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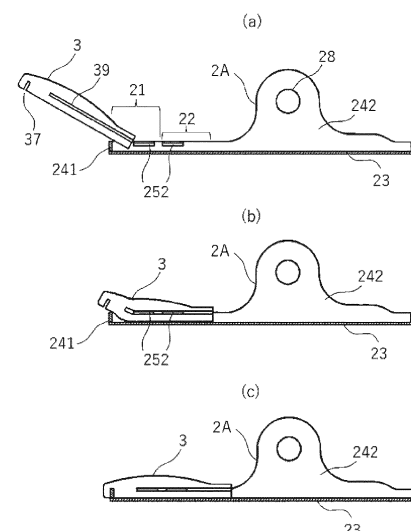
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(54) **CLIP AND CLIP-EQUIPPED HANGER**

(57) Provided are a clip and a clip-equipped hanger capable of attaching a resin piece to a clip body without using an adhesive.

A clip body 2A includes a tip-side erecting portion 241, a left-side erecting portion 242, a left-side claw portion 252, a right-side erecting portion 243, and a right-side claw portion 253. A tip-side erecting portion fitting groove 37 is formed in a back surface portion 31 of a resin piece 3, a left-side claw portion fitting groove 38 is formed in a left-side surface portion 35 of the resin piece 3, and a right-side claw portion fitting groove 39 is formed in a right-side surface portion 36 of the resin piece 3. After an inner surface portion 34 side of the resin piece 3 is inserted into a resin piece insertion area 21 (FIG. 6(a)), the left-side claw portion 252 is fitted into the left-side claw portion fitting groove 38, the right-side claw portion 253 is fitted into the right-side claw portion fitting groove 39, and the tip-side erecting portion 241 is fitted into the tip-side erecting portion fitting groove 37, whereby the resin piece 3 is attached to the clip body 2A.

FIG. 6



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Description

Technical Field

[0001] The present invention relates to a clip for pinching and holding clothing and the like, and more particularly to a clip suitable for being attached to a hanger on which clothing is hung. The present invention also relates to a clip-equipped hanger including the clip.

Background Art

[0002] As a tool for hanging clothing, a clip-equipped hanger is known (see, for example, FIGS. 17 and 18 of Patent Literature 1). As a clip attached to the clip-equipped hanger, there is known an openable/closable clip which includes a pair of clip bodies rotatably connected to each other, the pair of clip bodies including a pinching portion on one end side and a knob portion on the other end side, a pair of resin pieces attached to the pinching portion, and a spring member attached to the clip body and urging the pinching portion in a direction in which the pinching portions are in contact with each other, the openable/closable clip capable of separating the pinching portion against a spring force by picking the knob portion. For example, FIG. 1 of Patent Literature 1 discloses an openable/closable clip including a pair of clip bodies rotatably connected to each other via a core rod, a pair of resin pieces (non-slip portions) attached to a pinching portion, and a spring member (spring) attached to the clip body and urging the pinching portions in a direction in which the pinching portions are in contact with each other, the openable/closable clip being capable of pinching and holding clothing or the like by picking a knob portion (the upper end side of a clip piece in the drawing) to separate the pinching portions against a spring force.

[0003] The resin piece described above is attached to the pinching portion for the purpose of improving an anti-slip function and not damaging (protecting) an object to be pinched such as clothing, and for example, a resin piece made of elastomer is preferred.

Citation List

Patent Literature

[0004] Patent Literature 1: Japanese Patent No. 3878961

Summary of Invention

Technical Problem

[0005] Conventionally, an adhesive has been used as a means for attaching a resin piece to a metal clip body, but there is no practical adhesive having an excellent adhesive force for a long period of time, and the control of an application amount and the confirmation of a degree of

adhesion and the like are complicated in a manufacturing process. Meanwhile, in recent years, there has been a demand for sorting and collection of wastes due to an increase in awareness of environmental protection, but it has been difficult to sort and discard metal clip bodies and resin pieces by an attaching means using an adhesive.

[0006] The present invention has been made in view of the above problems, and an object of the present invention is to provide a clip and a clip-equipped hanger capable of attaching a resin piece to a clip body without using an adhesive.

Solution to Problem

[0007] An openable/closable clip according to the present invention comprising:

a pair of clip bodies rotatably connected to each other, the pair of clip bodies including pinching portions on one end sides and knob portions on the other end sides;

a pair of resin pieces attached to the pinching portions; and

a spring member attached to the clip bodies and configured to urge the pinching portions in a direction in which the pinching portions are in contact with each other,

the openable/closable clip being capable of separating the pinching portions from each other against a spring force by picking the knob portions, wherein each of the resin pieces includes, in a state of being attached to the clip body, a flat back surface portion being in contact with the pinching portion, a front surface portion disposed to face the other resin piece forming a pair, an outer surface portion disposed on a tip edge side of the pinching portion, an inner surface portion disposed on a knob portion side, a left-side surface portion disposed on a left-side edge side of the pinching portion, and a right-side surface portion disposed on a right-side edge side of the pinching portion,

each of the clip bodies includes a tip-side erecting portion erected on a tip edge of the pinching portion, a left-side fixing means including a left-side erecting portion erected on a left-side edge of the pinching portion and a left-side claw portion connected to the left-side erecting portion and bent inward, and a right-side fixing means including a right-side erecting portion erected on a right-side edge of the pinching portion and a right-side claw portion connected to the right-side erecting portion and bent inward,

a tip-side erecting portion fitting groove provided substantially parallel to the outer surface portion and opened to the left-side surface portion and the right-side surface portion is formed on the back surface portion of the resin piece closer to the outer surface portion,

a left-side claw portion fitting groove provided sub-

stantially parallel to the back surface portion, linearly extending, and opened to the inner surface portion is formed on the left-side surface portion of the resin piece, and
 a right-side claw portion fitting groove provided substantially parallel to the back surface portion, linearly extending, and opened to the inner surface portion is formed on the right-side surface portion of the resin piece.

[0008] The clip may be constituted as follows. The pinching portion of the clip body includes:

a tip-edge-side resin piece insertion area having a width dimension constant from the left-side edge to the right-side edge; and
 a resin piece guide area being adjacent to the resin piece insertion area and having the width dimension decreasing toward the knob portion,
 the left-side fixing means is provided at each of a left-side edge of the resin piece insertion area and a left-side edge of the resin piece guide area, and
 the right-side fixing means is provided at each of a right-side edge of the resin piece insertion area and a right-side edge of the resin piece guide area.

[0009] The clip may be constituted as follows. The left-side claw portion is formed so that an angle formed by the left-side erecting portion and the left-side claw portion is an acute angle, and the right-side claw portion is formed so that an angle formed by the right-side erecting portion and the right-side claw portion is an acute angle.

[0010] In the clip, the back surface portion of the resin piece may be provided with a bending groove cut into a mountain shape and having one end opened to a tip-side erecting portion fitting groove and the other end opened to the inner surface portion.

[0011] A clip-equipped hanger according to the present invention includes: the clip according to any one of the aspects described above; a frame to which the clip is attached; and a hook provided on the frame.

Advantageous Effects of Invention

[0012] According to the present invention, it is possible to provide a clip and a clip-equipped hanger capable of attaching a resin piece to a clip body without using an adhesive, and it is possible to solve the above problems in the manufacturing process and to easily sort and discard the resin piece. In particular, according to the present invention, it is possible to attach the resin piece to the clip body or detach the resin piece from the clip body with a simple operation without using a special tool.

Brief Description of Drawings

[0013]

FIG. 1 shows a clip according to Example 1 of the present invention (a state where a resin piece is attached to a clip body).

FIG. 2 shows the configuration of the clip body of the clip according to Example 1 of the present invention. FIG. 2(a) is a front view of the clip body, FIG. 2(b) is a top view of the clip body, FIG. 2(c) is a bottom view of the clip body, FIG. 2(d) is a left-side view of the clip body, FIG. 2(e) is a right-side view of the clip body, and FIG. 2(f) is a rear view of the clip body.

FIG. 3(a) is a schematic cross-sectional view taken along line A-A shown in FIG. 2(a), and FIG. 3(b) is a schematic cross-sectional view taken along line B-B shown in FIG. 2(a).

FIG. 4 shows the configuration of the resin piece of the clip according to Example 1 of the present invention. FIG. 4(a) is a front view of the resin piece, FIG. 4(b) is a top view of the resin piece, FIG. 4(c) is a bottom view of the resin piece, FIG. 4(d) is a left-side view of the resin piece, FIG. 4(e) is a right-side view of the resin piece, and FIG. 4(f) is a rear view of the resin piece.

FIG. 5 is a schematic cross-sectional view taken along line C-C shown in FIG. 4(d).

