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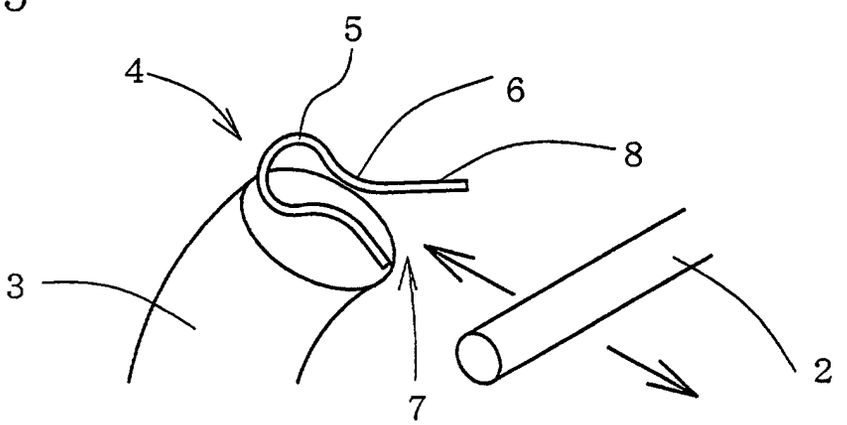
(54) PIERCED EARRING

(57) Provided are a pierced earring body 3; and a needle section 2, whose base end portion is mounted to the pierced earring body 3 pivotably sideways. The free end portion of the needle section 2, after it is inserted into a hole in an earlobe, is fixed to a fixing section 4 of the pierced earring body 3 from a side direction in a demountable manner, wherein the pierced earring body 3 is sustained with the needle section in a hanging state from the earlobe.

The fixing section 4 comprises: an entrance section 7 through which the free end portion of the needle section is moved into the fixing section in a pivotal movement thereof in a lateral plane; an exit control section 6 that gives a resistance to moving-out sideways of the fee end portion of the needle section 2 after moving-in of the free end portion; and a movement blocking section 5 that blocks upward movement of the needle section 2. While the needle section 2 upwardly sustains the weight of the pierced earring body 3, moving-out of the needle section 2 in that direction is avoided by the movement blocking section 5 with sureness, thereby enabling unexpected falling of the pierced earring and in turn missing thereof to be prevented from occurring.

FIG. 5



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Description

Technical Field

[0001] The present invention relates to a pierced earring as an ear ornament.

Background Art

[0002] Conventionally, there have been available pierced earrings each comprising: a pierced earring body; and a needle section, whose base end portion is pivotably mounted to the pierced earring body, and whose free end portion, after it is inserted into a hole in an earlobe, is fixed to a fixing section of the pierced earring body in a demountable manner, wherein the pierced earring body is sustained with the needle section in a hanging state from the earlobe. For example, as shown in FIG. 31, a needle section 202 is connected to one end portion of a pierced earring body 203 so that the needle section 202 is pivotable in a longitudinal plane almost in parallel to a direction in which the needle section 202 sustains a weight of the pieced earring body 203 and a fixing section 204 provided at the other end portion of the pierced earring body has an entrance section 205 (FIG. 32) through which the free end portion of the needle section 202 is moved from above in a pivotal movement in the longitudinal plane of the needle section 202, wherein the one end and other end portion are separated apart from each other with a space where the needle section 202 is inserted through a hole in an earlobe. In the construction, the needle section 202, as shown in FIG. 32, bears the weight of the pierced earring body by means of being inserting into the fixing section 204 along a direction in the longitudinal plane. In a case where the pierced earring 201 with such a construction and workings of the constituents are worn on a earlobe, however, there is a risk that the needle section 202 is moved out upward by the self weight of the pierced earring body 203 and thereby a problem could arise since the pierced earring falls down from the earlobe.

[0003] It is an object of the present invention to provide a pierced earring, from whose body a needle section does not move off, and which thereby does not falls from a earlobe.

Disclosure of Invention

[0004] In order to achieve the object, a pierced earring of the present invention is characterized by: that the pierced earring comprises: a pierced earring body; and a needle section, whose base end portion is pivotably mounted to the pierced earring body, and whose free end portion, after it is inserted into a hole in an earlobe, is fixed to a fixing section of the pierced earring body in a demountable manner, wherein the pierced earring body is sustained with the needle section in a hanging state from the earlobe; and that, in the fixing section of the pierced earring body, there is formed a movement-blocking section that cuts off a route, through which the needle section runs and moves away from the pierced earring body, at a position upward from the needle section in a direction in which the needle section sustains a weight of the pieced earring body in a hanging state.

[0005] With formation of the fixing section including the movement blocking section, even if the needle section comes to be unable to endure the weight of the pierced earring body in a hanging state and thereby, is on the verge of being free from the pierced earring body, a route of the needle section on the verge of being free is cut off by the movement-blocking section, as a result, moving-out of the needle section is effectively prevented from occurring and thereby, the pierced earring can be prevented from falling from the earlobe.

[0006] Another pierced earring of the present invention whose body is sustained in a hanging state from an earlobe as described above is characterized by: that a needle section is connected to one end portion of a pierced earring body so that the needle section is pivotable in a plane intersecting a direction in which the needle section sustains a weight of the pieced earring body and a fixing section is provided at the other end portion of the pierced earring body, wherein the one end and other end portions are separated apart from each other with a space where the needle section is inserted through a hole in an earlobe; and that the other end portion comprises: an entrance section through which the free end portion of the needle section is moved into the fixing section in a pivotal movement thereof; an exit control section that gives a resistance to moving-out of the free end portion of the needle section from the fixing section after moving-in of the free end portion; and a movement-blocking section that cuts off a route through which the free end portion of the needle section runs and move away from the pierced earring body in a direction in which the needle section sustains a weight of the pieced earring body even if the resistance does not work.

[0007] With the above described construction and workings of the constituents, the needle section is prevented from moving-out from the pierced earring body.

[0008] To be more concrete, the workings of the construction is such that the needle section can be pivoted in a lateral plane almost perpendicular to a direction in which the needle section sustains the weight of the pierced earring body, while the fixing section that is provided at the other end portion of the pierced earring body is formed so that the fixing section can accept the free end portion of the needle section from a side of the fixing section in pivotal movement of the needle section in a lateral plane.

[0009] In the structure in which the needle section is pivoted in a horizontal plane as described above, when the fixing section fixedly fastens the needle section in two ways from above and below, moving-out upward of the needle section can inevitably be blocked. Furthermore, since the exit control section that prevents the

needle section from moving out sideways is provided in the fixing section, the needle section becomes harder to move out from the fixing section, thereby enabling falling of the pierced earring to be prevented from occurring with more of sureness.

[0010] Still another pierced earring of the present invention whose body is sustained in a hanging state from an earlobe through a needle section as described above are characterized by: that a needle section is connected to one end portion of the pierced earring body so that the needle section is pivotable in a three-dimensionally arbitrary plane and a fixing section is provided at the other end portion of the pierced earring body, wherein the one end and other end portions are separated apart from each other with a space where the needle section is inserted through a hole in an earlobe; and that the fixing section comprises: an entrance section through which the free end portion of the needle section is moved into the fixing section; an exit control section that gives a resistance to moving-out of the free end portion of the needle section from the fixing section after moving-in of the free end portion; and a movement-blocking section that cuts off an upward route through which the free end portion of the needle section runs and move away from the pierced earring body in order to sustain a weight of the pieced earring body even if the resistance does not work.

[0011] In such a manner, since the needle section is connected to the one end portion of the pierced earring body so that the needle section is pivotable in a three-dimensionally arbitrary plane, the needle section is easy to be inserted into the entrance section. Further, since the needle section can freely change its pivotal direction to any direction when inserted into a hole in a earlobe, the needle section can select its pivoting direction and position in which the needle section can most easily be inserted into the fixing section. Further, as described above, there can be enjoyed the effect that the needle section becomes harder to move out from the fixing section.

[0012] A construction can be adopted, in which a fixing section that fixedly holds the free end portion of a needle section in a demountable manner comprise: a first fixing section that allows the needle section to move into itself when the needle section approaches while pivoting in a first direction; and a second fixing section that allows the needle section to move into itself when the needle section approaches while pivoting in the opposite direction of the first direction, the first and second fixing sections being provided as a set.

[0013] With the two fixing sections that have respective entrance sections opening toward opposite directions as described above, the needle section can be inserted not only in one direction but in the opposite direction.

[0014] Besides, a further pierced earring of the present invention whose body is sustained in a hanging state from an earlobe through a needle section as described above is characterized by that: the needle section is connected to one end portion of a pierced earring body so that the needle section is pivotable in a longitudinal plane almost in parallel to a direction in which the needle section sustains a weight of the pieced earring body and a fixing section is provided at the other end portion of the pierced earring body, wherein the one end and other end portions are separated apart from each other with a space where the needle section is inserted through a hole in an earlobe; and that the fixing section comprises: an entrance section through which the free end portion of the needle section is moved into the fixing section in a pivotal movement thereof from below in the longitudinal plane; and a movement-blocking section that cuts off an upward route through which the free end portion of the needle section runs and move away from the pierced earring body in order to sustain the weight of the pieced earring body.

