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(54) **FAUCET INSTALLING ASSEMBLY**

WASSERHAHNINSTALLATIONSANORDNUNG

ENSEMBLE D'INSTALLATION DE ROBINET

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Description

FIELD OF THE INVENTION

[0001] The present invention relates to a faucet installing assembly according to the preamble of claim 1, that is mounted on a wash basin or a kitchen sink quick, easy and simple.

BACKGROUND OF THE INVENTION

[0002] A conventional faucet is installed in a narrow space below a basin which is located in a kitchen or a bathroom.

[0003] A positioning structure for a faucet disclosed in US Patent No. 8,763,175 B2 is fixed on the basin from an upper end of the basin. The faucet contains a body and a fixing device for installing the faucet on the basin from the upper end of the basin. The fixing device includes a mounting seat, two screw rods, and two clamping blocks. The mounting seat is inserted into an orifice on the basin and is employed to fix the body and to insert a supply pipe assembly. The supply pipe assembly has a first inlet pipe for flowing cold water, a second inlet pipe for flowing hot water and an inflow pipe for flowing a mixed water of the cold water and the cold water. The two screw rods are rotated to insert through the mounting seat from the orifice and are fixed by the two clamping blocks. When the two screw rods are rotated above the basin, they are positioned by the two clamping blocks and two stop stems on the mounting seat, such that the two clamping blocks are driven to force a bottom face of the basin, and the fixing seat and the body are clamped on the basin.

[0004] When the channel of some faucets is located at a low position of the faucets to connect with two inlet pipes, two connectors of the cold-water pipe and the hot-water pipe interference the base of the fixing device, so the base has to be re-designed. For example, an opening of an accommodating tunnel is re-designed so that the two connectors made of copper are accommodated in the accommodating tunnel. But a positioning rod and a clamping block are moved to influence their positioning effect.

[0005] A conventional faucet installing assembly is disclosed in US 6, 328,059 B1 and contains an insertion block inserted into a fixing orifice (301) of the basin, two inlet pipes connecting with a bottom face of the basin through the insertion block, and a faucet device located above the basin. The insertion block extends out of the basin and is fixed in the faucet device. The faucet installing assembly further contains a connecting device for fixing the insertion block on the basin. The connecting device includes a screwing bolt inserting through the insertion block and a fixer rotatably connected with the screwing bolt. The fixer has two flexible pads and is manually rotated toward an inserting position, such that the fixer passes through the fixing orifice of the basin to press one of the two flexible pads. The fixer rotates toward a stopping position by using the two flexible pads, such that when the screwing bolt is rotated, the fixer moves along the screwing bolt to contact with a bottom face of the basin, and the insertion block is fixed on the basin quickly and easily, thus positioning the faucet device on the basin.

[0006] Nevertheless, the connecting device has to cooperate with the insertion block, and the faucet device can only be fixed on the basin, after the insertion block is disposed. Since the insertion block is a part of a cold-water channel and a hot-water channel or a coupling pipe, water leakage will occur. Furthermore, the insertion block is removed from the faucet device troublesomely.

[0007] The fixer of the connecting device moves upward along the screwing bolt by using the cold-water inlet pipe or the hot-water inlet pipe, yet the fixer is stuck in a gap between the cold-water inlet pipe and the hot-water pipe.

[0008] The present invention has arisen to mitigate and/or obviate the afore-described disadvantages.

SUMMARY OF THE INVENTION

[0009] One aspect of the present invention is to provide a faucet installing assembly according to claim 1 which is mounted on a basin of a kitchen sink or a wash basin in a bathroom quickly and quickly.

[0010] To obtain the above aspects, a faucet installing assembly provided by the present invention comprises: a faucet device and a fixing device; the fixing device including a base, a screwing bolt, a connecting bolt, and an affixing mount.

[0011] The base includes an insertion portion for inserting into a fixing orifice of a basin and includes an extending portion formed on a top end of the insertion portion and extending out of a top face of the basin. The extending portion has a positioning rib extending outwardly from a peripheral side thereof to contact with the top face of the basin above the fixing orifice of the basin. The extending portion has a groove defined therein, a bottom fringe formed on a bottom end of the groove, an opening adjacent to the bottom fringe, and a through orifice defined on the bottom fringe. The insertion portion has a peripheral fence, an accommodating trench defined in the peripheral fence and communicating with the opening, an operating space formed on an outer surface of the peripheral fence, and an isolation fence formed on an inner surface of the peripheral fence relative to the operating space.

[0012] The screwing bolt includes a circular tab extending out of and retaining with the bottom fringe, and the screwing bolt also includes a threaded extension extending into the operating space through the through orifice of the base.

[0013] The connecting bolt includes a threaded aperture defined therein and screwing with the threaded extension of the screwing bolt.

[0014] The affixing mount is in an elongated frame

shape and includes two opposite side cliffs to rotatably connect with the connecting bolt, and the affixing mount also includes a bottom cliff defined between the two side cliffs. The bottom cliff has a through hole defined thereon to insert through the threaded extension. The affixing mount rotates between an inserting position and a stopping position along the connecting bolt, and when the affixing mount is rotated toward the inserting position, it passes through the fixing orifice of the basin. When the affixing mount is rotated toward the stopping position, the screwing bolt is rotated on the basin and is limited by the isolation fence; and when the connecting bolt moves upward along the threaded extension of the screwing bolt, the affixing mount moves upward along the threaded extension of the screwing bolt to contact with a bottom face of the basin tightly.

[0015] The faucet device includes a fitting orifice defined on a bottom thereof and is mounted on the base. The faucet device also includes a channel defined therein, two connectors disposed on the bottom end thereof relative to the accommodating trench of the base, and two inlet pipes, each of which is in connection with each of the two connectors and is inserted through the accommodating trench of the base.

[0016] Accordingly, the faucet installing assembly of the present invention contains advantages as follows:

1. The fixing device and the faucet device are mounted on the basin easily and quickly.
2. The fixing device is adapted for the faucet device of various specifications, such as the channel defined at a low position of the faucet device, hence the channel, the two connectors, and the two inlet pipes are not re-designed, and the faucet device is mounted on the basin by means of the fixing device.
3. The isolation fence of the base limits a rotation of the affixing mount so that the affixing mount moves along the screwing bolt and separates from the two inlet pipes, and the affixing mount is not stuck in a gap between the two inlet pipes as rotating toward the stopping position from the inserting position.
4. After the affixing mount moves through the fixing orifice, the returning member (such as the pad or the two torsion springs) forces the affixing mount to move back to the stopping position from the inserting position by using the pad or the two torsion springs, thus contacting the affixing mount with the bottom face of the basin.
5. The guiding cliff of the affixing mount cooperates with the bushing of the screwing bolt so that the screwing bolt is rotated to force the affixing mount to rotate toward the stopping position from the inserting position and then to contact with the bottom face of the basin tightly, after the affixing mount moves through the fixing orifice. Moreover, the guiding cliff is one piece formed on the affixing mount to reduce production cost.
6. The affixing mount stably moves upward along the solation fence by ways of the magnetic attracting member (60) to contact with the basin securely, and the screwing bolt is rotated stably by using the affixing mount.
7. The affixing mount stably moves upward along the solation fence by means of the sliding structure, and the screwing bolt is rotated smoothly, such that the affixing mount contacts with the basin fixedly. Preferably, the sliding structure has the magnetic attraction to enhance operating stability of the connecting bolt.

BRIEF DESCRIPTION OF THE DRAWINGS

[0017]

FIG 1 is a perspective view showing a faucet installing assembly being mounted on a basin according to a first embodiment of the present invention.

FIG. 2 is a cross-sectional perspective view showing the faucet installing assembly being mounted on the basin according to the first embodiment of the present invention.

FIG. 3 is a perspective view showing the exploded components of a fixing device of the faucet installing assembly according to the first embodiment of the present invention.

FIG. 4 is a perspective view showing the assembly of the fixing device of the faucet installing assembly according to the first embodiment of the present invention, wherein an affixing mount is located at a stopping position.

FIG. 5 is another perspective view showing the assembly of the fixing device of the faucet installing assembly according to the first embodiment of the present invention, wherein the affixing mount is located at the stopping position.

FIG. 6 is a cross-sectional perspective view showing the operation of the fixing device of the faucet installing assembly according to the first embodiment of the present invention.

FIG. 7 is another cross-sectional perspective view showing the operation of the fixing device of the faucet installing assembly according to the first embodiment of the present invention.

FIG. 8 is a cross sectional view showing the operation of the fixing device of the faucet installing assembly according to the first embodiment of the present invention.

FIG. 9 is another cross sectional view showing the operation of the fixing device of the faucet installing assembly according to the first embodiment of the present invention.

FIG. 10 is a perspective view showing the assembly of a faucet device of the faucet installing assembly and a positioning bolt according to the first embodiment of the present invention.

FIG. 11 is a cross-sectional perspective view show-

ing the assembly of a base and the positioning bolt of the faucet installing assembly and the positioning bolt according to the first embodiment of the present invention.

FIG. 12 is a perspective view showing the assembly of a fixing device of a faucet installing assembly according to a second embodiment of the present invention.

FIG. 13 is a perspective view showing the exploded components of the fixing device of the faucet installing assembly according to the second embodiment of the present invention.

FIG. 14 is a side plan view showing the operation of the fixing device of the faucet installing assembly according to the second embodiment of the present invention, wherein an affixing mount automatically rotates toward a stopping position from an inserting position.

FIG. 15 is a perspective view showing the assembly of a fixing device of a faucet installing assembly according to a third embodiment of the present invention.

FIG. 16 is a perspective view showing the exploded components of the fixing device of the faucet installing assembly according to the third embodiment of the present invention.

FIG. 17 is a side plan view showing the operation of the fixing device of the faucet installing assembly according to the third embodiment of the present invention, wherein an affixing mount automatically rotates toward a stopping position from an inserting position.

FIG. 18 is a perspective view showing the assembly of a fixing device of a faucet installing assembly according to a fourth embodiment of the present invention.

FIG. 19 is a perspective view showing the exploded components of the fixing device of the faucet installing assembly according to the fourth embodiment of the present invention.

FIG. 20 is a perspective view showing the assembly of an affixing mount of the faucet installing assembly according to the fourth embodiment of the present invention.

FIG. 21 is a cross-sectional perspective view showing the assembly of the affixing mount of the faucet installing assembly according to the fourth embodiment of the present invention.

FIG. 22 is a cross sectional view showing the operation of the fixing device of the faucet installing assembly according to the fourth embodiment of the present invention.

FIG. 23 is another cross sectional view showing the operation of the fixing device of the faucet installing assembly according to the fourth embodiment of the present invention.

FIG. 24 is a perspective view showing the assembly of a part of a fixing device and a sliding structure of the faucet installing assembly according to a fifth embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0018] With reference to FIGS. 1 and 2, a faucet installing assembly 1 according to a first embodiment of the present invention comprises: a fixing device 100 and a faucet device 200. Referring to FIGS. 3-7, the fixing device 100 includes a base 10, a screwing bolt 20, a connecting bolt 30, and an affixing mount 40.

[0019] The base 10 includes an insertion portion 11 for inserting into a fixing orifice 301 of a basin 300 and includes an extending portion 12 formed on a top end of the insertion portion 11 and extending out of a top face 302 of the basin 300. The extending portion 12 has a positioning rib 121 extending outwardly from a peripheral side thereof to contact with the top face 302 of the basin 300 above the fixing orifice 301 of the basin 300.

[0020] The extending portion 12 has a groove 122 defined therein, a bottom fringe 123 formed on a bottom end of the groove 122, an opening 124 adjacent to the bottom fringe 123, and a through orifice 125 defined on the bottom fringe 123. The insertion portion 11 has a peripheral fence 111, an accommodating trench 112 defined in the peripheral fence 111 and communicating with the opening 124, an operating space 113 formed on an outer surface of the peripheral fence 111, and an isolation fence 114 formed on an inner surface of the peripheral fence 111 relative to the operating space 113. The peripheral fence 111 has a locating fence 115 defined on an upper end thereof to contact with an inner wall of the fixing orifice 301 of the basin 300, such that the base 10 is limited to move laterally on the basin 300.

[0021] The screwing bolt 20 includes a circular tab 21 extending out of and retaining with the bottom fringe 123, and the screwing bolt 20 also includes a threaded extension 22 extending into the operating space 113 through the through orifice 125 of the base 10.

[0022] The connecting bolt 30 includes a threaded aperture 31 defined therein and screwing with the threaded extension 22 of the screwing bolt 20.

[0023] The affixing mount 40 is in an elongated frame shape and includes two opposite side cliffs 41 to rotatably connect with the connecting bolt 30, the affixing mount 40 also includes a bottom cliff 42 defined between the two side cliffs 41; wherein the bottom cliff 42 has a through hole 43 defined thereon to insert through the threaded extension 22. The affixing mount 40 rotates between an inserting position PI and a stopping position P2 along the connecting bolt 30, as shown in FIG. 8. When the affixing mount 40 is rotated toward the inserting position P1, it passes through the fixing orifice 301 of the basin 300, and when the affixing mount 40 is rotated toward the stopping position P2, the screwing bolt 20 is rotated on the basin 300 and is limited by the isolation fence 114, as illustrated in FIGS. 6 and 9, and when the connecting

bolt 30 moves upward along the threaded extension 22 of the screwing bolt 20, the affixing mount 40 moves upward along the threaded extension 22 of the screwing bolt 20 to contact with a bottom face 303 of the basin 300 tightly.

[0024] As illustrated in FIGS. 1, 2 and 10, the faucet device 200 includes a fitting orifice 201 defined on a bottom thereof and is mounted on the base 10. The faucet device 200 also includes a channel 202 defined therein, two connectors 203 disposed on the bottom end thereof relative to the accommodating trench 112 of the base 10, and two inlet pipes 204, each of which is in connection with each of the two connectors 203 and is inserted through the accommodating trench 112 of the base 10, wherein one of the two connectors 203 is a cold-water connector, and the other of the two connectors 203 is a hot-water connector; one of the two inlet pipes 204 is a cold-water inlet pipe, and the other of the two inlet pipes 204 is a hot-water inlet pipe.

[0025] With reference to FIGS. 3 and 4, the fixing device 100 further includes a returning member 50 which is a pad 51 made of foam and is accommodated in a slot 44 defined by the two opposite side cliffs 41 and the bottom cliff 42 of the affixing mount 40, such that when the affixing mount 40 is manually rotated toward the inserting portion P1 from the stopping position P2, the pad 51 is pressed by the threaded extension 22 of the screwing bolt 20 to deform flexibly, as shown in FIG. 8, and the pad 51 forces the affixing mount 40 to rotate back to the stopping position P2 via the fixing orifice 301.

[0026] Referring to FIGS. 3 and 6, the fixing device 100 further includes a magnetic attracting member 60 defined between the connecting bolt 30 and the isolation fence 114 of the base 10, such that the connecting bolt 30 contacts with the isolation fence 114 and moves upward along the screwing bolt 20.

[0027] The magnetic attracting member 60 has a first attraction part 61 formed in the connecting bolt 30 and has a second attraction part 62 formed on the isolation fence 114. The first attraction part 61 is one of a magnetic iron and a magnetic attracting material, and the second attraction part 62 is the other of the magnetic iron and the magnetic attracting material. In this embodiment, the first attraction part 61 is the magnetic iron retained in the connecting bolt 30 relative to the isolation fence 114, and the second attraction part 62 is an attraction strap made of the magnetic attracting material, such as iron or steel. In addition, the second attraction part 62 is located in a moving path of the connecting bolt 30.

[0028] Accordingly, the base 10 or the isolation fence 114 is made of magnetic attracting material so as to form the second attraction part 62 in the moving path of the connecting bolt 30.

[0029] As shown in FIGS. 3 and 10, the extending portion 12 of the base 10 has a longitudinal locking block 126 and a locking notch 127 which are arranged on two opposite positions of the extending portion 12 of the base 10. The faucet device 200 also includes a coupling sleeve 205, the coupling hole 201 defined in the coupling sleeve 205, and a vertical recess 206 formed in the coupling hole 201, such that the longitudinal locking block 126 of the base 10 retains with the vertical recess 206 to limit a rotation of the faucet device 200. Furthermore, a positioning bolt 207 inserts through the coupling sleeve 205 to abut against the locking notch 127, such that a longitudinal movement of the faucet device 200 on the base 10 is limited.

[0030] To fix the faucet installing assembly 1 on the basin 300, the affixing mount 40 of the fixing device 100 is manually rotated toward the inserting position P1, the inserting portion 11 of the base 10 is inserted into the fixing orifice 301 of the basin 300 with the affixing mount 40, wherein when the positioning rib 121 of the extending portion 12 abuts against the top face 302 of the basin 300, the affixing mount 40 is forced by the pad 51 to automatically rotate back to the stopping position P2, as illustrated in FIG. 8.

[0031] Thereafter, the screwing bolt 20 is rotated by a screwdriver to force the affixing mount 40 to move upward along the threaded extension 22 of the screwing bolt 20 by ways of the magnetic attracting member 60 until the affixing mount 40 contacts with the bottom face 303 of the basin 300 tightly, as illustrated in FIG 9, thus fixing the faucet installing assembly 1 on the basin 300 by using the fixing device 100.

[0032] Thereafter, the vertical recess 206 of the faucet device 200 is aligned with the longitudinal locking block 126 of the base 10, and the two inlet pipes 204 are inserted through the groove 122, the opening 124 and the accommodating trench 112 of the base 10 so that the coupling hole 201 retains with the base 10 of the fixing device 100, and the positioning bolt 207 is rotated tightly to abut against the locking notch 127 as shown in FIGS. 2 and 11, hence the faucet installing assembly 1 is mounted on the basin 300.

