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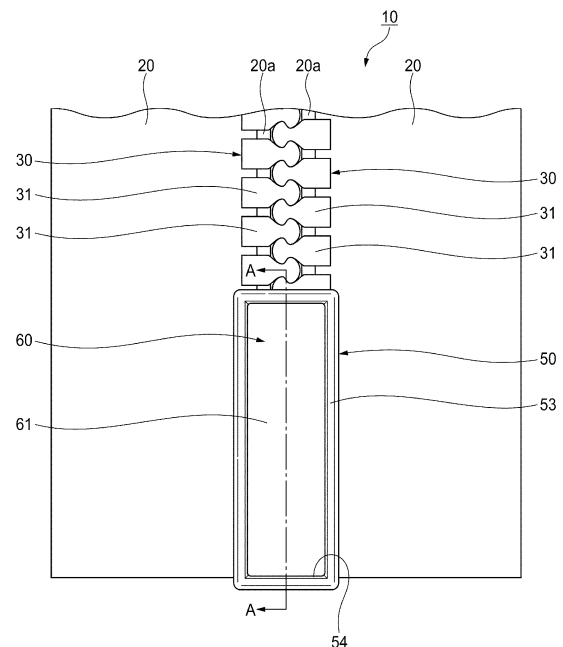
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(54) **SLIDE FASTENER AND PRODUCTION METHOD FOR SLIDE FASTENER STOP**

(57) There is provided a slide fastener capable of giving decorativeness to an end stop. The slide fastener includes a pair of fastener tapes (20), a pair of fastener element rows (30) respectively arranged along opposing tape-side edge portions (20a) of the pair of fastener tapes (20), the pair of fastener element rows (30) including a plurality of fastener elements (31), a slider configured to engage and disengage the pair of fastener element rows (30), end stops (50, 70) configured to stop sliding movement of the slider, and a decoration member (60) mounted on the end stops (50, 70). The end stop includes a tape accommodation portion (51) for accommodating the fastener tape (20) therein and an engaged portion (52) for engaging the decoration member (60) therewith. The decoration member (60) includes a body portion (61) which is decorated and an engaging portion (62) provided on a back surface of the body portion (61) and configured to be engaged with the engaged portion (52).

FIG. 1



Description

be achieved by the following configuration.

Technical Field

[0001] The present invention relates to a slide fastener and a method for manufacturing an end stop of the slide fastener, and more particularly, to a top end stop and a bottom end stop for a slide fastener and a manufacturing method thereof.

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Background Art

[0002] Slide fasteners usually employ a configuration in which an end stop made of synthetic resin, such as a top end stop or a bottom end stop, is installed on an end portion of a fastener element row to stop sliding of a slider and thus prevent the slider from being released from the fastener element row. Lower ends of the opposing fastener element rows are connected to each other by the bottom end stop to prevent the slider from being released.

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[0003] There is known a conventional slide fastener including a bottom end stop having a back plate provided with a through-hole, and a rivet member fixed to the back plate by engaging and deforming a protruding pin with the through-hole (e.g., see Patent Document 1).

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Prior Art Document**Patent Document**

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[0004]

Patent Document 1: Japanese Patent Application Publication No. 2008-068110A

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Summary of Invention**Problems to Be Solved by Invention**

[0005] Recently, there is a demand from customers who want to improve the aesthetic effect of the slide fastener and thus enhance a commercial value thereof by decorating the slide fastener with a decoration, such as a logo mark, characters, a pattern, various marks, or color, to the slide fastener.

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[0006] However, in the slide fastener disclosed in Patent Document 1, although the rivet member is fixed to the back plate to provide the strong bottom end stop, the slide fastener does not take decorativeness of the end stop (top end stop or bottom end stop) into consideration.

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[0007] The present invention has been made in view of the above-described circumference, and an object of the present invention is to provide a slide fastener capable of giving decorativeness to an end stop.

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Means for Solving Problems

[0008] The above object of the present invention can

(1) A slide fastener including: a pair of fastener tapes; a pair of fastener element rows respectively arranged along opposing tape-side edge portions of the pair of fastener tapes, the pair of fastener element rows including a plurality of fastener elements; a slider configured to engage and disengage the pair of fastener element rows; end stops disposed at upper and lower end portions of the pair of fastener element rows to stop sliding movement of the slider; and a decoration member mounted on at least one of the end stops, wherein at least one of the end stops includes a tape accommodation portion for accommodating the fastener tape, and an engaged portion for engaging the decoration member therewith, and wherein the decoration member includes a body portion which is decorated, and an engaging portion which is provided on a back surface of the body portion and configured to be engaged with the engaged portion.

(2) The slide fastener according to (1), wherein the engaging portion is a projection protruding from the back surface of the body portion in a front and back direction of the fastener tape, and the projection has a portion swelling in a direction parallel with the fastener tape, and wherein the engaged portion is comprised of a recess portion configured to be engaged with the engaging portion.

(3) The slide fastener according to (1), wherein the engaged portion is a through-hole penetrating the end stop in the front and back direction, and wherein the engaging portion is an engaging leg portion projectingly provided on the back surface of the body portion.

(4) The slide fastener according to (3), wherein the through-hole has an engaging stepped portion configured to be engaged with the engaging leg portion.

(5) The slide fastener according to (3) or (4), wherein the engaging leg portion is formed along a longitudinal direction of the fastener tape.

(6) The slide fastener according to (4), wherein the decoration member is made of soft synthetic resin material, wherein the end stops are made of harder synthetic resin material than the decoration member, and wherein an inner peripheral surface of the through-hole is covered by synthetic resin.

(7) The slide fastener according to (6), wherein a wall portion is erected from a front surface of the end stop, and wherein the decoration member is accommodated in an inside of a portion enclosed by the wall portion.

(8) The slide fastener according to (7), wherein the end stop is a bottom end stop provided to cross over the pair of fastener tapes and formed in a rectangular shape along a sliding direction of the slider.

(9) The slide fastener according to (1), wherein a back surface side of the engaging portion is provided

with an extension portion protruding in the front and back direction of the fastener tape.

(10) The slide fastener according to (9), wherein the extension portion has a weakened portion of which mechanical strength is set to be weaker than that of other portions to become a breakage starting point to separate the extension portion from the engaging portion.

(11) The slide fastener according to (9), wherein the extension portion has a cross-sectional shape in which a width of one end side thereof is gradually decreased from a width of the other end side.

(12) The slide fastener according to (9), wherein the back surface of the engaging portion is provided with an extension portion removal trace which is formed by removing the extension portion from the engaging portion.

(13) A method for manufacturing an end stop of a slide fastener, the end stop including a tape accommodation portion for accommodating a fastener tape and an engaged portion for engaging a decoration member therewith, the decoration member including a body portion which is decorated and an engaging portion provided on a back surface of the body portion and configured to be engaged with the engaged portion, and a back surface side of the engaging portion is formed with an extension portion protruding in a front and back direction of the fastener tape, the method comprising: inserting the engaging portion into the engaged portion together with the extension portion; and pulling the extension portion in a direction toward a back surface of the end stop to engage the engaging portion with the engaged portion.

(14) The method for manufacturing the end stop of the slide fastener, according to (13), further comprising removing the extension portion from the engaging portion after engaging the engaging portion with the engaged portion to mount the decoration member onto the end stops.

Advantageous Effects of Invention

[0009] According to the slide fastener of the present invention, since the slide fastener includes the end stops disposed at the upper and lower end portions of the pair of fastener element rows to stop sliding movement of the slider and the decoration member mounted on at least one of the end stops, the decoration member which is arbitrarily decorated is mounted on the end stop, thereby giving the decorativeness to the end stop.

[0010] At least one of the end stop includes the tape accommodation portion for accommodating the fastener tape and the engaged portion for engaging the decoration member therewith, and the decoration member includes the body portion which is decorated and the engaging portion provided on the back surface of the body portion and configured to be engaged with the engaged portion. Therefore, as the engaging portion is engaged with the

engaged portion, the decoration member can be easily attached to the end stop. Further, since the engaging portion is engaged with the engaged portion, it is possible to reliably prevent the decoration member from being released from the end stop.

[0011] Further, according to the slide fastener of the present invention, the back surface side of the engaging portion is provided with the extension portion protruding in the front and back direction of the fastener tape, and after the engaging portion is inserted into the engaged portion together with the extension portion, the extension portion is pulled in the direction toward the back surface of the end stop to engage the engaging portion with the engaged portion. Therefore, it is possible to easily engage the engaging portion with the engaged portion, without using a tool.

[0012] In addition, the extension portion has the weakened portion of which the mechanical strength is set to be weaker than that of the other portions, and the extension portion can be separated and removed from the engaging portion on the basis of the weakened portion as a breakage starting point. Therefore, after the decoration member is mounted onto the end stop, the extension portion is separated and removed from the engaging portion to maintain the good decorativeness.

Brief Description of Drawings

[0013]

FIG. 1 is an enlarged front side view of a periphery of a bottom end stop to illustrate one embodiment of a slide fastener according to the present invention; FIG. 2 is a cross-sectional view taken along the line A-A in FIG. 1; FIG. 3 is a cross-sectional view taken along the line B-B in FIG. 2; FIG. 4 is a perspective view of the bottom end stop in FIG. 1 when seen from a front surface side; FIG. 5 is a perspective view of the bottom end stop in FIG. 1 when seen from a back surface side; FIG. 6 is a perspective view of a decoration member in FIG. 1 when seen from a front surface side; FIG. 7 is a perspective view of a decoration member in FIG. 1 when seen from a back surface side; FIG. 8 is a cross-sectional view illustrating a first modification of the slide fastener according to the present invention; FIG. 9 is an enlarged front side view illustrating a second modification of the slide fastener according to the present invention; FIG. 10 is an enlarged front side view illustrating a third modification of the slide fastener according to the present invention; FIG. 11 is an enlarged perspective view illustrating a fourth modification of the slide fastener according to the present invention; FIG. 12 is an enlarged perspective view illustrating

a fifth modification of the slide fastener according to the present invention;

FIG. 13 is a perspective view illustrating a decoration member of a sixth modification of the slide fastener according to the present invention when seen from a front surface side;

FIG. 14 is a perspective view of a decoration member in FIG. 13 when seen from a back surface;

FIG. 15A to 15C are cross-sectional views illustrating a method for manufacturing an end stop of the slide fastener according to the sixth modification in FIG. 13, in which FIG. 15A is a view illustrating a state in which an extension portion of the decoration member inserted into a through-hole of the bottom end stop is pulled, FIG. 15B is a view illustrating a state in which an engaging portion of the decoration member is engaged with the through-hole of the bottom end stop, and FIG. 15C is a view illustrating a state in which the extension portion is separated from an engaging leg portion;

FIG. 16 is a perspective view illustrating a major part of a decoration member of a seventh modification of the slide fastener according to the present invention when seen from a back surface side;

FIG. 17 is a perspective view illustrating a major part of a decoration member of an eighth modification of the slide fastener according to the present invention when seen from a back surface side;

FIG. 18 is a perspective view illustrating a major part of a decoration member of a ninth modification of the slide fastener according to the present invention when seen from a back surface side;

FIG. 19 is an enlarged front side view of a periphery of a top end stop to illustrate the slide fastener according to the present invention;

FIG. 20 is an enlarged back side view of the periphery of the top end stop in FIG. 19;

FIG. 21 is a cross-sectional view taken along the line C-C in FIG. 19;

FIG. 22 is a lateral side view of the slide fastener in FIG. 19 when seen from a direction D;

FIG. 23 is a perspective view of a bag employing the slide fastener according to the present invention; and

FIG. 24 is a front view of a jacket with a chest pocket employing the slide fastener according to the present invention.