[0015] With the construction and movements of constituents thereof, the needle section is prevented from moving out upward from the fixed section, thereby enabling falling off from an earlobe of the pierced earring to be prevented from occurring.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016]

FIG. 1 is a front view showing the whole of a pierced erring that is an embodiment of the present invention and an exploded view showing a connecting section of a needle section thereof;

FIG. 2 is a perspective view of the pierced earring of FIG. 1;

FIG. 3 is a plan view of the pierced earring of FIG. 1;

FIG. 4 is a side view of the top side of the pierced earring of FIG. 1;

FIG. 5 is a perspective view showing a fixing section of FIG. 1 in an enlarged manner;

FIG. 6 is an enlarged side view of the fixing section of FIG. 1;

FIG. 7 is an enlarged side view showing a first modification example of the fixing section of FIG. 1;

FIG. 8 is an enlarged side view showing a second modification example of the fixing section of FIG. 1;

FIG. 9 is an enlarged side view showing a third modification example of the fixing section of FIG. 1;

FIG. 10 is an enlarged side view showing a fourth modification example of the fixing section of FIG. 1;

FIG. 11 is an enlarged side view showing a fifth modification example of the fixing section of FIG. 1;

FIGs. 12(A) and 12(B) are views showing a pierced earring of another embodiment of the present invention;

FIG. 13 is a perspective view showing a pierced earring as still another embodiment of the present invention;

FIG. 14 is a partially enlarged view showing a fixing

section of the pierced earring of FIG. 13;
FIG. 15 is a plan view of the fixing section of the pierced earring of FIG. 13;
FIG. 16 is a perspective, exploded view showing a detailed construction of the fixing section of the pierced earring of FIG. 13;
FIG. 17 is a perspective view showing a press plate of constituents of a connecting section of FIG. 13;
FIG. 18 is a perspective view showing a sphere receiving section of constituents of the connecting section of FIG. 13;
FIG. 19 is a longitudinal sectional view of the connecting section of FIG. 13;
FIG. 20 is a cross sectional view of the connecting section of FIG. 13;
FIG. 21 is a perspective, exploded view showing assembly of another construction of the connecting section of FIG. 13;
FIG. 22 is a perspective view showing an appearance after the assembly of the connecting section of FIG. 21;
FIG. 23 is a perspective view showing still another construction of the connecting section of FIG. 13;
FIG. 24 is a perspective, exploded view showing assembly of a further construction of the connecting section of FIG. 13;
FIG. 25 is a perspective, exploded view showing assembly of a still further construction of the connecting section of FIG. 13;
FIG. 26 is a longitudinal sectional view of a fixing section of FIG.25;
FIG. 27 is a front view showing a triangular pierced earring as a further embodiment of the present invention;
FIG. 28 is a front view showing a quadrangular pierced earring as a still further embodiment of the present invention;
FIG. 29 is views showing a pierced earring as another embodiment of the present invention in which a spring is incorporated in a pivotal connecting section of a needle section thereof;
FIG. 30 is a perspective view showing a main part of a pierced earring as still another embodiment of the present invention in which a needle section is pivoted in an arbitrary direction using a universal joint;
FIG. 31 is a front view showing a pierced earring applied with a conventional technique; and
FIG. 32 is a perspective view showing a conventional fixing section in an enlarged manner.

BEST MODE TO CARRY OUT THE INVENTION

[0017] Description will below be made of modes to carry out the present invention with reference to embodiments shown in the accompanying drawings.

[0018] In an embodiment of the present invention shown in FIG. 1, a pierced earring 1 comprises: a needle section 2 that is inserted through a hole 101 of an earlobe 100; and a pierced earring body 3 that is sustained by the earlobe 100 with the needle section 2. The needle section 2, as shown in FIGs. 2 to 4, is connected to one end of the pierced earring body 3 at a connecting section 10 so that the needle section 2 is pivotable in a plane that is orthogonal to a direction in which the needle section 2 bears the weight of the pierced earring body 3, wherein the plane is a horizontal plane when the pierced earring body 3 is vertically positioned.

[0019] The connecting section 10, for example as shown in FIG. 1, comprises: a receiving section 10a having a structure in which the tip of the one end of the pierced earring body 3 is divided into two projected parts; a pivot portion 10b that is formed at the base end portion of the needle section 2 and which engages in the receiving section 10a; and a pin (a shaft portion) 10c that not only penetrates through the receiving section 10a and pivot portion 10b but is caulked at both ends thereof to form projecting rims in order that the pin 10c does not slip off. On the other hand, as shown in FIG. 5, a fixing section 4 provided at the other side that is separated apart from the one end portion with a space where the needle section 2 is inserted through the earlobe hole, comprises: an entrance section 7 through which the free end portion of the needle section 2 is moved into the fixing section 4 in a pivotal movement thereof; an exit control section 6 that gives a resistance to moving-out of the free end portion of the needle section 2 from the fixing section 4 after moving-in of the free end portion; and a movement blocking section 5 that cuts off an upward route through which the free end portion of the needle section 2 runs and move away from the pierced earring body 3 in a direction in which the needle section 2 sustains the weight of the pieced earring body 3 even if the resistance does not work.

[0020] Further, in the fixing section 4, as shown in FIG. 6 as well, a projecting portion 8 that is formed outside the pierced earring body 3 as an upper branch of the movement blocking section 5 at the entrance section 7.

[0021] That is, since an operation to insert the needle section 2 into the fixing section 4 is generally conducted feeling by a hand, a pivotal section of the needle section is manufactured to be mechanically rough on a comparative base and further the needle section 2 itself is easy to elastically deform, therefore, there can arise a case where it is difficult to immediately position the needle section 2 in the entrance section 7 of the fixing section 4. When such a case arises, in order to enable the needle section to be moved in with ease, the following procedure may be taken: First of all, the needle section 2 is put in contact with a side surface of the pierced earring body 3 or positioned close to the side surface, though without a direct touch, and, in the state, moved upwardly along the side surface till the needle section 2 runs into the projecting portion 8 at the entrance section 7 or the needle section 2 goes beyond the upper end of the side surface. Thereafter, the needle section 2 is pressed

sideways, thereby, entering the needle section 2 into the fixing section 4 without difficulty.

[0022] In this embodiment, in the fixing section 4, a leaf spring taking the shape of a laterally placed clip is used, and the underside portion is bonded to one end of the pierced earring body 3 by soldering or other proper means, while the upper side portion (5, 6 and 8) can elastically be deformed relatively to the underside portion and a constricted portion at the middle of a lateral branch serves as the exit control section 6. That is, a structure is contrived, as shown in FIG. 6, such that, when the needle section 2 is inserted into the entrance section 7 and thereafter, the needle section 2 is retained in the fixing section 4, the needle section 2 is inserted into the entrance section 7 with ease since the upper half space in the entrance section 7 is expanded in a direction to separate from the pierced earring body 3 so as to form a wide opening. Then, in a stage where the needle section 2 is further inserted through the exit control section 6 into the fixing section 4 from the entrance section 7, the exit control section 6 is elastically deformed so that the width t is expanded up to the outer diameter R of the needle section 2 in order to allow the needle section 2 to actually pass through the exit control section 6 when the needle section 2 passes through the exit control section 6 since a width t of the exit control section 6 is set to a value smaller than the outer diameter R of the needle section 2. After the needle section 2 is fully accepted in the fixing section 4, the exit control section 6 elastically restores the original position of the branches thereof with the result that the needle section 2 cannot be moved out through the exit control section 6 as far as a force that causes the elastic deformation required in the insertion of the needle section 2 is not applied to the exit control section. The fixing section 4 as described above is bonded to the pierced earring body 3 by soldering or the like technique at two bonding portions 9 and 9 located at two points in respective both end portions of an end face of the other end portion of the pierced earring body 3.

[0023] Alternatively, as in the fixing section 40 shown in FIG. 7, it is also possible that a branch of the pierced earring body side of the movement-blocking section 5 is removed and the needle section 2 is retained by the other branch of the movement-blocking section 5 and the pierced earring body 3. In this case, the entrance section 7 is formed by the distal end portion 8 of the upper branch of the movement-blocking section 5 and the pierced earring body 3. The fixing section 40 in this case is bonded to the pierced earring body 3 by soldering or the like technique at a bonding portion 9 located at one end in the thickness direction of the body end face. With this structure, the bonding process is simplified as compared with the case of FIG. 6 and a projection length of the fixing section 40 from the end face of the pierced earring body 3 can be smaller. However, the case of FIG. 6 is sometimes advantageous over this case in regard to bonding strength.

[0024] On the other hand, as shown in FIG. 8, a structure can also be conceived such that two of the fixing section 4 are bonded to one end face of the pierced earring body in a symmetric manner across a diameter so that resultant two entrance sections open outward. According to such a structure, the needle section 2 can approach to the pierced earring body 3 in any of laterally opposite directions, thus making insertion of the needle section 2 into the fixing section 4 easier. In this case, while the needle section 2 can be pivoted in a horizontal plane, it is required as a precondition that some amounts of relative movement, upward and downward, of the needle section 2 due to mechanical play in the pivotal movement section, deformation of the needle section 2 itself and others are allowable in an actual phase. In the case where the needle section 2 can be inserted from laterally opposite sides, the fixing section 40 in which two of the pierced earring side branch at the respective entrance sections are omitted can be adopted, still with two thereof in a symmetrical way across a diameter, as a whole, as shown in FIG. 9.

[0025] In the present invention, it is possible not to form a projecting portion as shown in FIG. 10. In this case, when the needle section is inserted into the fixing section 4, if the needle section 2 is raised up to the upper end of the side surface of the pierced earring body 3 while pressing the needle section onto a side surface of the pierced earring body 3, the needle section 2 enters the entrance section 7 of the fixing section 4 automatically changing its direction of movement.

[0026] Then, the needle section 2 is further advanced into a depth of the fixing section 4 through the exit control section 6 to be retained in the fixing section 4. In a fixing section with such a structure having no projecting portion, too, the fixing section can be designed so that a needle section 2 can be inserted laterally in opposite directions across the thickness of the pierced earring body 3 as shown in FIG. 11, similar to FIGs. 8 and 9, which are described above.

[0027] Furthermore, as shown in FIGs. 12(A) and 12 (B), in another embodiment, a needle section 2 is not pivoted in a horizontal plane, but the needle section 2 is connected to one end of the pierced earring body so that the needle section 2 can be pivoted in a vertical plane about a connection section 10' (a pivot) and at the same time, a fixing section 50 that allows the free end portion of the needle section 2 to be inserted into the fixing section 50 from below can be formed at the other end of the pierced earring body 3. The connecting section 10' at the base end of the needle section 2 is of a structure that is obtained by erecting the connecting section 10 of FIG. 1 through rotation by an angle of 90 degrees without any change in structure from that of the connecting section 10 of FIG. 1. Further, as shown in FIG. 12(A), the fixing section 50 comprises: an entrance section 7 through which the needle section 2 is inserted from below; an exit control section 6 that not only allows movement into the fixing station of the needle section 2 with

elastic deformation thereof in the width direction, but which restores its original form after the needle section 2 passes through it and gives a resistance to moving out downward of the needle section 2; and a movement blocking section 5 that takes a position so as to cut off a route of upward movement of the needle section 2, wherein the needle section 2 is fixedly held in the fixing section 50 while the needle section 2 is surrounded with the movement blocking section 5 above itself and the exit control section 6 below itself.

