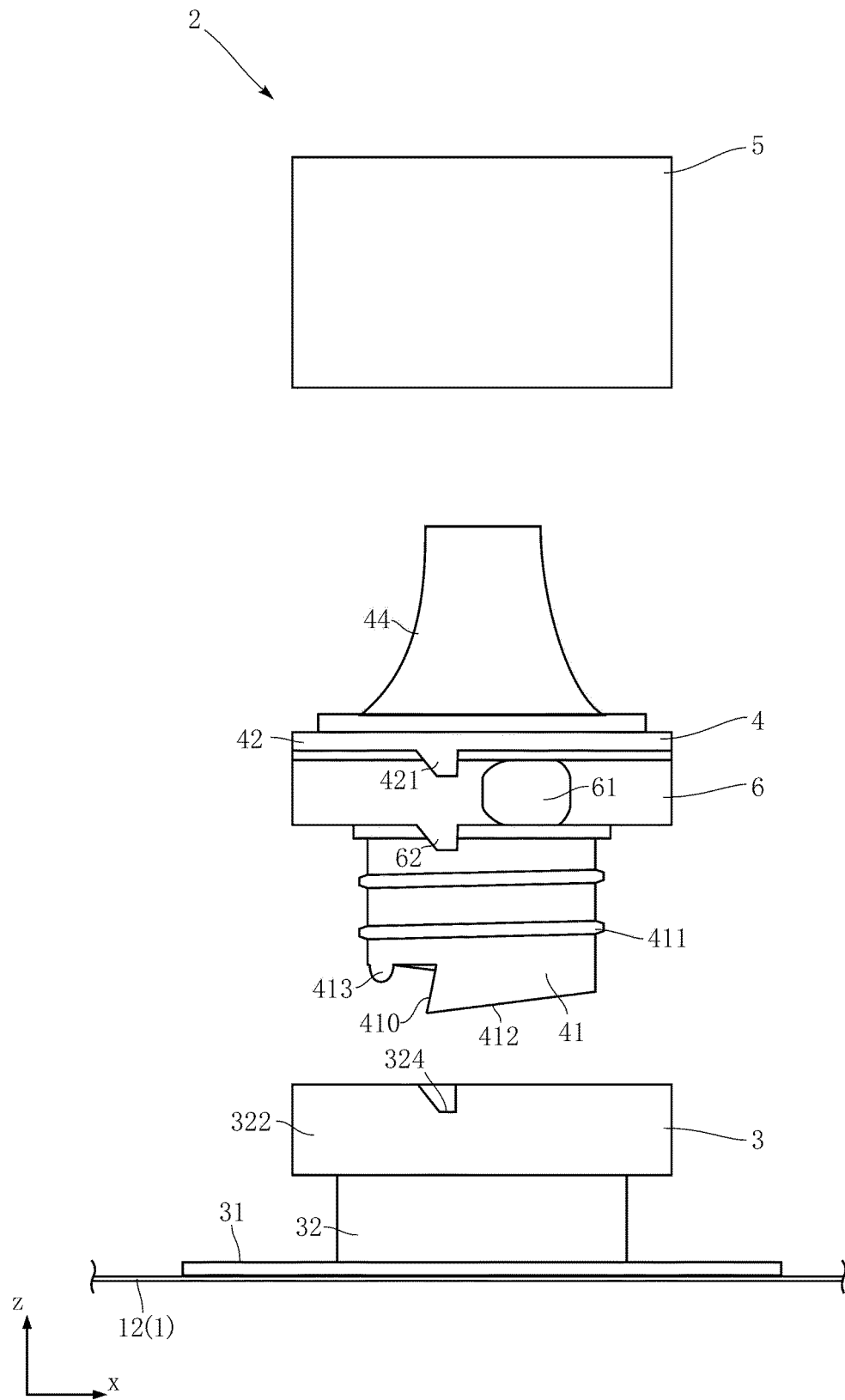


FIG.24

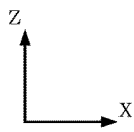
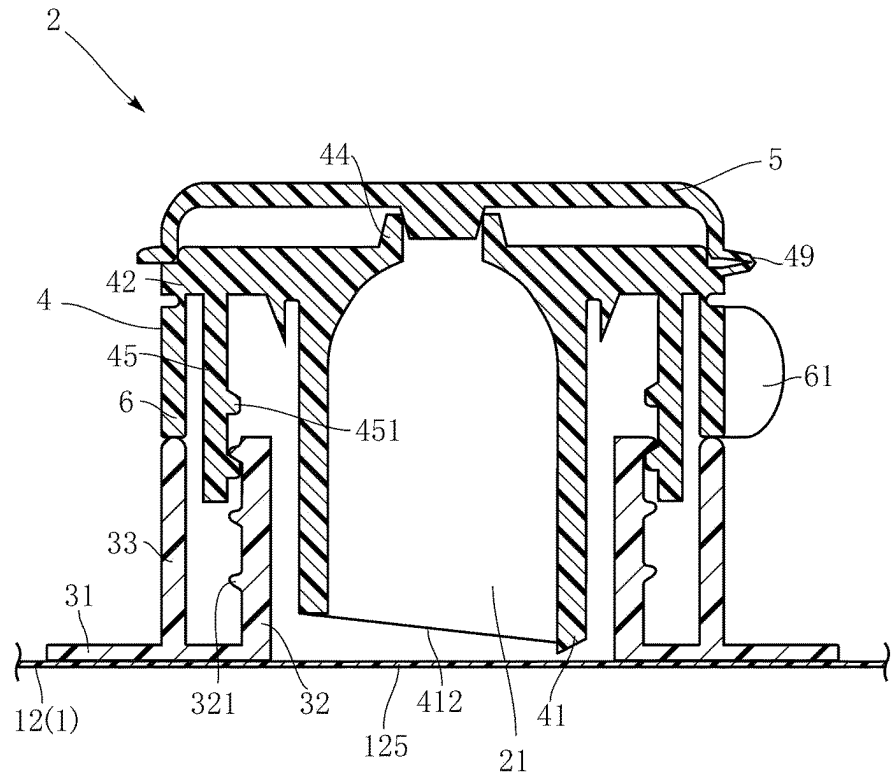