Embodiments of Invention

[0014] One embodiment of a slide fastener according to the present invention will now be described in detail with reference to the accompanying drawings. In the following description, a front side refers to a near side with respect to the paper surface of FIG. 1, a back side refers to a far side with respect to the paper surface of FIG. 1, an upper side refers to an upper side with respect to the paper surface of FIG. 1 (i.e., a side of a direction in which the slider slides to engage fastener element rows 30 of

the slide fastener, as will be described later), a lower side refers to a lower side with respect to the paper surface of FIG. 1 (i.e., a side of a direction in which the slider slides to disengage the fastener element rows 30, as will be described later), a left side refers to a left side with respect to the paper surface of FIG. 1, and a right side refers to a right side with respect to the paper surface of FIG. 1. Further, a right and left direction of a fastener tape is also referred to as a width direction. Also, the upward and downward direction of the fastener tape refers to a longitudinal direction.

[0015] A slide fastener 10 of this embodiment includes, as illustrated in FIG. 1, a pair of right and left fastener tapes 20, a pair of right and left fastener element rows 30 respectively provided on opposing tape-side edge portions 20a of the pair of right and left fastener tapes 20 in a longitudinal direction and having a plurality of fastener elements 31, a slider (not illustrated) configured to engage and disengage the right and left fastener element rows 30, bottom end stops 50 provided at lower end portions of the right and left fastener element rows 30 and 30 and attached adjacent to the fastener elements 31, top end stops (not illustrated) each provided on upper end portions of the right and left fastener element rows 30, and a decoration member 60 mounted on the bottom end stop 50. As the slider is moved in an upward and downward direction, the pair of right and left fastener element rows 30 are engaged and disengaged. The downward sliding movement of the slide is restricted by the bottom end stops 50, while the upward sliding movement of the slide is restricted by the top end stops, thereby preventing the slider from being released from the fastener element rows 30.

[0016] Each of the pair of right and left fastener element rows 30 is comprised of a plurality of fastener elements 31, and the fastener elements are formed on the tape-side edge portion 20a of the fastener tape 20 by injection molding using synthetic resin, for example, polyamide, polyacetal, polypropylene, or polybutylene terephthalate.

[0017] The bottom end stop 50 has, as illustrated in FIGs. 1 to 5, a pair of right and left tape accommodation portions 51 which are formed by injection molding while straddling the pair of right and left fastener tapes 20 to respectively accommodate the fastener tape 20 and is formed in a rectangular shape along a sliding direction of the slider, two through-holes (engaging portions) engaging with the decoration member 60, a wall portion 53 erected from the whole circumference of the front-side edge portion of the bottom end stop 50, and an accommodation recess portion 54 formed in the wall portion 53 to accommodate the decoration member 60. The through-hole 52 is formed in the front and back direction of the fastener tape 20. The through-hole 52 is formed between the pair of right and left fastener tapes 20 at a center portion in the width direction of the fastener tape 20.

[0018] Two through-holes 52 are formed at the center

portion of the width direction of the bottom end stop 50 along the longitudinal direction of the bottom end stop 50. Further, the through-hole 52 is formed in the rectangular shape along the longitudinal direction of the bottom end stop 50. An inner peripheral surface of the through-hole 52 is covered by synthetic resin. In other words, a synthetic resin layer exists between the inner peripheral surface of the through-hole 52 and the fastener tape 20, so that the fastener tape 20 is not exposed inwardly from the through-hole 52.

[0019] The decoration member 60 has, as illustrated in FIGs. 1 to 3, 6 and 7, a plate member (body portion) 61 with a front surface which is decorated, and two engaging leg portions (engaging portion) 62 which project-
ingly provided on a back surface of the plate member 61 and are respectively engaged with the through-holes 52 of the bottom end stop 50.

[0020] The plate member 61 is a plate-like member having a size to be fitted into an inside of the accommodation recess portion 54 of the bottom end stop 50. A front surface 61a of the plate member 61 is decorated with an arbitrary decoration such as a logo mark, characters, a pattern, various marks, or color.

[0021] The engaging leg portion 62 is a substantially T-shape projection which can be fitted into the through-hole 52 of the bottom end stop 50, and is formed in a rectangular shape along the longitudinal direction of the fastener tape 20. Further, the engaging leg portion 62 is formed so that its side in the longitudinal direction is to be longer than its side in the width direction.

[0022] As illustrated in FIGs. 2 to 5, a lateral surface of the long side which is the inner peripheral surface of the through-hole 52 of the bottom end stop 50 is formed as an inclined surface 55 of which a dimension in the width direction is gradually decreased from the front surface side of the bottom end stop 50 toward the back surface side thereof. Similarly, the lateral surface of the short side is formed as an inclined surface 56 of which a dimension in the longitudinal direction is gradually decreased from the front surface side of the bottom end stop 50 toward the back surface side thereof. The inclined surface 56 of the short side of the through-hole 52 is provided at the back side thereof with an engaging stepped portion 57 of a trapezoidal shape, which is engaged with the engaging portion 63 of the engaging leg portion 62. Further, the back surface side of the through-hole 52 is formed with a leg portion receiving recess portion 58 which is formed continuous with the inclined surface 55 of the long side and the engaging stepped portion 57 to receive the engaging leg portion 62 of the decoration member 60.

[0023] The decoration member 60 is shaped by a soft synthetic resin material, and the bottom end stop 50 is shaped by a synthetic resin material harder than the decoration member 60. For this reason, the decoration member 60 is soft as compared with the bottom end stop 50, so that it can be elastically deformed in a relatively easy way. Accordingly, the engaging leg portion 62 of the dec-

oration member 60 can be easily inserted into the through-hole 52 of the bottom end stop 50. In this instance, the soft synthetic material includes, for example, polyurethane, silicon rubber, and thermoplastic elastomer.

[0024] As described above, according to the slide fastener 10 of this embodiment, since the decoration member 60 which is arbitrarily decorated is mounted on the bottom end stop 50, decorativeness can be given to the bottom end stop 50, and, consequently, various decorations can be given to the slide fastener 10.

[0025] Since the bottom end stop 50 has the tape accommodation portion 51 for accommodating the fastener tape 20 and the through-hole 52 engaged with the decoration member 60, and the decoration member 60 has the plate member 61 which is arbitrarily decorated, and the engaging leg portions 62 which projectingly provided on the back surface of the plate member 61 to respectively engage with the through-holes 52, the decoration member 60 can be easily attached to the bottom end stop 50. Further, since the through-hole 52 and the engaging leg portion 62 are engaged, it is possible to reliably prevent the decoration member 60 from being released from the bottom end stop 50.

[0026] According to the slide fastener 10 of this embodiment, since the through-hole 52 has the engaging stepped portion 57 engaging with the engaging leg portion 62 of the decoration member 60, it is possible to reliably prevent the decoration member 60 from being released from the bottom end stop 50. Further, since the engaging leg portion 62 is received in the leg portion receiving recess portion 58 of the through-hole 52, the engaging leg portion 62 is not exposed from the back surface of the bottom end stop 50, thereby enhancing the decorativeness of the slide fastener 10.

[0027] According to the slide fastener 10 of this embodiment, since the engaging leg portion 62 is formed along the longitudinal direction of the fastener tape 20, the engaging leg portion 62 can be easily inserted into the through-hole 52 of the bottom end stop 50, thereby easily carrying out the operation of mounting the decoration member 60 onto the bottom end stop 50.

[0028] Further, according to the slide fastener 10 of this embodiment, since the decoration member 60 is made of the synthetic resin material and the bottom end stop 50 is made of the synthetic resin material harder than the decoration member 60, the engaging leg portion 62 of the soft decoration member 60 can be flexibly deformed to be inserted into the through-hole 52 of the hard bottom end stop 50. Accordingly, the decoration member 60 can be easily attached to the bottom end stop 50.

[0029] Since the inner peripheral surface of the through-hole 52 of the bottom end stop 50 is covered by the synthetic resin, the fastener tape 20 is not exposed from the inside of the through-hole 52. Accordingly, since the engaging leg portion 62 of the decoration member 60 is not in contact with the fastener tape 20, the engaging

leg portion 62 can be smoothly inserted and engaged with the through-hole 52.

[0030] According to the slide fastener 10 of this embodiment, since the plate member 61 of the decoration member 60 is accommodated in the accommodation recess portion 54 which is the inside of the portion enclosed by the wall portion 53 of the bottom end stop 50, it is possible to prevent the plate member 61 from being in contact with external members, thereby preventing the decoration member 60 from being released from the bottom end stop 50.

[0031] According to the slide fastener 10 of this embodiment, since the bottom end stop 50 is formed in the rectangular shape along the sliding direction of the slider, the bottom end stop 50 can be firmly attached to the fastener tape 20.

[0032] Further, since the through-hole 52 is formed in the rectangular shape along the longitudinal direction of the bottom end stop 50, and two through-holes are disposed along the longitudinal direction of the bottom end stop 50, attachment strength of the bottom end stop 50 and the decoration member 60 can be improved, thereby preventing the decoration member 60 from being released from the bottom end stop 50.

[0033] According to the slide fastener 10 of this embodiment, since the inner peripheral surface of the through-hole 52 of the bottom end stop is provided with the inclined surfaces 55 and 56 at the insertion hole side, the engaging leg portion 62 of the decoration member 60 is guided to the through-hole 52, the engaging leg portion 62 can be easily inserted into the through-hole 52, thereby easily carrying out the operation of mounting the decoration member 60 onto the bottom end stop 50.

(Modification 1)

[0034] As the first modification of this embodiment, the bottom end stop 50 may be substituted with a bottom end stop 50A in Fig. 8. In the bottom end stop 50A, the engaging stepped portion 57 and the leg portion receiving recess portion 58 are eliminated from the through-hole 52, and the engaging leg portion 62 of the decoration member 60 is engaged with the back surface of the bottom end stop 50A. In addition, the wall portion 53 is eliminated.

(Modification 2)

[0035] As the second modification of this embodiment, the bottom end stop 50 and the decoration member 60 may be substituted with a bottom end stop 50B and a decoration member 60B in Fig. 9. The bottom end stop 50B is formed in the rectangular shape of which a length is long in the width direction, and is provided on the front surface thereof with a star-type wall portion 53B. Further, the decoration member 60B is formed in a star-type which can be fitted into the wall portion 53B. In this modification, one through-hole and one engaging leg portion which

are not illustrated are provided at the center portions of the bottom end stop 50B and the decoration member 60B.

5 (Modification 3)

[0036] As the third modification of this embodiment, the bottom end stop 50 and the decoration member 60 may be substituted with a bottom end stop 50C and a decoration member 60C in FIG. 10. The bottom end stop 50C is formed in a circular shape, and the front surface thereof is provided with a circular wall portion 53C. Further, the decoration member 60C is formed in a circular shape which can be fitted into the wall portion 53C. In this embodiment, one through-hole and one engaging leg portion which are not illustrated are provided at the center portions of the bottom end stop 50C and the decoration member 60C. The through-hole and the engaging leg portion may not be formed in the rectangular shape, but be formed in a circular shape.

(Modification 4)

[0037] As the fourth modification of this embodiment, the bottom end stop 50 and the decoration member 60 may be substituted with a bottom end stop 50D and a decoration member 60D in FIG. 11. A front surface of the bottom end stop 50D is provided with an engaging groove portion (engaged portion) 52D having an inverted T-shape in cross section along the longitudinal direction, and a bottom surface of the plate member 61D of the decoration member 60D is provided with an engaging projection (engaging portion) 62D having an inverted T-shape in cross section, which is fitted into the engaging groove 52D, along the longitudinal direction. In this embodiment, as the engaging projection 62D of the decoration member 60D is slidably fitted into the engaging groove 52D of the bottom end stop 50D, the decoration member 60D is mounted onto the bottom end stop 50D.

(Modification 5)

[0038] As the fifth modification of this embodiment, as illustrated in FIG. 12, the plate member 61D may be eliminated from the decoration member 60D of the fourth modification, a convex portion on the upper portion of the engaging projection 62D may be a body portion 61E, and an upper surface of the body portion 61E may be decorated (in this embodiment, with symbols "1" and "2").