[0033] With reference to FIGS. 12 and 14, a difference of a faucet installing assembly 1 of a second embodiment from that of the first embodiment comprises:

the returning member 50 being a torsion spring 52 fitted on the threaded extension 22 of the screwing bolt 20 proximate to the connecting bolt 30, wherein the torsion spring 52 has a free segment 521, such that when the affixing mount 40 is manually rotated toward the inserting position P1 from the stopping position P2, the free segment 521 is deformed flexibly by the bottom cliff 42 of the affixing mount 40 to push the affixing mount 40 to automatically move back to the stopping position P2 via the fixing orifice 301 of the basin 300.

[0034] With reference to FIGS. 15 and 17, a difference of a faucet installing assembly 1 of a third embodiment from that of the first embodiment comprises:

the returning member 50 being a torsion spring 53 fitted on the threaded extension 22 of the screwing bolt 20, wherein a first free segment 531 of the torsion spring 53 is inserted into the connecting bolt 30, and a second free segment 532 of the torsion spring 53 is hooked on an

outer one of the two opposite side cliffs 41, such that when the affixing mount 40 is manually rotated toward the inserting position P1 from the stopping position P2, the torsion spring 53 pushes the affixing mount 40 to move back to the stopping position P2 via the fixing orifice 301 of the basin 300.

[0035] Referring to FIGS. 18 and 21, a difference of a faucet installing assembly 1 of a fourth embodiment from that of the first embodiment comprises:

an affixing mount 40 including a guiding cliff 45 to replace the returning member 50 of the first embodiment, wherein the guiding cliff 45 is in connection with the two opposite side cliffs 41 and has an arcuate forcing face 451 defined on an inner surface thereof adjacent to the through hole 43, such that when the affixing mount 40 is located at the inserting position P1, the guiding cliff 45 is close to a distal end of the threaded extension 22 of the screwing bolt 20, as shown in FIG. 22. When the connecting bolt 30 is rotated with the screwing bolt 20 to move upward along the threaded extension 22 of the screwing bolt 20, the distal end of the threaded extension 22 slides on the arcuate forcing face 451 to force the affixing mount 40 to rotate toward the stopping position P2 as illustrated in FIG. 23 or to force the affixing mount 40 to contact with the bottom face 303 of the basin 300 and to locate at the stopping position P2.

[0036] Preferably, the distal end of the threaded extension 22 of the screwing bolt 20 has a bushing 23 fitted thereon, and wherein the bushing 23 has an arcuate face 231 sliding on the arcuate forcing face 451 smoothly. The bushing 23 is screwed with or is adhered with the threaded extension 22 of the screwing bolt 20.

[0037] As illustrated in FIG. 24, a difference of a faucet installing assembly 1 of a fourth embodiment from that of the first embodiment comprises:

a sliding structure 70 for replacing the magnetic attracting member 60 of the first embodiment. The sliding structure 70 is mounted between the connecting bolt 30 and the isolation fence 114 so that the connecting bolt 30 moves upward along the threaded extension 22 of the screwing bolt 20 and the isolation fence 114 of the base 10.

[0038] Preferably, the sliding structure 70 has a trough 71 and a slidable protrusion 72. For example, the trough 71 is defined on the isolation fence 114, and the slidable protrusion 72 extends outwardly from one end of the connecting bolt 30 relative to the isolation fence 114.

[0039] Of course, the sliding structure 70 has magnetic attraction so that the slidable protrusion 72 magnetically contacts with and moves along the trough 71.

[0040] Accordingly, the faucet installing assembly 1 of the present invention contains advantages as follows:

1. The fixing device 100 and the faucet device 200 are mounted on the basin 300 easily and quickly.
2. The fixing device 100 is adapted for the faucet device 200 of various specifications, such as the channel 202 defined at a low position of the faucet device 200, hence the channel 202, the two connectors 203, and the two inlet pipes 204 are not re-designed, and the faucet device 200 is mounted on the basin 300 by means of the fixing device 100.
3. The isolation fence 114 of the base 10 limits a rotation of the affixing mount 40 so that the affixing mount 40 moves along the screwing bolt 20 and separates from the two inlet pipes 204, and the affixing mount 40 is not stuck in a gap between the two inlet pipes 204 as rotating toward the stopping position P2 from the inserting position P1.
4. After the affixing mount 40 moves through the fixing orifice 301, the returning member 50 (such as the pad 51 or the two torsion springs 52, 53) forces the affixing mount 40 to move back to the stopping position P2 from the inserting position P1 by using the pad 51 or the two torsion springs 52, 53, thus contacting the affixing mount 40 with the bottom face 303 of the basin 300.
5. The guiding cliff 45 of the affixing mount 40 cooperates with the bushing 23 of the screwing bolt 20 so that the screwing bolt 20 is rotated to force the affixing mount 40 to rotate toward the stopping position P2 from the inserting position P1 and then to contact with the bottom face 303 of the basin 300 tightly, after the affixing mount 40 moves through the fixing orifice 301. Moreover, the guiding cliff 45 is one piece formed on the affixing mount 40 to reduce production cost.
6. The affixing mount 40 stably moves upward along the solation fence 114 by ways of the magnetic attracting member 60 to contact with the basin 300 securely, and the screwing bolt 20 is rotated stably by using the affixing mount 40.
7. The affixing mount 40 stably moves upward along the solation fence 114 by means of the sliding structure 70, and the screwing bolt 20 is rotated smoothly, such that the affixing mount 40 contacts with the basin 300 fixedly. Preferably, the sliding structure 70 has the magnetic attraction to enhance operating stability of the connecting bolt 30.

[0041] While the preferred embodiments of the invention have been set forth for the purpose of disclosure, modifications of the disclosed embodiments of the invention as well as other embodiments thereof may occur to those skilled in the art. The scope of the claims should not be limited by the preferred embodiments set forth in the examples, but should be given the broadest interpretation consistent with the description as a whole.

Claims

1. A faucet installing assembly (1) comprising:

a faucet device (200) and a fixing device (100); the fixing device (100) including a base (10), a screwing bolt (20), a connecting bolt (30), and

an affixing mount (40), wherein
the base (10) includes an insertion portion (11) for inserting into a fixing orifice (301) of a basin (300) and includes an extending portion (12) formed on a top end of the insertion portion (11) and for extending out of a top face (302) of the basin (300); the extending portion (12) has a positioning rib (121) extending outwardly from a peripheral side thereof to contact with the top face (302) of the basin (300) above the fixing orifice (301) of the basin (300); the extending portion (12) has a groove (122) defined therein, a bottom fringe (123) formed on a bottom end of the groove (122), an opening (124) adjacent to the bottom fringe (123), and a through orifice (125) defined on the bottom fringe (123); the insertion portion (11) has a peripheral fence (111), an accommodating trench (112) defined in the peripheral fence (111) and communicating with the opening (124), an operating space (113) formed on an outer surface of the peripheral fence (111), and an isolation fence (114) formed on an inner surface of the peripheral fence (111) relative to the operating space (113);
the screwing bolt (20) includes a circular tab (21) extending out of and retaining with the bottom fringe (123), and the screwing bolt (20) also includes a threaded extension (22) extending into the operating space (113) through the through orifice (125) of the base (10);
the connecting bolt (30) includes a threaded aperture (31) defined therein and screwing with the threaded extension (22) of the screwing bolt (20);
the faucet device (200) including a fitting orifice (201) defined on a bottom thereof and being mounted on the base (10);
the faucet device (200) further including a channel (202) defined therein, two connectors (203) disposed on the bottom end thereof relative to the accommodating trench (112) of the base (10), and two inlet pipes (204), each of which is in connection with each of the two connectors (203) and is inserted through the accommodating trench (112) of the base (10);
characterised in that
the affixing mount (40) is in an elongated frame shape and includes two opposite side cliffs (41) to rotatably connect with the connecting bolt (30), the affixing mount (40) also includes a bottom cliff (42) defined between the two side cliffs (41); wherein the bottom cliff (42) has a through hole (43) defined thereon to insert through the threaded extension (22); the affixing mount (40) in use, rotates between an inserting position (P1) and a stopping position (P2) along the connecting bolt (30); when the affixing mount (40) is rotated toward the inserting position (P1), it passes through the fixing orifice (301) of the basin (300); when the affixing mount (40) is rotated toward the stopping position (P2), the screwing bolt (20) is rotated on the basin (300) and is limited by the isolation fence (114); and when the connecting bolt (30) moves upward along the threaded extension (22) of the screwing bolt (20), the affixing mount (40) moves upward along the threaded extension (22) of the screwing bolt (20) to contact with a bottom face (303) of the basin (300) tightly;
the faucet device (200) including a fitting orifice (201) defined on a bottom thereof and is mounted on the base (10); the faucet device (200) also including a channel (202) defined therein, two connectors (203) disposed on the bottom end thereof relative to the accommodating trench (112) of the base (10), and two inlet pipes (204), each of which is in connection with each of the two connectors (203) and is inserted through the accommodating trench (112) of the base (10).

2. The faucet installing assembly (1) as claimed in claim 1, wherein the peripheral fence (111) has a locating fence (115) defined on an upper end thereof to contact with an inner wall of the fixing orifice (301) of the basin (300), such that the base (10) is limited to move laterally on the basin (300).

3. The faucet installing assembly (1) as claimed in claim 1, wherein the two opposite side cliffs (41) and the bottom cliff (42) of the affixing mount (40) define a slot (44); the fixing device (100) further includes a pad (51) accommodated in the slot (44), such that when the affixing mount (40) is manually rotated toward the inserting portion from the stopping position (P2), the pad (51) is pressed by the threaded extension (22) of the screwing bolt (20) to deform flexibly, and the pad (51) forces the affixing mount (40) to rotate back to the stopping position (P2) via the fixing orifice (301).

4. The faucet installing assembly (1) as claimed in claim 1, wherein the fixing device (100) further includes a torsion spring (52) fitted on the threaded extension (22) of the screwing bolt (20) proximate to the connecting bolt (30), wherein the torsion spring (52) has a free segment, such that when the affixing mount (40) is manually rotated toward the inserting position (P1) from the stopping position (P2), the free segment is deformed flexibly by the bottom cliff (42) of the affixing mount (40) to push the affixing mount (40) to automatically move back to the stopping position (P2) via the fixing orifice (301) of the basin (300).

5. The faucet installing assembly (1) as claimed in claim 1, wherein the fixing device (100) further includes a

torsion spring (53) fitted on the threaded extension (22) of the screwing bolt (20), wherein a first free segment (531) of the torsion spring (53) is inserted into the connecting bolt (30), and a second free segment (532) of the torsion spring (53) is hooked on an outer one of the two opposite side cliffs (41), such that when the affixing mount (40) is manually rotated toward the inserting position (P1) from the stopping position (P2), the torsion spring (53) pushes the affixing mount (40) to move back to the stopping position (P2) via the fixing orifice (301) of the basin (300).

6. The faucet installing assembly (1) as claimed in claim 1, wherein the fixing device (100) further includes a magnetic attracting member (60) defined between the connecting bolt (30) and the isolation fence (114) of the base (10), such that the connecting bolt (30) contacts with the isolation fence (114) and moves upward along the screwing bolt (20).

7. The faucet installing assembly (1) as claimed in claim 6, wherein the magnetic attracting member (60) has a first attraction part (61) formed in the connecting bolt (30) and has a second attraction part (62) formed on the isolation fence (114).

8. The faucet installing assembly (1) as claimed in claim 7, wherein the first attraction part (61) is one of a magnetic iron and a magnetic attracting material, and the second attraction part (62) is the other of the magnetic iron and the magnetic attracting material.

9. The faucet installing assembly (1) as claimed in claim 8, wherein the first attraction part (61) is the magnetic iron retained in the connecting bolt (30) relative to the isolation fence (114), and the second attraction part (62) is the magnetic attracting material and is located in a moving path of the connecting bolt (30).

10. The faucet installing assembly (1) as claimed in claim 9, wherein the second attraction part (62) is an attraction strap made of the magnetic attracting material.

11. The faucet installing assembly (1) as claimed in claim 1, wherein the affixing mount (40) includes a guiding cliff (45), and the guiding cliff (45) is in connection with the two opposite side cliffs (41) and has an arcuate forcing face (451) defined on an inner surface thereof adjacent to the through hole (43), such that when the affixing mount (40) is located at the inserting position (P1), the guiding cliff (45) is close to a distal end of the threaded extension (22) of the screwing bolt (20); and when the connecting bolt (30) is rotated with the screwing bolt (20) to move upward along the threaded extension (22) of the screwing bolt (20), the distal end of the threaded extension (22) slides on the arcuate forcing face (451) to force the affixing mount (40) to rotate toward the stopping position (P2) or to force the affixing mount (40) to contact with the bottom face (303) of the basin (300) and to locate at the stopping position (P2).

12. The faucet installing assembly (1) as claimed in claim 11, wherein the distal end of the threaded extension (22) of the screwing bolt (20) has a bushing (23) fitted thereon, and wherein the bushing (23) has an arcuate face (231) sliding on the arcuate forcing face (451) smoothly.

13. The faucet installing assembly (1) as claimed in claim 1, wherein the fixing device (100) further includes a sliding structure (70) mounted between the connecting bolt (30) and the isolation fence (114) so that the connecting bolt (30) moves upward along the threaded extension (22) of the screwing bolt (20) and the isolation fence (114) of the base (10).

14. The faucet installing assembly (1) as claimed in claim 13, wherein the sliding structure (70) has a trough (71) and a slidable protrusion (72).

15. The faucet installing assembly (1) as claimed in claim 14, wherein the trough (71) is defined on the isolation fence (114), and the slidable protrusion (72) extends outwardly from one end of the connecting bolt (30) relative to the isolation fence (114).

16. The faucet installing assembly (1) as claimed in claim 14, wherein the slidable protrusion (72) magnetically contacts with and moves along the trough (71).

17. The faucet installing assembly (1) as claimed in claim 1, wherein the extending portion (12) of the base (10) has a longitudinal locking block (126) and a locking notch (127) which are arranged on two opposite positions of the extending portion (12) of the base (10); the faucet device (200) also includes a coupling sleeve (205), the coupling hole (201) defined in the coupling sleeve (205), and a vertical recess (206) formed in the coupling hole (201), such that the longitudinal locking block (126) of the base (10) retains with the vertical recess (206) to limit a rotation of the faucet device (200); and a positioning bolt (207) inserts through the coupling sleeve (205) to abut against the locking notch (207), such that a longitudinal movement of the faucet device (200) on the base (10) is limited.

Patentansprüche

1. Wasserhahninstallationsbaugruppe (1), umfassend:

eine Wasserhahnvorrichtung (200) und eine Befestigungsvorrichtung (100),
wobei die Befestigungsvorrichtung (100) eine Basis (10), einen Schraubbolzen (20), einen Verbindungsbolzen (30) und eine Fixierungshalterung (40) beinhaltet, wobei
die Basis (10) einen Einsatzabschnitt (11) zum Einsetzen in einen Befestigungsdurchlass (301) eines Beckens (300) beinhaltet und einen sich erstreckenden Abschnitt (12) beinhaltet, der an einem oberen Ende des Einsatzabschnitts (11) gebildet ist und zum Sich-Erstrecken aus einer Oberseite (302) des Beckens (300) heraus dient, wobei der sich erstreckende Abschnitt (12) eine Positionierungsrippe (121) aufweist, die sich von einer Umfangsseite davon nach außen in den Kontakt mit der Oberseite (302) des Beckens (300) oberhalb des Befestigungsdurchlasses (301) des Beckens (300) erstreckt, wobei der sich erstreckende Abschnitt (12) eine darin definierte Kehle (122), einen unteren Rand (123), der an einem unteren Ende der Kehle (122) gebildet ist, eine Öffnung (124) angrenzend an den unteren Rand (123) und einen Durchgangsdurchlass (125), der an dem unteren Rand (123) definiert ist, beinhaltet, wobei der Einsatzabschnitt (11) eine Umfangsumfriedung (111), einen aufnehmenden Graben (112), der in der Umfangsumfriedung (111) definiert ist und mit der Öffnung (124) kommuniziert, einen Aktionsraum (113), der an einer Außenoberfläche der Umfangsumfriedung (111) gebildet ist, und eine Isolierumfriedung (114), die an einer Innenoberfläche der Umfangsumfriedung (111) relativ zu dem Aktionsraum (113) gebildet ist, beinhaltet,
wobei der Schraubbolzen (20) eine kreisrunde Nase (21) beinhaltet, die sich aus dem unteren Rand (123) heraus erstreckt und daran gehalten wird, und der Schraubbolzen (20) außerdem eine mit Gewinde versehene Erweiterung (22) beinhaltet, die sich durch den Durchgangsdurchlass (125) der Basis (10) in den Aktionsraum (113) hinein erstreckt,
wobei der Verbindungsbolzen (30) einen mit Gewinde versehenen Durchbruch (31) beinhaltet, der darin definiert ist und mit der mit Gewinde versehenen Erweiterung (22) des Schraubbolzens (20) eine Schraubverbindung eingeht,
wobei die Wasserhahnvorrichtung (200) einen Fittingdurchlass (201) beinhaltet, der an einem Boden davon definiert ist und an der Basis (10) montiert ist,
wobei die Wasserhahnvorrichtung (200) ferner einen darin definierten Kanal (202), zwei Verbindungsstücke (203), die am unteren Ende davon relativ zu dem aufnehmenden Graben (112) der Basis (10) angeordnet sind, und zwei Einlassrohre (204) beinhaltet, von denen jedes mit jedem der zwei Verbindungsstücke (203) verbunden ist und durch den aufnehmenden Graben (112) der Basis (10) hindurch eingesetzt ist,

dadurch gekennzeichnet, dass

die Fixierungshalterung (40) die Form eines länglichen Rahmens hat und zwei gegenüberliegende Seitenwände (41) zur drehenden Verbindung mit dem Verbindungsbolzen (30) beinhaltet, wobei die Fixierungshalterung (40) außerdem eine untere Wand (42) beinhaltet, die zwischen den zwei Seitenwänden (41) definiert ist, wobei die untere Wand (42) ein daran definiertes Durchgangsloch (43) zum Einsetzen der mit Gewinde versehenen Erweiterung (22) hindurch aufweist, wobei sich die Fixierungshalterung (40) im Gebrauch zwischen einer Einsetzposition (P1) und einer Stoppposition (P2) entlang des Verbindungsbolzens (30) dreht, wobei die Fixierungshalterung (40), wenn sie zu der Einsatzposition (P1) hin gedreht wird, den Befestigungsdurchlass (301) des Beckens (300) durchquert, wobei wenn die Fixierungshalterung (40) zu der Stoppposition (P2) hin gedreht wird, der Schraubbolzen (20) an dem Becken (300) gedreht wird und durch die Isolierumfriedung (114) begrenzt wird, und wobei, wenn sich der Verbindungsbolzen (30) entlang der mit Gewinde versehenen Erweiterung (22) des Schraubbolzens (20) nach oben bewegt, sich die Fixierungshalterung (40) entlang der mit Gewinde versehenen Erweiterung (22) des Schraubbolzens (20) nach oben in den festen Kontakt mit einer Unterseite (303) des Beckens (300) bewegt,
wobei die Wasserhahnvorrichtung (200) einen Fittingdurchlass (201) beinhaltet, der an einem Boden davon definiert ist und an der Basis (10) montiert ist, wobei die Wasserhahnvorrichtung (200) außerdem einen darin definierten Kanal (202), zwei Verbindungsstücke (203), die an dem unteren Ende davon relativ zu dem aufnehmenden Graben (112) der Basis (10) angeordnet sind, und zwei Einlassrohre (204) beinhaltet, von denen jedes mit jedem der zwei Verbindungsstücke (203) verbunden ist und durch den aufnehmenden Graben (112) der Basis (10) hindurch eingesetzt ist.