FIG. 6 shows a procedure for attaching the resin piece shown in FIG. 4 to the clip body shown in FIG. 2.

FIG. 7 shows a clip-equipped hanger including the clip according to Example 1 of the present invention. FIG. 8 shows a part (a pinching portion-side tip portion) of a clip body of a clip (a state where a resin piece is attached to the clip body) according to Example 2 of the present invention.

FIG. 9 shows a part (pinching portion-side tip portion) of the configuration of the clip body of the clip according to Example 2 of the present invention.

FIG. 10 shows the configuration of a resin piece of a clip according to Example 2 of the present invention. FIG. 10(a) is a perspective view showing a front surface portion, an outer surface portion, and a right-side surface portion, FIG. 10(b) is a perspective view showing an internal configuration viewed from the same direction as FIG. 10(a) by a dotted line or the like, and FIG. 10(c) is a perspective view showing a back surface portion, an inner surface portion, and a right-side surface portion.

FIG. 11 shows states before and after deformation of a portion provided with a bending groove 90 in the resin piece of the clip according to Example 2 of the present invention. FIG. 11(a) is a perspective cross-sectional view (before deformation) having a D-D line as a cut surface, and FIG. 11(b) is a perspective cross-sectional view showing a state after deformation.

FIG. 12 shows a procedure for attaching the resin piece shown in FIG. 10 to the clip body shown in FIG. 9.

Description of Embodiments

[0014] Hereinafter, the present invention will be specifically described with reference to the drawings as appropriate, but the present invention is not limited to Examples shown in the drawings, and can be appropriately changed as long as the gist of the present invention is not changed.

Example 1

[0015] A clip 1 according to Example 1 of the present invention is a clip 1 suitably attached to a hanger on which clothing is hung. FIG. 1 shows a clip 1 according to Example 1 of the present invention (a state where a resin piece 3 is attached to clip bodies 2A and 2B). The clip 1 includes a pair of clip bodies 2A and 2B rotatably connected to each other, the clip bodies 2A and 2B including a pinching portion 231 on one end side and a knob portion 232 on the other end side, a pair of resin pieces 3 attached to the pinching portion 231, and a spring member 4 attached to the clip bodies 2A and 2B and urging the pinching portions 231 in a direction in which the pinching portions are in contact with each other, and is an openable/closable clip capable of separating the pinching portions 231 against a spring force by picking the knob portion 232. Hereinafter, members or portions constituting the clip 1 and a procedure for attaching the resin piece 3 to the clip bodies 2A and 2B will be described in detail.

[0016] FIG. 2 shows the configuration of the clip body 2A of the clip 1 according to Example 1 of the present invention. FIG. 2(a) is a front view of the clip body, FIG. 2(b) is a top view of the clip body, FIG. 2(c) is a bottom view of the clip body, FIG. 2(d) is a left-side view of the clip body, FIG. 2(e) is a right-side view of the clip body, and FIG. 2(f) is a rear view of the clip body. FIG. 3(a) is a schematic cross-sectional view taken along line A-A shown in FIG. 2(a), and FIG. 3(b) is a schematic cross-sectional view taken along line B-B shown in FIG. 2(a). Since the clip body 2B has substantially the same shape as that of the clip body 2A, the description thereof will be omitted. The clip bodies 2A and 2B are made of a metal, and the resin piece 3 is an elastic member made of elastomer, and can be bent by a finger force to be fitted into the clip bodies 2A and 2B.

[0017] The clip body 2A includes a base 23 having a substantially rectangular shape with a slightly constricted middle portion, an erecting portion 24 erected along the outer peripheral edge of the base 23 on the front side, and claw portions 252 and 253 connected to the erecting portion 24. One end side of the base 23 is the pinching portion 231, and the other end side is the knob portion 232. The clip body 2A includes a tip-side erecting portion 241 erected on the tip edge of the pinching portion 231, a left-side fixing means including a left-side erecting portion 242 erected on the left-side edge of the pinching portion 231 and a left-side claw portion 252 connected to the left-side erecting portion 242 and bent inward, that is,

toward a right-side erecting portion 243, and a right-side fixing means including a right-side erecting portion 243 erected on the right-side edge of the pinching portion 231 and a right-side claw portion 253 connected to the right-side erecting portion 243 and bent inward, that is, toward the left-side erecting portion 242. More specifically, the clip body 2A includes a tip-side erecting portion 241, a left-side fixing means, and a right-side fixing means. The tip-side erecting portion 241 is erected on the tip edge of the pinching portion 231. The left-side fixing means includes the left-side erecting portion 242 and the left-side claw portion 252. The left-side erecting portion 242 is erected on the left-side edge of the pinching portion 231. The left-side claw portion 252 is connected to the left-side erecting portion 242 and is bent inward toward the right-side erecting portion 243. Similarly, the right-side fixing means includes the right-side erecting portion 243 and the right-side claw portion 253. The right-side erecting portion 243 is erected on the right-side edge of the pinching portion 231. The right-side claw portion 253 is connected to the right-side erecting portion 243 and is bent inward toward the left-side erecting portion 242.

[0018] A space between the tip-side erecting portion 241 and the right-side claw portion 253 and the left-side claw portion 252 is the resin piece insertion area 21, and as described later, the resin piece 3 is inserted from the resin piece insertion area 21 to attach the resin piece 3 to the clip body 2A. A middle portion of the left-side erecting portion 242 and a middle portion of the right-side erecting portion 243 are formed in a convex shape, and a through hole 28 into which a core rod 5 is inserted is formed in the middle portion. In Example 1, the base 23, the tip-side erecting portion 241, the left-side erecting portion 242, and the right-side erecting portion 243 are integrally provided by forming the erecting portion on the entire outer peripheral edge of the base 23. In the process of manufacturing the clip 1, the pair of clip bodies 2A and 2B is assembled with the surface sides of the bases 23 facing each other. The pair of clip bodies 2A and 2B is rotatably connected to each other via the core rod 5.

[0019] FIG. 4 shows the configuration of the resin piece 3 of the clip 1 according to Example 1 of the present invention. FIG. 4(a) is a front view of the resin piece, FIG. 4(b) is a top view of the resin piece, FIG. 4(c) is a bottom view of the resin piece, FIG. 4(d) is a left-side view of the resin piece, FIG. 4(e) is a right-side view of the resin piece, and FIG. 4(f) is a rear view of the resin piece. An inner surface portion 34 of the resin piece 3 appears in FIG. 4(b), and an outer surface portion 33 of the resin piece 3 appears in FIG. 4(c). FIG. 5 is a schematic cross-sectional view taken along line C-C shown in FIG. 4(d). The resin piece attached to the clip body 2A and the resin piece attached to the clip body 2B have the same shape.

[0020] The resin piece 3 includes, in a state of being attached to the clip body 2A, a flat back surface portion 31 in contact with the pinching portion 231, a front surface portion 32 disposed to face the other resin piece forming a pair, an outer surface portion 33 disposed on the tip

edge side of the pinching portion 231, an inner surface portion 34 disposed on a knob portion 232 side, a left-side surface portion 35 disposed on the left edge side of the pinching portion 231, and a right-side surface portion 36 disposed on the right edge side of the pinching portion 231. In addition, a tip-side erecting portion fitting groove 37 provided substantially parallel to the outer surface portion 33 and opened to the left-side surface portion 35 and the right-side surface portion 36 is formed in the back surface portion 31 of the resin piece 3 near the outer surface portion 33 side, a left-side claw portion fitting groove 38 provided substantially parallel to the back surface portion 31, linearly extending, and opened to the inner surface portion 34 is formed in the left-side surface portion 35 of the resin piece 3, and a right-side claw portion fitting groove 39 provided substantially parallel to the back surface portion 31, linearly extending, and opened to the inner surface portion 34 is formed in the right-side surface portion 36 of the resin piece 3.

[0021] As shown in FIG. 6(c), each of the tip-side erecting portion fitting groove 37, the left-side claw portion fitting groove 38, and the right-side claw portion fitting groove 39 is formed to have a depth such that the back surface portion 31 is in flat contact with the surface of the base 23 of the clip body 2 without being lifted up in the state of being attached to the clip body 2A. Note that the shape of the illustrated resin piece 3 is merely an example, and for example, as the resin piece in a case where an object to be pinched is lightweight, the left-side claw portion fitting groove 38 and the right-side claw portion fitting groove 39 may be formed so as to open up to the tip-side erecting portion fitting groove 37.