(Modification 6)

[0039] As the sixth modification of this embodiment, as illustrated in FIGs. 13 and 14, a decoration member 60F formed with an extension portion 65 which protrudes in the front and back direction of the fastener tape 20 may be provided on the back surface side of the engaging leg portion 62 of the decoration member 60 illustrated in

FIGs. 6 and 7. The length of the extension portion 65 is preferably at least a length of the front end portion protruding from the back surface of the bottom end stop 50 in order to easily hold the extension portion 65 when the extension portion 65 is inserted into the through-hole 52 of the bottom end stop 50.

[0040] Further, both sides of the extension portion 65 is provided with a pair of substantially V-shape grooves 66 along the longitudinal direction at a substantially center portion of the width direction. That is, a junction area of a junction portion between the extension portion 65 and the engaging leg portion 62 is set so that a substantially center portion of the extension portion 65 in the width direction is smaller than that of other portion, which configures a weakened portion 67 of low mechanical strength. In this instance, the groove 66 is configured to form the weakened portion 67 at the junction portion between the extension portion 65 and the engaging leg portion 62. The groove 66 is formed at the junction portion between the extension portion 65 and the engaging leg portion 62, and it is not necessary to form the groove 66 over the overall length of the extension portion 65. Further, if the extension portion 65 is not necessarily separated from the engaging leg portion 62, the groove 66 (weakened portion 67) may not be formed.

[0041] When assembling the decoration member 60F, as illustrated in FIG. 15A, the extension portion 65 of the decoration member 60F is inserted into the through-hole 52 of the bottom end stop 50, and the extension portion 65 protruding from the through-hole 52 toward the back surface side is held and pulled up in the drawing. Accordingly, as illustrated in FIG. 15B, the engaging portion 63 of the decoration member 60F made of the synthetic resin material softer than the bottom end stop 50 is elastically deformed, and then is inserted into the through-hole 52 of the bottom end stop 50, thereby being engaged with the through-hole 52 of the bottom end stop 50. In this instance, tensile strength of the weakened portion 67 is set to be higher than the strength required for elastically deforming the engaging portion 63 when being engaged with the through-hole 52.

[0042] As illustrated in FIG. 15C, if a force higher than breaking strength is applied to the weakened portion 67, for example, the extension portion 65 is strongly pulled up at an angle, the extension portion 65 is broken at a root portion on the basis of the weakened portion 67 as a breakage starting point, and then is separated from the engaging leg portion 62, while an extension portion removal trace 62a is left on the engaging leg portion 62.

[0043] The extension portion removal trace 62a left on the engaging leg portion 62 does not cause a trouble to its function as it is, but may be subjected to surface finishing to smoothen the surface. In this instance, the extension portion removal trace 62a is a portion of which an appearance is different from other surface formed when the decoration member 60F is formed, and includes a surface which is subjected to the surface smoothening process after the extension portion 65 is removed. In ad-

dition, the appearance mentioned herein refers to a portion which it is can be judged to be different from other portions in view of sense of sight or touch including gloss, surface roughness, surface shape and so forth.

[0044] The extension portion 65 can be broken and removed from the weakened portion 67 by strongly pulling it. However, if the extension portion is cut by a cutter, the extension portion 65 can be removed in a clean state as compared with the extension portion removal trace 62a. In this instance, the weakened portion 67 is not limited to its shape or configuration if the mechanical strength at the junction portion between the extension portion 65 and the engaging leg portion 62 is weaker than that of other portions.

[0045] According to this modification, the back surface side of the engaging leg portion 62 is provided with the extension portion 65 protruding in the front and back direction of the fastener tape 20, and after the engaging leg portion 62 is inserted into the through-hole 52 together with the extension portion 65, the extension portion 65 is pulled in the direction toward the back surface of the bottom end stop 50 to engage the engaging portion 63 with the through-hole 52. As a result, it is possible to easily engage the engaging portion 63 with the through-hole 52 without using a tool, thereby improving the workability. Therefore, for example, an arbitrary decoration member 60F selected by a customer can be attached on the spot, which can cope with the demand of the customer quickly.

[0046] In addition, the extension portion 65 has the weakened portion 67 of which the mechanical strength is set to be weaker than that of other portion, and the extension portion 65 can be separated and removed from the engaging leg portion 62 on the basis of the weakened portion 67 as the breakage starting point. Therefore, after the decoration member 60F is mounted onto the bottom end stop 50, the extension portion 65 is separated and removed from the engaging leg portion 62 to maintain the good decorativeness.

(Modification 7)

[0047] As the seventh modification of this embodiment, the extension portion 65 may be substituted with an extension portion 65G in FIG. 16. The extension portion 65G has a rectangular shape in cross section, and a substantially V-shape cutaway portion 68 is formed at the junction portion of the engaging leg portion 62 as the weakened portion 67.

(Modification 8)

[0048] As the eighth modification of this embodiment, the extension portion 65 may be substituted with an extension portion 65H in FIG. 17. The extension portion 65H has a rectangular shape in cross section, and the junction portion of the engaging leg portion 62 is provided with a plurality of holes 69 as the weakened portion 67.

(Modification 9)

[0049] As the ninth modification of this embodiment, the extension portion 65 may be substituted with an extension portion 65K in FIG. 18. The extension portion 65K has a substantially triangular shape in cross section in which a width of one end side of the engaging leg portion 62 in the longitudinal direction is gradually decreased from a width of the other end side, and an apex of which a junction area with the engaging leg portion 62 is small functions as the weakened portion 67. That is, an orientation is imparted to the junction strength between the extension portion 65K and the engaging leg portion 62. Accordingly, when the extension portion 65K is broken, the extension portion 65K is bent and pulled to be inclined toward the triangular bottom side, so that the force is concentrated on the weakened portion 67 to break the weakened portion.

[0050] In addition, as illustrated in FIGs. 19 to 22, the decoration member 60 may be mounted onto the top end stop 70 which is provided on the upper end portion of the fastener element row 30. The top end stop 70 is formed in a square shape, and the plate member 61 of the decoration member 60 is formed in a square shape smaller than the top end stop 70. Further, the top end stop 70 has the same construction as the bottom end stop 50, and the engaging stepped portion 57 and the leg portion receiving recess portion 58 are eliminated from the through-hole 52. The engaging leg portion 62 of the decoration member 60 is engaged with the back surface of the top end stop 70, and the wall portion 53 is removed. One through-hole 52 and one engaging leg portion 62 are provided at the center portion of the decoration member 60 and the top end stop 70. In addition, the lower edge portion of the top end stop 70 is provided with a projection 71 near the fastener tape 20, and the projection 71 protrudes toward the fastener element row 30, and is inserted in the slider (not illustrated).

(Usage Example)

[0051] The slide fastener 10 of this embodiment can be used at an opening 81 of a bag 80, as illustrated in FIG. 23, and can be used at a chest pocket 91 of a jacket 90, as illustrated in Fig. 24.

[0052] The present invention is not limited to the above-described embodiment, and can be properly modified or revised without being deviated from the gist of the invention.

For example, in the above embodiment, the decoration member is attached to the stop by engaging the through-hole and the engaging leg portion, but the present invention is not limited thereto. The decoration member may be attached to the stop by adhesion.

Further, the engaging portion may have a substantially J-shape or substantially T-shape. The recess portion may be a groove or a hole.

Description of Reference Numerals**[0053]**

5	10:	Slide Fastener
	20:	Fastener Tape
	20a:	Tape-Side Edge Portion
10	30:	Fastener Element Row
	50:	Bottom End Stop
15	51:	Tape Accommodation Portion
	52:	Through-Hole (Engaged Portion)
	53:	Wall Portion
20	57:	Engaging Stepped Portion
	60:	Decoration Member
25	61:	Plate Member (Body Portion)
	62:	Engaging Leg Portion (Engaging Portion)
	50A:	Bottom End Stop
30	50B:	Bottom End Stop
	53B:	Wall Portion
35	60B:	Decoration Member
	61B:	Plate Member
	50C:	Bottom End Stop
40	53C:	Wall Portion
	60C:	Decoration Member
45	61C:	Plate Member
	50D:	Bottom End Stop
	52D:	Engaging Groove (Engaged Portion)
50	60D:	Decoration Member
	61D:	Plate Member
55	62D:	Engaging Projecting Portion (Engaging Portion)
	60F:	Decoration Member

62A: Extension Portion Removal Trace

65: Extension Portion

66: Groove

67: Weakened Portion

65G: Extension Portion

68: Cutaway Portion

65H: Extension Portion

69: Hole

65K: Extension Portion

70: Top End Stop

Claims

1. A slide fastener (10) comprising:

a pair of fastener tapes (20);
a pair of fastener element rows (30) respectively arranged along opposing tape-side edge portions (20a) of the pair of fastener tapes, the pair of fastener element rows (30) including a plurality of fastener elements (31);
a slider configured to engage and disengage the pair of fastener element rows;
end stops (50, 70) disposed at upper and lower end portions of the pair of fastener element rows to stop sliding movement of the slider; and
a decoration member (60) mounted on at least one of the end stops,
wherein at least one of the end stops includes a tape accommodation portion (51) for accommodating the fastener tape, and an engaged portion (52; 52D) for engaging the decoration member therewith, and
wherein the decoration member includes a body portion (61) which is decorated, and an engaging portion (62; 62D) which is provided on a back surface of the body portion and configured to be engaged with the engaged portion.

2. The slide fastener according to claim 1,
wherein the engaging portion (62; 62D) is a projection protruding from the back surface of the body portion (61) in a front and back direction of the fastener tape (20), and the projection has a portion swelling in a direction parallel with the fastener tape, and
wherein the engaged portion (52; 52D) is comprised of a recess portion configured to be engaged with

the engaging portion.

3. The slide fastener according to claim 1,
wherein the engaged portion is a through-hole (52) penetrating the end stop (50, 70) in the front and back direction, and
wherein the engaging portion is an engaging leg portion (62) projectingly provided on the back surface of the body portion (61).

4. The slide fastener according to claim 3, wherein the through-hole (52) has an engaging stepped portion (57) configured to be engaged with the engaging leg portion (62).

5. The slide fastener according to claim 3 or 4, wherein the engaging leg portion (62) is formed along a longitudinal direction of the fastener tape (20).

6. The slide fastener according to claim 4,
wherein the decoration member (60) is made of soft synthetic resin material,
wherein the end stops (50, 70) are made of harder synthetic resin material than the decoration member, and
wherein an inner peripheral surface of the through-hole (52) is covered by synthetic resin.

7. The slide fastener according to claim 6,
wherein a wall portion (53) is erected from a front surface of the end stop (50), and
wherein the decoration member (60) is accommodated in an inside of a portion enclosed by the wall portion.

8. The slide fastener according to claim 7, wherein the end stop (50) is a bottom end stop provided to cross over the pair of fastener tapes (20) and formed in a rectangular shape along a sliding direction of the slider.

9. The slide fastener according to claim 1, wherein a back surface side of the engaging portion (62) is provided with an extension portion (65; 65G; 65H; 65K) protruding in the front and back direction of the fastener tape (20).

10. The slide fastener according to claim 9, wherein the extension portion (65; 65G; 65H; 65K) has a weakened portion (67) of which mechanical strength is set to be weaker than that of other portions to become a breakage starting point to separate the extension portion from the engaging portion (62).

11. The slide fastener according to claim 9, wherein the extension portion (65K) has a cross-sectional shape in which a width of one end side thereof is gradually decreased from a width of the other end side.