2. Wasserhahninstallationsbaugruppe (1) nach Anspruch 1, wobei die Umfangsumfriedung (111) eine Positionierungsumfriedung (115) aufweist, die an einem oberen Ende davon definiert ist, um in Kontakt mit einer Innenwand des Befestigungsdurchlasses (301) des Beckens (300) zu treten, so dass die Basis (10) darin eingeschränkt ist, sich seitlich auf dem

Becken (300) zu bewegen.

3. Wasserhahninstallationsbaugruppe (1) nach Anspruch 1, wobei die zwei gegenüberliegenden Seitenwände (41) und die untere Wand (42) der Fixierungshalterung (40) einen Schlitz (44) definieren, wobei die Befestigungsvorrichtung (100) ferner einen Block (51) beinhaltet, der in den Schlitz (44) aufgenommen ist, so dass, wenn die Fixierungshalterung (40) manuell aus der Stoppposition (P2) zu der Einsatzposition gedreht wird, der Block (51) durch die mit Gewinde versehene Erweiterung (22) des Schraubbolzens (20) gepresst wird, um sich flexibel zu verformen, und der Block (51) die Fixierungshalterung (40) zwingt, sich über den Befestigungsdurchlass (301) zurück zu der Stoppposition (P2) zu drehen.

4. Wasserhahninstallationsbaugruppe (1) nach Anspruch 1, wobei die Befestigungsvorrichtung (100) ferner eine Torsionsfeder (52) beinhaltet, die nahe dem Verbindungsbolzen (30) auf die mit Gewinde versehene Erweiterung (22) des Schraubbolzens (20) gesteckt ist, wobei die Torsionsfeder (52) ein freies Segment aufweist, so dass, wenn die Fixierungshalterung (40) manuell aus der Stoppposition (P2) zu der Einsatzposition (P1) gedreht wird, das freie Segment durch die untere Wand (42) der Fixierungshalterung (40) flexibel verformt wird, um die Fixierungshalterung (40) zu schieben, damit sie sich automatisch über den Befestigungsdurchlass (301) des Beckens (300) zurück zu der Stoppposition (P2) bewegt.

5. Wasserhahninstallationsbaugruppe (1) nach Anspruch 1, wobei die Befestigungsvorrichtung (100) ferner eine Torsionsfeder (53) beinhaltet, die auf die mit Gewinde versehene Erweiterung (22) des Schraubbolzens (20) aufgesteckt ist, wobei ein erstes freies Segment (531) der Torsionsfeder (53) in den Verbindungsbolzen (30) eingesetzt ist und ein zweites freies Segment (532) der Torsionsfeder (53) an einer äußeren der zwei gegenüberliegenden Seitenwände (41) eingehakt, so dass, wenn die Fixierungshalterung (40) manuell aus der Stoppposition (P2) zu der Einsatzposition (P1) gedreht wird, die Torsionsfeder (53) die Fixierungshalterung (40) schiebt, damit sie sich über den Befestigungsdurchlass (301) des Beckens (300) zurück zu der Stoppposition (P2) bewegt.

6. Wasserhahninstallationsbaugruppe (1) nach Anspruch 1, wobei die Befestigungsvorrichtung (100) ferner ein magnetisch anziehendes Element (60) beinhaltet, das zwischen dem Verbindungsbolzen (30) und der Isolierumfriedung (114) der Basis (10) definiert ist, so dass der Verbindungsbolzen (30) in Kontakt mit der Isolierumfriedung (114) gelangt und sich entlang des Schraubbolzens (20) nach oben bewegt.

7. Wasserhahninstallationsbaugruppe (1) nach Anspruch 6, wobei das magnetisch anziehende Element (60) einen ersten Anziehungsteil (61) aufweist, der in dem Verbindungsbolzen (30) gebildet ist, und einen zweiten Anziehungsteil (62) aufweist, der an der Isolierumfriedung (114) gebildet ist.

8. Wasserhahninstallationsbaugruppe (1) nach Anspruch 7, wobei der erste Anziehungsteil (61) eines von einem magnetischen Eisen und einem magnetisch anziehenden Material ist und der zweite Anziehungsteil (62) das andere von dem magnetischen Eisen und dem magnetisch anziehenden Material ist.

9. Wasserhahninstallationsbaugruppe (1) nach Anspruch 8, wobei der Anziehungsteil (61) das magnetische Eisen ist, das in dem Verbindungsbolzen (30) relativ zu der Isolierumfriedung (114) gehalten wird, und der zweite Anziehungsteil (62) das magnetisch anziehende Material ist und sich in einer Bewegungsbahn des Verbindungsbolzens (30) befindet.

10. Wasserhahninstallationsbaugruppe (1) nach Anspruch 9, wobei der zweite Anziehungsteil (62) ein Anziehungsstreifen ist, der aus dem magnetisch anziehenden Material besteht.

11. Wasserhahninstallationsbaugruppe (1) nach Anspruch 1, wobei die Fixierungshalterung (40) eine Führungswand (45) beinhaltet, wobei die Führungswand (45) in Verbindung mit den zwei gegenüberliegenden Seitenwänden (41) steht und eine bogenförmige zwingende Fläche (451) aufweist, die an einer Innenoberfläche davon angrenzend an das Durchgangsloch (43) definiert ist, so dass, wenn sich die Fixierungshalterung (40) an der Einsatzposition (P1) befindet, die Führungswand (45) nahe einem fernen Ende der mit Gewinde versehenen Erweiterung (22) des Schraubbolzens (20) ist, und wenn der Verbindungsbolzen (30) mit dem Schraubbolzen (20) gedreht wird, um sich entlang der mit Gewinde versehenen Erweiterung (22) des Schraubbolzens (20) nach oben zu bewegen, das ferne Ende der mit Gewinde versehenen Erweiterung (22) auf der bogenförmigen zwingenden Fläche (451) gleitet, um die Fixierungshalterung (40) zu zwingen, sich zu der Stoppposition (P2) zu drehen, oder um die Fixierungshalterung (40) zu zwingen, in Kontakt mit der Unterseite (303) des Beckens (300) zu treten und sich an der Stoppposition (P2) zu positionieren.

12. Wasserhahninstallationsbaugruppe (1) nach Anspruch 11, wobei das ferne Ende der mit Gewinde

versehenen Erweiterung (22) des Schraubbolzens (20) eine darauf aufgesteckte Muffe (23) aufweist und wobei die Muffe (23) eine bogenförmige Fläche (231) aufweist, die gleichmäßig auf der bogenförmigen zwingenden Fläche (451) gleitet.

13. Wasserhahninstallationsbaugruppe (1) nach Anspruch 1, wobei die Befestigungsvorrichtung (100) ferner eine Gleitstruktur (70) aufweist, die zwischen dem Verbindungsbolzen (30) und der Isolierumfriedung (114) montiert ist, so dass sich der Verbindungsbolzen (30) entlang der mit Gewinde versehenen Erweiterung (22) des Schraubbolzens (20) und der Isolierumfriedung (114) der Basis (10) nach oben bewegt.

14. Wasserhahninstallationsbaugruppe (1) nach Anspruch 13, wobei die Gleitstruktur (70) eine Rinne (71) und einen gleitfähigen Vorsprung (72) aufweist.

15. Wasserhahninstallationsbaugruppe (1) nach Anspruch 14, wobei die Rinne (71) an der Isolierumfriedung (114) definiert ist und sich der gleitfähige Vorsprung (72) von einem Ende des Verbindungsbolzens (30) relativ zu der Isolierumfriedung (114) nach außen erstreckt.

16. Wasserhahninstallationsbaugruppe (1) nach Anspruch 14, wobei der gleitfähige Vorsprung (72) mit der Rinne (71) magnetisch in Kontakt steht und sich entlang dieser bewegt.

17. Wasserhahninstallationsbaugruppe (1) nach Anspruch 1, wobei der sich erstreckende Abschnitt (12) der Basis (10) einen längs verlaufenden Arretierklotz (126) und eine Arretierkerbe (127) aufweist, die an zwei gegenüberliegenden Positionen des sich erstreckenden Abschnitts (12) der Basis (10) angeordnet sind, wobei die Wasserhahnvorrichtung (200) außerdem eine Kopplungshülse (205), das Kopplungsloch (201), das in der Kopplungshülse (205) gebildet ist, und eine vertikale Aussparung (206), das in dem Kopplungsloch (201) gebildet ist, beinhaltet, so dass der längs verlaufende Arretierklotz (126) der Basis (10) in der vertikalen Aussparung (206) gehalten wird, um eine Drehung der Wasserhahnvorrichtung (200) zu begrenzen, und ein Positionierungsbolzen (207) durch die Kopplungshülse (205) hindurch eingesetzt ist, um an der Arretierkerbe (207) anzuliegen, so dass eine Längsbewegung der Wasserhahnvorrichtung (200) an der Basis (10) begrenzt wird.

Revendications

1. Ensemble d'installation de robinet (1) comprenant :

un dispositif de robinet (200) et un dispositif de fixation (100) ;

le dispositif de fixation (100) comprenant une base (10), un boulon de vissage (20), un boulon de liaison (30) et un support de fixation (40),

la base (10) comprenant une partie d'introduction (11) pour introduction dans un orifice de fixation (301) d'un lavabo (300) et comprenant une partie d'extension (12) formée sur une extrémité supérieure de la partie d'introduction (11) et pour s'étendre hors d'une face supérieure (302) du lavabo (300) ; la partie d'extension (12) ayant une nervure de positionnement (121) s'étendant vers l'extérieur à partir d'un côté périphérique de celle-ci pour entrer en contact avec la face supérieure (302) du lavabo (300) au-dessus de l'orifice de fixation (301) du lavabo (300) ; la partie d'extension (12) ayant une rainure (122) définie à l'intérieur de celle-ci, une bordure inférieure (123) formée sur une extrémité inférieure de la rainure (122), une ouverture (124) adjacente à la bordure inférieure (123), et un orifice traversant (125) défini sur la bordure inférieure (123) ; la partie d'introduction (11) ayant une barrière périphérique (111), une tranchée de réception (112) définie dans la barrière périphérique (111) et communiquant avec l'ouverture (124), un espace de fonctionnement (113) formé sur une surface externe de la barrière périphérique (111), et une barrière d'isolation (114) formée sur une surface interne de la barrière périphérique (111) par rapport à l'espace de fonctionnement (113) ;

le boulon de vissage (20) comprenant une languette circulaire (21) s'étendant hors de la bordure inférieure (123) et retenue avec celle-ci, et le boulon de vissage (20) comprenant également une extension filetée (22) s'étendant dans l'espace de fonctionnement (113) à travers l'orifice traversant (125) de la base (10) ;

le boulon de liaison (30) comprenant une ouverture filetée (31) définie à l'intérieur de celui-ci et se vissant avec l'extension filetée (22) du boulon de vissage (20) ;

le dispositif de robinet (200) comprenant un orifice de montage (201) défini sur une partie inférieure de celui-ci et monté sur la base (10) ;

le dispositif de robinet (200) comprenant en outre un canal (202) défini à l'intérieur de celui-ci, deux raccords (203) disposés sur l'extrémité inférieure de celui-ci par rapport à la tranchée de réception (112) de la base (10), et deux tuyaux d'entrée (204) dont chacun est en raccordement avec chacun des deux raccords (203) et est introduit à travers la tranchée de réception (112) de la base (10) ;

caractérisé par le fait que

le support de fixation (40) est en forme de cadre allongé et comprend deux pentes latérales opposées (41) à relier de manière rotative avec le boulon de liaison (30), le support de fixation (40) comprend également une pente inférieure (42) définie entre les deux pentes latérales (41) ; la pente inférieure (42) ayant un trou traversant (43) défini sur celle-ci pour introduction à travers celui-ci de l'extension filetée (22) ; le support de fixation (40), en utilisation, tourne entre une position d'introduction (P1) et une position d'arrêt (P2) le long du boulon de liaison (30) ; lorsque le support de fixation (40) est tourné vers la position d'introduction (P1), il passe à travers l'orifice de fixation (301) du lavabo (300) ; lorsque le support de fixation (40) est tourné vers la position d'arrêt (P2), le boulon de vissage (20) est tourné sur le lavabo (300) et est limité par la barrière d'isolation (114) ; et lorsque le boulon de liaison (30) se déplace vers le haut le long de l'extension filetée (22) du boulon de vissage (20), le support de fixation (40) se déplace vers le haut le long de l'extension filetée (22) du boulon de vissage (20) pour entrer étroitement en contact avec une face inférieure (303) du lavabo (300) ;

le dispositif de robinet (200) comprenant un orifice de montage (201) défini sur une partie inférieure de celui-ci et étant monté sur la base (10) ;

le dispositif de robinet (200) comprenant également un canal (202) défini à l'intérieur de celui-ci, deux raccords (203) disposés sur l'extrémité inférieure de celui-ci par rapport à la tranchée de réception (112) de la base (10), et deux tuyaux d'entrée (204) dont chacun est en raccordement avec chacun des deux raccords (203) et est introduit à travers la tranchée de réception (112) de la base (10).

2. Ensemble d'installation de robinet (1) selon la revendication 1, dans lequel la barrière périphérique (111) a une barrière de positionnement (115) définie sur une extrémité supérieure de celle-ci pour entrer en contact avec une paroi interne de l'orifice de fixation (301) du lavabo (300), de telle sorte que la base (10) est limitée à un mouvement latéral sur le lavabo (300).

3. Ensemble d'installation de robinet (1) selon la revendication 1, dans lequel les deux pentes latérales opposées (41) et la pente inférieure (42) du support de fixation (40) définissent une fente (44) ; le dispositif de fixation (100) a en outre un patin (51) logé dans la fente (44) de telle sorte que, lorsque le support de fixation (40) est tourné manuellement vers la partie d'introduction à partir de la position d'arrêt (P2), le patin (51) est pressé par l'extension filetée (22) du boulon de vissage (20) pour se déformer de manière souple, et le patin (51) force le support de fixation (40) à tourner de nouveau vers la position d'arrêt (P2) par l'intermédiaire de l'orifice de fixation (301).

4. Ensemble d'installation de robinet (1) selon la revendication 1, dans lequel le dispositif de fixation (100) comprend en outre un ressort de torsion (52) monté sur l'extension filetée (22) du boulon de vissage (20) à proximité du boulon de liaison (30), le ressort de torsion (52) ayant un segment libre de telle sorte que, lorsque le support de fixation (40) est tourné manuellement vers la position d'introduction (P1) à partir de la position d'arrêt (P2), le segment libre est déformé de manière souple par la pente inférieure (42) du support de fixation (40) pour pousser le support de fixation (40) à se déplacer automatiquement de nouveau jusqu'à la position d'arrêt (P2) par l'intermédiaire du l'orifice de fixation (301) du lavabo (300).

5. Ensemble d'installation de robinet (1) selon la revendication 1, dans lequel le dispositif de fixation (100) comprend en outre un ressort de torsion (53) monté sur l'extension filetée (22) du boulon de vissage (20), un premier segment libre (531) du ressort de torsion (53) étant introduit dans le boulon de liaison (30), et un second segment libre (532) du ressort de torsion (53) étant accroché sur l'une, externe, des deux pentes latérales opposées (41) de telle sorte que, lorsque le support de fixation (40) est tourné manuellement vers la position d'introduction (P1) à partir de la position d'arrêt (P2), le ressort de torsion (53) pousse le support de fixation (40) à se déplacer de nouveau jusqu'à la position d'arrêt (P2) par l'intermédiaire de l'orifice de fixation (301) du lavabo (300).