[0022] As described later, in a state where the resin piece 3 is attached to the clip body 2A, the tip-side erecting portion 241 is fitted into the tip-side erecting portion fitting groove 37, the left-side claw portion 252 is fitted into the left-side claw portion fitting groove 38, and the right-side claw portion 253 is fitted into the right-side claw portion fitting groove 39. That is, the tip-side erecting portion fitting groove 37 is formed corresponding to the shape of the tip-side erecting portion 241, and is linearly formed in Example 1, but is not necessarily limited thereto. Meanwhile, the left-side claw portion fitting groove 38 and the right-side claw portion fitting groove 39 are linearly formed, and are configured so that the left-side claw portion 252 and the right-side claw portion 253 enter the fitting grooves 38 and 39 by sliding the flat back surface portion 31 of the resin piece 3 so as to linearly slide on the surface of the flat base 23 of the clip body 2A toward the knob portion 22.

[0023] FIG. 6 shows a procedure for attaching the resin piece 3 shown in FIG. 4 to the clip body 2A shown in FIG. 2. FIG. 6(a) shows a state where the inner surface portion 34 side of the resin piece 3 is inserted into the resin piece insertion area 21. FIG. 6(b) shows a state where the left-side claw portion 252 is inserted into the left-side claw portion fitting groove 38. FIG. 6(c) shows a state where the tip-side erecting portion 241 is fitted into the tip-side

erecting portion fitting groove 37. In the attachment of the resin piece 3 to the clip body 2A, in a state where the clip body 2A is gripped with one hand and the resin piece 3 is gripped with the other hand, as shown in FIG. 6(a), the inner surface portion 34 side of the resin piece 3 is inserted into the resin piece insertion area 21, and the resin piece 3 is pushed in such a manner that each of the left-side claw portion 252 and the right-side claw portion 253 enters the left-side claw portion fitting groove 38 and the right-side claw portion fitting groove 39 opened to the inner surface portion 34. The resin piece 3 has flexibility, and is deformed so as to warp around the tip-side erecting portion 241 as a fulcrum.

[0024] Next, as shown in FIG. 6(b), the flat back surface portion 31 of the resin piece 3 is pushed in so as to linearly slide on the surface of the flat base 23 of the clip body 2A in the direction of the knob portion 22, whereby the left-side claw portion 252 is pushed in to the depth side of the left-side claw portion fitting groove 38, and the right-side claw portion 253 is pushed in to the depth side of the right-side claw portion fitting groove 39. When the tip-side erecting portion fitting groove 37 is pushed into a position where the tip-side erecting portion fitting groove 37 can be fitted into the tip-side erecting portion 241, the tip-side erecting portion 241 is fitted into the tip-side erecting portion fitting groove 37 as shown in FIG. 6(c). According to these procedures, in the resin piece 3, the left-side claw portion 252 is fitted into the left-side claw portion fitting groove 38, the right-side claw portion 253 is fitted into the right-side claw portion fitting groove 39, the tip-side erecting portion 241 is fitted into the tip-side erecting portion fitting groove 37, and the resin piece 3 is attached to the clip body 2A.

[0025] A procedure for attaching the other resin piece 3 to the other clip body 2B is similar to the above procedure, and thus the description thereof is omitted. As described above, according to the present invention, the resin piece 3 can be attached to the clip bodies 2A and 2B by simple manual work without using an adhesive or a special tool, and the resin piece 3 can be removed from the clip bodies 2A and 2B by following a procedure reverse to the attachment procedure. In the state where the resin piece 3 is attached to the clip bodies 2A and 2B, the tip-side erecting portion 241 is covered with the resin piece 3, so that the object to be pinched is not easily damaged. The attachment of the resin piece 3 to the clip bodies 2A and 2B is not limited to manual work, and the resin piece 3 may be attached using a tool or a device.

[0026] As described above, conventionally, there is no practical adhesive capable of fixing the resin piece to the metal clip body for a long period of time, and even if the resin piece is temporarily attached using the adhesive, there is a problem that the resin piece is easily peeled off and falls off because of a decrease in an adhesive force due to the aged deterioration of the adhesive or an action of an external load due to hanging of clothing, and it is difficult for each manufacturer to solve a means for attaching the resin piece to the metal clip by a surface

treatment or the like. In particular, adhesives generally have a property of being sensitive to ultraviolet rays, and a clip or a clip-equipped hanger using an adhesive as a means for attaching a resin piece cannot withstand use for a long period of time in an environment that is easily exposed to ultraviolet rays such as use in general homes. In this respect, the clip according to the present invention attaches the resin piece without using the adhesive. Therefore, according to the clip of the present invention, it is possible to eliminate the difficulty of bonding different materials such as a metal and a resin. In addition, according to the clip of the present invention, it is possible to avoid complicated operations such as control of the application amount of the adhesive and confirmation of the degree of adhesion in the manufacturing process.

[0027] After the clip bodies 2A and 2B to which the resin pieces 3 are attached are fitted with the surfaces of the base 23 facing each other so that the through holes 28 communicate with each other, the spring member 4 is incorporated into the knob portion 232 of the clip bodies 2A and 2B, and the core rod 5 is fitted into the through hole 28, whereby the clip 1 as shown in FIG. 1 can be manufactured. Such a manufacturing procedure is merely an example, and the resin piece 3 may be attached to the pair of clip bodies 2A and 2B rotatably connected to each other via the core rod 5 by the procedure shown in FIG. 6. In a state where the resin piece 3 is attached to the clip bodies 2A and 2B, both the side surface portions 35 and 36 of the resin piece 3 are held by the claw portions 252 and 253, and the outer surface portion 33 of the resin piece 3 is held by the tip-side erecting portion 241, so that the resin piece 3 is less likely to fall off from the clip bodies 2A and 2B even when an external force is applied to the resin piece 3 by pulling the object to be pinched such as clothing left and right or downward.

[0028] As the resin piece 3, a straight type in which a width dimension from the left-side erecting portion 842 to the right-side erecting portion 843 is constant like the clip body 8 described later and shown in FIGS. 8 and 9 can also be attached. As for the shapes of the clip bodies 2A and 2B to which the resin pieces 3 are attached, as shown in FIG. 2(a) and the like, the pinching portion 231 may include the tip-edge-side resin piece insertion area 21 in which the width dimension from the left-side edge to the right-side edge is constant, and the resin piece guide area 22 adjacent to the resin piece insertion area 21 and having a width dimension L decreasing as approaching the knob portion 232. The left-side fixing means may be provided at each of the left-side edge of the resin piece insertion area 21 and the left-side edge of the resin piece guide area 22, and the right-side fixing means may be provided at each of the right-side edge of the resin piece insertion area 21 and the right-side edge of the resin piece guide area 22. For example, one left-side claw portion 252 may be provided at each of the left-side edge in the resin piece insertion area 21 and the left-side edge in the resin piece guide area 22, and one right-side claw portion 253 may be provided at each of the right-side

edge in the resin piece insertion area 21 and the right-side edge in the resin piece guide area 22.

[0029] The resin piece 3 is formed so that a width dimension L1 of a portion disposed in the resin piece insertion area 21 in a state of being attached to the clip body 2A is constant and a width dimension L2 of a portion disposed in the resin piece guide area 22 is smaller toward the inner surface portion 34, corresponding to the shapes of the resin piece insertion area 21 and the resin piece guide area 22. In other words, the resin piece 3 is formed so that the width dimension L2 on the inner surface portion 34 side is smaller than the width dimension L1 on the outer surface portion 33 side, and the width dimension L2 on the insertion side (the inner surface portion 34 side) of the resin piece 3 is smaller than the width dimension of the resin piece insertion area 21 (see FIG. 4(f)). Therefore, the resin piece 3 can be easily inserted into the resin piece insertion area 21, and the pressed resin piece 3 is guided toward a predetermined position by the erecting portions 242 and 243 that define the resin piece guide area 22, and the resin piece 3 is not excessively pressed into the back side (the knob portion 232 side) of the clip body 2A, so that the resin piece 3 can be easily attached.

[0030] Furthermore, in the clip bodies 2A, 2B, as shown in FIG. 3(b), the left-side claw portion 252 may be formed so that the angle formed by the left-side erecting portion 242 and the left-side claw portion 252 is an acute angle, the right-side claw portion 253 may be formed so that the angle formed by the right-side erecting portion 243 and the right-side claw portion 253 is an acute angle, and the resin piece 3 may be made difficult to fall off by each of the claw portions 252, 253 biting into the attached resin piece 3.

[0031] FIG. 7 shows a clip-equipped hanger 6 including the clip 1 according to Example 1 of the present invention. The clip-equipped hanger 6 includes two clips 1, a frame 61 to which the clips 1 are attached, and a hook 62 provided on the frame 61. The clip according to the present invention can also be applied to a hanger on which clothing is hung.