12. The slide fastener according to claim 9, wherein the back surface of the engaging portion (62) is provided with an extension portion removal trace (62a) which is formed by removing the extension portion (65; 65G; 65H; 65K) from the engaging portion. 5
13. A method for manufacturing an end stop of a slide fastener (10), the end stop (50, 70) including a tape accommodation portion (51) for accommodating a fastener tape and an engaged portion (52) for engaging a decoration member (60) therewith, the decoration member including a body portion (61) which is decorated and an engaging portion (62) provided on a back surface of the body portion and configured to be engaged with the engaged portion, and a back surface side of the engaging portion is formed with an extension portion (65; 65G; 65H; 65K) protruding in a front and back direction of the fastener tape, the method comprising: 10
- inserting the engaging portion into the engaged portion together with the extension portion; and 15
- pulling the extension portion in a direction toward a back surface of the end stop to engage the engaging portion with the engaged portion. 20
14. The method for manufacturing the end stop of the slide fastener, according to claim 13, further comprising removing the extension portion (65; 65G; 65H; 65K) from the engaging portion after engaging the engaging portion (62) with the engaged portion (52) to mount the decoration member (60) onto the end stops (50, 70). 25
- 30
- 35
- 40
- 45
- 50
- 55

FIG. 1

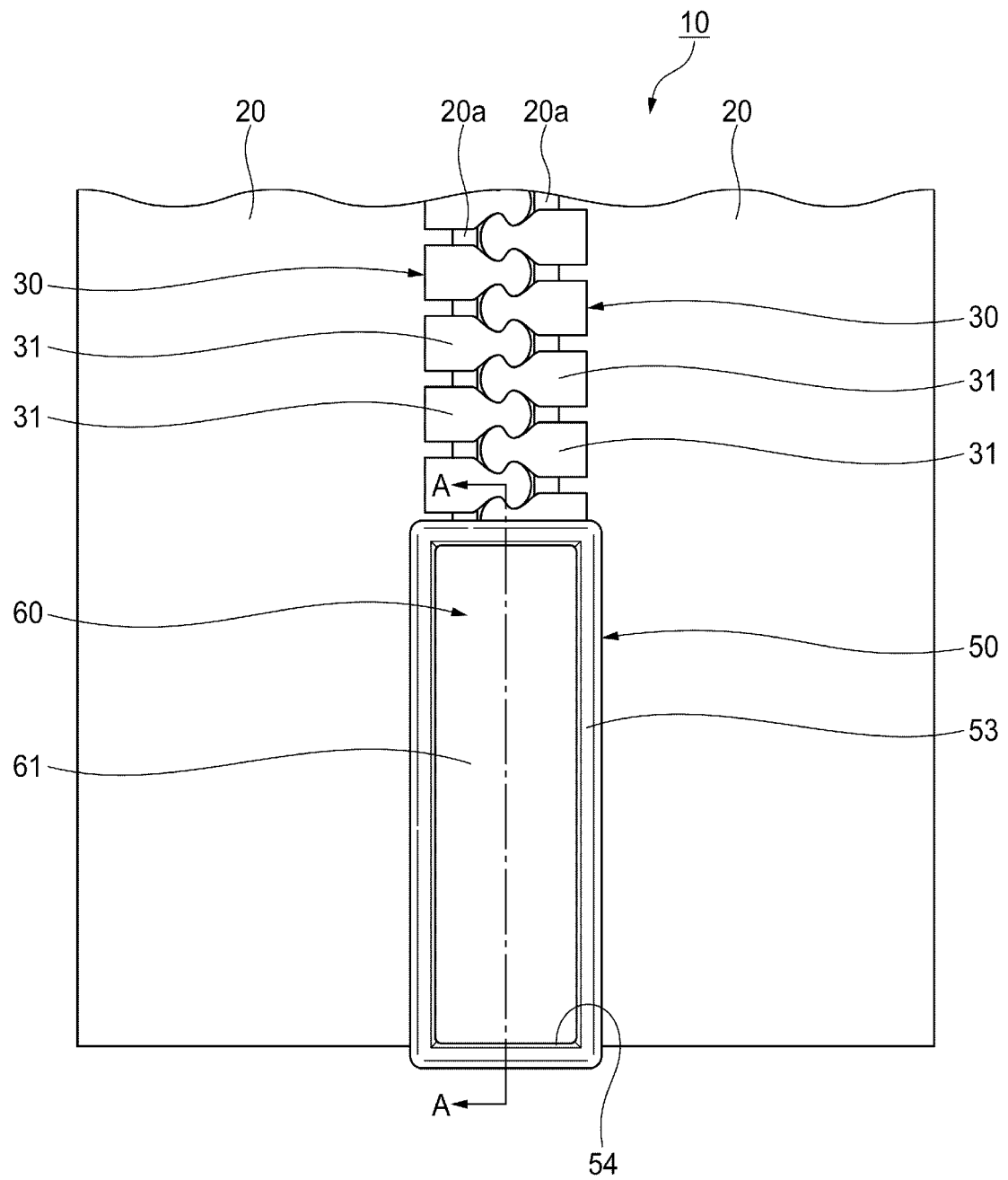


FIG.2

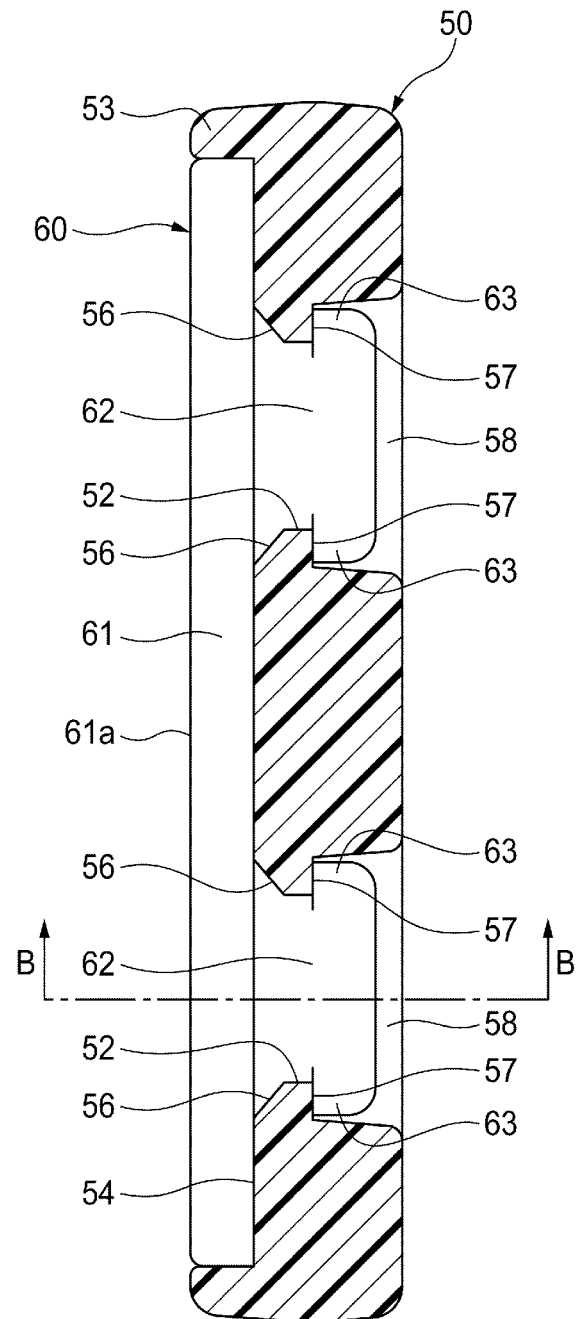


FIG.3

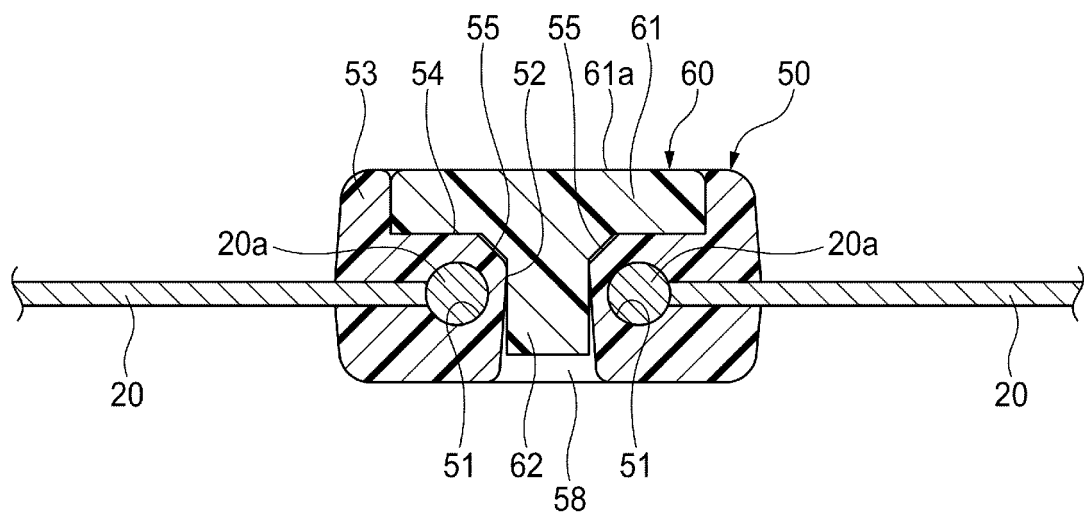


FIG.4

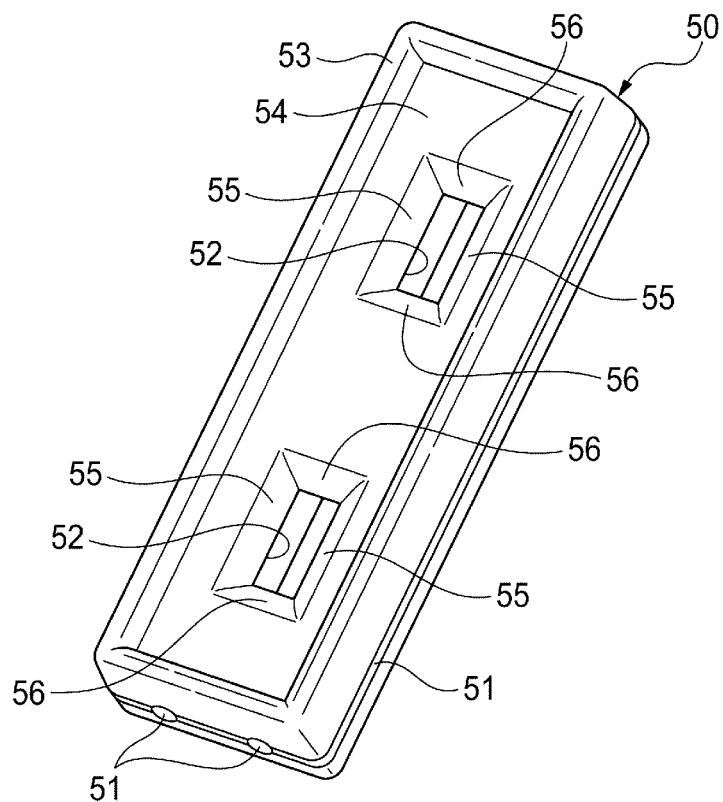


FIG.5

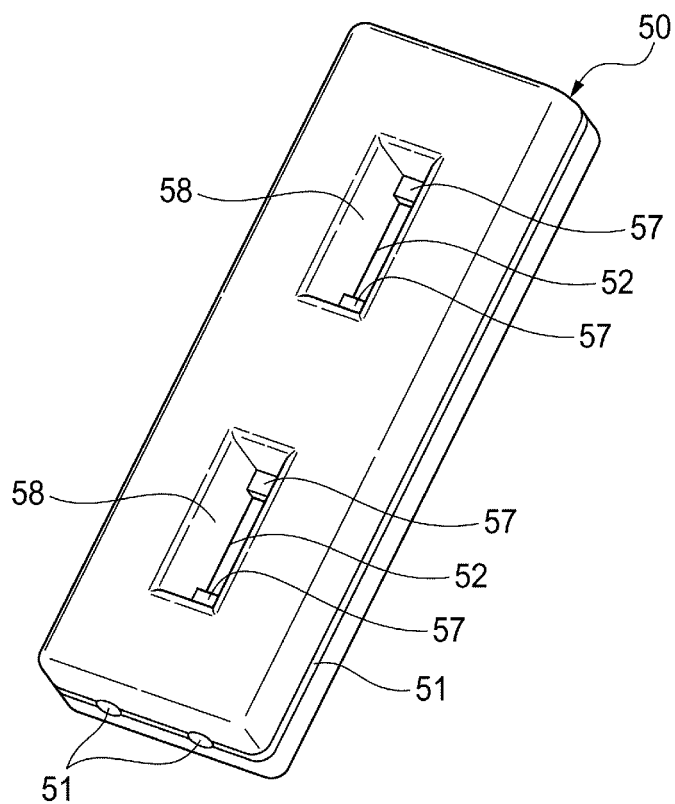


FIG.6

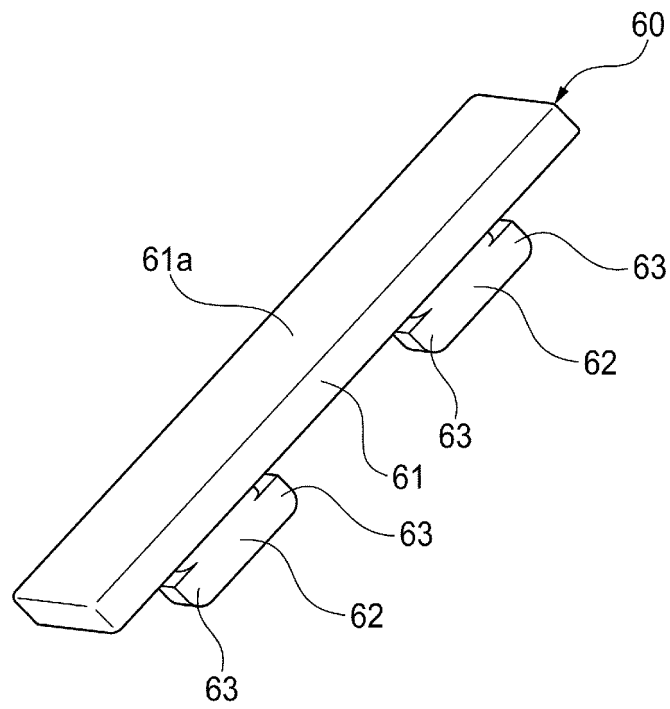


FIG.7

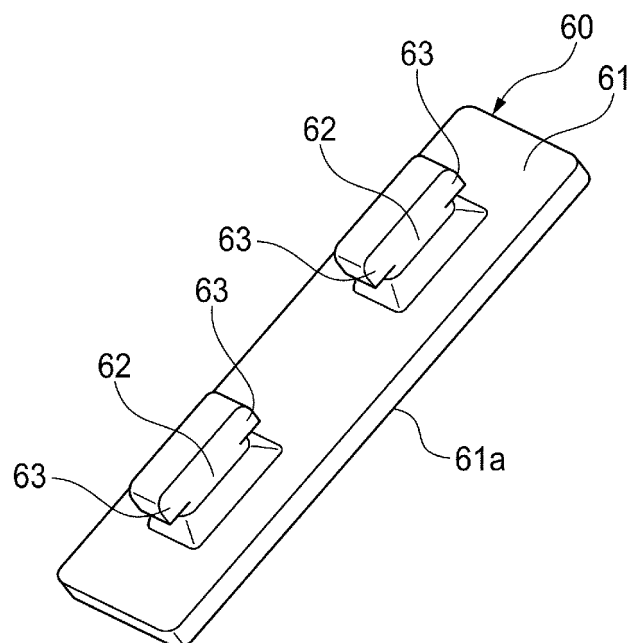


FIG. 8

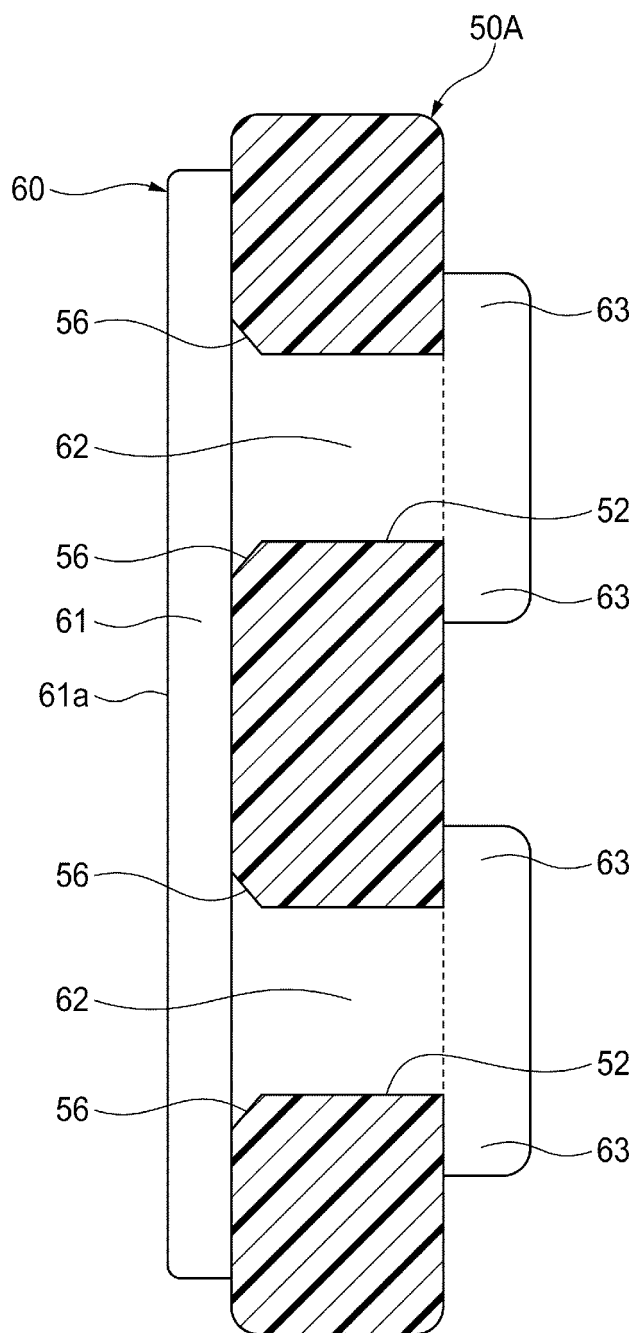


FIG.9

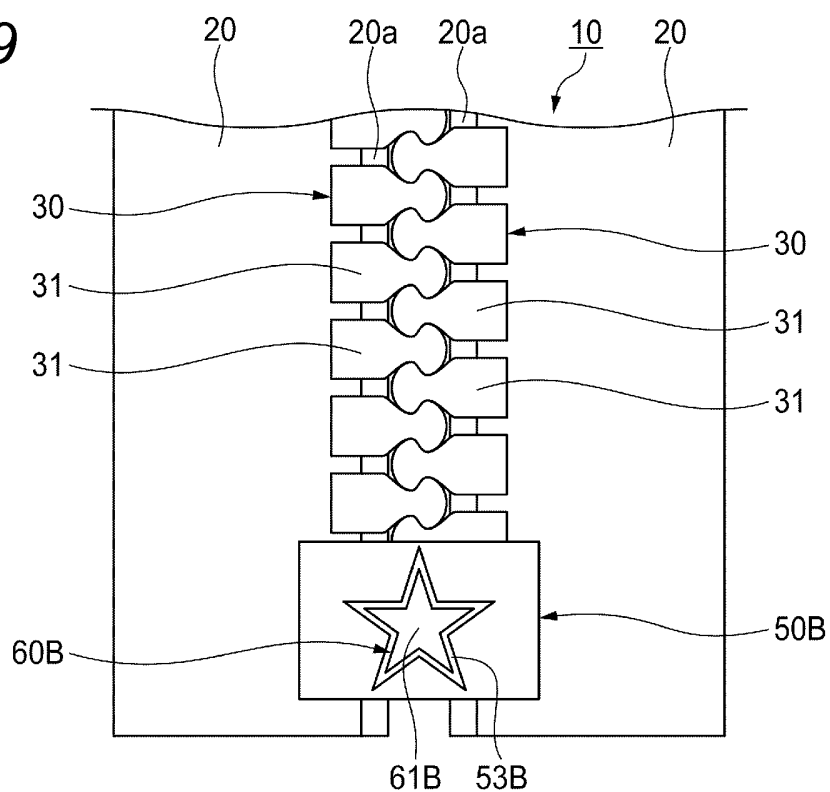


FIG.10

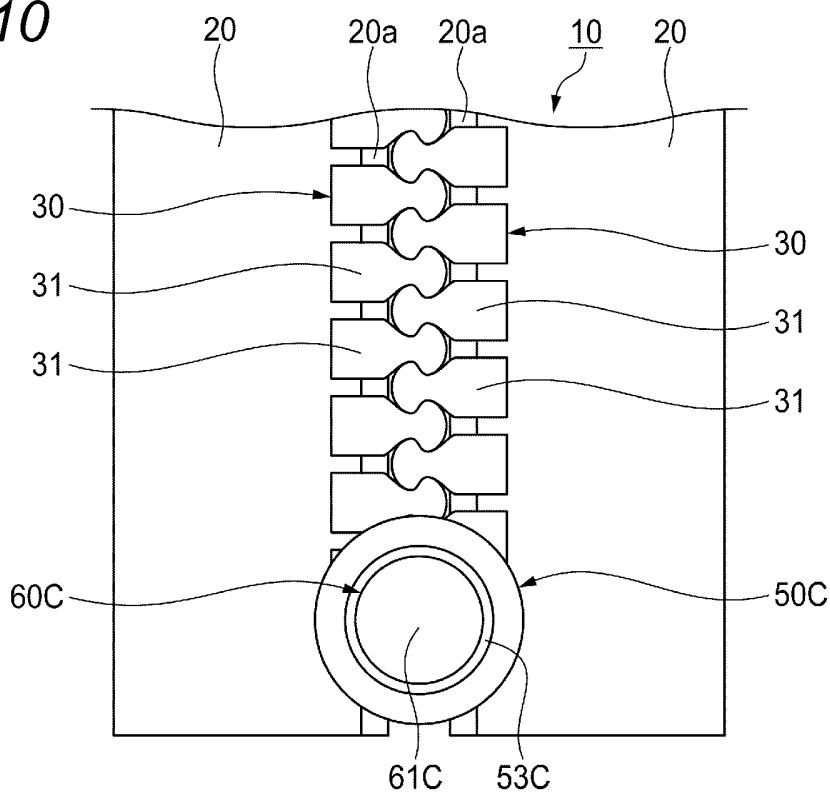


FIG. 11

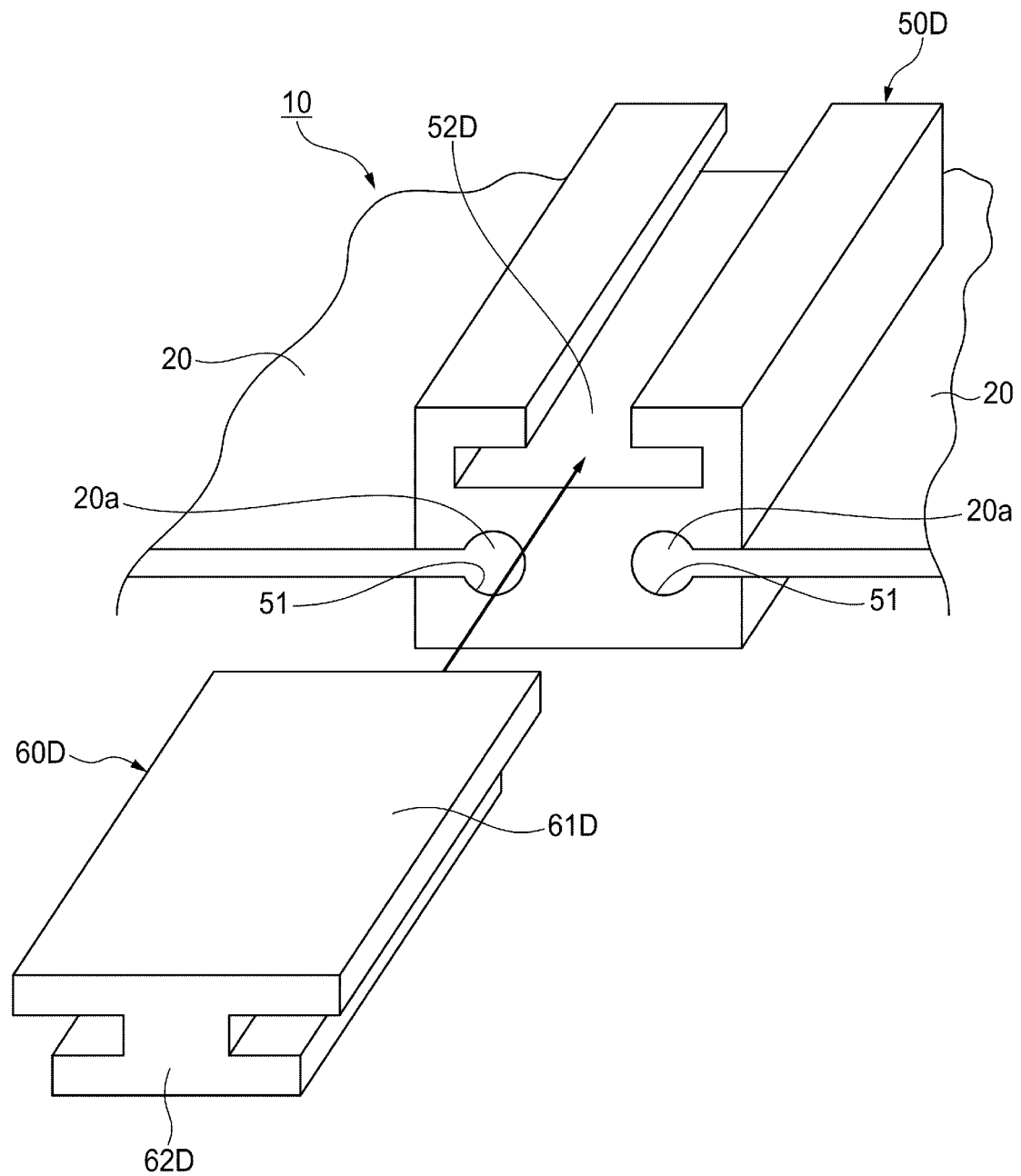