[0028] Such a fixing section 50 is made of a metal member taking the shape of a plate or a wire, or the like and integrated with the upper end of the pierced earring body 30 by a proper bonding means such as soldering. A state in which the needle section 2 rests in the fixing section 50 is that the weight of the pierced earring body 3 is sustained upwardly and a relation is established in which the needle section 2 and the movement blocking section 5 is always close to each other. Accordingly, the needle section 2 continues to sustain the pierced earring body 3 in a stable manner as far as the fixing section 50 is not lost therefrom. A structure may alternatively be adopted in FIG. 12 in which, instead of the structure in which the needle section 2 is pivoted upward or downward, the needle section 2 is pivoted, the needle section 2 is pivoted, for example, in a horizontal plane (a pivotal movement in a lateral plane) and the needle section 2 is moved to the entrance section 7 of the fixing section 50 sideways, and further inserted upwardly through the entrance section 7 thereof.

[0029] Then, in a pierced earring 21 shown in FIG. 13, a needle section 22 is connected at a connecting section 29 in a manner such that the needle section 2 can be freely pivoted at the connecting section in a three-dimensionally arbitrary direction and a fixing section 24 is provided at the other side of a pierced earring body 23, wherein the fixing section 24, as shown in FIG. 14, comprises: an entrance section 27 into which the needle section 22 is moved from below; an exit control section 26 that gives a resistance to moving-out of the free end portion of the needle section 22 after the moving-in thereof; and a movement blocking section 28 that stops movement of the needle section 22 by an action from above. The pierced earring body 23 in the embodiment has a semicylindrical or a U-letter shape in cross section and the fixing section 24 has a structure in which a plate member 24a is fittingly inserted in the pierced earring body 23 so as to cover an opening side thereof and subjected to welding or the like for integration. Herein, as shown in FIGs. 15 and 16, when the opening end face of the pierced earring body 23 with a cross-section in a semi-cylindrical or a U-letter shape and a side surface facing outwardly of the plate member 24a is assembled so as to be flush with each other, the end portion of the pierced earring body 23 is appeared to be good from the viewpoint of a design.

[0030] Further, the fixing section 24 has a structure in which since the entrance section 27 for the needle section 22 has a shape such that its opening is widened outward from depth in a linear or curved manner on both side slopes, there is no portion in the entrance section 27 that runs into the needle section 22 in upward movement of the needle section 22 and block the needle section 22, thereby making the needle section 22 inserted with ease. A modification of the plate member 24a may alternatively be adopted in which, for example, slits 24b and 24b extending vertically are respectively formed in the plate member 24a near both sides of the constricted space of the exit control section 26 and thereby, the exit control section is easily widened. On the other hand, the connecting section 29 has a structure shown in FIGs. 17 to 20. That is, for example, a press plate 30 having a circular opening 31 and a sphere receiving section 32 having a recess 33 with part of a spherical surface are bonded to a pierced earring body 23 by soldering or the like as shown in FIGs. 19 and 20. FIG. 19 is a longitudinal sectional view of the connecting section 29 and FIG. 20 is a cross sectional view thereof. A sphere 34 bonded with a needle section 22 fittingly rests in the recess 33 with part of a spherical surface and is retained in a state in which the sphere 34 is pressed to depth of the recess 33 from the outside, while a connecting section between the needle section 22 and the sphere 34 is positioned in the opening 31 of the press plate 30. In this state, the sphere 34 can freely be pivoted in an arbitrary direction while being stayed in the recess 33 in an engaging manner and the needle section 22 can freely be pivoted in a three-dimensionally arbitrary direction in company with the pivotal movement of the sphere 34.

[0031] When the needle section 22 can freely be pivoted in an arbitrary direction and the needle section 22 is thereby inserted into the fixing section 24 from below, if the pierced earring body 23 interferes with the needle section 22, the trouble is solved with ease: The needle section 22 is once pivoted in an arbitrary direction so as to avoid the pierced earring body 23 before a second insertion. Thereafter, the needle section 22 is fittingly inserted upward from a position lower the fixing section with ease. Further, when the needle section 22 is inserted into or taken out from a hole in an earlobe, since the needle section 22 can change its direction while pivoting, the pierced earring can be worn on or taken off from the earlobe with ease.

[0032] Further, as shown in FIG.21, the appearance of the pierced earring body 23 can be improved by means of a procedure in which a lid portion 30a that extends at the upper end of the press plate 30 in a direction at an angle of 90 degrees from the press plate 30 is integrally formed and the lid portion 30a is bonded so as to cover the top end of the pierced earring body 23 with the result that the opening of the top end of the pierced earring body 23 is covered with the lid portion 30a as shown in FIG. 22. Besides, as shown in FIG. 23, instead of a single piece of press plate, a set of two press plate 35 and 35, which are obtained by division of a single press plate, can be used to hold the sphere 34 by press-

ing so as to be pivotable in an arbitrary direction.

[0033] Further, in a case of the fixing section 24, too, the appearance thereof can also be improved in a structure in which a lid portion 24a that extends at the upper end of the fixing section 24 in a direction at an angle of 90 degrees therefrom is integrally formed and thereby the top end opening of the pierced earring body 23 is covered with the lid portion 24a. In examples of FIGs. 22 and 24, the lid portions 30a and 24a are made to dimensionally coincide with the outer peripheries, while a vertical plate section 30c and 24c are made to dimensionally coincide with the inner peripheries, with the result that the press plate 30 and the fixing section 24 can be refined in appearance so as not to be projected beyond a profile line of the pierced earring body 23.

[0034] Besides, as shown in FIG. 25, a fixing section 54 is formed by bonding a leaf spring member 37 to a block 36 by soldering or the like and the fixing section 54 can then be bonded to a pierced earring body 23. The leaf spring member 37 comprises the following sections that exert respective functions: a movement blocking section 58 for the needle section 22 having the shape of the top protion like a loop in section; an exit control section 56 for the needle section 22, which exit control section has a constricted portion in the middle thereof; and an entrance section 55 whose lower portion has the shape like a skirt, whose width is spread downward, wherein the entrance section 55 and the exit control section 56 can elastically be deformed in a width spreading direction when the needle section 22 passes through both sections.

[0035] Further, as shown in FIG. 26, slits (trenches) 23a and 23a into which the lower end of skirt-like portion forming an entrance section 55 is slidably inserted can also be formed in the inner surface of a pierced earring body 23 at angles corresponding to an inclined direction of the skirt-like section. In this case, since no clearance arises between the lower end of the leaf spring member 37 and the pierced earring section 23, there is no worry that the needle section 22 mistakenly enters a space between the lower end face of the leaf spring member 37 and the inner surface of the pierced earring body 23. That is, when the needle section 22 is raised, the needle section 22 is inevitably put in contact with the skirt section of the leaf spring member 37 and thereby, automatically moved toward the center.

[0036] Following this movement, when the needle section 22 elastically widens an exit control section 56, the lower end of the leaf spring member 37 are slid in the slits 23a and 23a so as to further move into depth.

[0037] In the-above described embodiments, an example of pierced earring in which the pierced earring body has a circular shape, but triangular and quadrangular pierced earrings 61 and 71 as shown in FIGs. 27 and 28 respectively can be adopted if connecting sections and fixing sections as described above are respectively provided, wherein moving-out of the needle section in a direction in which the weight of the pierced earring bodies 62 and 72 are sustained is avoided, thereby enabling falling of the pierced earrings to be prevented from occurring. For example, as connecting sections 65 and 75 for needle sections 63 and 73 of pierced earrings 61 and 71, any mechanism of the following pivotal movements can be adopted: a horizontal pivotal movement section as in FIG. 1, a vertical pivotal movement section as in FIG. 12(B) or a pivotal movement section in an arbitrary direction with a structure including part of a spherical surface as in FIGs. 19 and 20. In FIGs. 27 and 28, there are shown a pivotal movement in a longitudinal plane and the needle sections 63 and 73 are fittingly inserted into fixing sections 66 and 76 from below.

[0038] Further, as the fixing sections 66 an 76, structures can properly be adopted in a selective manner; a needle section is advanced into the fixing section from a side as shown in FIGs. 5 to 11, a needle section is advanced for insertion into the fixing section upwardly from below as shown in FIGs. 12(A) and 12(B), FIGs. 16, and FIGs. 24 to 26 and others. There are shown in FIGs. 27 and 28 fixing sections in which needle sections are fittingly inserted from below, wherein the needle sections 63 and 73 are automatically pressed for insertion into the respective fixing sections by the self weights of the respective pierced earring bodies 62 and 72 and thereby there arises no risk of moving-out of the needle sections 63 and 73. Further, like a pieced earring 81 shown in FIG. 29, a construction can also be adopted in which a needle section 83 is connected to a pierced earring body 82 at a connecting section 80, for example, so that the needle section 83 is pivotable in a lateral plane (in a horizontal plane) with a pin (shaft) 84 as a pivot and the needle section 83 is allowed for elastic movement in a direction, upward or downward. For example, the needle section 83 is integrally bonded to the upper end face of the pin 84 that penetrates through a pin hole 85 with a mechanical play. The pin 84 is energized upwardly by a compressed spring 90 provided between a head portion of the pin 84 and the pierced earring body 82 and with the upward force applied, the pin 84 are always retained its given position in an erected state. For example, when the needle section 83 is pressed down, however, the pin 84 is inclined from its original position by angle θ within a range allowed by a width of the pin hole, thereby permitting movement, downward (or upward), of the needle section 83. When a press-down force applied to the needle section 83 is canceled, the pin 84 restores its original state by an energizing force of the compressed spring 90.