6. Ensemble d'installation de robinet (1) selon la revendication 1, dans lequel le dispositif de fixation (100) comprend en outre un élément d'attraction magnétique (60) défini entre le boulon de liaison (30) et la barrière d'isolation (114) de la base (10), de telle sorte que le boulon de liaison (30) entre en contact avec la barrière d'isolation (114) et se déplace vers le haut le long du boulon de vissage (20).

7. Ensemble d'installation de robinet (1) selon la revendication 6, dans lequel l'élément d'attraction magnétique (60) a une première partie d'attraction (61) formée dans le boulon de liaison (30) et a une seconde partie d'attraction (62) formée sur la barrière d'isolation (114).

8. Ensemble d'installation de robinet (1) selon la revendication 7, dans lequel la première partie d'attraction (61) est l'un parmi un fer magnétique et un matériau d'attraction magnétique, et la seconde partie d'attraction (62) est l'autre parmi le fer magnétique et le matériau d'attraction magnétique.

9. Ensemble d'installation de robinet (1) selon la revendication 8, dans lequel la première partie d'attraction magnétique (61) est le fer magnétique retenu dans le boulon de liaison (30) par rapport à la barrière d'isolation (114), et la seconde partie d'attraction (62) est le matériau d'attraction magnétique et est située dans un trajet de déplacement du boulon de liaison (30).

10. Ensemble d'installation de robinet (1) selon la revendication 9, dans lequel la seconde partie d'attraction (62) est une sangle d'attraction faite du matériau d'attraction magnétique.

11. Ensemble d'installation de robinet (1) selon la revendication 1, dans lequel le support de fixation (40) comprend une pente de guidage (45), et la pente de guidage (45) est en liaison avec les deux pentes latérales opposées (41) et a une face de forçage arquée (451) définie sur une surface interne de celle-ci adjacente au trou traversant (43) de telle sorte que, lorsque le support de fixation (40) se trouve dans la position d'introduction (P1), la pente de guidage (45) est proche d'une extrémité distale de l'extension filetée (22) du boulon de vissage (20) ; et lorsque le boulon de liaison (30) est tourné avec le boulon de vissage (20) pour se déplacer vers le haut le long de l'extension filetée (22) du boulon de vissage (20), l'extrémité distale de l'extension filetée (22) coulisse sur la face de forçage arquée (451) pour forcer le support de fixation (40) à tourner vers la position d'arrêt (P2) ou forcer le support de fixation (40) à entrer en contact avec la face inférieure (303) du lavabo (300) et être placé dans la position d'arrêt (P2).

12. Ensemble d'installation de robinet (1) selon la revendication 11, dans lequel l'extrémité distale de l'extension filetée (22) du boulon de vissage (20) a une douille (23) montée sur celle-ci, et la douille (23) a une face arquée (231) coulissant sur la face de forçage arquée (451) sans à-coups.

13. Ensemble d'installation de robinet (1) selon la revendication 1, dans lequel le dispositif de fixation (100) comprend en outre une structure de coulissement (70) montée entre le boulon de liaison (30) et la barrière d'isolation (114) de telle sorte que le boulon de liaison (30) se déplace vers le haut le long de l'extension filetée (22) du boulon de vissage (20) et de la barrière d'isolation (114) de la base (10).

14. Ensemble d'installation de robinet (1) selon la revendication 13, dans lequel la structure de coulissement (70) a un creux (71) et une saillie coulissante (72).

15. Ensemble d'installation de robinet (1) selon la revendication 14, dans lequel le creux (71) est défini sur la barrière d'isolation (114), et la saillie coulissante (72) s'étend vers l'extérieur à partir d'une extrémité du boulon de liaison (30) par rapport à la barrière d'isolation (114).

16. Ensemble d'installation de robinet (1) selon la revendication 14, dans lequel la saillie coulissante (72) entre magnétiquement en contact avec le creux (71) et se déplace le long de celui-ci.

17. Ensemble d'installation de robinet (1) selon la revendication 1, dans lequel la partie d'extension (12) de la base (10) a un bloc de verrouillage longitudinal (126) et une encoche de verrouillage (127) qui sont prévus sur deux positions opposées de la partie d'extension (12) de la base (10) ; le dispositif de robinet (200) comprend également un manchon d'accouplement (205), le trou d'accouplement (201) défini dans le manchon d'accouplement (205), et un évidement vertical (206) formé dans le trou d'accouplement (201), de telle sorte que le bloc de verrouillage longitudinal (126) de la base (10) est retenu avec l'évidement vertical (206) pour limiter une rotation du dispositif de robinet (200) ; et un boulon de positionnement (207) est introduit à travers le manchon d'accouplement (205) pour s'appuyer contre l'encoche de verrouillage (207), de telle sorte qu'un mouvement longitudinal du dispositif de robinet (200) sur la base (10) est limité.

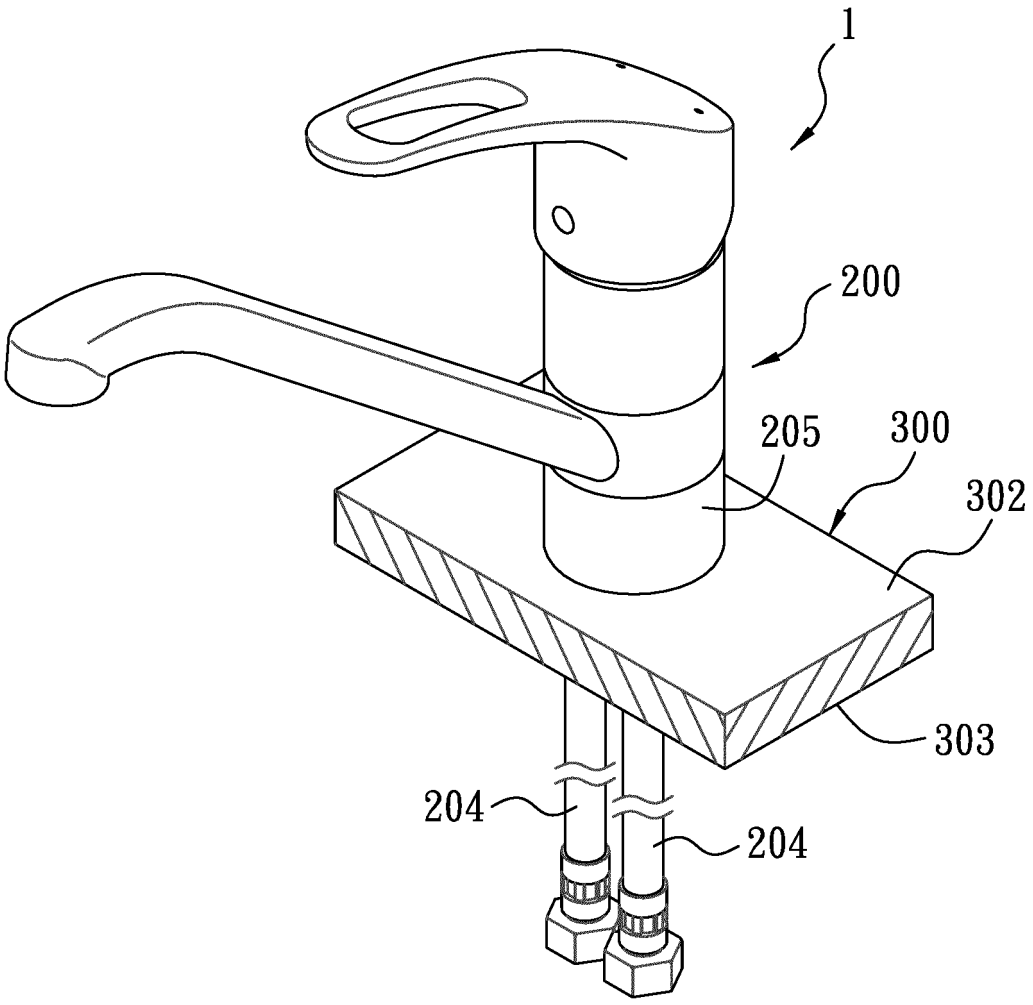


FIG. 1

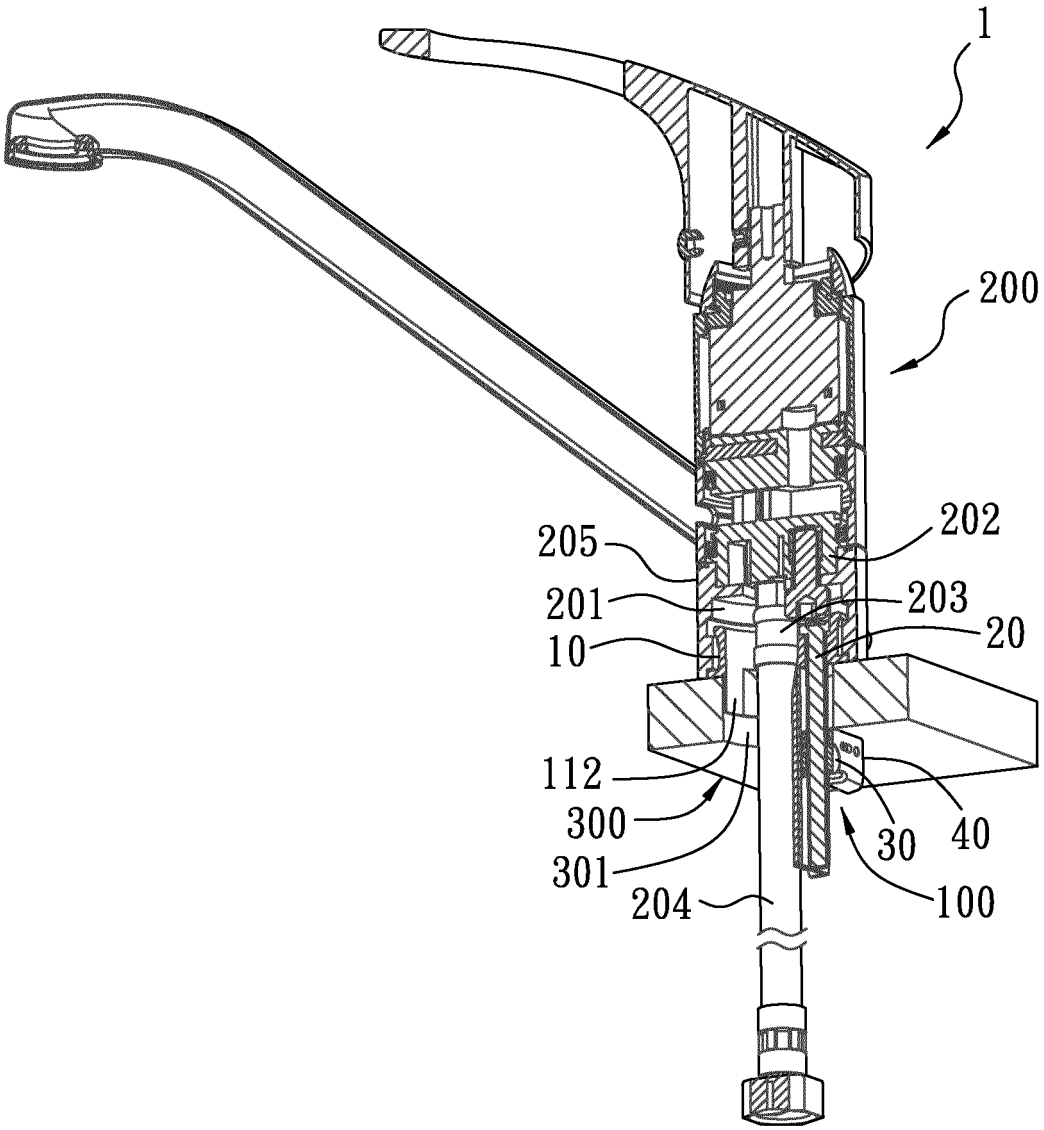
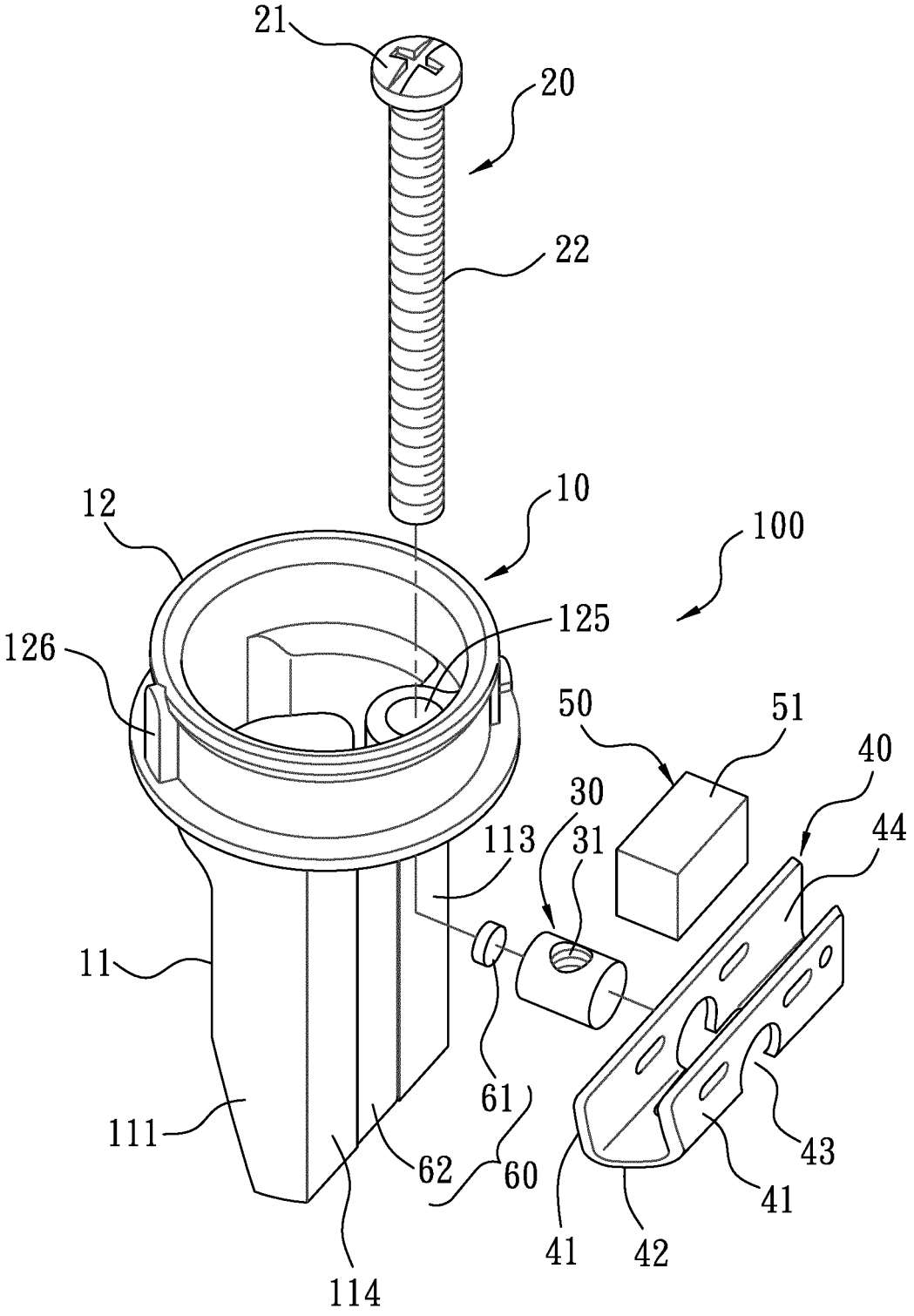


FIG. 2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12
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100
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61
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62
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43
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41
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114