FIG. 12

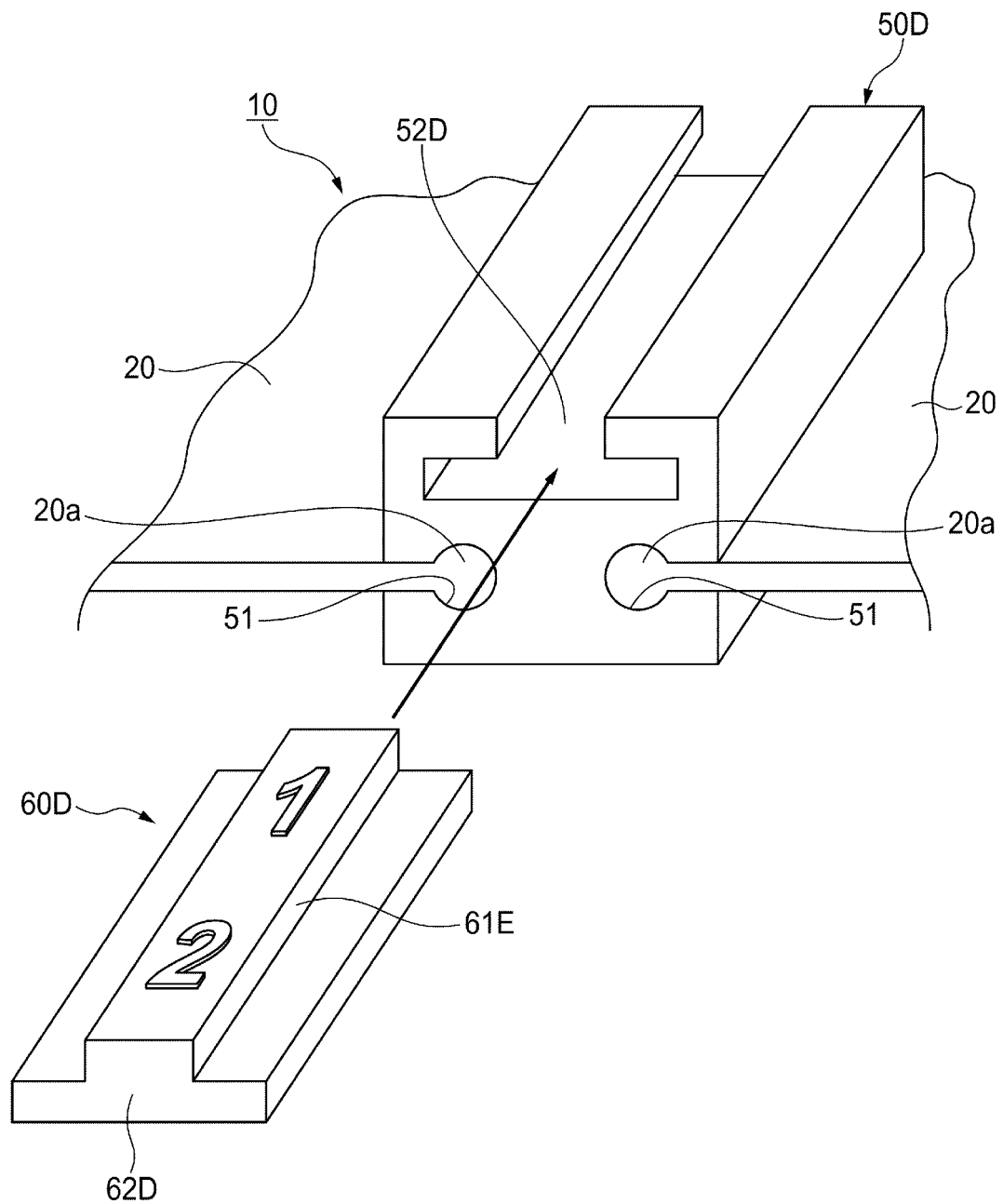


FIG. 13

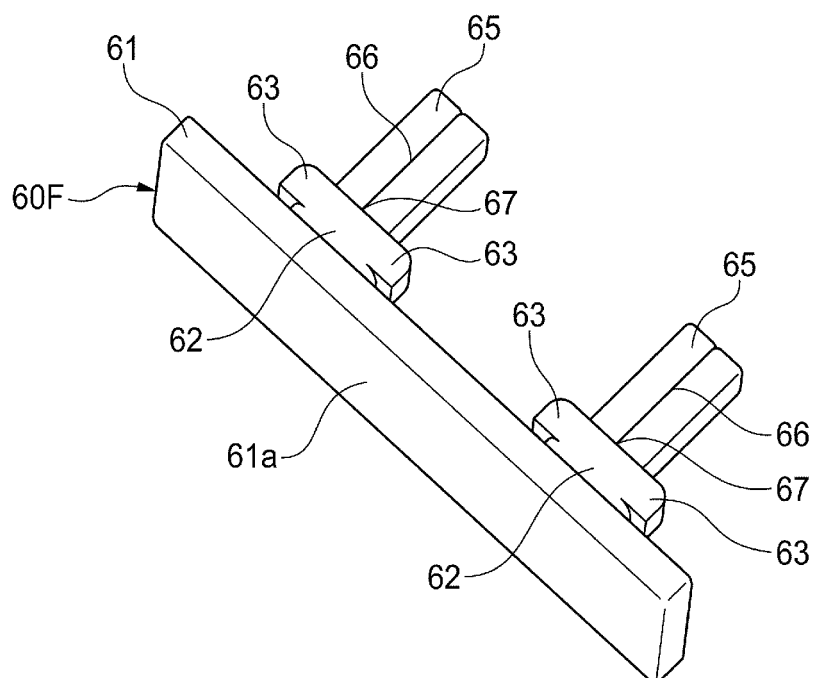


FIG. 14

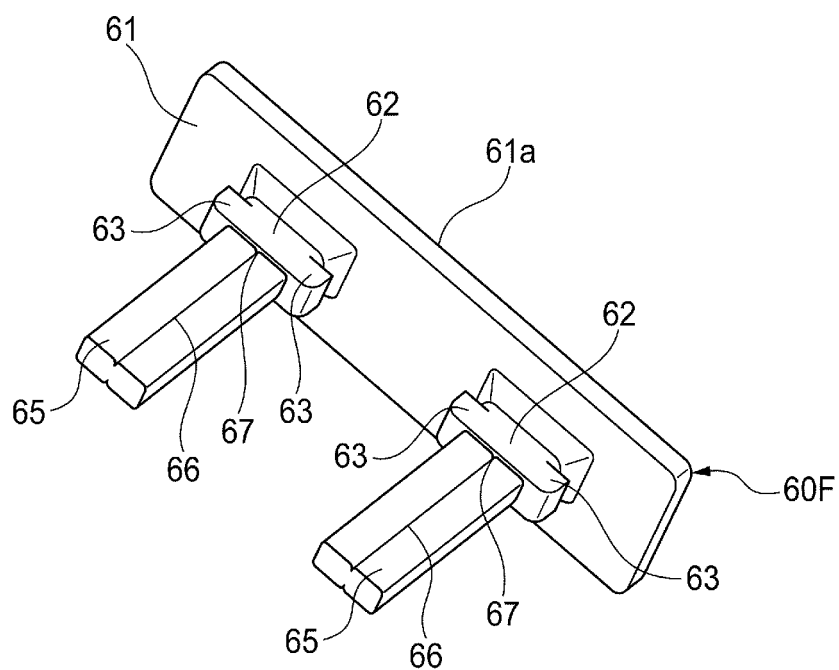


FIG. 15A

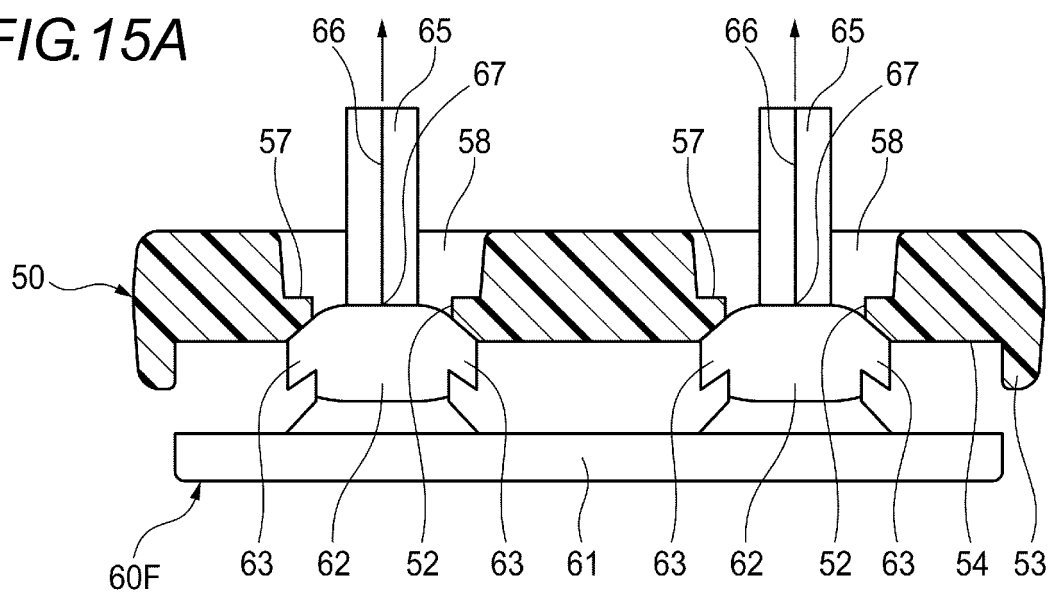


FIG. 15B

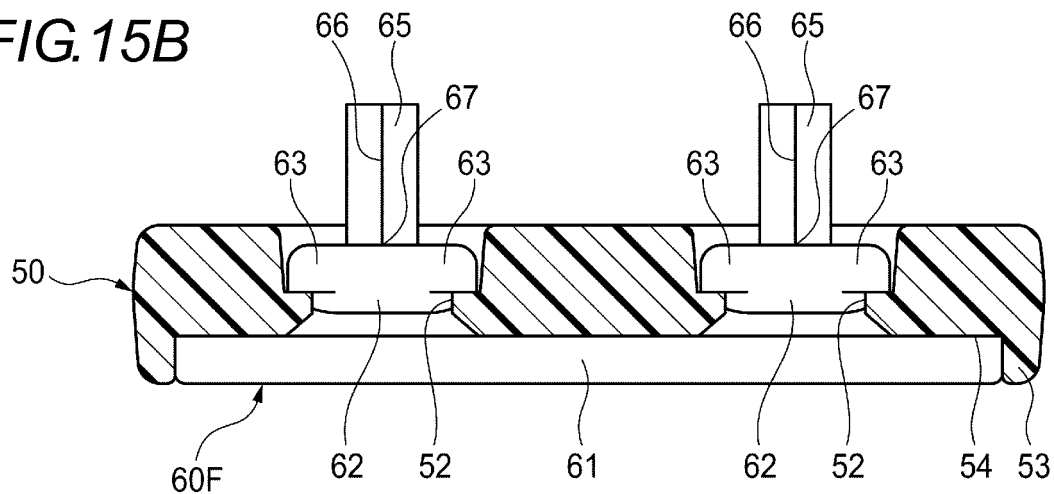


FIG. 15C

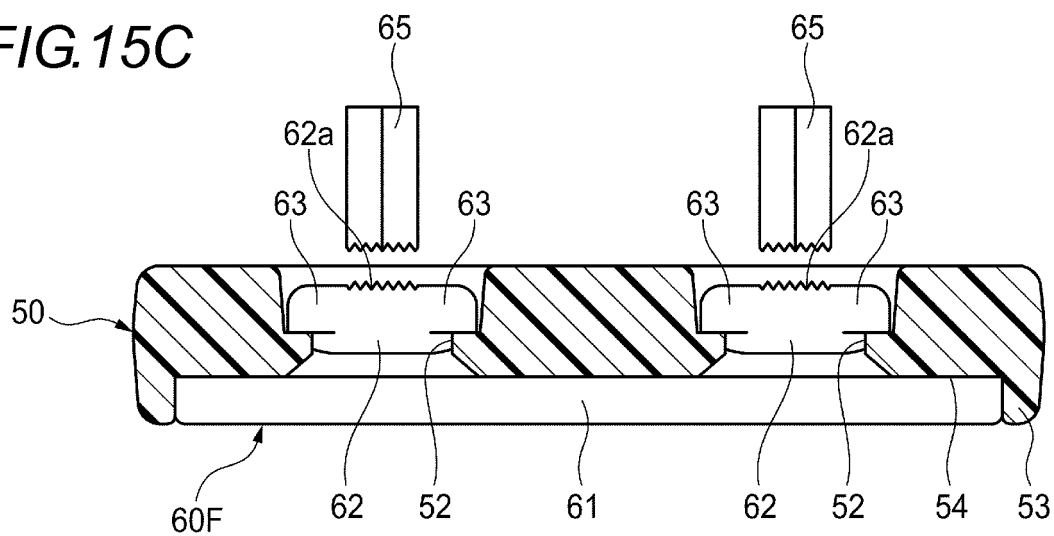


FIG.16

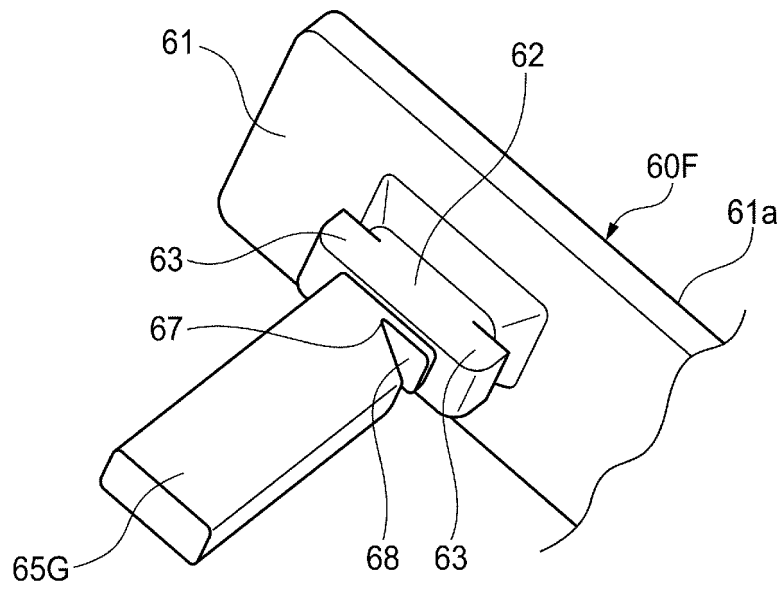


FIG.17

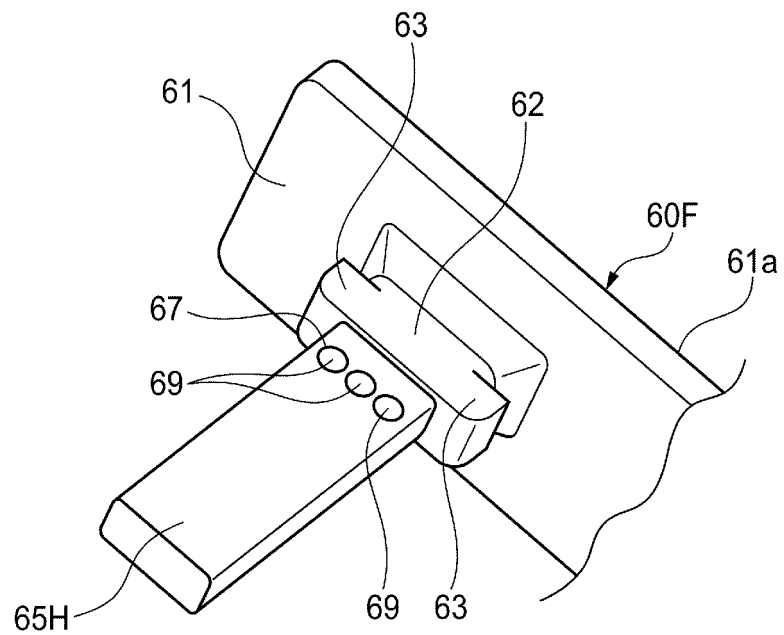


FIG. 18

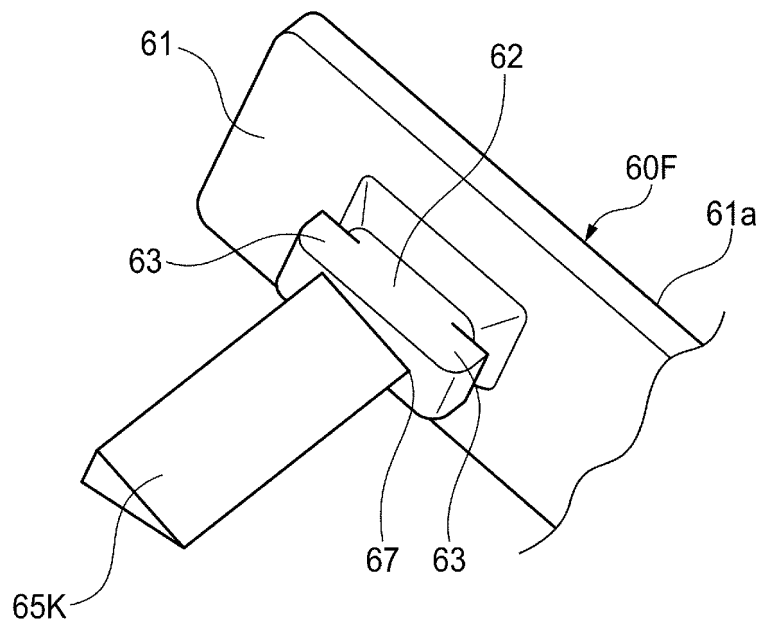


FIG. 19

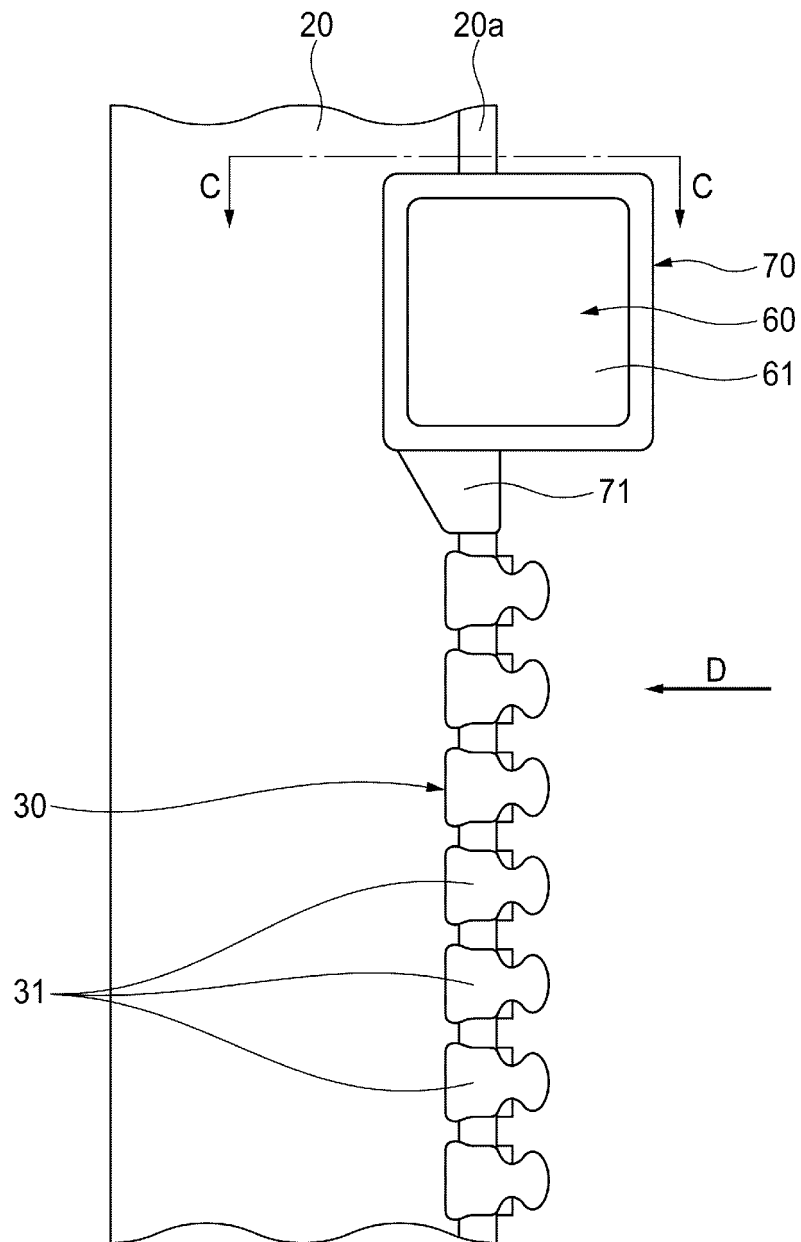


FIG. 20

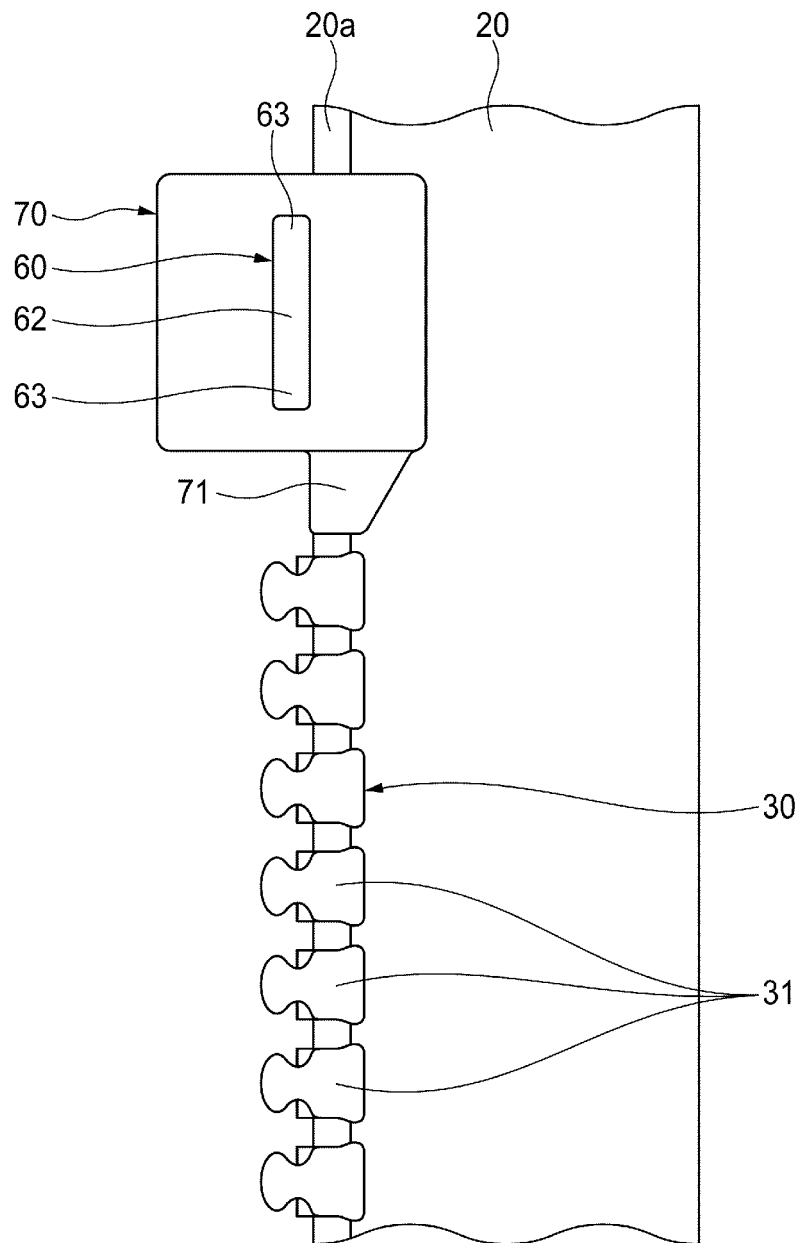


FIG.21

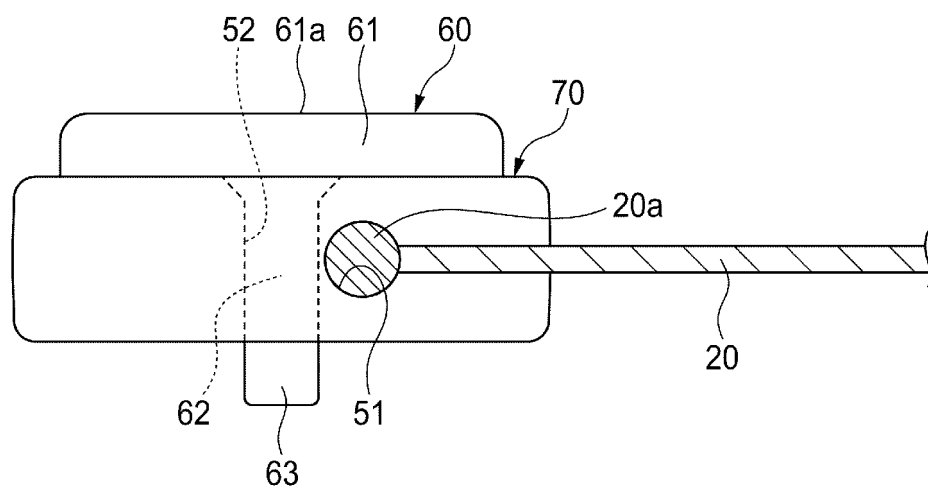


FIG.22

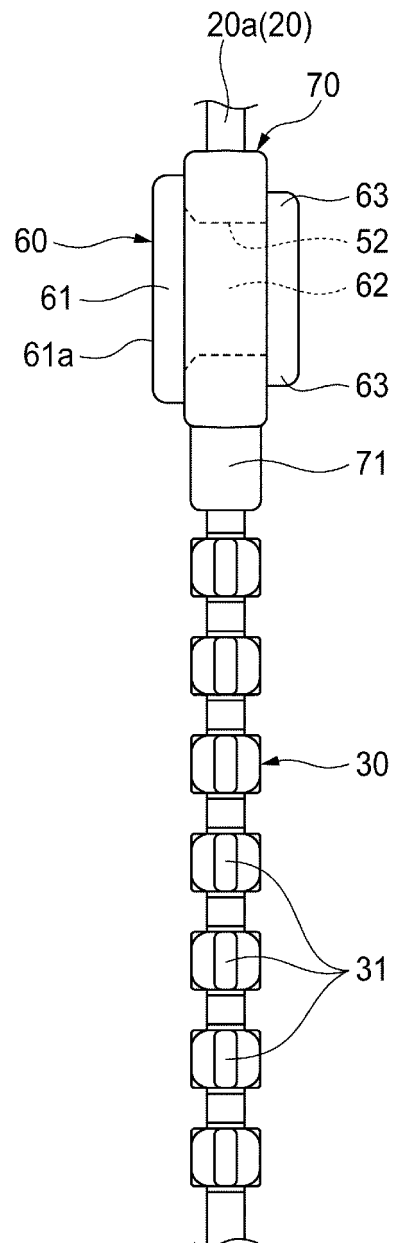


FIG.23

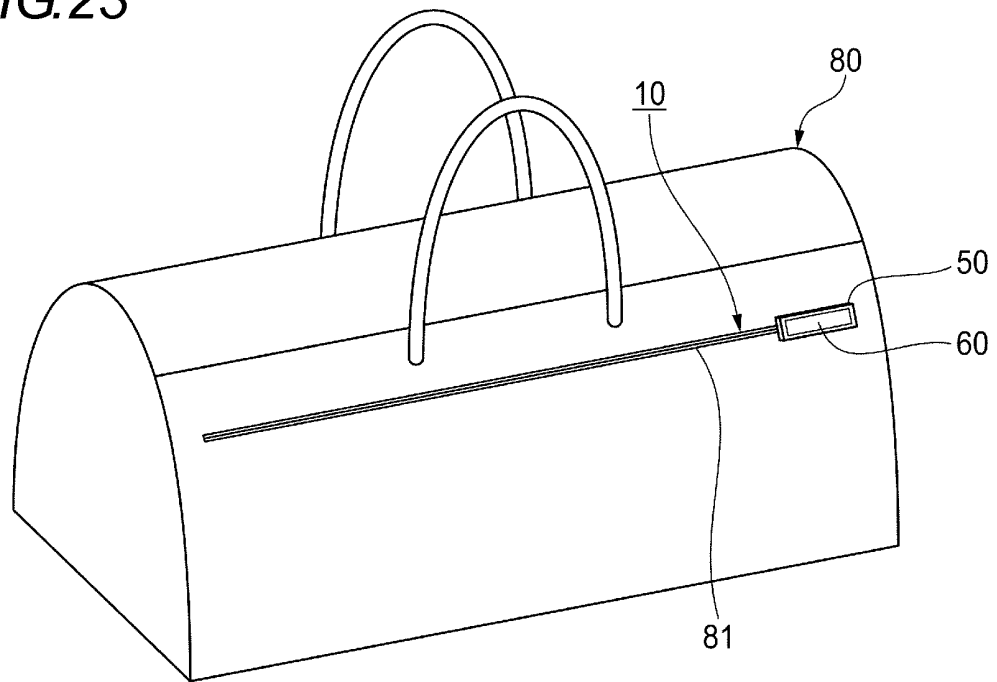
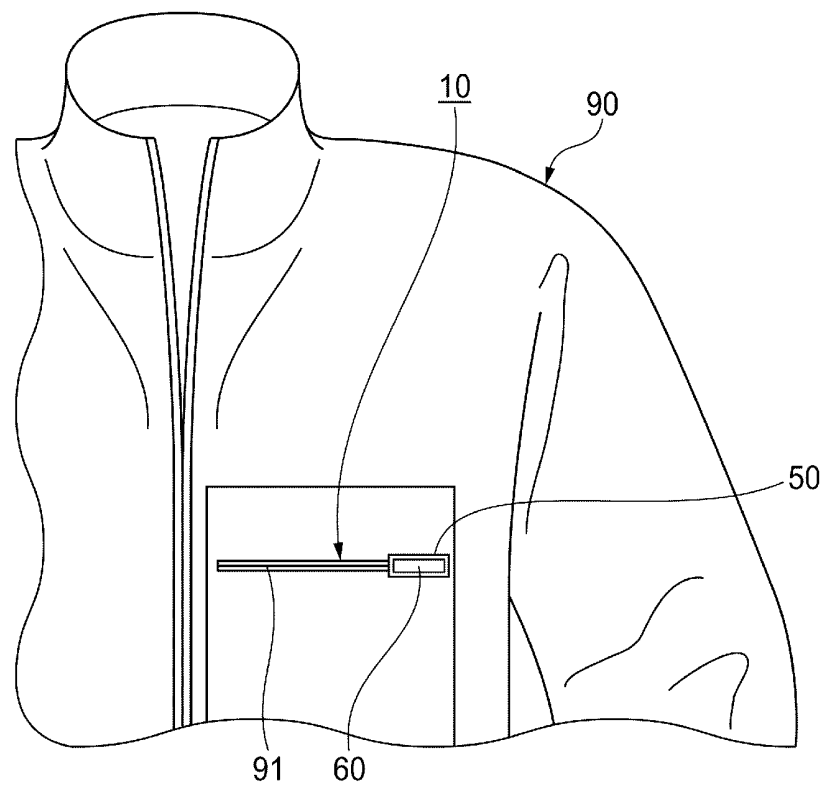


FIG.24



INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2011/067171

A. CLASSIFICATION OF SUBJECT MATTER

A44B19/36 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A44B19/36

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