[0039] With employment of this construction, when the needle section 83 is inserted into the fixing section 86 on the other side to fix therein, the needle section 83 can be advanced into the fixing section 86 after the needle section 86 is lowered once. The fixing section 86 comprises: an entrance section 87 that opens downwardly; a movement blocking section 87 that blocks upward movement of the needle section 83 in such a manner that the needle section 83 is pressed down from

above; and, if necessary, an exit control section 88 at the middle portion whose width is narrower than the diameter of the needle section 83 and which allows the needle section 83 to pass through itself while being elastically deformed. When the needle section 83 is put into contact with or approaches close to the fixing section 86 while pivoting in a direction in a horizontal plane, the needle section 83 is pressed down to the level of the entrance section 87, moved over into the entrance section 87 while passing below the lower end of a branch thereof and then raised to the movement blocking section 89 to be in a contact state. In this state, when an elastic restoring force upward arises in the needle section 83 due to a force energized by the compressed spring 90, since the needle section 83 is always maintained in a state in which the needle section 83 is always pressed to the movement blocking section 89 (press-up state), there is absolutely no chance of moving-out of the needle section 83 from the fixing section 86.

[0040] Further, while in the above described embodiment, an example of a spherical joint as a connecting section with which a needle section is pivoted in a three-dimensionally arbitrary direction is shown, a kind of universal joint like the pierced earring 91 shown in FIG. 30 can also be employed. In the connecting section 95, a Y-shaft section 96 in a Y axis direction (for example, a direction, upward to downward) is connected to a pierced earring body 92 and an X-shaft section 98 in an X axis direction (for example, a horizontal direction) is connected to the Y-shaft 96 through a pivotal movement section 98. That is, the X-shaft 98 is pivoted, for example, in a direction in a horizontal plane with the Y-shaft section 96 as a pivot and the needle section 93 is pivoted in a direction in a plane that including a direction, from upward to downward, with the X-shaft section 98 as a pivot. With combination of pivotal movements about respective two axes perpendicular to each other, the needle section 93 can eventually be pivoted in a three-dimensionally arbitrary direction.

[0041] The present invention can be utilized in not only in fabrication of pierced earrings but in sales thereof and others.

Claims

1. A pierced earring comprising: a pierced earring body; and a needle section, whose base end portion is pivotably mounted to the pierced earring body, and whose free end portion, after it is inserted into a hole in an earlobe, is fixed to a fixing section of the pierced earring body in a demountable manner, wherein the pierced earring body is sustained with the needle section in a hanging state from the earlobe, characterized by that, in the fixing section of the pierced earring body, there is formed a movement-blocking section that cuts off a route through which the needle section runs and moves away from the pierced earring body, at a position upward from the needle section in a direction in which the needle section sustains a weight of the pieced earring body in a hanging state.

2. A pierced earring comprising: a pierced earring body; and a needle section, whose base end portion is pivotably mounted to the pierced earring body, and whose free end portion, after it is inserted into a hole in an earlobe, is fixed to a fixing section of the pierced earring body in a demountable manner, wherein the pierced earring body is sustained with the needle section in a hanging state from the earlobe, characterized by: that the needle section is connected to one end portion of a pierced earring body so that the needle section is pivotable in a plane intersecting a direction in which the needle section sustains a weight of the pieced earring body and the fixing section is provided at the other end portion of the pierced earring body, wherein the one end and other end portions are separated apart from each other with a space where the needle section is inserted through a hole in an earlobe; and that the fixing section comprises: an entrance section through which the free end portion of the needle section is moved into the fixing section in a pivotal movement thereof; an exit control section that gives a resistance to moving-out of the free end portion of the needle section from the fixing section after moving-in of the free end portion; and a movement blocking section that cuts off a route through which the free end portion of the needle section runs and move away from the pierced earring body in a direction in which the needle section sustains the weight of the pieced earring body even if the resistance does not work.

3. A pierced earring comprising: a pierced earring body; and a needle section, whose base end portion is pivotably mounted to the pierced earring body, and whose free end portion, after it is inserted into a hole in an earlobe, is fixed to a fixing section of the pierced earring body in a demountable manner, wherein the pierced earring body is sustained with the needle section in a hanging state from the earlobe, characterized by: that the needle section is connected to one end portion of a pierced earring body so that the needle section is pivotable in a lateral plane almost perpendicular to a direction in which the needle section sustains a weight of the pierced earring body and the fixing section is provided at the other end portion of the pierced earring body, wherein the one end and other end portions are separated apart from each other with a space where the needle section is inserted through a hole in an earlobe; and that fixing section comprises: an entrance section through which the free end portion of the needle section is moved into the fixing section

from a side of the fixing section in pivotal movement in a lateral plane; an exit control section that gives a resistance to moving-out of the free end portion of the needle section from the fixing section after moving-in of the free end portion; and a movement blocking section that cuts off an upward route through which the free end portion of the needle section runs and move away from the pierced earring body in order to sustain the weight of the pieced earring body even if the resistance does not work.

4. A pierced earring comprising: a pierced earring body; and a needle section, whose base end portion is pivotably mounted to the pierced earring body, and whose free end portion, after it is inserted into a hole in an earlobe, is fixed to a fixing section of the pierced earring body in a demountable manner, wherein the pierced earring body is sustained with the needle section in a hanging state from the earlobe, characterized: by that the needle section is connected to one end portion of a pierced earring body so that the needle section is pivotable in a three-dimensionally arbitrary plane and the fixing section is provided at the other end portion of the pierced earring body, wherein the one end and other end portions are separated apart from each other with a space where the needle section is inserted through a hole in an earlobe; and that the fixing section comprises: an entrance section through which the free end portion of the needle section is moved into the fixing section; an exit control section that gives a resistance to moving-out of the free end portion of the needle section from the fixing section after moving-in of the free end portion; and a movement blocking section that cuts off an upward route through which the free end portion of the needle section runs and move away from the pierced earring body in order to sustain a weight of the pieced earring body even if the resistance does not work.

5. A pierced earring according to any of claims 2 to 4, wherein the fixing section that fixedly holds the free end portion of the needle section in a demountable manner comprise: a first fixing section that allows the needle section to move into itself when the needle section approaches while pivoting in a first direction; and a second fixing section that allows the needle section to move into itself when the needle section approaches while pivoting in the opposite direction of the first direction, the first and second fixing sections being provided as a set.

6. A pierced earring comprising: a pierced earring body; and a needle section, whose base end portion is pivotably mounted to the pierced earring body, and whose free end portion, after it is inserted into a hole in an earlobe, is fixed to a fixing section of the pierced earring body in a demountable manner, wherein the pierced earring body is sustained with the needle section in a hanging state from the earlobe, characterized: by that the needle section is connected to one end portion of a pierced earring body so that the needle section is pivotable in a longitudinal plane almost in parallel to a direction in which the needle section sustains a weight of the pieced earring body and the fixing section is provided at the other end portion of the pierced earring body, wherein the one end and other end portions are separated apart from each other with a space where the needle section is inserted through a hole in an earlobe; and that the fixing section comprises: an entrance section through which the free end portion of the needle section is moved into the fixing section in a pivotal movement thereof from below in a longitudinal plane; and a movement-blocking section that cuts off an upward route through which the free end portion of the needle section runs and move away from the pierced earring body in order to sustain the weight of the pieced earring body.