FIG. 3

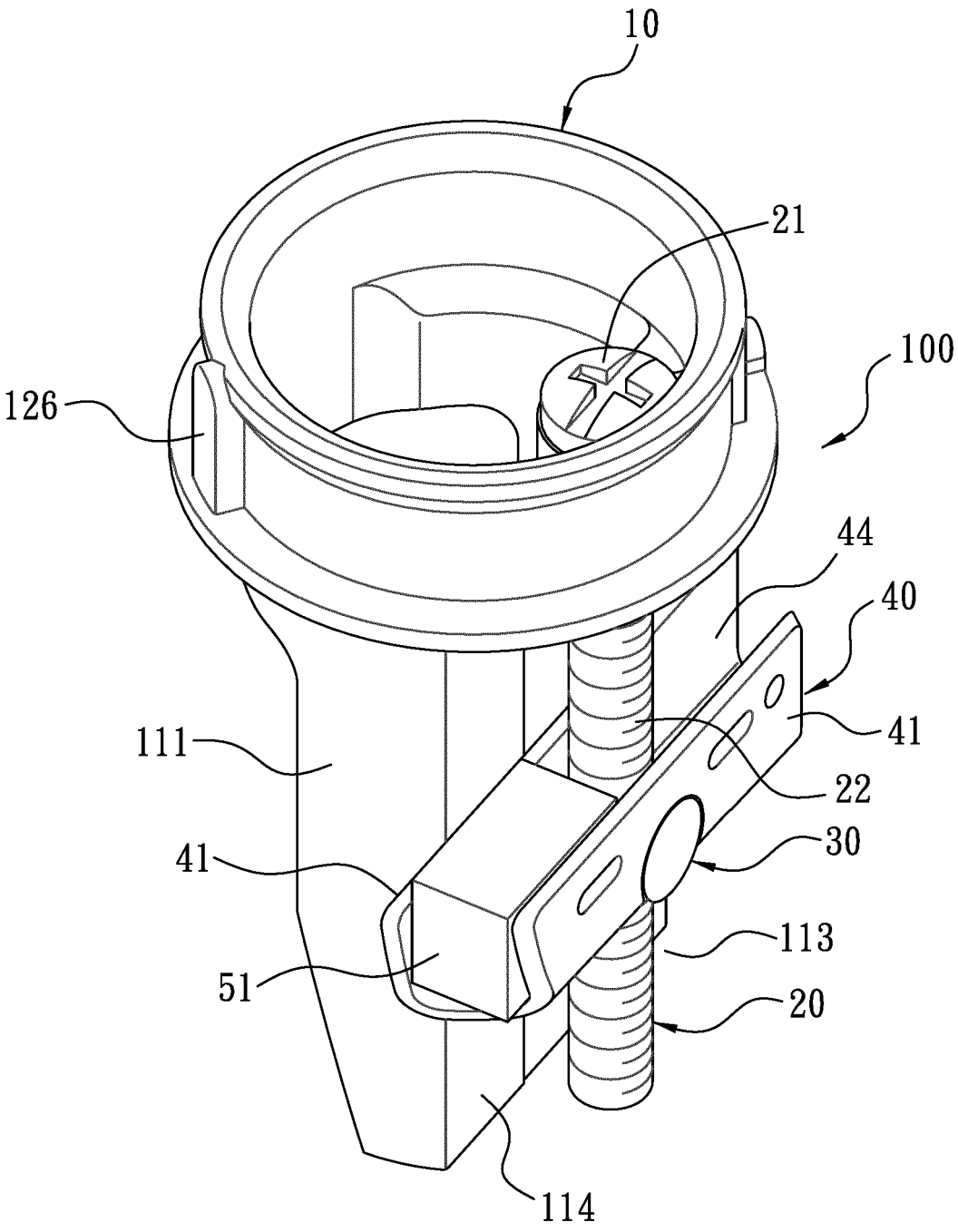


FIG. 4

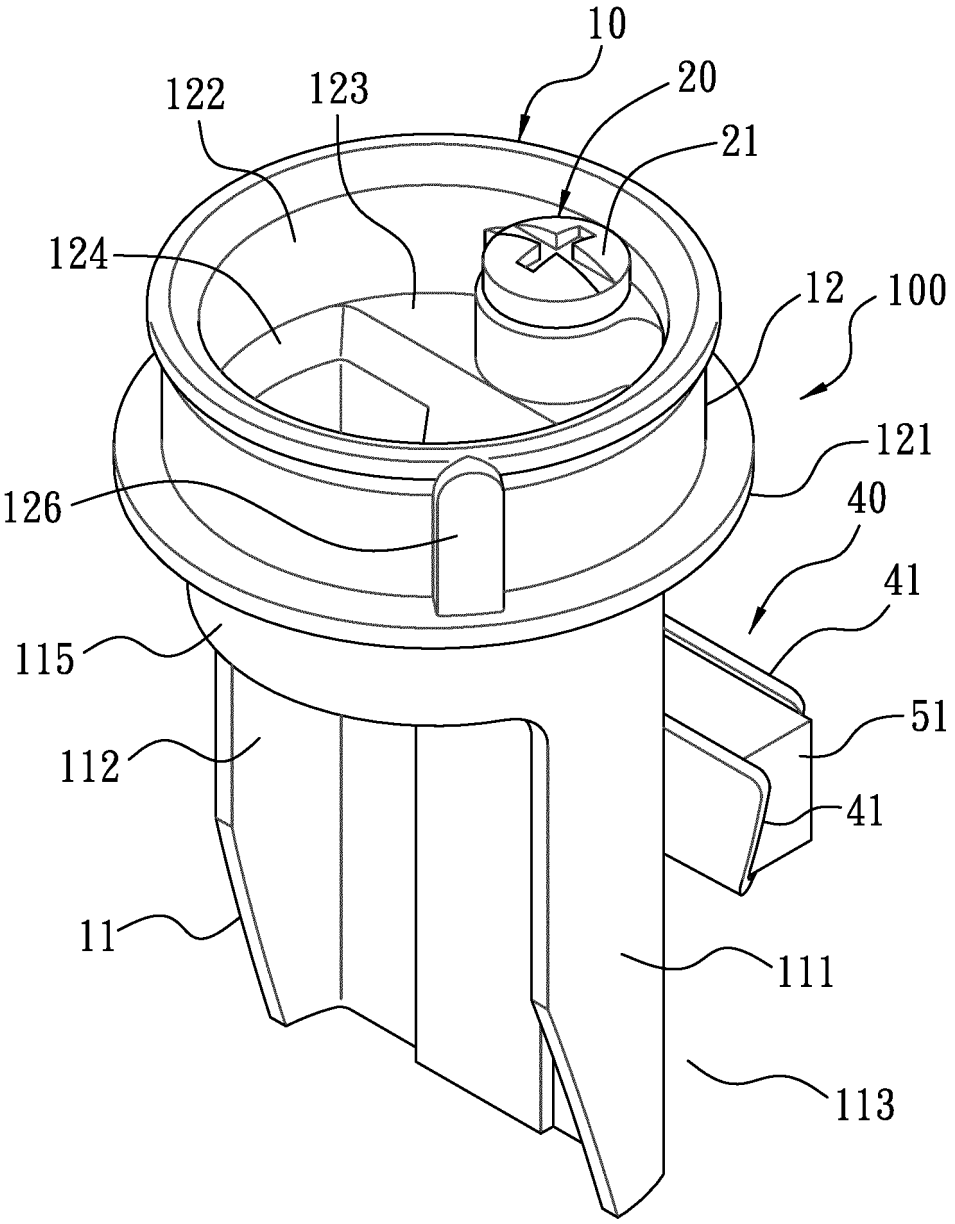
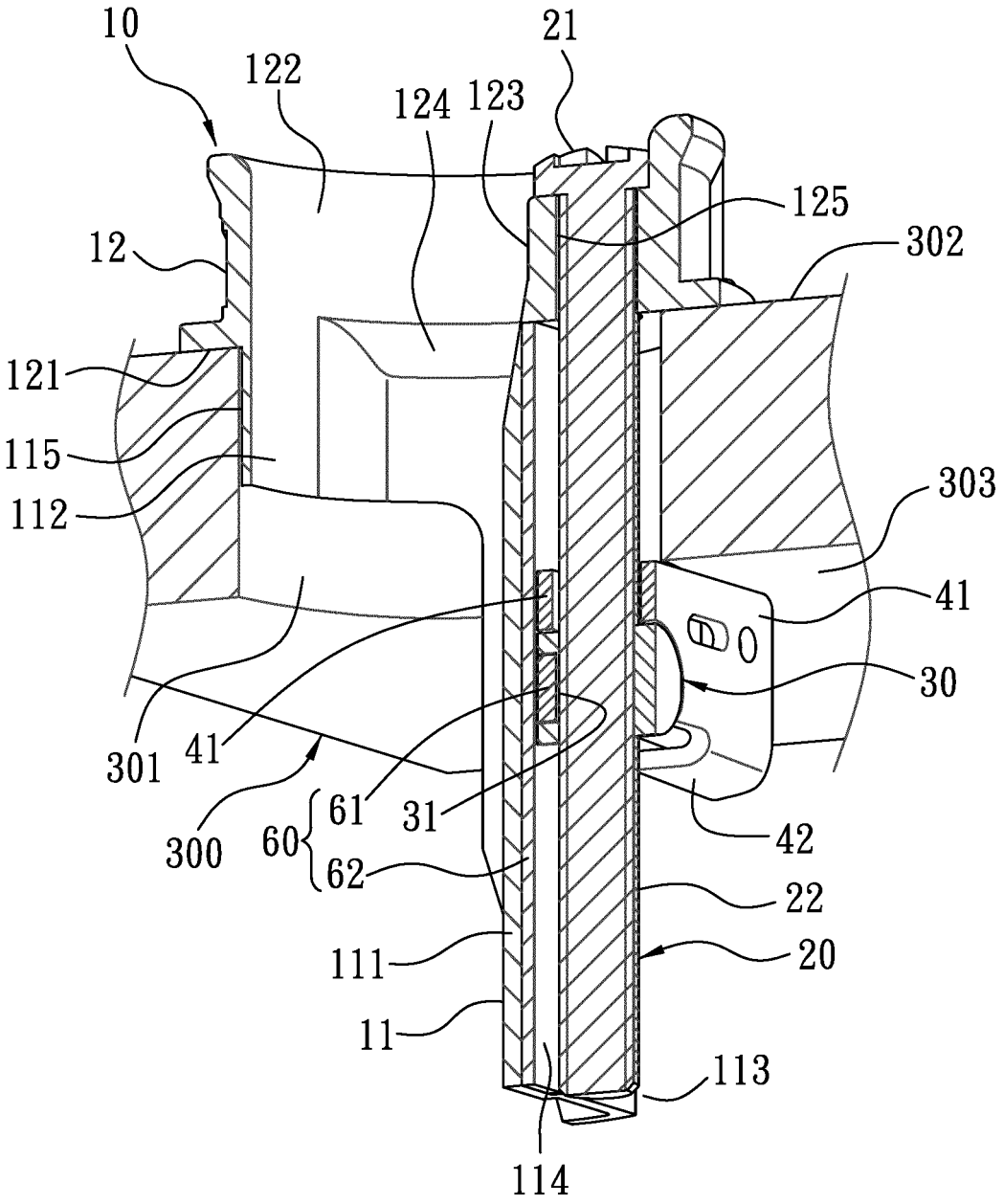


FIG. 5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122
124
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21
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302
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121
115
112
303
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301
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300
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62
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111
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113
114