[0032] In Example 1 described above, the claw portion fitting grooves 38 and 39 are fitted into and attached to the claw portions 252 and 253 by sliding the resin piece 3 in the longitudinal direction of the clip bodies 2A and 2B (the direction from the pinching portion 231 toward the knob portion 232). However, the attachment form is not limited thereto, and for example, as in the clip body 8 and the resin piece 9 having the configuration shown in FIGS. 8 to 12, the claw portion fitting grooves 98 and 99 may be fitted into and attached to the claw portions 852 and 853 by bending the resin piece 3 so as to be folded.

Example 2

[0033] FIG. 8 shows a part (a pinching portion 831-side tip portion) of a clip body 8 of a clip (a state where a resin piece 9 is attached to the clip body 8) according to

Example 2 of the present invention. FIG. 9 shows a part (pinching portion 831-side tip portion) of the configuration of the clip body 8 of the clip according to Example 2 of the present invention. In FIGS. 8 to 12, the description of sites or portions common to the clip bodies 2A and 2B and the resin piece 3 is simplified or omitted.

[0034] The clip body 8 is made of a metal. The clip body 8 includes a tip-side erecting portion 841, a left-side fixing means, and a right-side fixing means. The tip-side erecting portion 841 is erected on the tip edge of the pinching portion 831. The left-side fixing means includes a left-side erecting portion 842 and a left-side claw portion 852. The left-side erecting portion 842 is erected on the left-side edge of the pinching portion 831. The left-side claw portion 852 is connected to the left-side erecting portion 842 and is bent inward toward a right-side erecting portion 843. Similarly, the right-side fixing means includes the right-side erecting portion 843 and a right-side claw portion 853. The right-side erecting portion 843 is erected on the right-side edge of the pinching portion 831. The right-side claw portion 853 is connected to the right-side erecting portion 843 and is bent inward toward the left-side erecting portion 842. A width dimension from the left-side erecting portion 842 to the right-side erecting portion 843 is constant.

[0035] FIG. 10 shows the configuration of a resin piece 9 of a clip according to Example 2 of the present invention. FIG. 10(a) is a perspective view showing a front surface portion 92, an outer surface portion 93, and a right-side surface portion 96, FIG. 10(b) is a perspective view showing an internal configuration viewed from the same direction as FIG. 10(a) by a dotted line or the like, and FIG. 10(c) is a perspective view showing a back surface portion 91, an inner surface portion 94, and a right-side surface portion 96. The resin piece 9 is, for example, a flexible resin piece made of elastomer. The resin piece 9 includes a back surface portion 91, a front surface portion 92, an outer surface portion 93, an inner surface portion 94, a left-side surface portion 95, and a right-side surface portion 96 in a state of being attached to the clip body 8. The back surface portion 91 is flat and is in contact with the pinching portion 831. The front surface portion 92 is disposed to face the other resin piece forming a pair. The outer surface portion 93 is disposed on the tip edge side of the pinching portion 831. The inner surface portion 94 is disposed on the knob portion side. The left-side surface portion 95 is disposed on the left edge side of the pinching portion 831. The right-side surface portion 96 is disposed on the right edge side of the pinching portion 831. The left-side surface portion 95 and the right-side surface portion 96 are formed to have a constant width dimension corresponding to the shape of the pinching portion 831. A tip-side erecting portion fitting groove 97 is formed in the back surface portion 91. The tip-side erecting portion fitting groove 97 is formed closer to the outer surface portion 93 side and is opened to the left-side surface portion 95 and the right-side surface portion 96. The tip-side erecting portion fitting groove

97 is provided substantially parallel to the outer surface portion 93. A left-side claw portion fitting groove 98 is formed in the left-side surface portion 95 of the resin piece 9. The left-side claw portion fitting groove 98 is provided substantially parallel to the back surface portion 91, linearly extends, and is opened to the inner surface portion 94. A right-side claw portion fitting groove 99 is formed in the right-side surface portion 96 of the resin piece 9. The right-side claw portion fitting groove 99 is provided substantially parallel to the back surface portion 91, linearly extends, and is opened to the inner surface portion 94.

[0036] Furthermore, in the back surface portion 91 of the resin piece 9, a bending groove 90 is provided along the longitudinal direction of the resin piece 9. The bending groove 90 is a groove cut into a mountain shape, and has one end opened to the tip-side erecting portion fitting groove 97 and the other end opened to the inner surface portion 94. FIG. 11 shows states before and after deformation of a portion provided with a bending groove 90 in the resin piece 9 of the clip according to Example 2 of the present invention. FIG. 11(a) is a perspective cross-sectional view (before deformation) having a D-D line as a cut surface, and FIG. 11(b) is a perspective cross-sectional view showing a state after deformation. The resin piece 9 is bent so as to be folded along the bending groove 90 by applying a force in a direction in which mountain-shaped cut surfaces are in contact with each other, whereby a length from the left-side surface portion 95 to the right-side surface portion 96 can be reduced (see FIG. 11(b)). The resin piece 9 returns to the state shown in FIG. 11(a) in an unloaded state. A width dimension from the left-side surface portion 95 to the right-side surface portion 96 of the resin piece 9 is set to a length that can be inserted and fitted from between the left-side claw portion 852 and the right-side claw portion 853 in a state of being deformed so as to be folded along the bending groove 90.

[0037] FIG. 12 shows a procedure for attaching the resin piece 9 shown in FIG. 10 to the clip body 8 shown in FIG. 9. According to the resin piece 9 having the above-described configuration, the left-side claw portion fitting groove 98 and the right-side claw portion fitting groove 99 are formed in a portion from the tip-side erecting portion fitting groove 97, which is a portion where the bending groove 90 is provided, to the inner surface portion 94. Therefore, the resin piece 9 can be inserted from between the left-side claw portion 852 and the right-side claw portion 853 by bending the resin piece 9 so that the mountain-shaped cut surfaces are in contact with each other as shown in FIG. 12(a). By placing the resin piece 9 in the unloaded state, the claw portions 852 and 853 can be fitted into the claw portion fitting grooves 98 and 99 as shown in FIG. 12(b) by the restoring force of the resin piece 9. Next, as shown in FIG. 12(c), the tip-side erecting portion 841 is fitted into the tip-side erecting portion fitting groove 97. According to these procedures, the left-side claw portion 852 of the resin piece 9 is fitted into the left-side claw portion fitting groove 98, the right-side claw

portion 853 of the resin piece 9 is fitted into the right-side claw portion fitting groove 99, and the tip-side erecting portion 841 of the resin piece 9 is fitted into the tip-side erecting portion fitting groove 97, so that the resin piece 9 is attached to the clip body 8. The state after attachment is as shown in FIG. 8, and the tip-side erecting portion 841 is in a state of being covered with the resin piece 9. Therefore, according to Example 2 of the present invention, the object to be pinched is not easily damaged.

[0038] The clip body 8 to which the resin piece 9 shown in FIG. 8 is attached can be used instead of the clip body 2 to which the resin piece 3 shown in FIG. 1 and the like is attached. A clip manufactured using the clip body 8 to which the resin piece 9 is attached can also be applied as a clip of a hanger. The resin piece 9 is a member having a feature common to the resin piece 3, and can be attached to the clip bodies 2A and 2B in the above-described sliding attachment form.

[0039] The present invention is not limited to the above Examples and embodiments, and various modifications can be made without departing from the gist of the invention. For example, the present invention can also be applied to a clip whose clip body is made of plastic. In Example 1 of the present invention shown in FIG. 2 and the like, two left-side claw portions and two right-side claw portions are provided, but one or three or more left-side claw portions and right-side claw portions may be provided. The present invention can also be applied to a clip of a type in which the width dimension of the clip body or the resin piece is constant.

Industrial Applicability

[0040] The present invention can be used as a clip for pinching and holding clothes such as a skirt, a trouser, and a glove, but the object to be pinched is not limited thereto, and can be widely used as a clip for pinching and holding footwears such as a boot and socks, cloth products such as a curtain and a sheet, rugs such as a carpet, paper products, and various other industrial products.