FIG.25

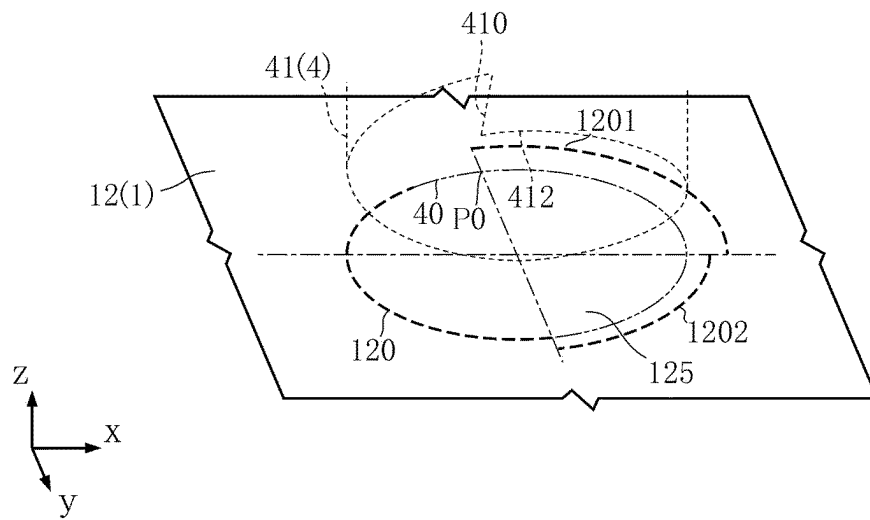
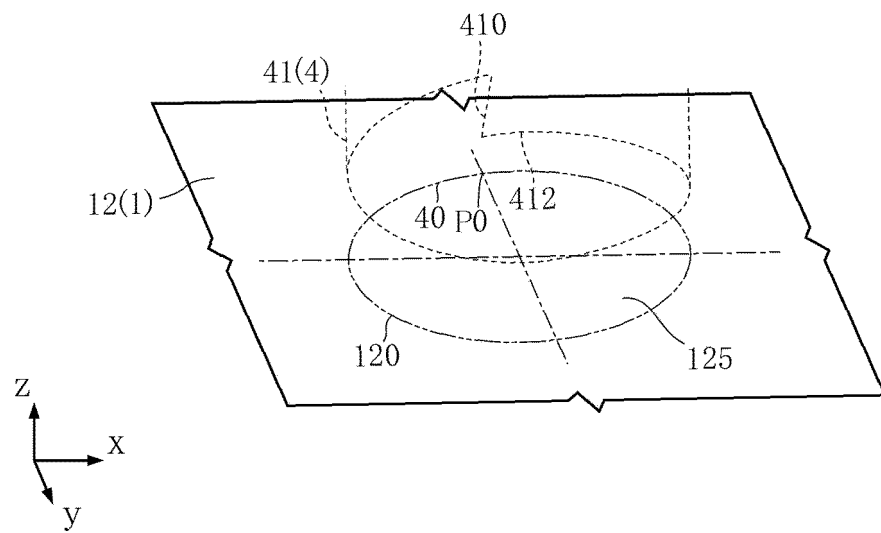


FIG.26



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2021/000797

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl. B65D75/62 (2006.01) i, B65D51/22 (2006.01) i
FI: B65D75/62, B65D51/22110

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)

Int.Cl. B65D75/62, B65D51/22

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Published examined utility model applications of Japan	1922-1996
Published unexamined utility model applications of Japan	1971-2021
Registered utility model specifications of Japan	1996-2021
Published registered utility model applications of Japan	1994-2021

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	JP 2018-165171 A (FUJI SEAL INC.) 25 October 2018 (2018-10-25), paragraphs [0013]-[0031], fig. 1-3	1-4, 6-7, 9-10 5, 8
Y	JP 2013-086802 A (NIFCO INC.) 13 May 2013 (2013-05-13), paragraphs [0017]-[0037], fig. 1-9	1-4, 6-7, 9-10
Y	EP 2143658 A1 (RUSTYDOG INC.) 13 January 2010 (2010-01-13), paragraphs [0062]-[0065], fig. 4-6	3-4, 6-7, 9-10
Y	JP 2006-062692 A (YOSHINO KOGYOSHO CO., LTD.) 09 March 2006 (2006-03-09), paragraphs [0036]-[0038], fig. 6-9	7, 9-10



Further documents are listed in the continuation of Box C.



See patent family annex.

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Date of the actual completion of the international search

17 February 2021

Date of mailing of the international search report

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Name and mailing address of the ISA/

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Authorized officer

Telephone No.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/JP2021/000797

JP 2018-165171 A 25 October 2018 (Family: none)

JP 2013-086802 A 13 May 2013 (Family: none)

EP 2143658 A1 13 January 2010 US 2011/0167769 A1
US 2015/0203257 A1
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REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 2143658 B1 [0003]