FIG. 6

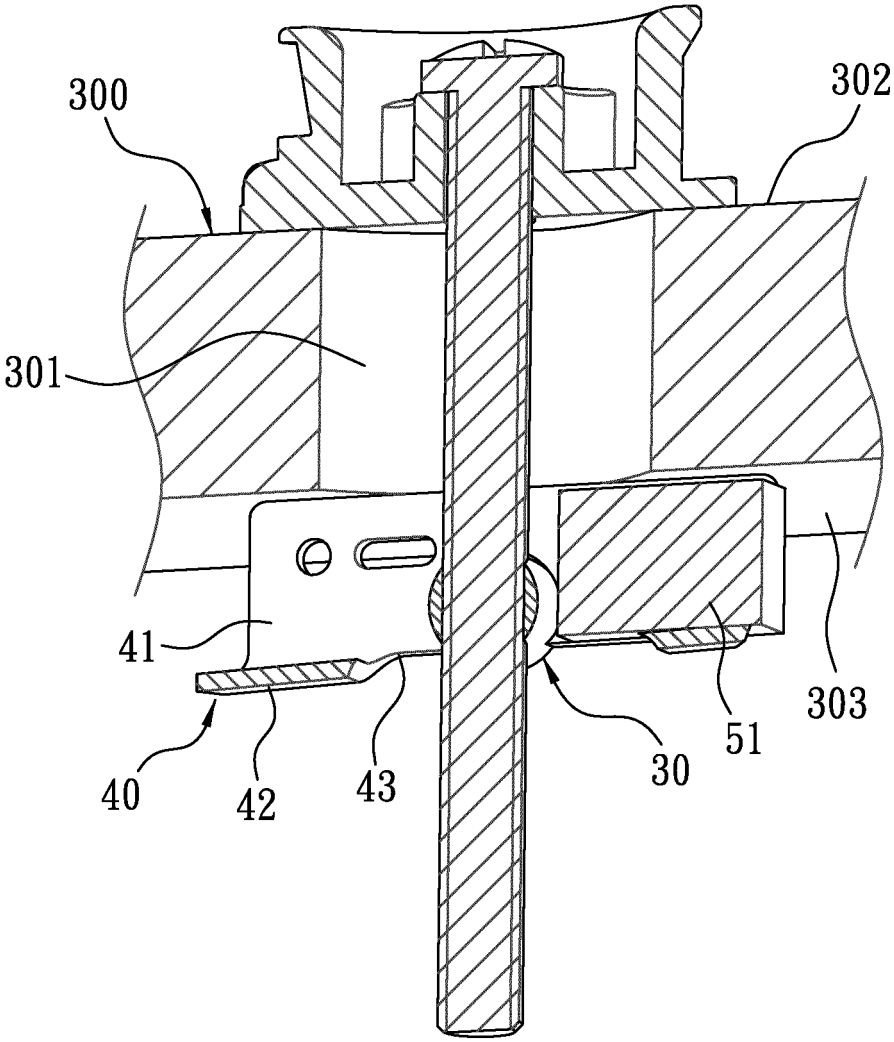

FIG. 7

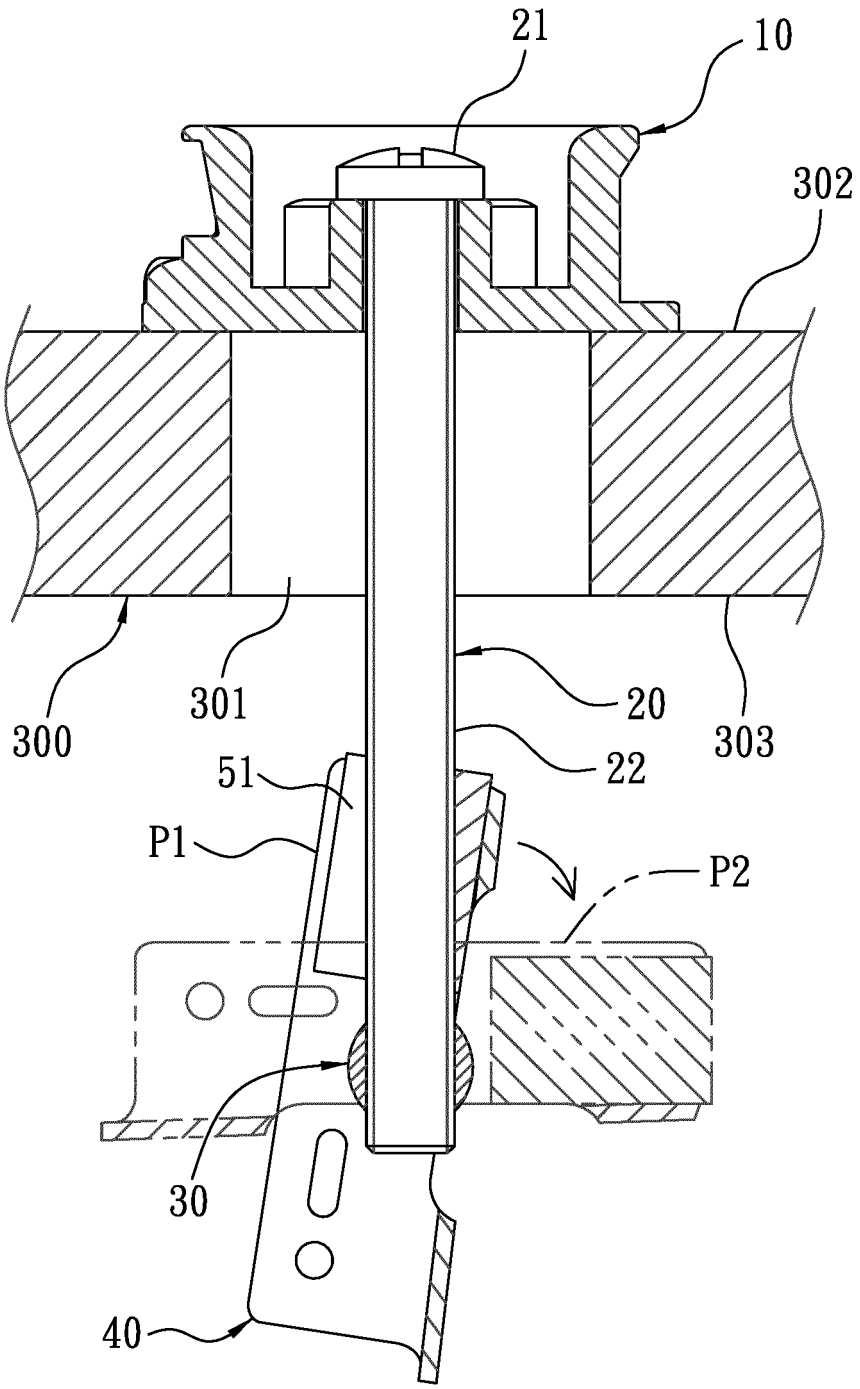

FIG. 8

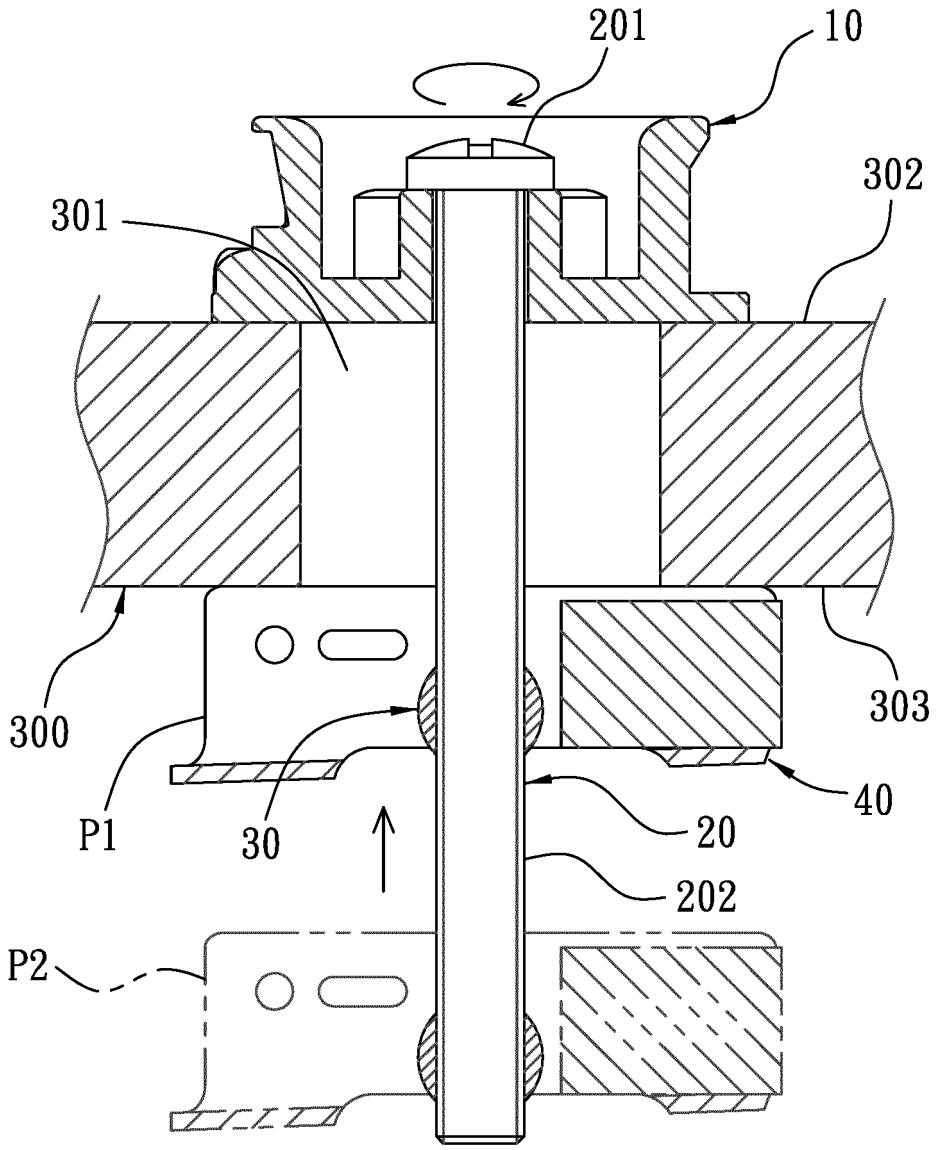

FIG. 9

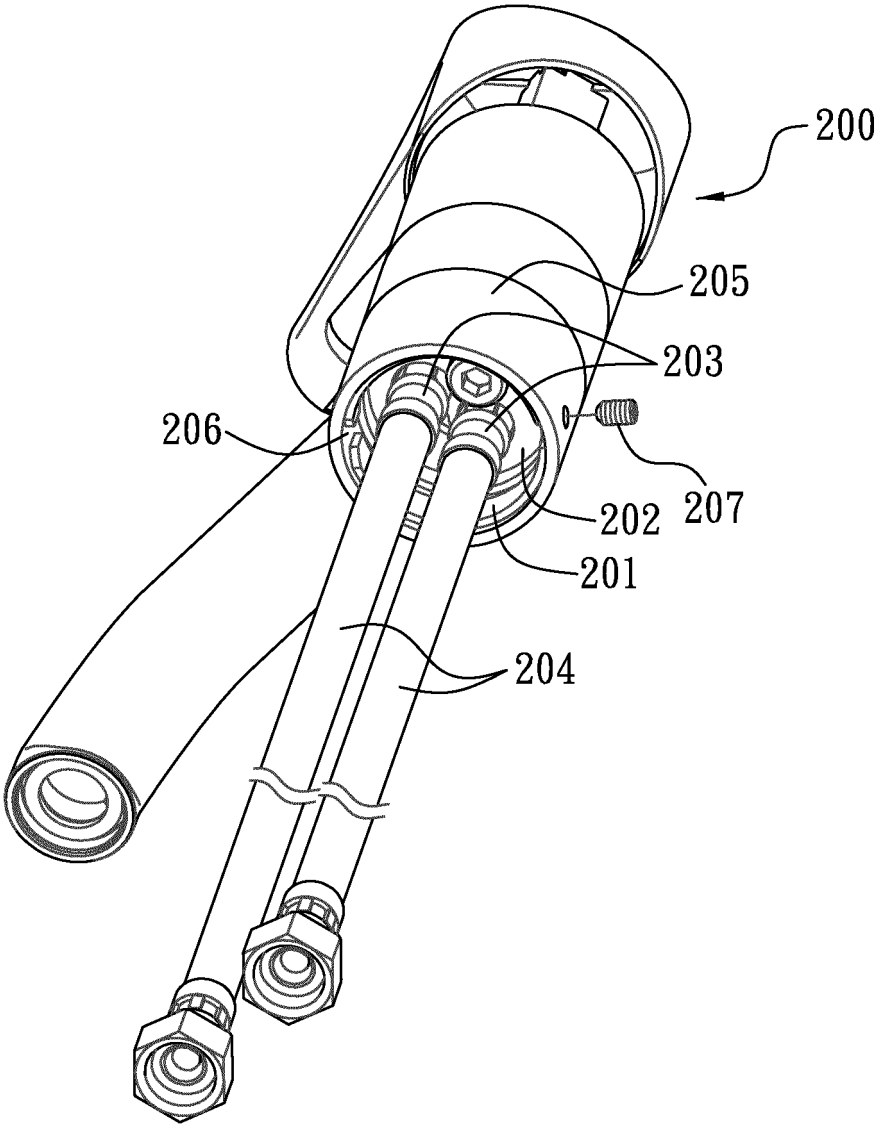

FIG. 10

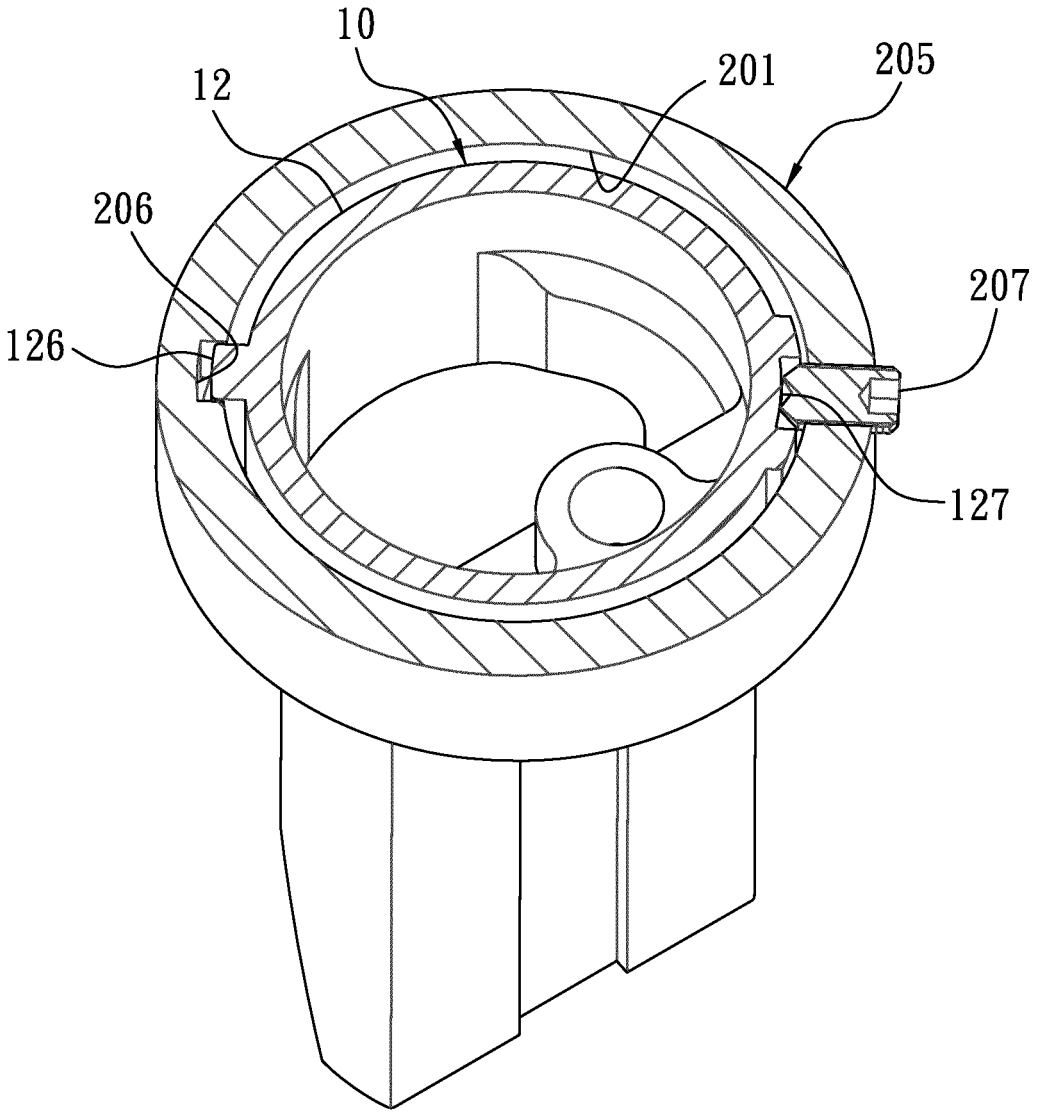

FIG. 11

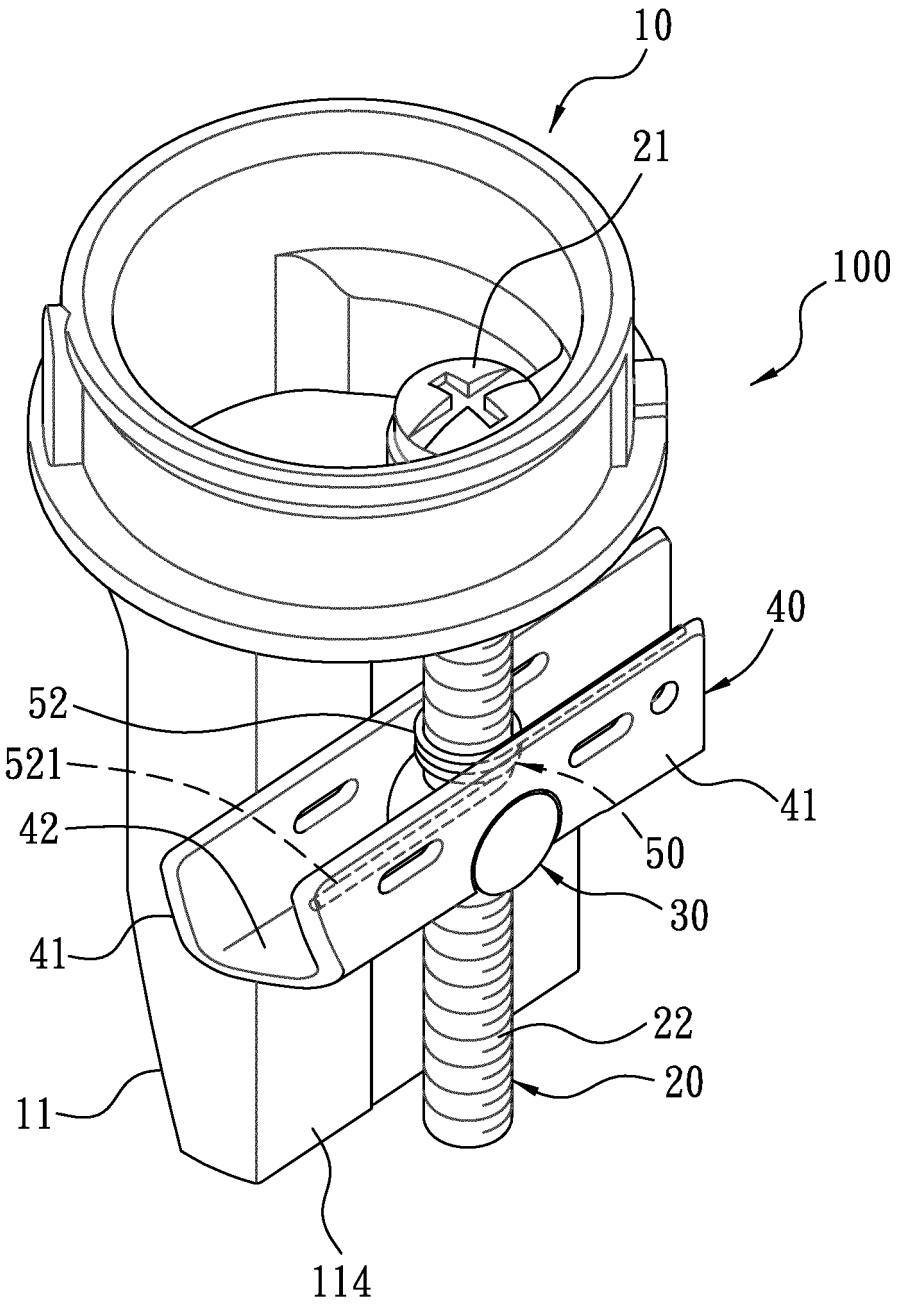

FIG. 12

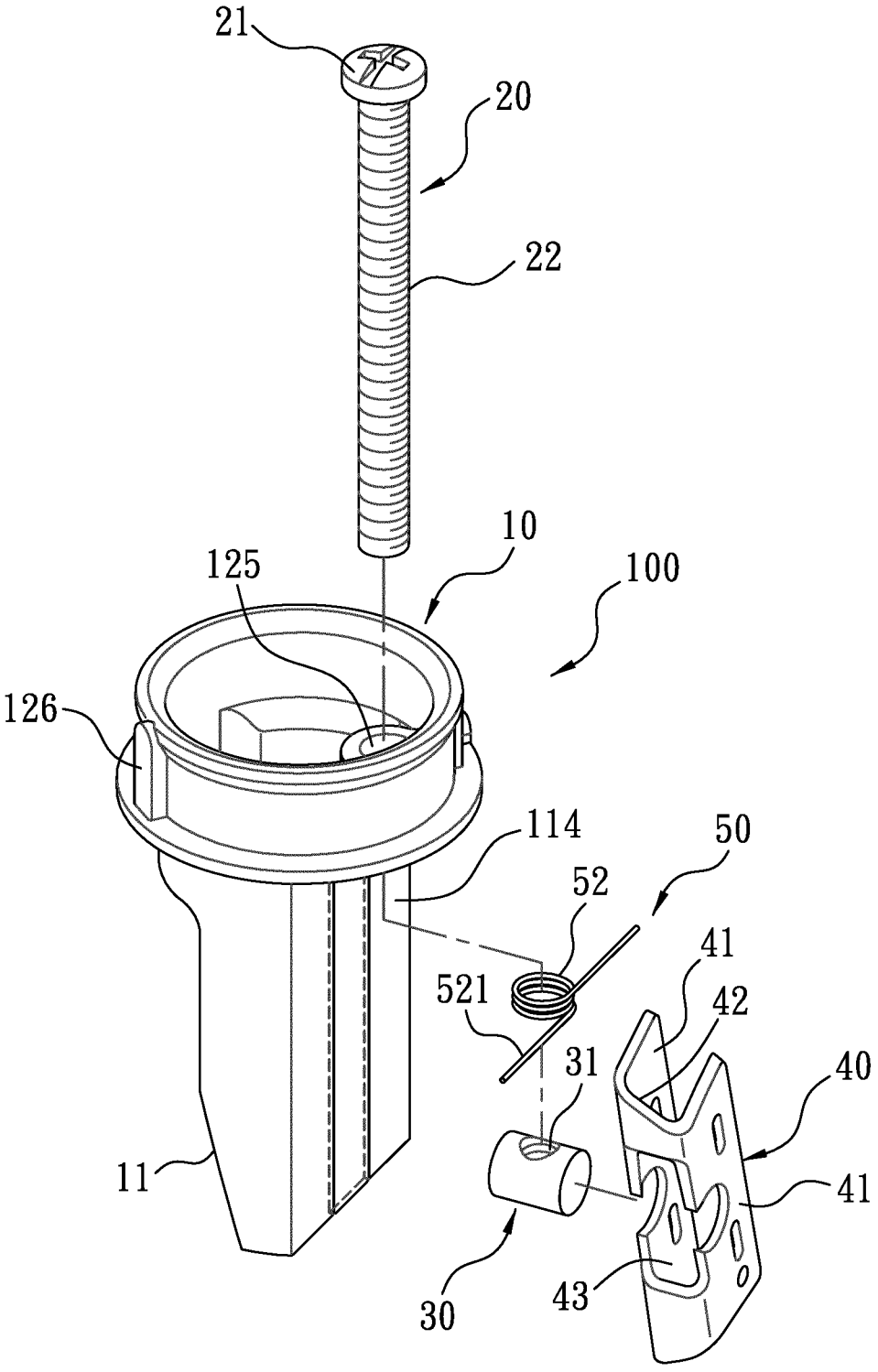