Jitsuyo Shinan Koho 1922-1996 Jitsuyo Shinan Toroku Koho 1996-2011

Kokai Jitsuyo Shinan Koho 1971-2011 Toroku Jitsuyo Shinan Koho 1994-2011

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.
X Y A	JP 2009-268615 A (YKK Corp.), 19 November 2009 (19.11.2009), paragraphs [0138] to [0152]; fig. 42 to 48 & DE 202009006393 U & ES 1070236 U & CN 201438876 U	1 2-9 10-14
Y A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 48145/1988 (Laid-open No. 155084/1989) (Sharp Corp.), 25 October 1989 (25.10.1989), entire text; all drawings (Family: none)	2-9 10-14

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

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"P" document published prior to the international filing date but later than the priority date claimed

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"&" document member of the same patent family

Date of the actual completion of the international search
24 October, 2011 (24.10.11)Date of mailing of the international search report
01 November, 2011 (01.11.11)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2011/067171

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y A	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 31150/1988 (Laid-open No. 135477/1989) (Daisa Co.), 18 September 1989 (18.09.1989), entire text; all drawings (Family: none)	2-9 10-14
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 184623/1982 (Laid-open No. 89017/1984) (Yoshida Kogyo Co., Ltd.), 16 June 1984 (16.06.1984), entire text; all drawings & US 4587694 A & GB 2131482 A & GB 8331390 A0 & EP 110346 A1 & DE 3370580 D & DE 110346 T & AU 2152383 A & ES 276410 U & BR 8306720 A & CA 1216143 A & HK 73988 A & MY 4188 A & SG 82387 G & KR 20-1985-0001443 Y & AU 554268 B	8
Y	JP 2003-23721 A (Yazaki Corp.), 24 January 2003 (24.01.2003), entire text; all drawings & US 2004/0238203 A1 & EP 1402609 A & WO 2003/005518 A1	9

Form PCT/ISA/210 (continuation of second sheet) (July 2009)

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- JP 2008068110 A [0004]