Reference Signs List

[0041]

1	clip	
2A, 2B	clip body	
21	resin piece insertion area	
22	resin piece guide area	
23	base	
231	pinching portion	
232	knob portion	
24	erecting portion	
241	tip-side erecting portion	
242	left-side erecting portion	
243	right-side erecting portion	
252	left-side claw portion	

253	right-side claw portion
28	through hole
3	resin piece
31	back surface portion
5 32	front surface portion
33	outer surface portion
34	inner surface portion
35	left-side surface portion
36	right-side surface portion
10 37	tip-side erecting portion fitting groove
38	left-side claw portion fitting groove
39	right-side claw portion fitting groove
4	spring member
5	core rod
15 6	hanger
61	frame
62	hook
7	clip
8	clip body
20 83	base
831	pinching portion
841	tip-side erecting portion
842	left-side erecting portion
843	right-side erecting portion
25 852	left-side claw portion
853	right-side claw portion
9	resin piece
90	bending groove
91	back surface portion
30 92	front surface portion
93	outer surface portion
94	inner surface portion
95	left-side surface portion
96	right-side surface portion
35 97	tip-side erecting portion fitting groove
98	left-side claw portion fitting groove
99	right-side claw portion fitting groove

Claims

1. An openable/closable clip comprising:

a pair of clip bodies rotatably connected to each other, the pair of clip bodies including pinching portions on one end sides and knob portions on the other end sides;
a pair of resin pieces attached to the pinching portions; and
a spring member attached to the clip bodies and configured to urge the pinching portions in a direction in which the pinching portions are in contact with each other,
the openable/closable clip being capable of separating the pinching portions from each other against a spring force by picking the knob portions, wherein
each of the resin pieces includes, in a state of being attached to the clip body, a flat back sur-

- face portion being in contact with the pinching portion, a front surface portion disposed to face the other resin piece forming a pair, an outer surface portion disposed on a tip edge side of the pinching portion, an inner surface portion disposed on a knob portion side, a left-side surface portion disposed on a left-side edge side of the pinching portion, and a right-side surface portion disposed on a right-side edge side of the pinching portion, each of the clip bodies includes a tip-side erecting portion erected on a tip edge of the pinching portion, a left-side fixing means including a left-side erecting portion erected on a left-side edge of the pinching portion and a left-side claw portion connected to the left-side erecting portion and bent inward, and a right-side fixing means including a right-side erecting portion erected on a right-side edge of the pinching portion and a right-side claw portion connected to the right-side erecting portion and bent inward, a tip-side erecting portion fitting groove provided substantially parallel to the outer surface portion and opened to the left-side surface portion and the right-side surface portion is formed on the back surface portion of the resin piece closer to the outer surface portion, a left-side claw portion fitting groove provided substantially parallel to the back surface portion, linearly extending, and opened to the inner surface portion is formed on the left-side surface portion of the resin piece, and a right-side claw portion fitting groove provided substantially parallel to the back surface portion, linearly extending, and opened to the inner surface portion is formed on the right-side surface portion of the resin piece.
2. The clip according to claim 1, wherein the pinching portion of the clip body includes:
- a tip-edge-side resin piece insertion area having a width dimension constant from the left-side edge to the right-side edge; and
a resin piece guide area being adjacent to the resin piece insertion area and having the width dimension decreasing toward the knob portion, the left-side fixing means is provided at each of a left-side edge of the resin piece insertion area and a left-side edge of the resin piece guide area, and
the right-side fixing means is provided at each of a right-side edge of the resin piece insertion area and a right-side edge of the resin piece guide area.
3. The clip according to claim 1 or 2, wherein

the left-side claw portion is formed so that an angle formed by the left-side erecting portion and the left-side claw portion is an acute angle, and

the right-side claw portion is formed so that an angle formed by the right-side erecting portion and the right-side claw portion is an acute angle.

4. The clip according to claim 1 or 2, wherein the back surface portion of the resin piece is provided with a bending groove cut into a mountain shape and having one end opened to a tip-side erecting portion fitting groove and the other end opened to the inner surface portion.
5. The clip according to claim 3, wherein the back surface portion of the resin piece is provided with a bending groove cut into a mountain shape and having one end opened to a tip-side erecting portion fitting groove and the other end opened to the inner surface portion.
6. A clip-equipped hanger comprising:
- the clip according to claim 1 or 2;
a frame to which the clip is attached; and
a hook provided on the frame.
7. A clip-equipped hanger comprising:
- the clip according to claim 3;
a frame to which the clip is attached; and
a hook provided on the frame.
8. A clip-equipped hanger comprising:
- the clip according to claim 4;
a frame to which the clip is attached; and
a hook provided on the frame.
9. A clip-equipped hanger comprising:
- the clip according to claim 5;
a frame to which the clip is attached; and
a hook provided on the frame.