FIG. 13

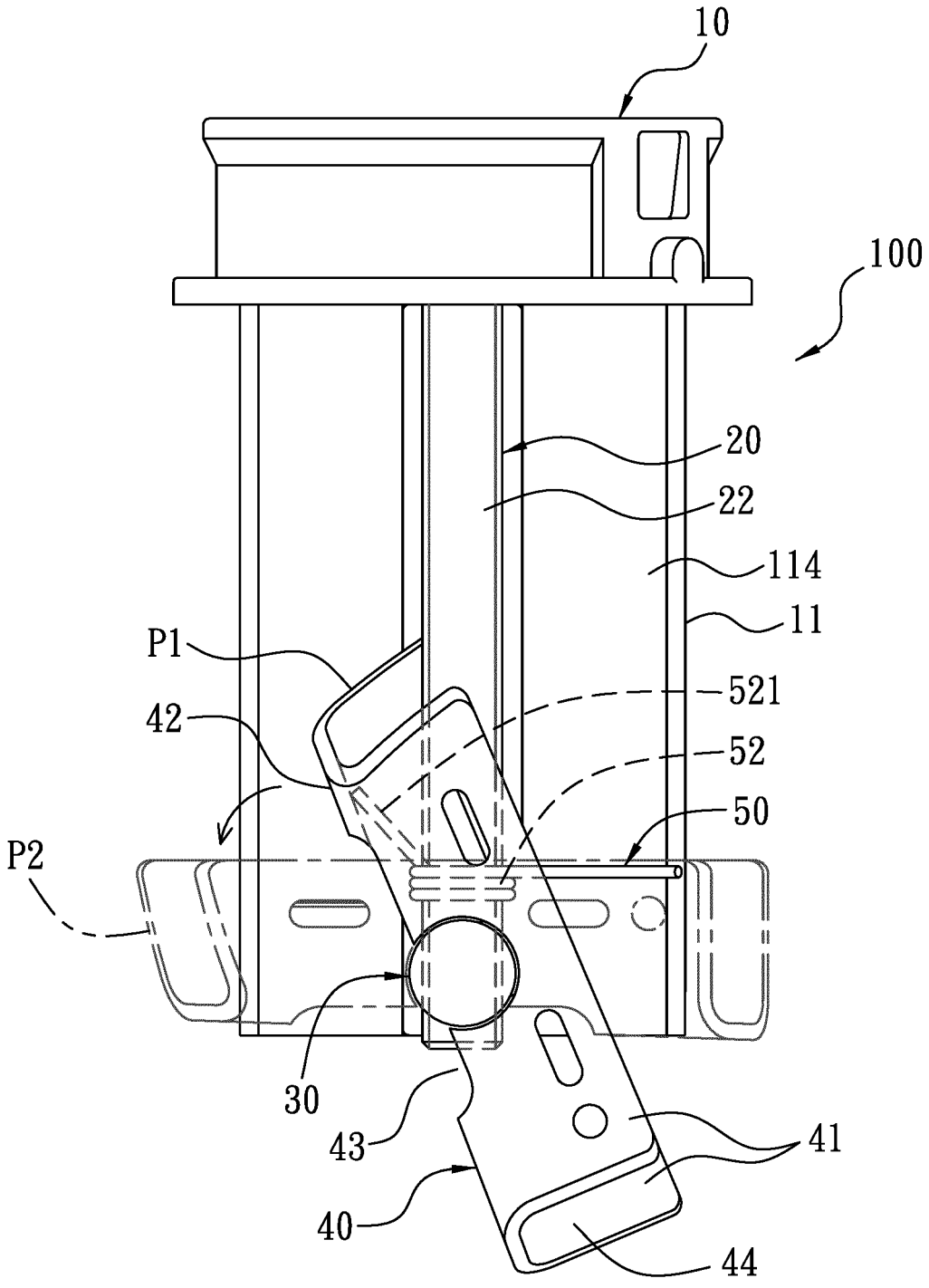

FIG. 14

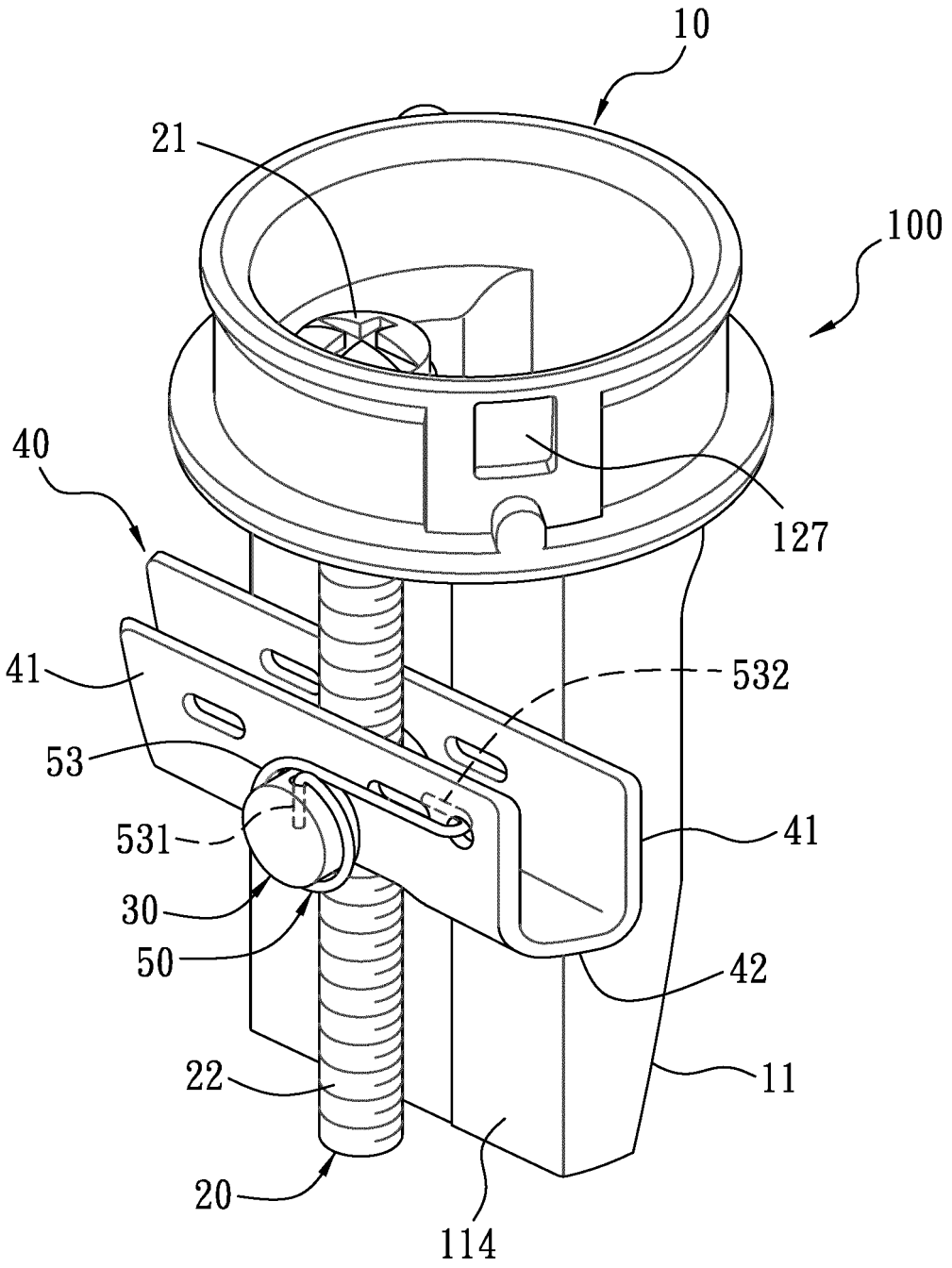

FIG. 15

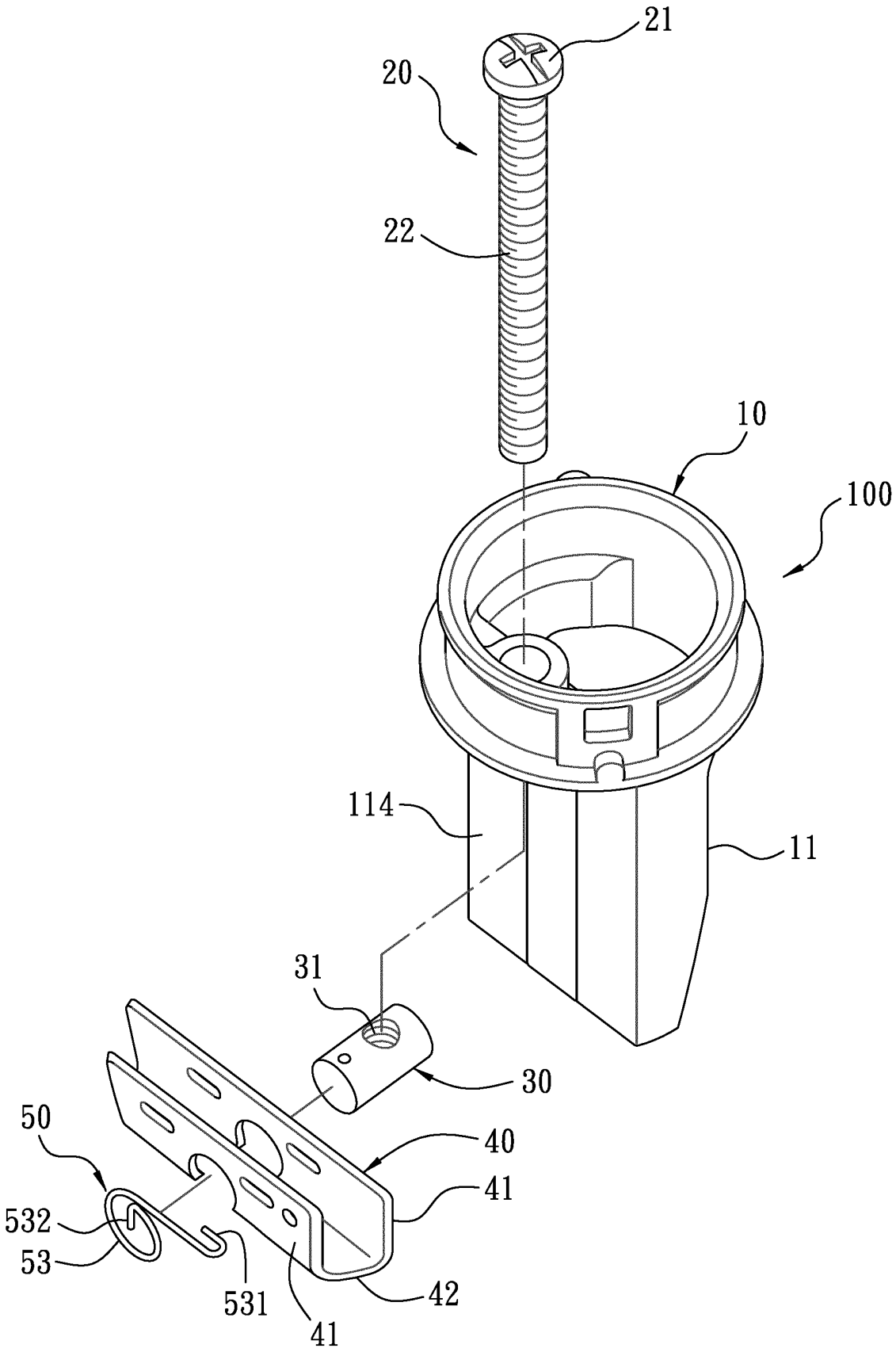

FIG. 16

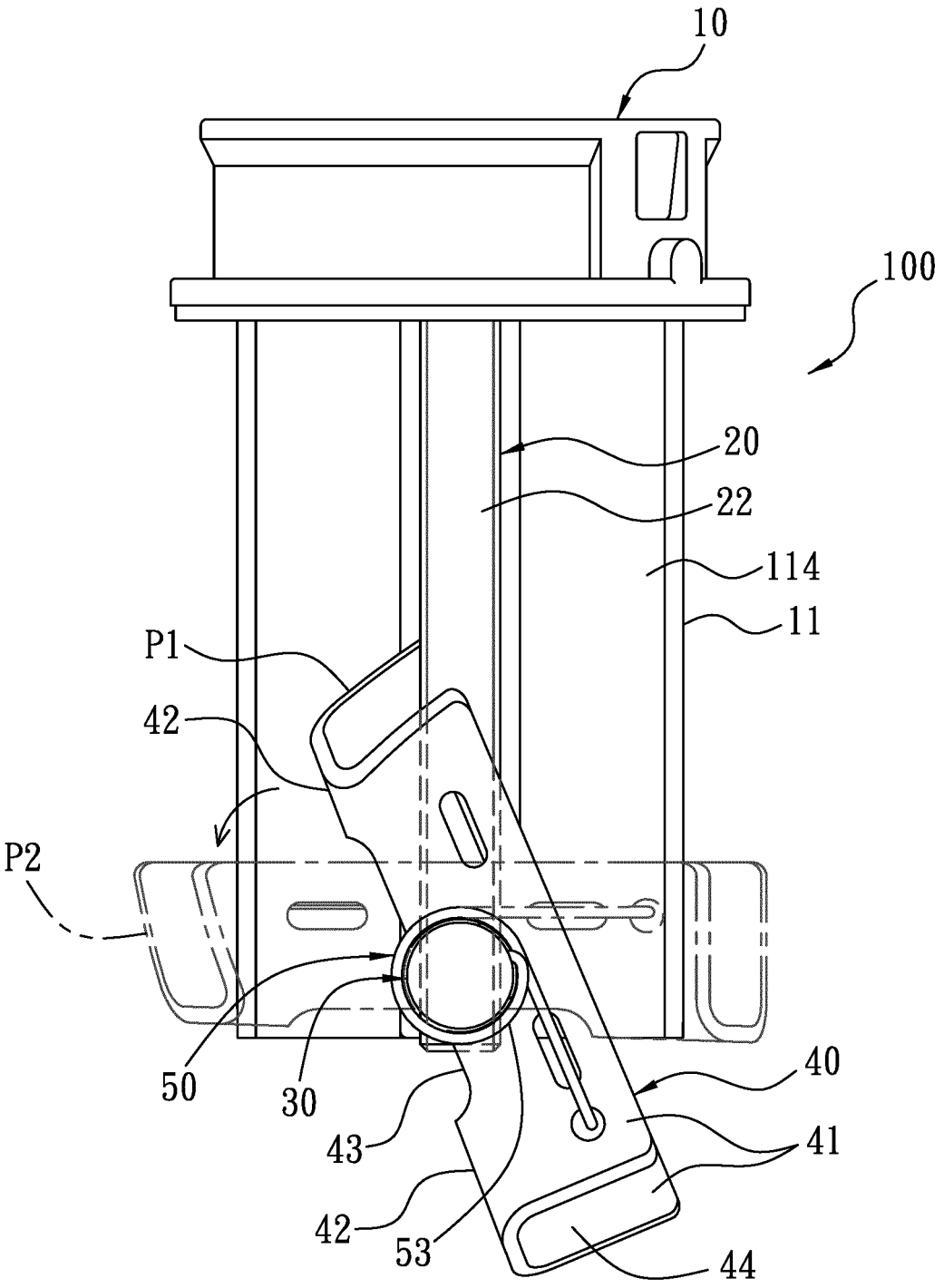

FIG. 17

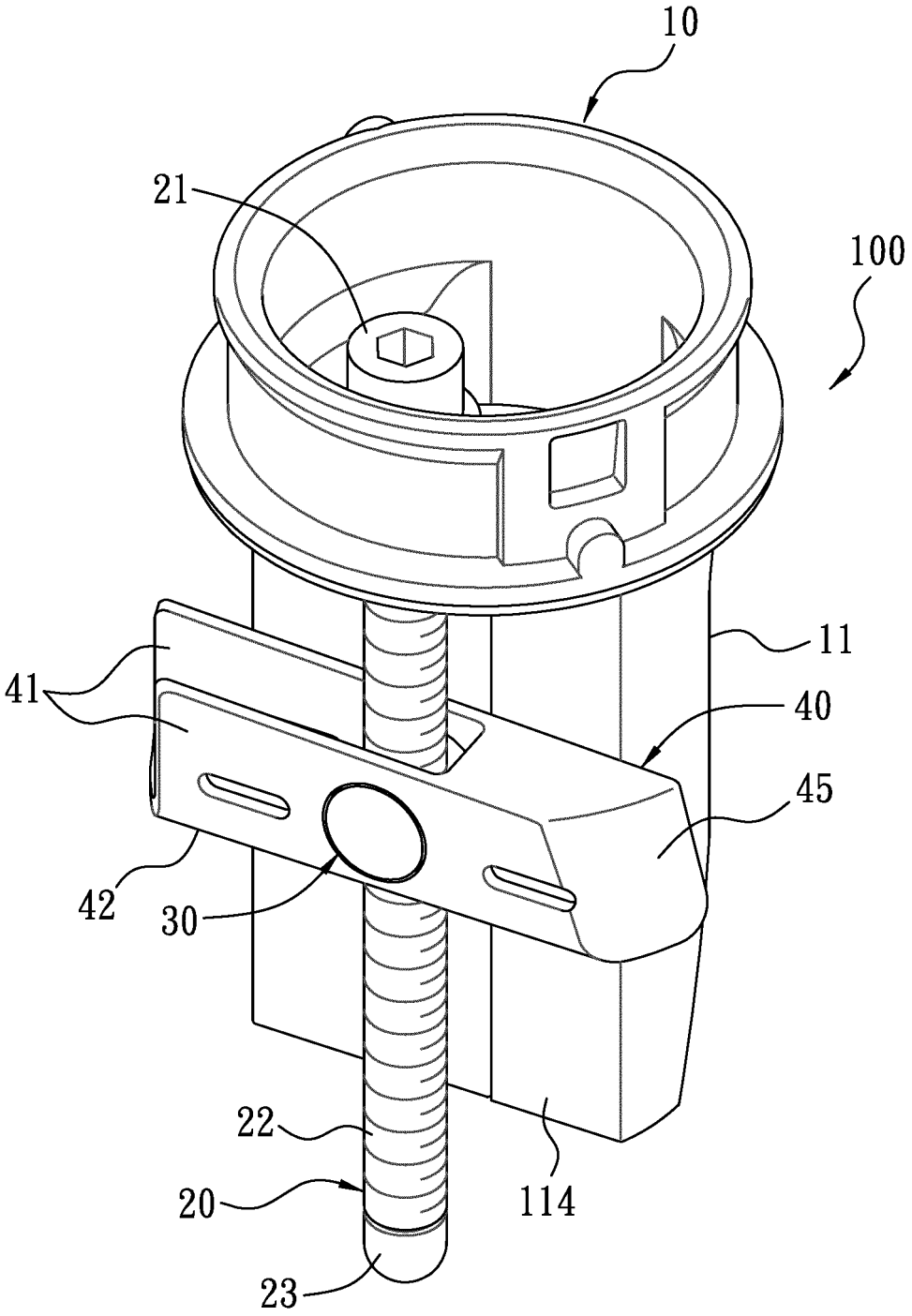

FIG. 18

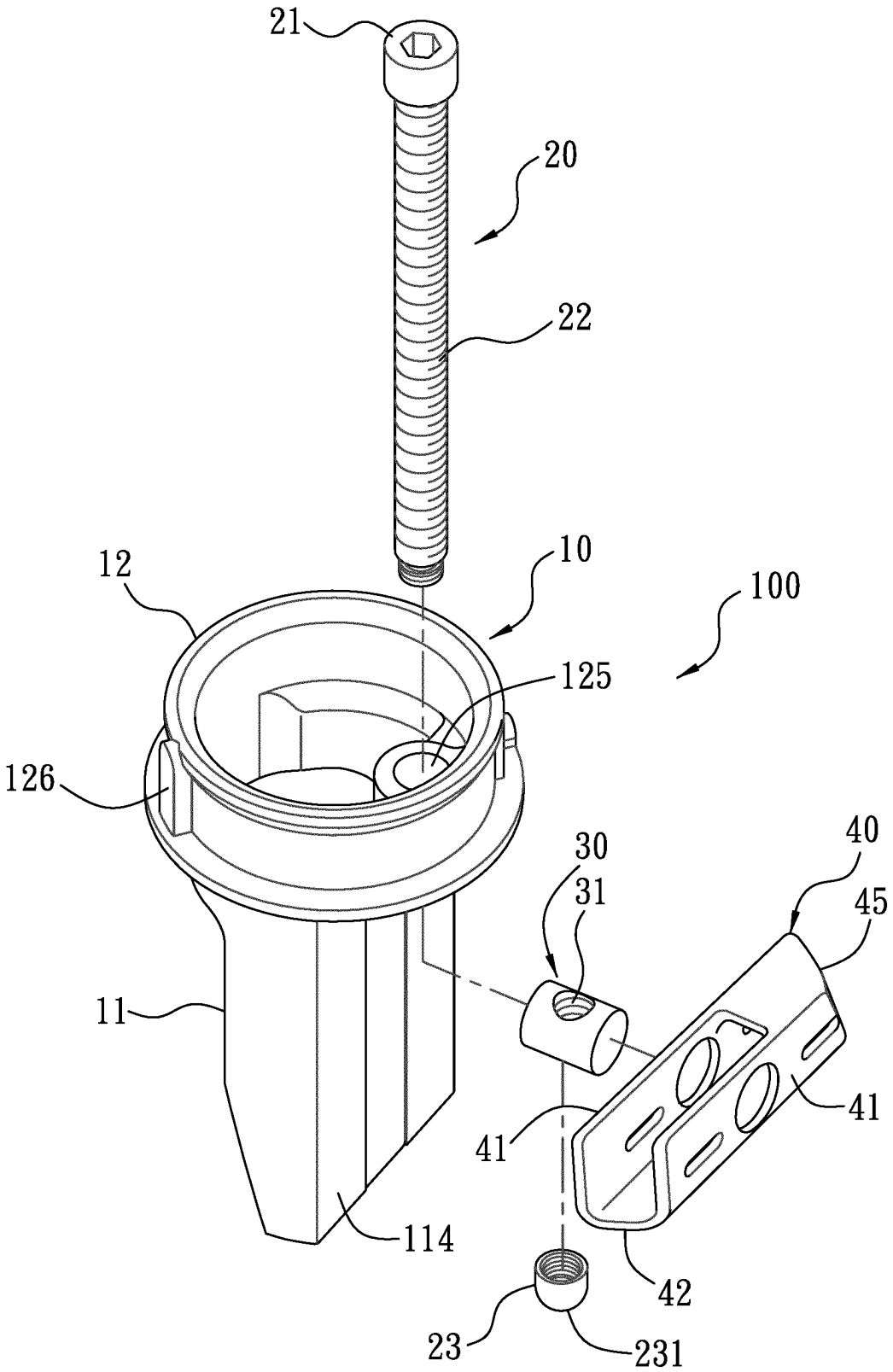

FIG. 19