FIG. 1

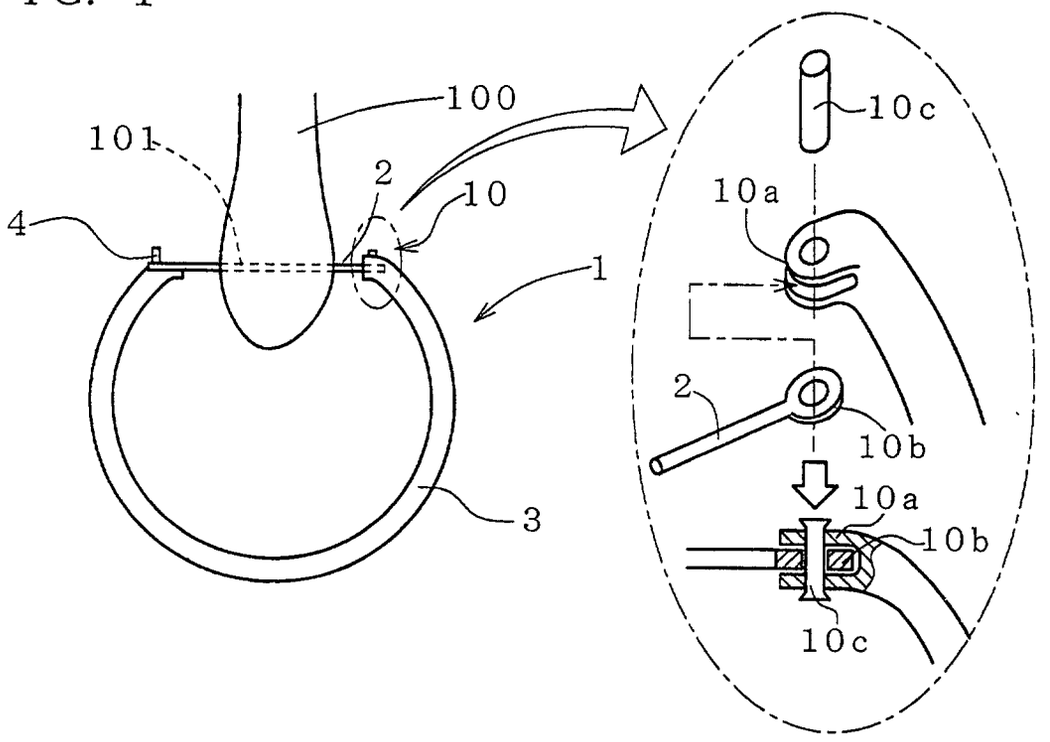

FIG. 2

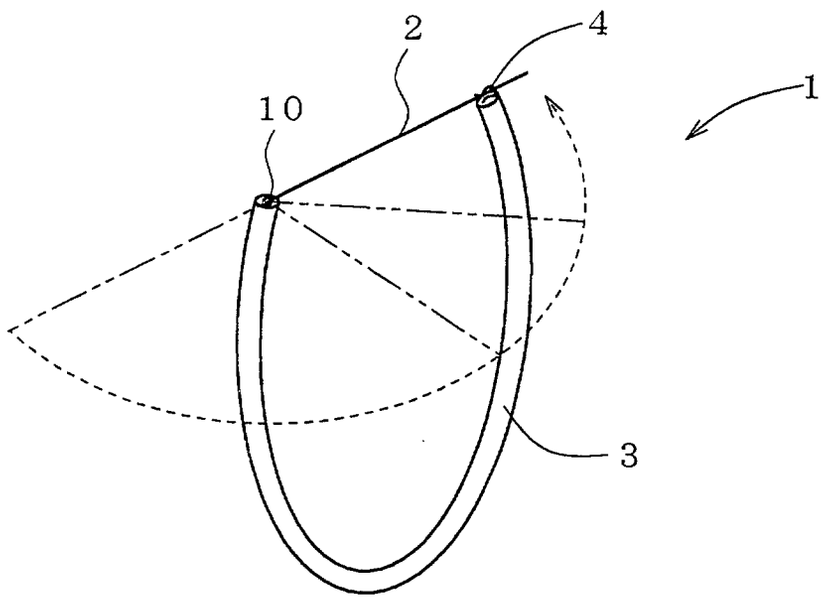

FIG. 3

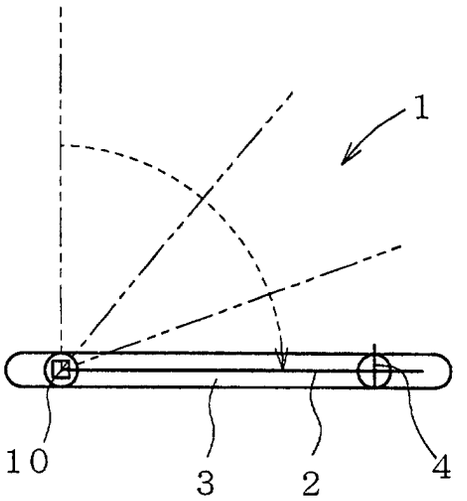

FIG. 4

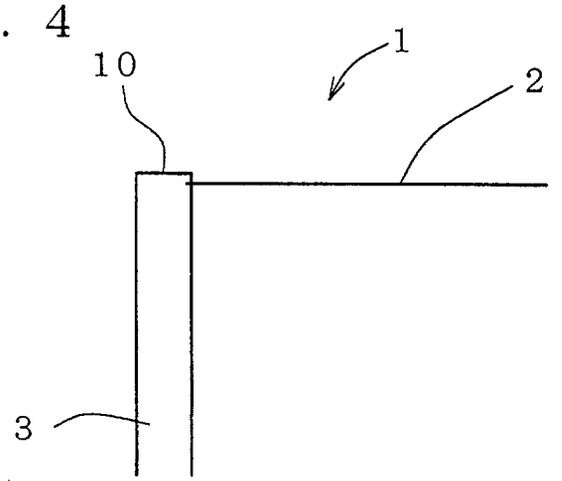

FIG. 5

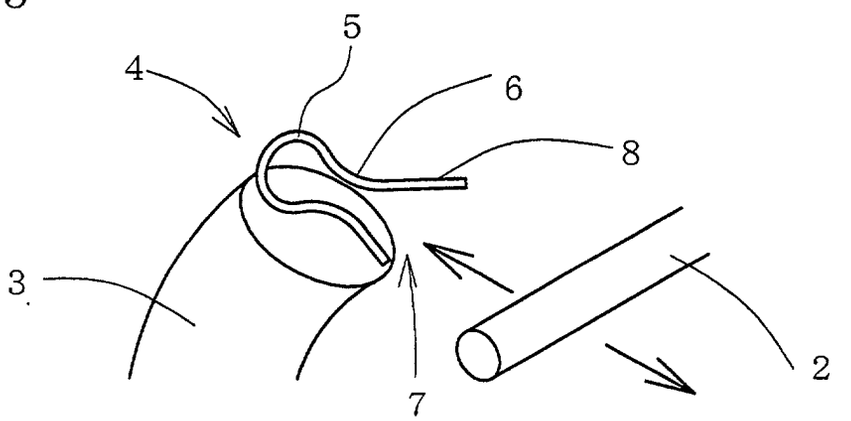

FIG. 6

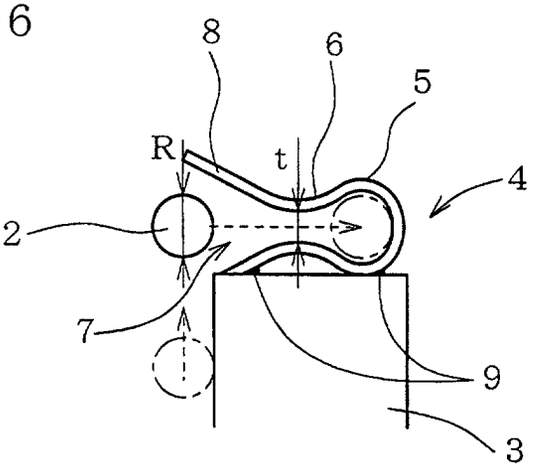

FIG. 7

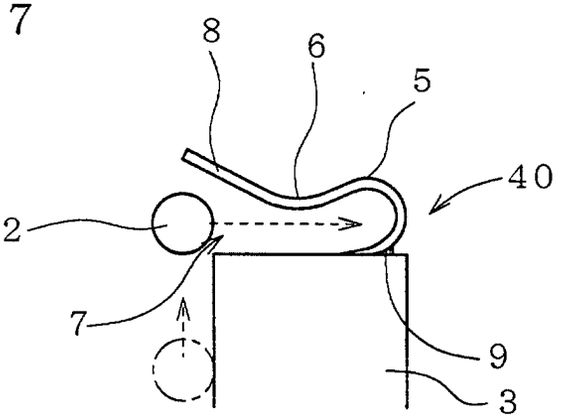

FIG. 8

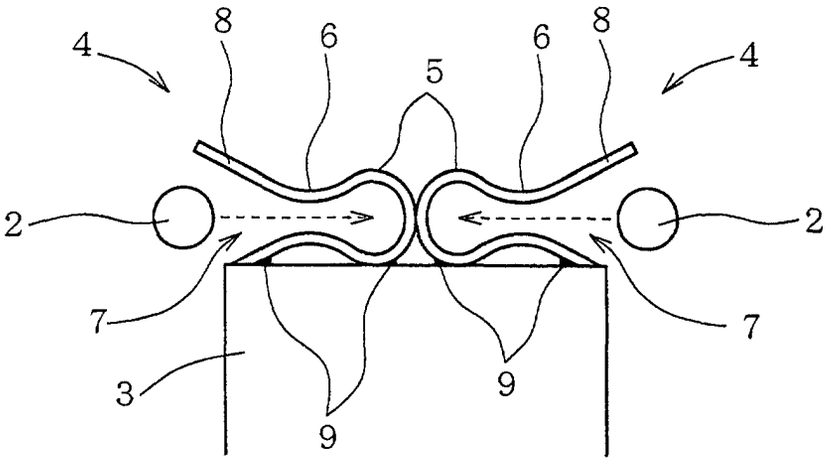

FIG. 9

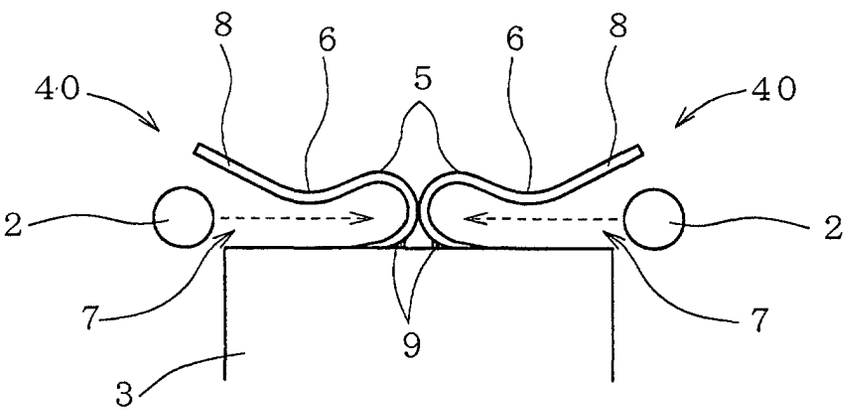

FIG. 10

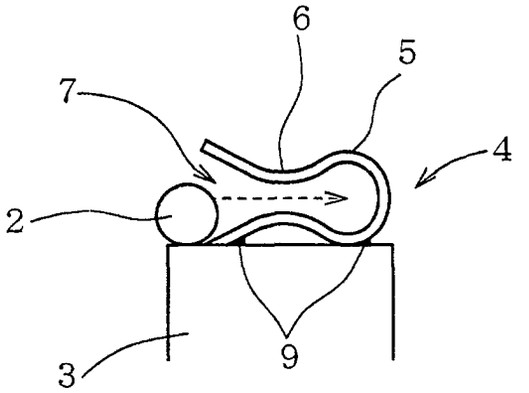

FIG. 11

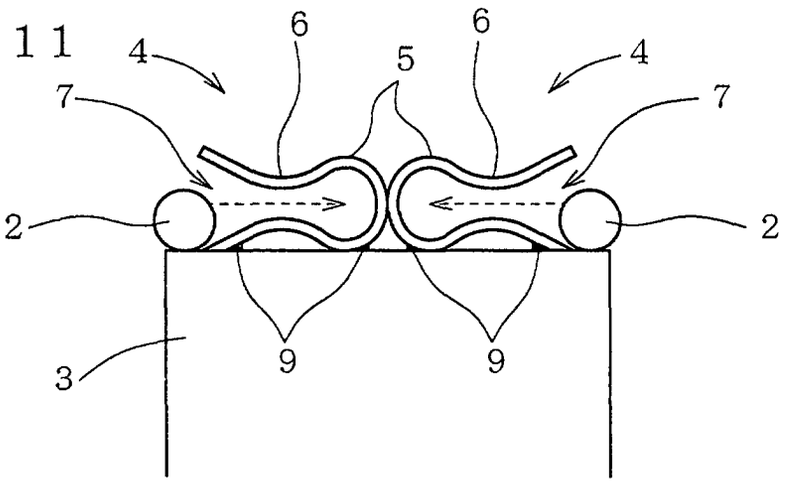

FIG. 12 (A)