FIG. 1

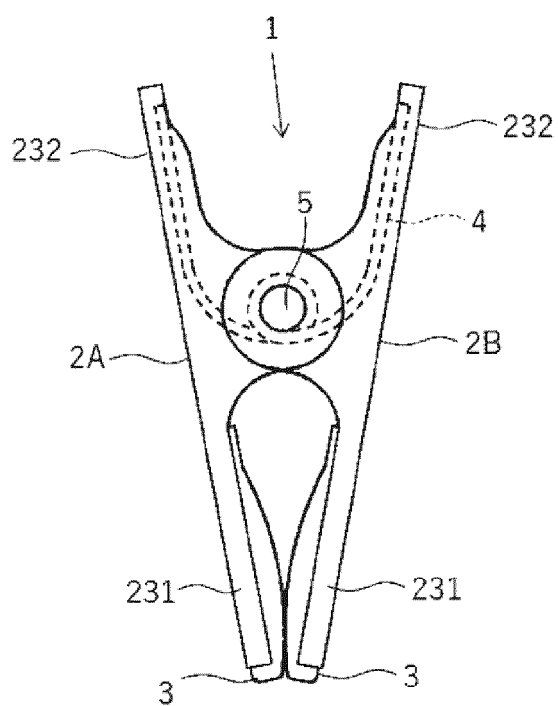


FIG. 2

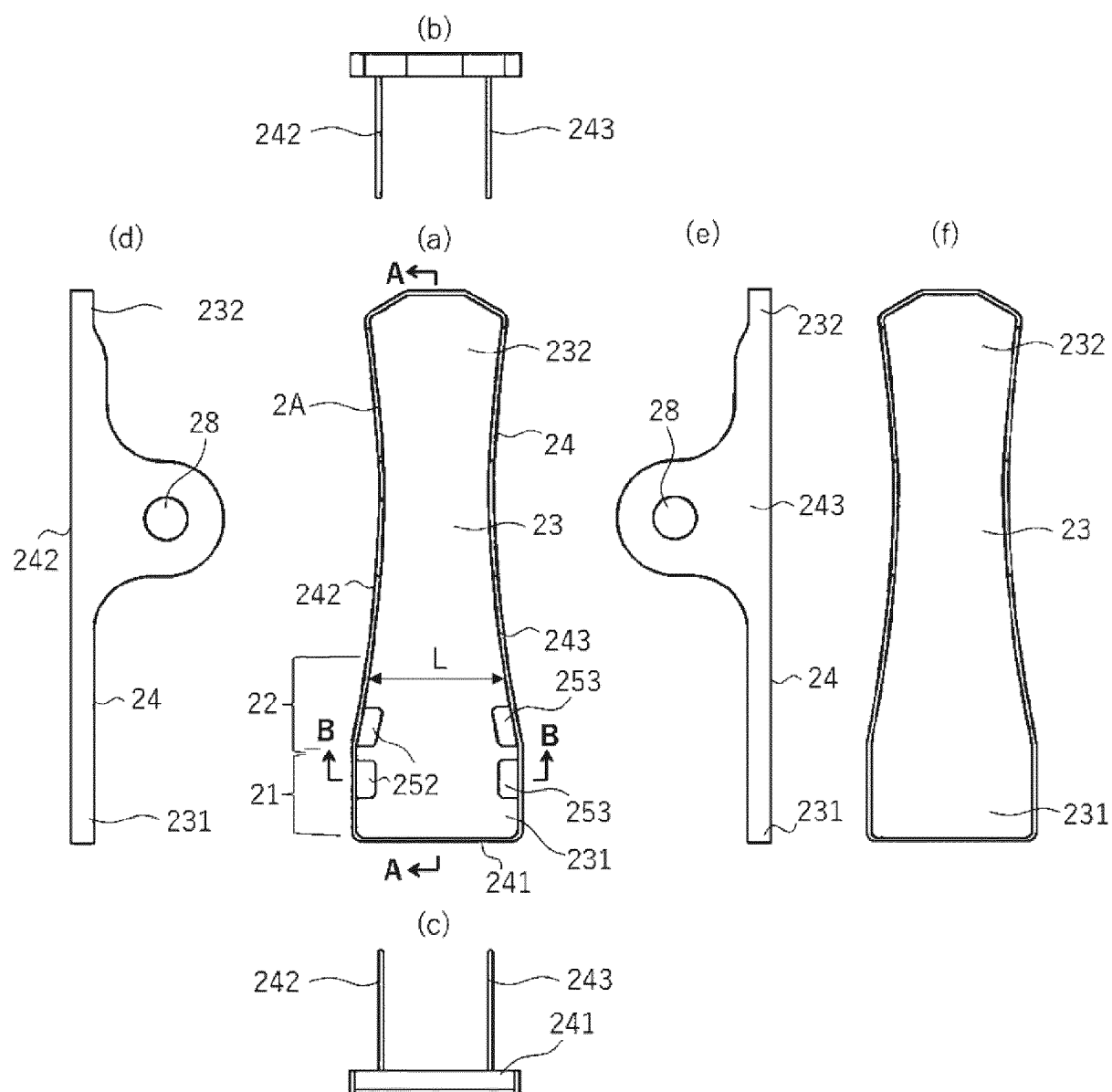


FIG. 3

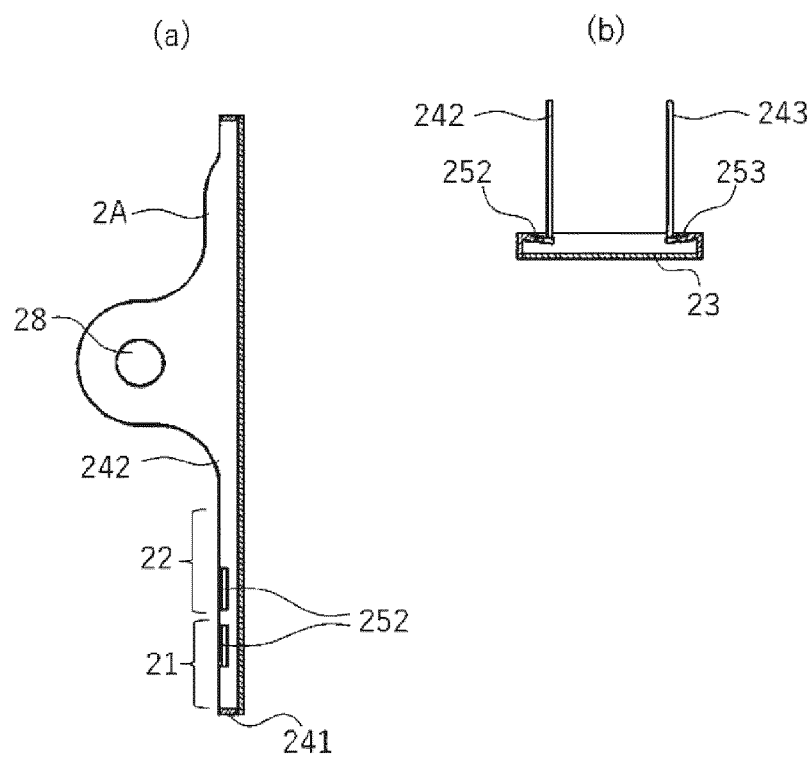


FIG. 4

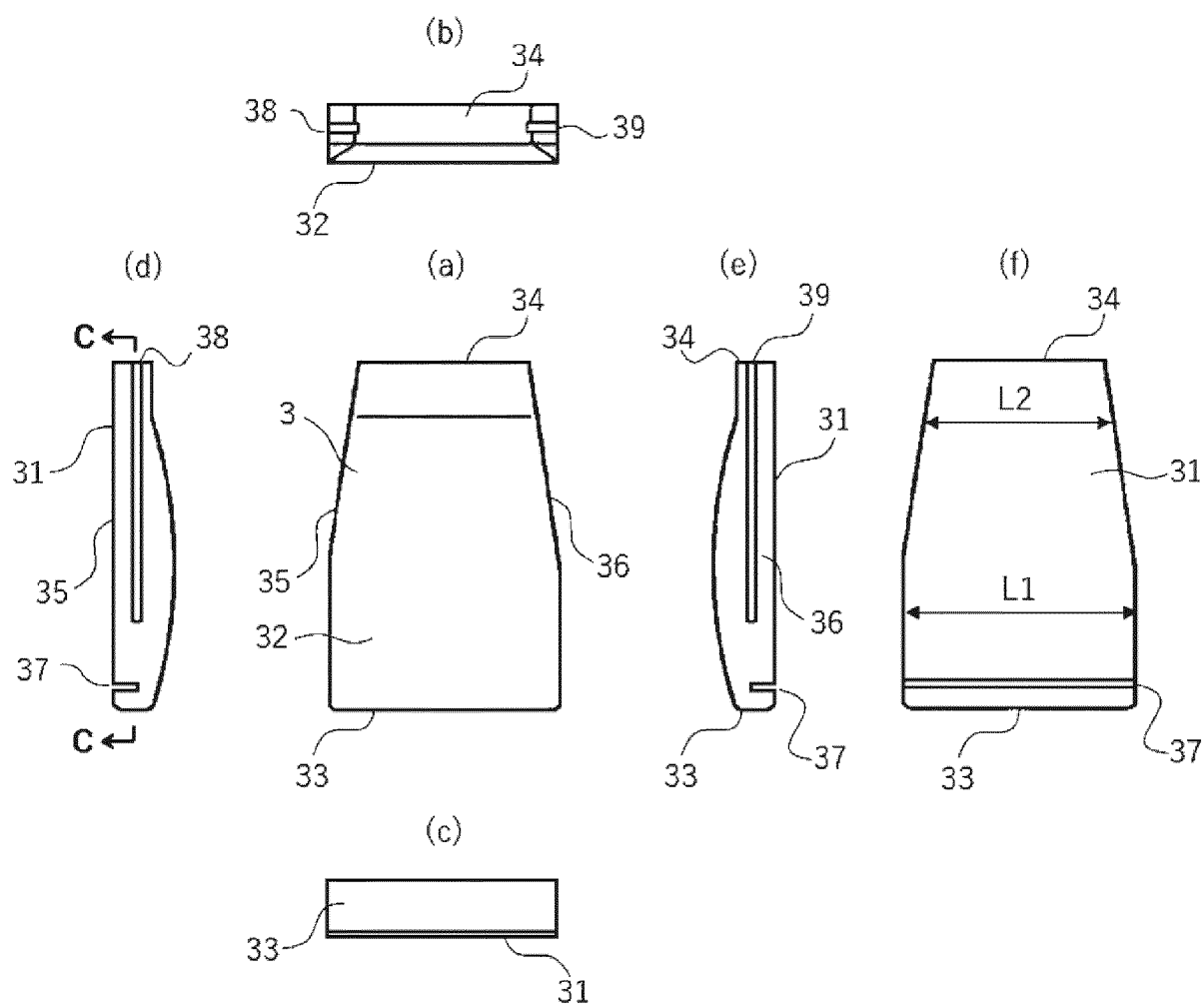


FIG. 5

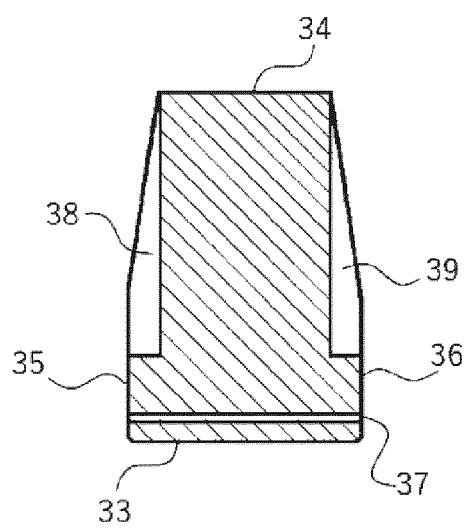


FIG. 6

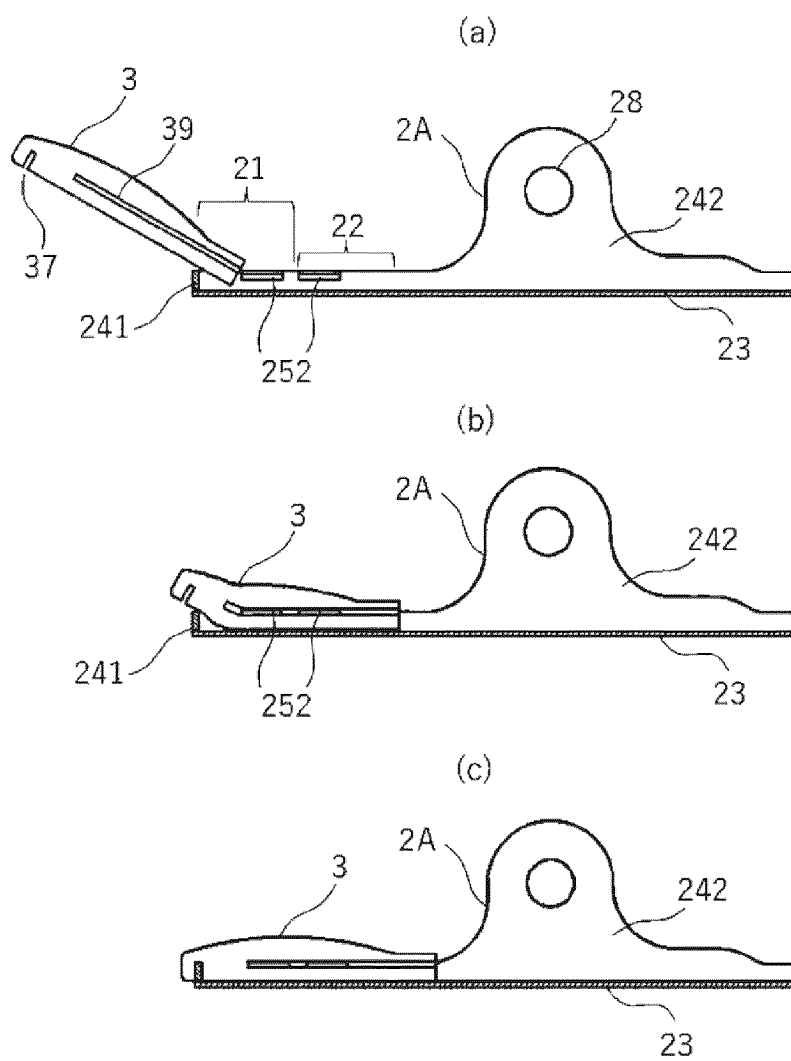


FIG. 7

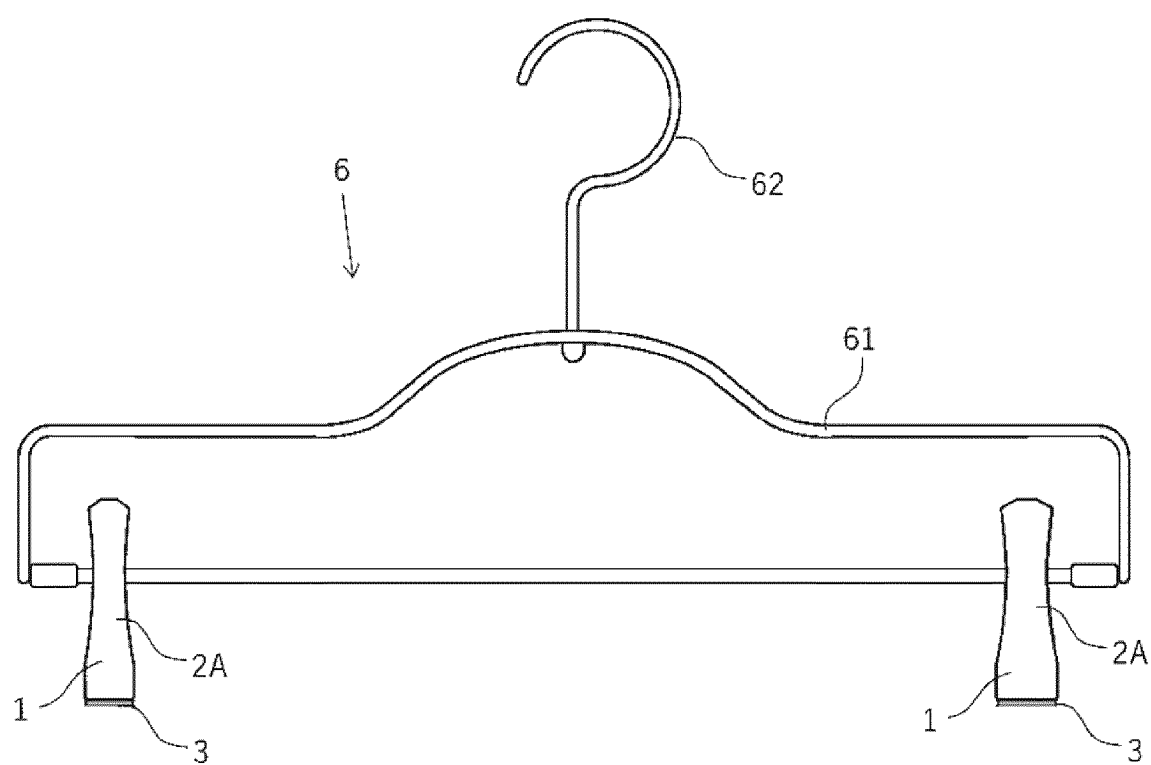


FIG. 8

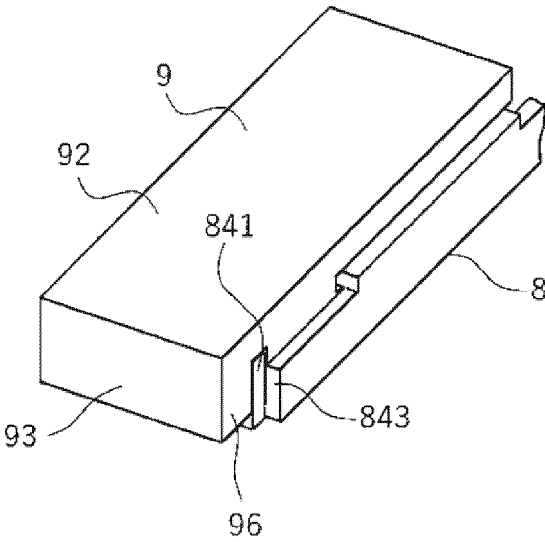


FIG. 9

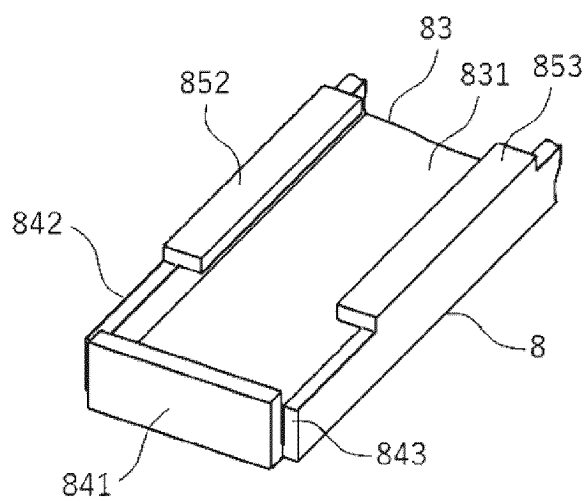


FIG. 10

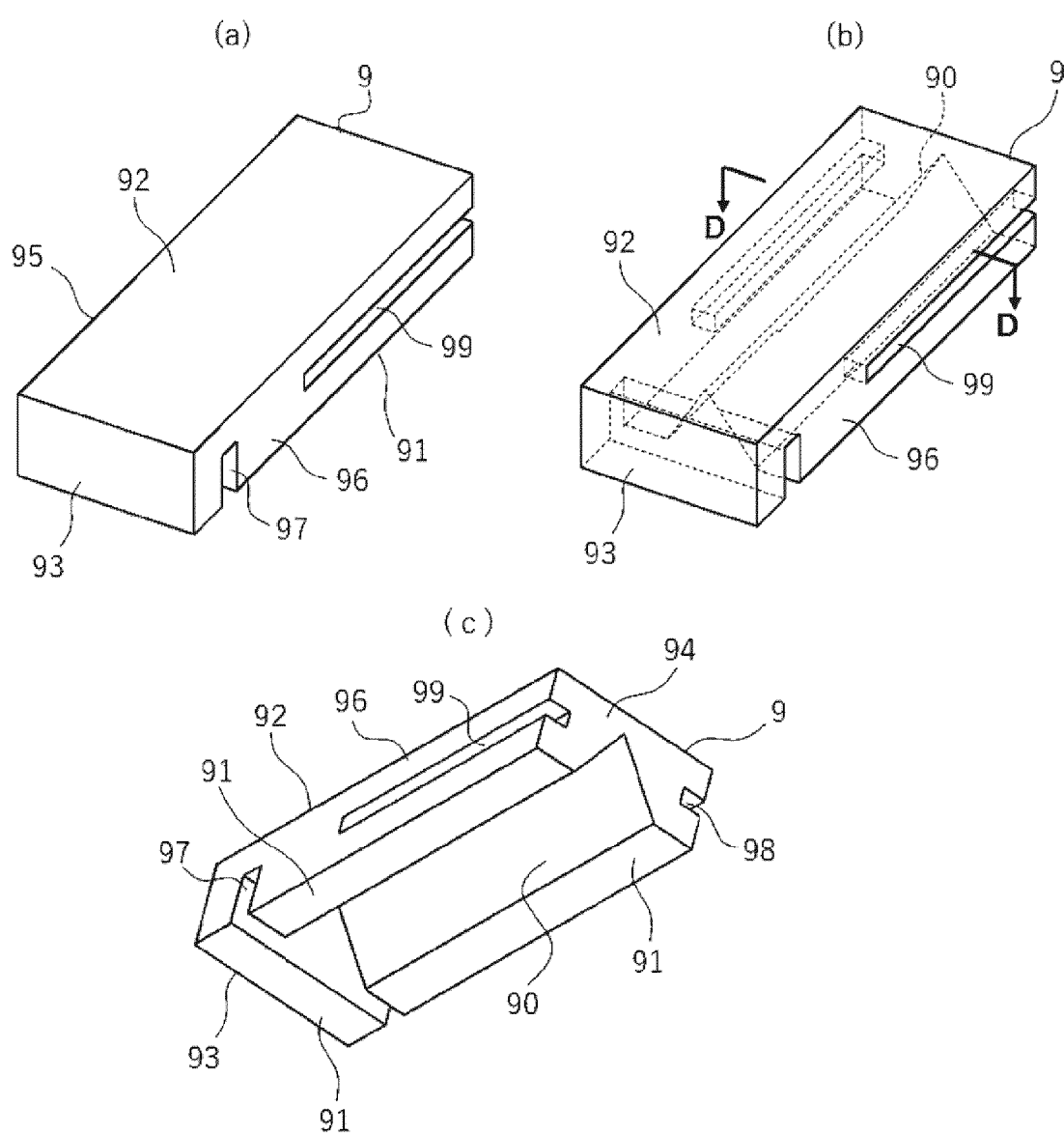


FIG. 11

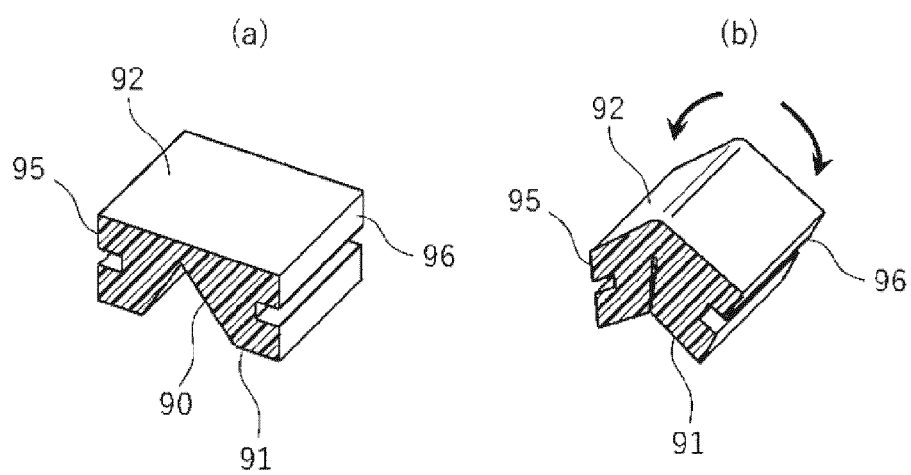
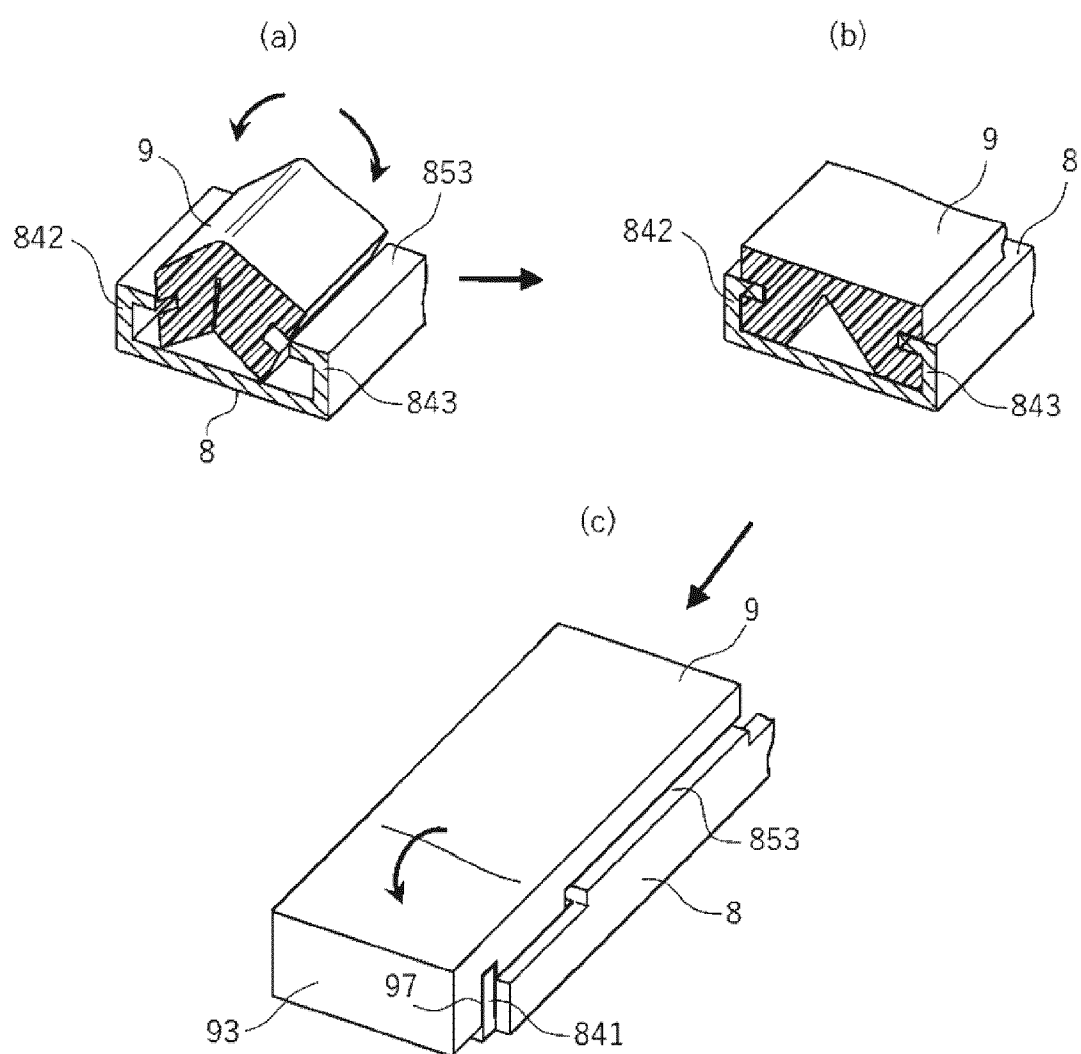


FIG. 12



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2022/039005

A. CLASSIFICATION OF SUBJECT MATTER

A47G 25/32(2006.01)i; A47G 25/50(2006.01)i

FI: A47G25/32 B; A47G25/50

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)

A47G25/32; A47G25/50

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 1971-2022
 Registered utility model specifications of Japan 1996-2022
 Published registered utility model applications of Japan 1994-2022