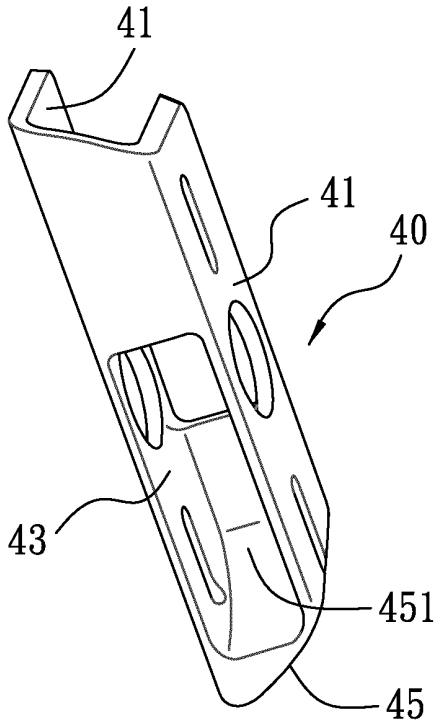

FIG. 20

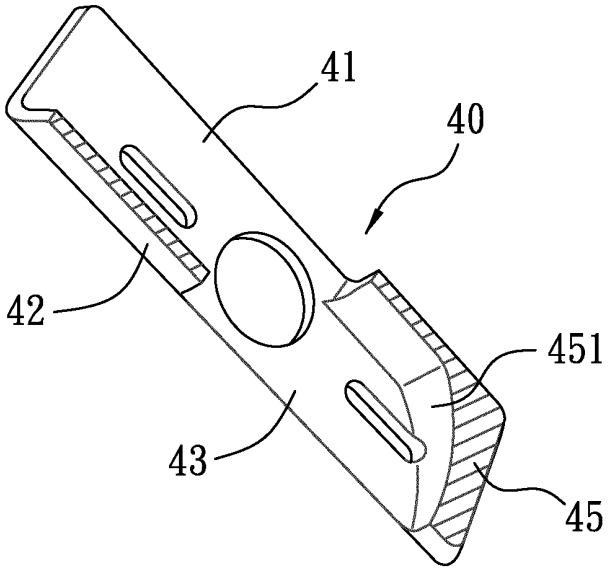

FIG. 21

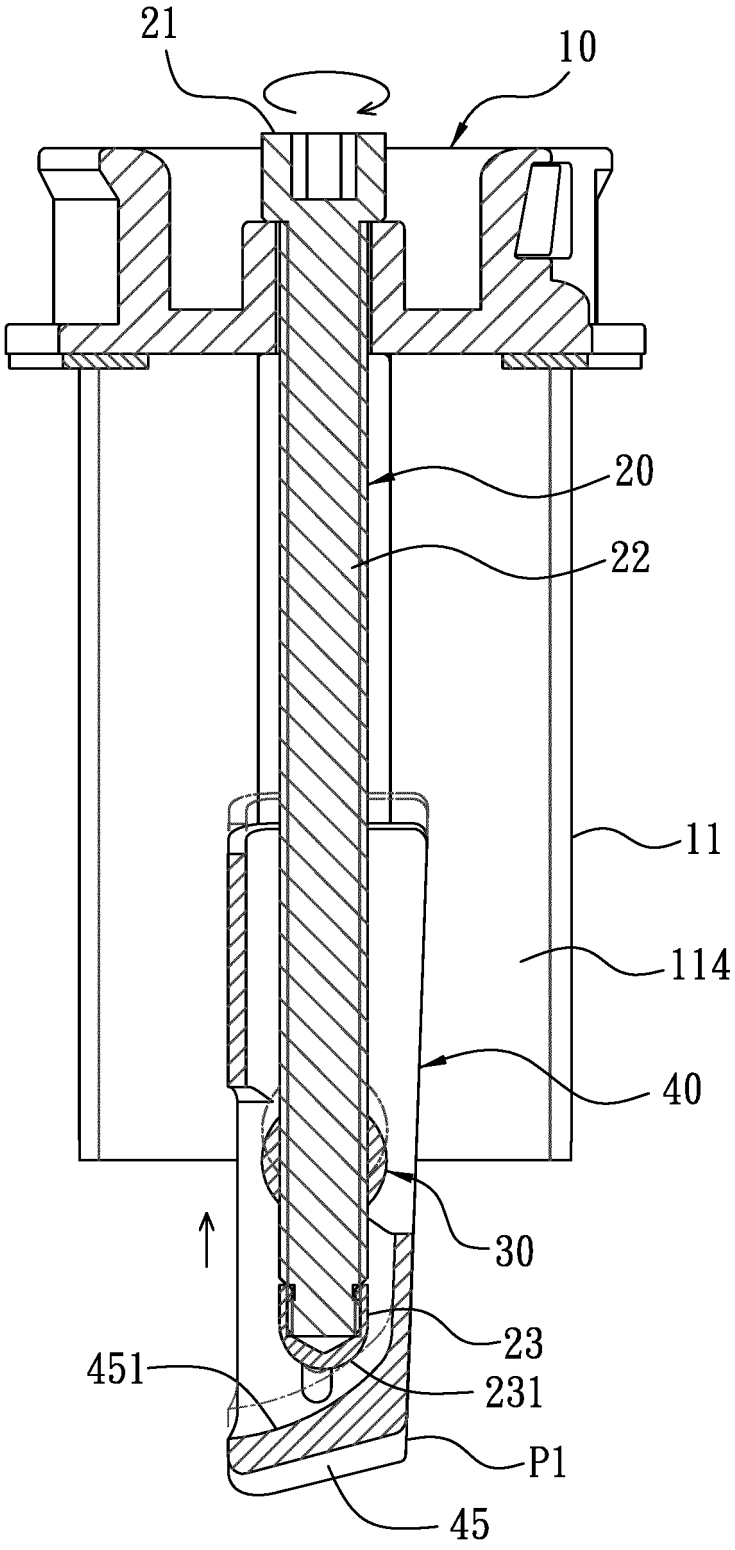

FIG. 22

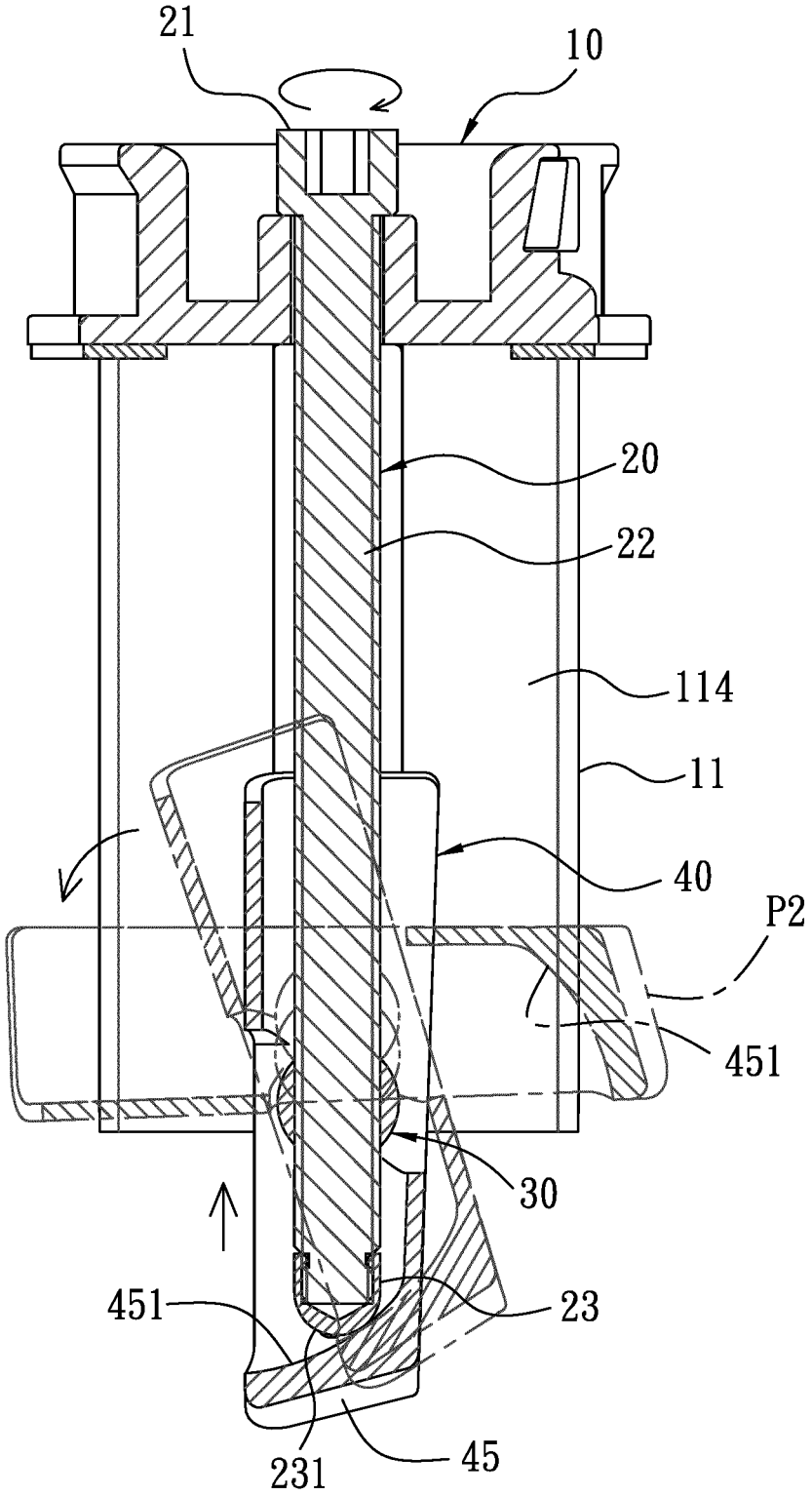

FIG. 23

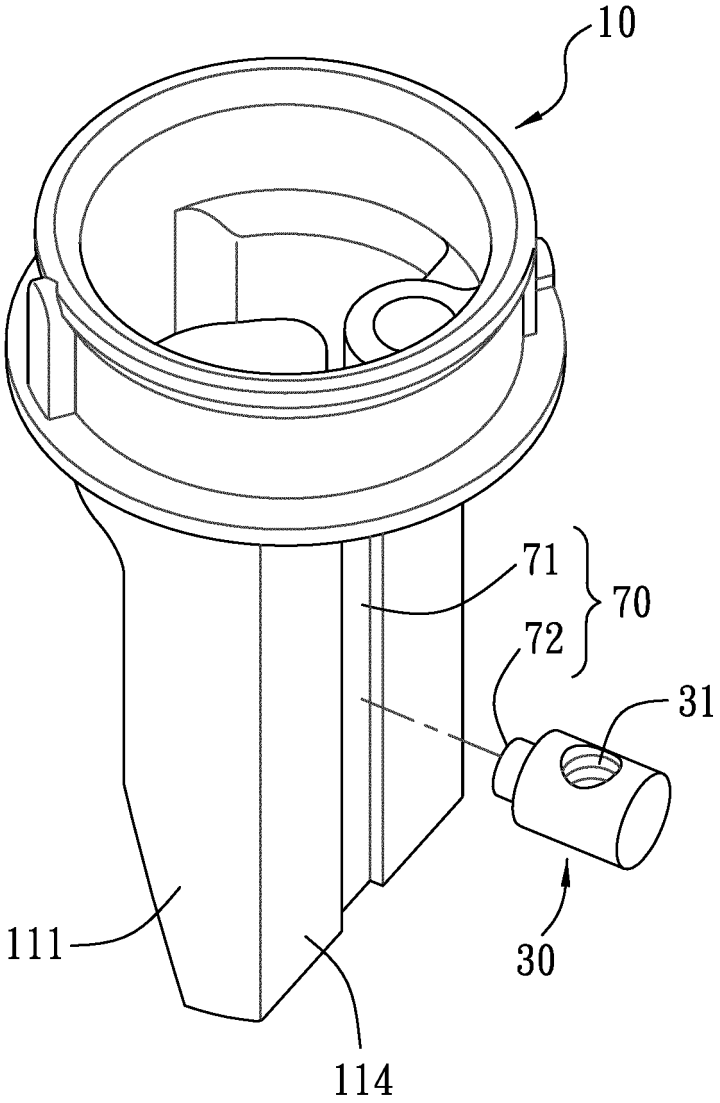

FIG. 24

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- US 8763175 B2 **[0003]**
- US 6328059 B1 **[0005]**