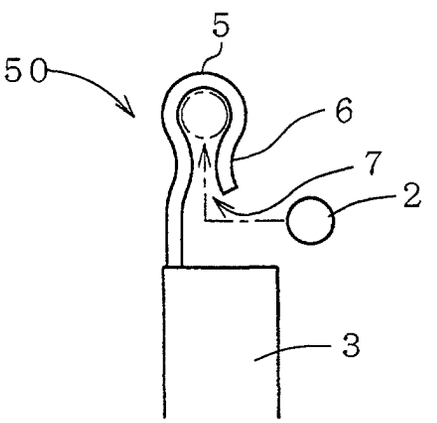

FIG. 12 (B)

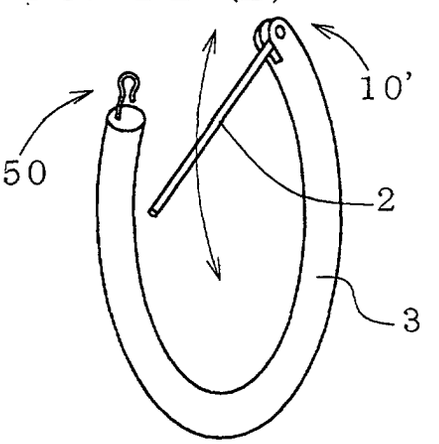

FIG. 13

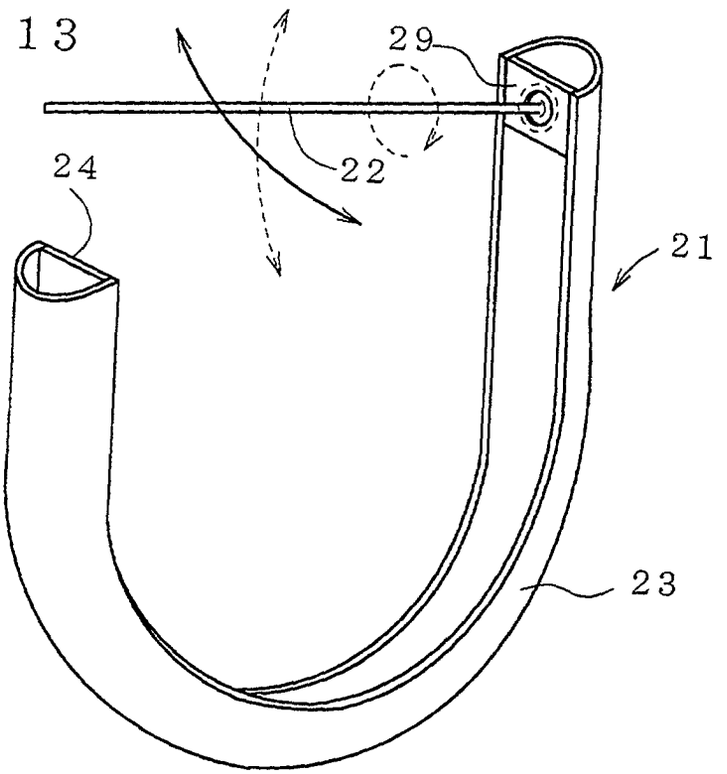

FIG. 14

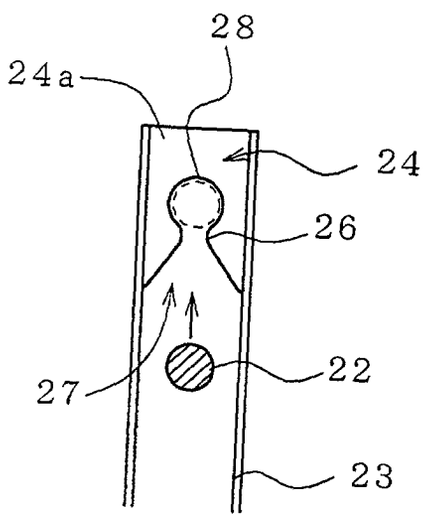

FIG. 15

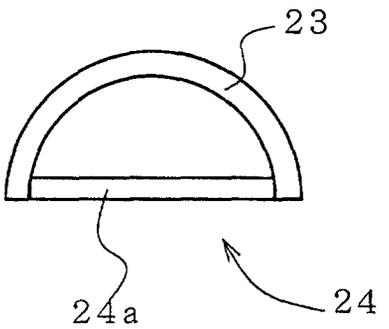

FIG. 16

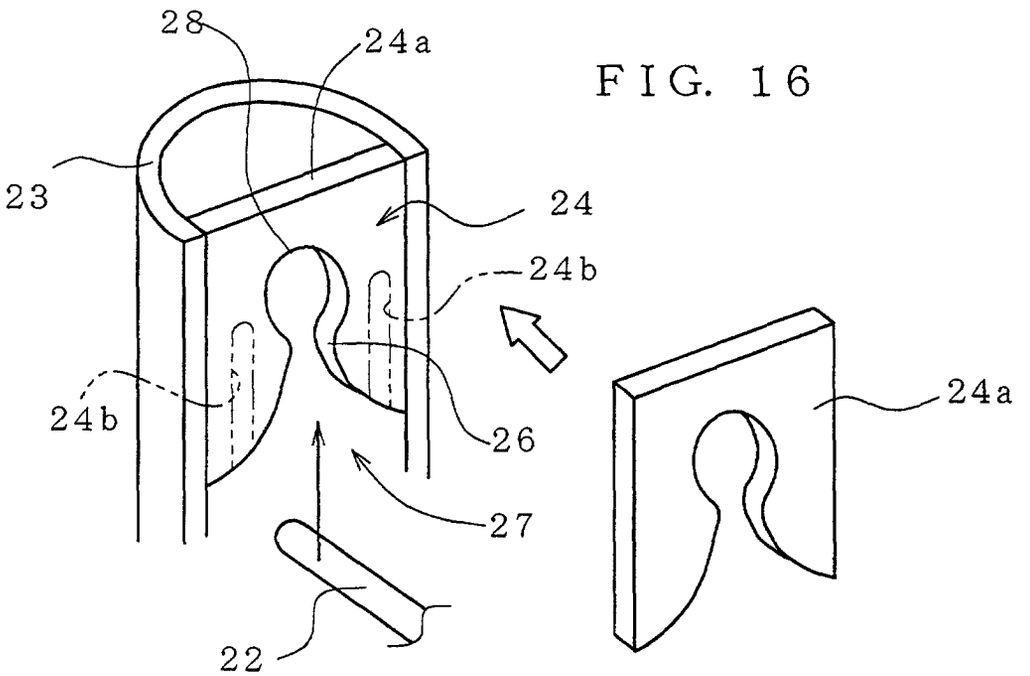

FIG. 17

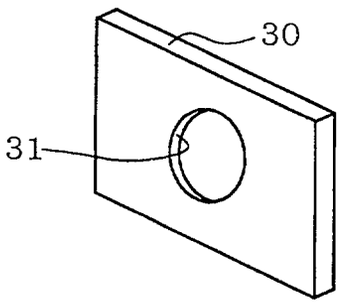

FIG. 18

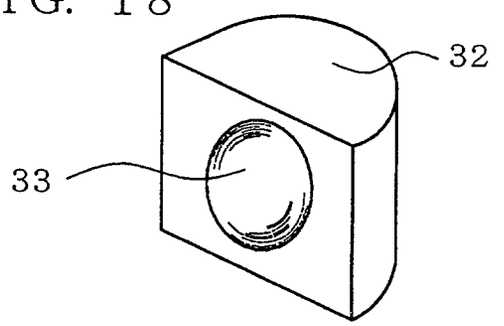

FIG. 19

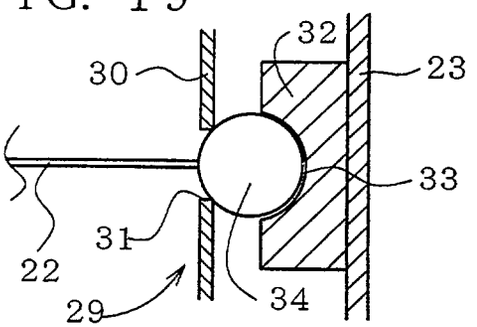

FIG. 20

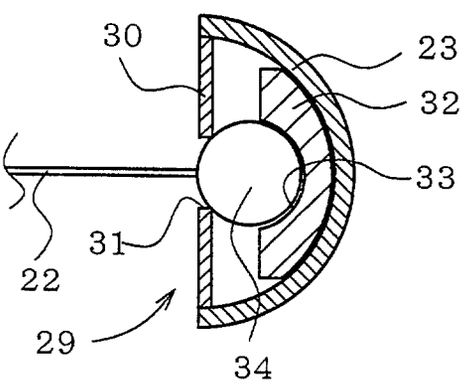

FIG. 21

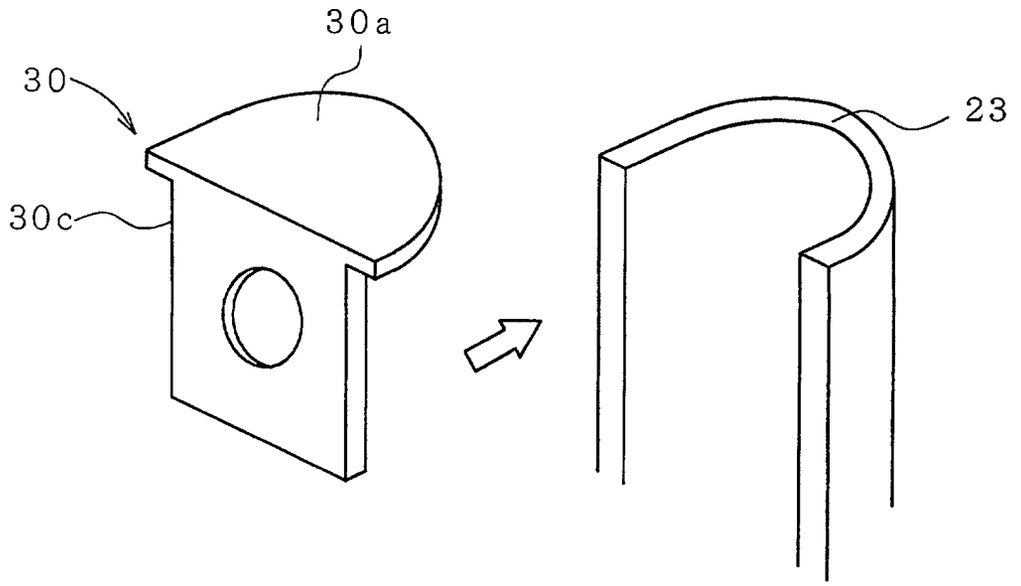

FIG. 22

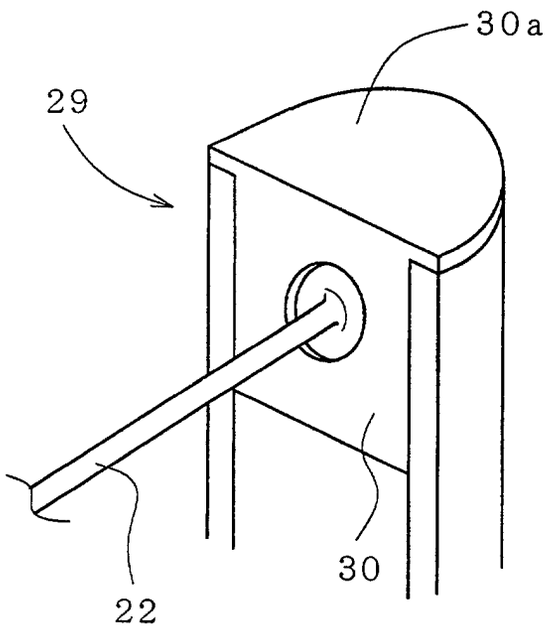

FIG. 23

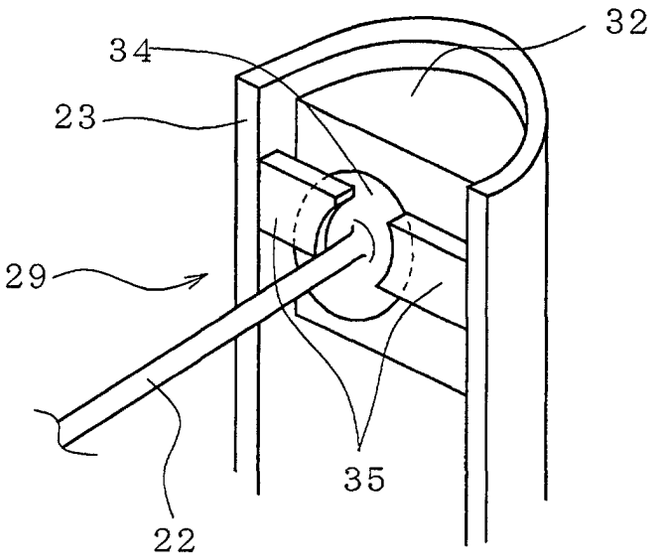

FIG. 24

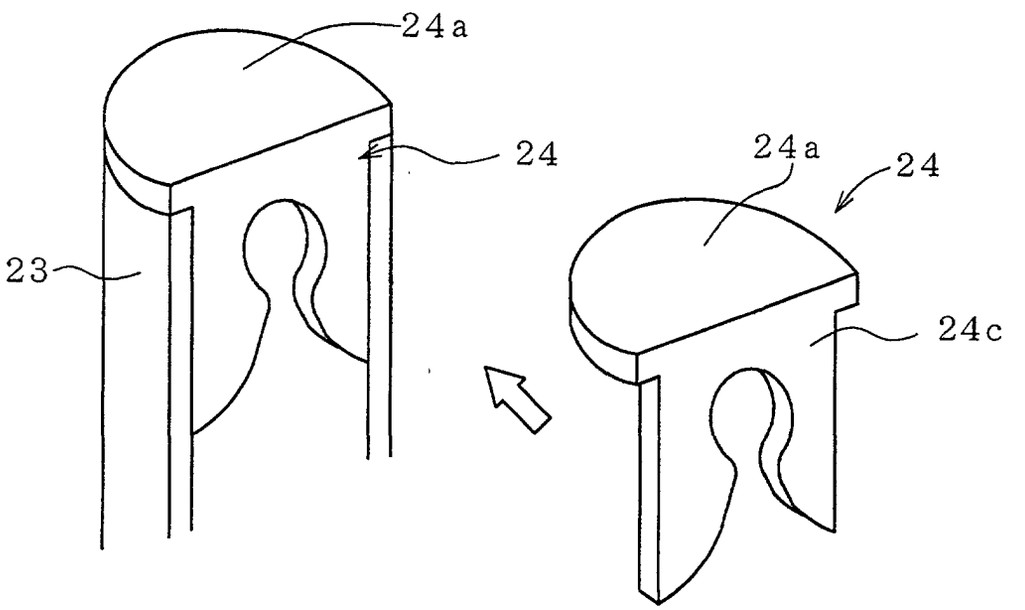

FIG. 25

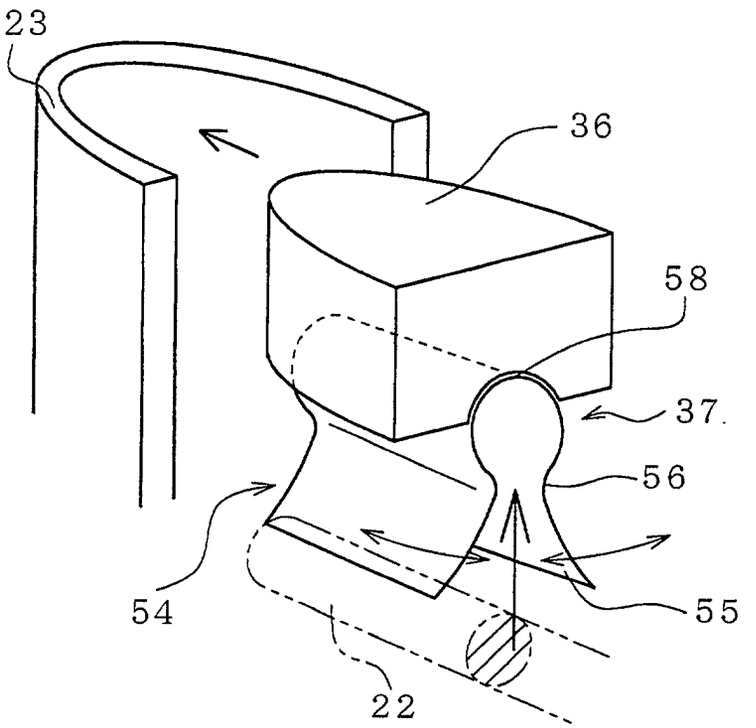

FIG. 26

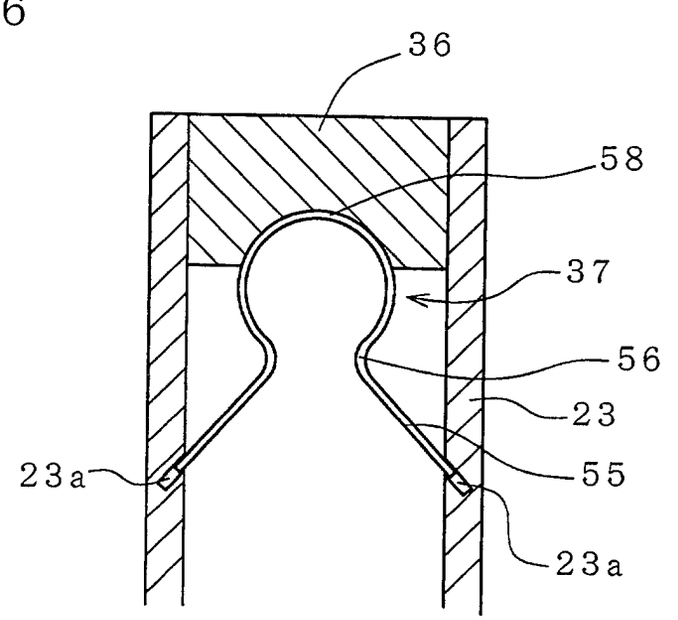

FIG. 27

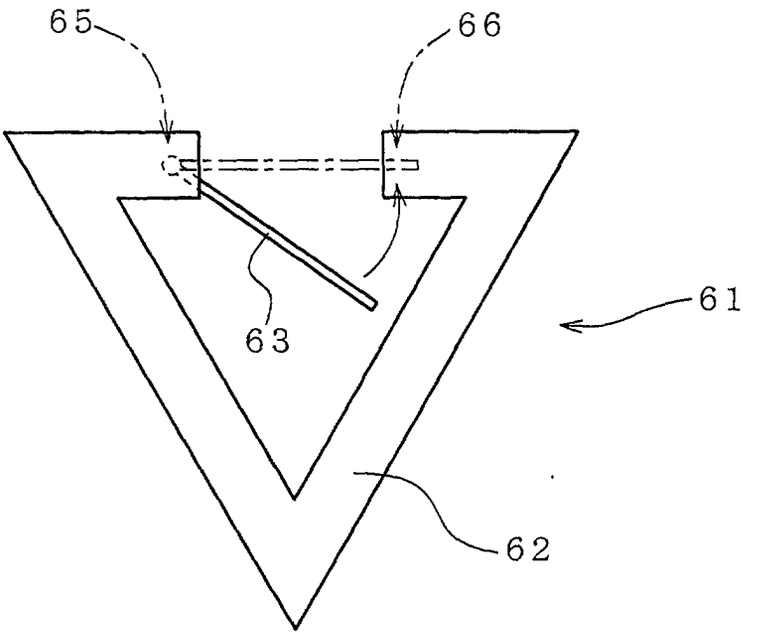

FIG. 28

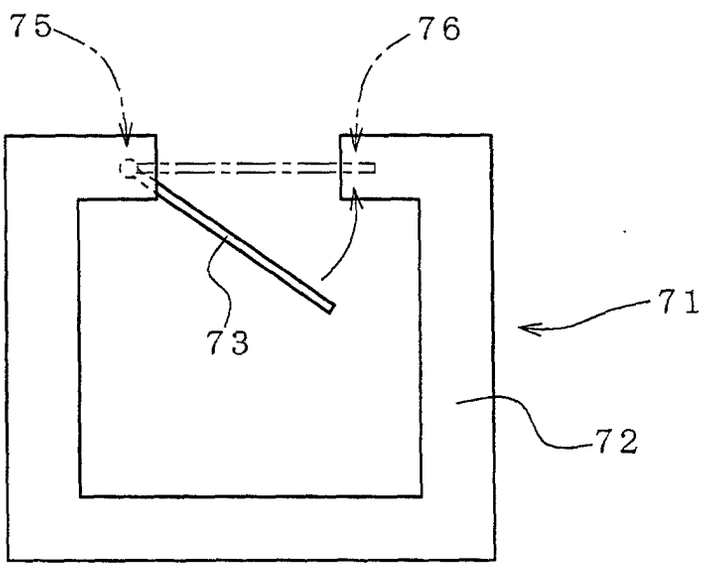

FIG. 29

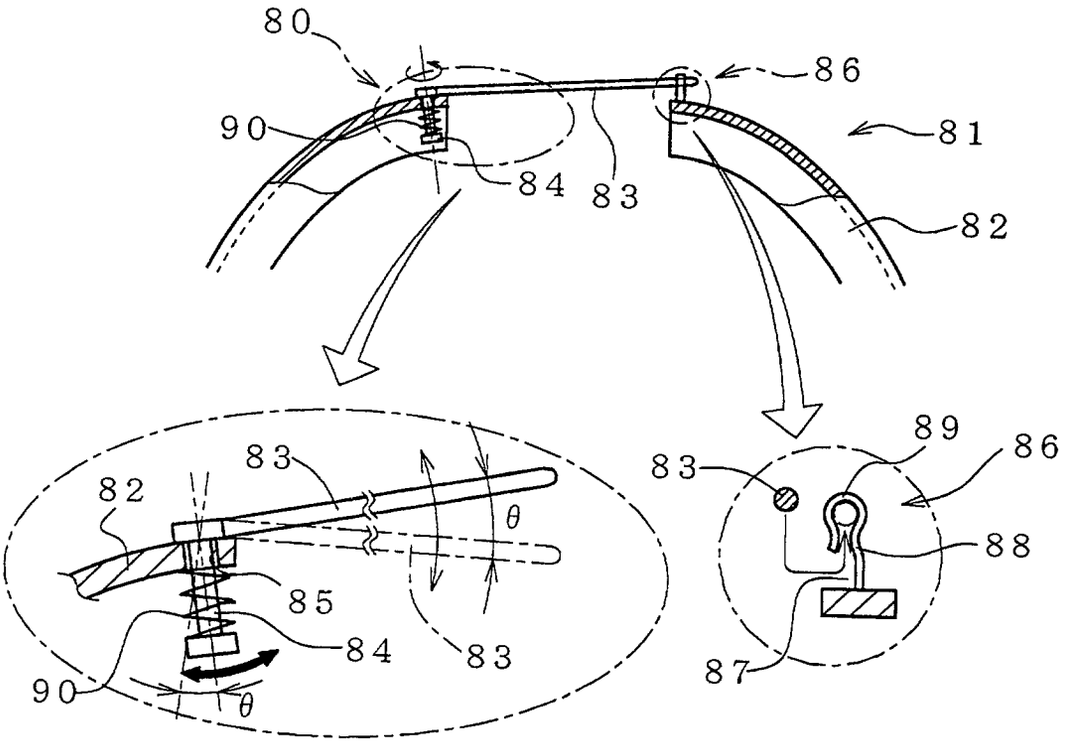