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.
A	JP 3209945 U (NIHON KOVAC KK) 13 April 2017 (2017-04-13) abstract, fig. 3	1-9
A	JP 9-56566 A (SUGA, Hiroki) 04 March 1997 (1997-03-04) abstract, fig. 1	1-9
A	JP 2001-231675 A (OM CREATIVE KK) 28 August 2001 (2001-08-28) abstract, fig. 6	1-9
A	JP 10-257959 A (MATSUOKA, Takanaga) 29 September 1998 (1998-09-29) abstract, fig. 1	1-9
A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 158974/1975 (Laid-open No. 71834/1977) (NAKAMURA, Kazuko) 28 May 1977 (1977-05-28), claims, fig. 1-5	1-9
A	KR 10-2014-0095713 A (YANG, Hae-Ji) 04 August 2014 (2014-08-04) abstract, fig. 5	1-9

☒ Further documents are listed in the continuation of Box C.
 ☒ See patent family annex.

* Special categories of cited documents:	"I" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A" document defining the general state of the art which is not considered to be of particular relevance	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E" earlier application or patent but published on or after the international filing date	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

22 November 2022

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06 December 2022

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Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2022/039005

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR 3077580 A1 (LAGUELLE SOCIETE PAR ACTION SIMPLIFREE) 09 August 2019 (2019-08-09) abstract, fig. 4	1-9

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/JP2022/039005

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JP	3209945	U	13 April 2017	(Family: none)	
JP	9-56566	A	04 March 1997	(Family: none)	
JP	2001-231675	A	28 August 2001	(Family: none)	
JP	10-257959	A	29 September 1998	(Family: none)	
JP	52-71834	U1	28 May 1977	(Family: none)	
KR	10-2014-0095713	A	04 August 2014	(Family: none)	
FR	3077580	A1	09 August 2019	(Family: none)	

Form PCT/ISA/210 (patent family annex) (January 2015)

REFERENCES CITED IN THE DESCRIPTION

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