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FIG. 30

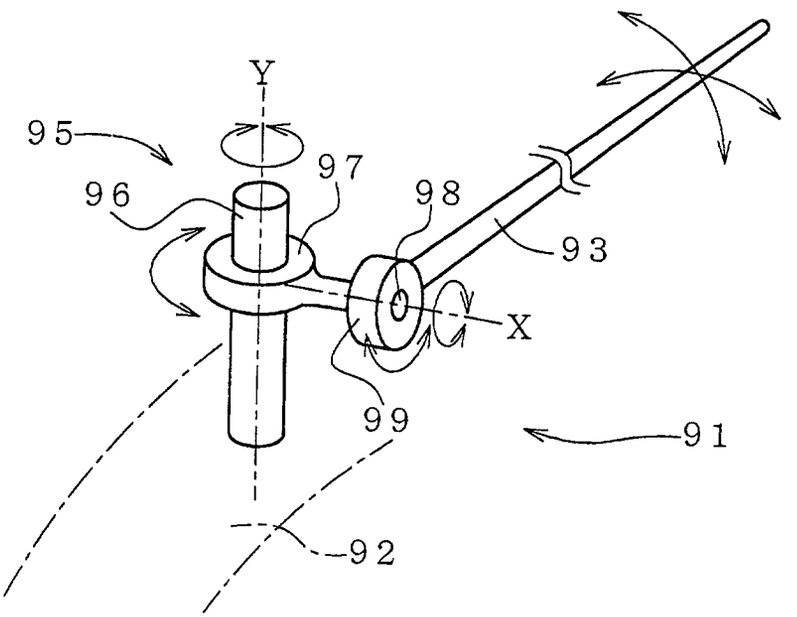
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FIG. 31

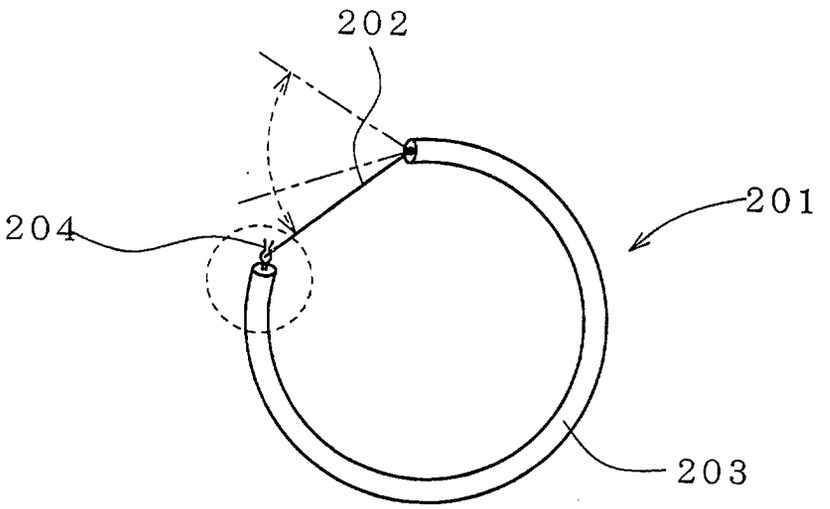
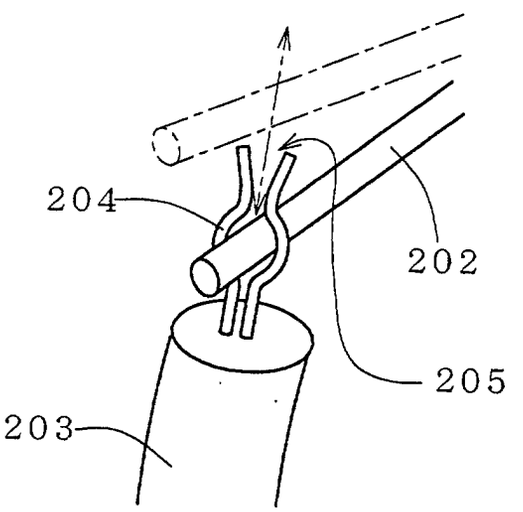


FIG. 32



INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP98/02118

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl[6] A44C7/00

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl[6] A44C7/00

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1940-1996 Toroku Jitsuyo Shinan Koho 1994-1998
Kokai Jitsuyo Shinan Koho 1971-1998 Jitsuyo Shinan Toroku Koho 1996-1998

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.
	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 104123/1988 (Laid-open No. 26510/1990) (K.K. Yamakatsu), February 21, 1990 (21. 02. 90),	
X	Full text ; Figs. 1 to 4	1-4
Y	Full text ; Figs. 1 to 4 (Family: none)	5-6
	JP, 9-266804, A (Shinichi Mitsui), October 14, 1997 (14. 10. 97),	
X	Column 3, line 41 to column 4, line 27 ; Figs. 1 to 4	1
Y	Column 3, line 41 to column 4, line 27 ; Figs. 1 to 4 (Family: none)	2-6
	JP, 4-14023, Y2 (K.K. Kikushima), March 31, 1992 (31. 03. 92),	
X	Column 3, line 21 to column 4, line 17 ; Figs. 1 to 4	1
Y	Column 3, line 21 to column 4, line 17 ; Figs. 1 to 4 (Family: none)	2-6

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

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document but published on or after the international filing date
"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)
"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
"T" 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
"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
"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
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
August 7, 1998 (07. 08. 98)	August 18, 1998 (18. 08. 98)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer
Facsimile No.	Telephone No.

Form PCT/ISA/210 (second sheet) (July 1992)