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(71) Applicant: **Xiamen Solex High-Tech Industries Co., Ltd.**
Xiamen Fujian 361022 (CN)

(72) Inventors:
- **WEI, Zhijian**
  Xiamen Fujian, 361022 (CN)
- **Chen, Wenxing**
  Xiamen Fujian, 361022 (CN)
- **YAN, Xiaohu**
  Xiamen Fujian, 361022 (CN)
- **HU, Lihong**
  Xiamen Fujian, 361022 (CN)

(74) Representative: **Hamel, Armin**
Iridium IP
Friedrich-König-Strasse 3-5
68167 Mannheim (DE)

(54) HOLLOW WATER OUTLET MECHANISM AND WATER OUTLET DEVICE COMPRISING THE HOLLOW WATER OUTLET MECHANISM

(57) The present disclosure discloses a hollow water outlet mechanism and a water outlet device comprising the hollow water outlet mechanism. The hollow water outlet mechanism is hollow to define a hollow hole (41), the hollow water outlet mechanism comprises a water inlet passage (42), a first annular cavity (43), an middle annular cavity and a final annular cavity; the first annular cavity (43) is in communication with the water inlet passage (42); a plurality of first water blocking strips (47, 47') are circumferentially disposed between the first annular cavity (43) and the middle annular cavity at intervals, water in the first annular cavity (43) flows into the middle annular cavity through a first interval between every two adjacent first water blocking strips (47, 47'); an annular water passage (49) is disposed between the middle annular cavity and the final annular cavity, the water in the middle annular cavity overflows and flows into the final annular cavity through the annular water passage (49), the water flows out along the final annular cavity, and air is sucked in from the hollow hole (41) during a process of the flowing out, so as to define hollow water. The hollow water is not distorted and is beautiful and water-saving.

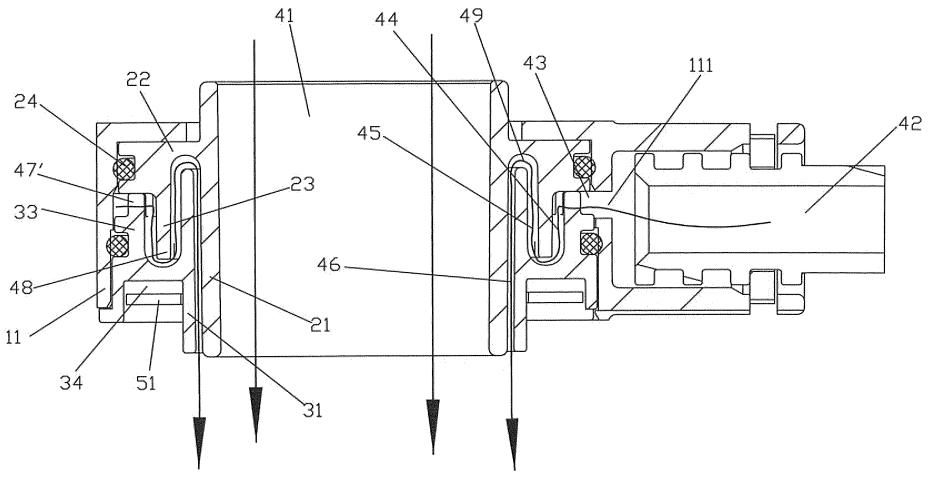

FIG. 5

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Description

FIELD OF THE DISCLOSURE

[0001] The present disclosure relates to sanitary wares, in particular relates to a hollow water outlet mechanism and a water outlet device comprising the hollow water outlet mechanism.

BACKGROUND OF THE DISCLOSURE

[0002] The hollow water outlet mechanism, for example, CN105983490B comprises a hollow housing and a flow guide column disposed in the housing. An annular passage is defined between the housing and the flow guide column, and a plurality of arc water inlet grooves are further disposed on the housing. The plurality of arc-shaped water inlet grooves are disposed in an annular array about the annular passage that functions as a center, and inner ends of the arc-shaped water inlet grooves is in communication with the annular passage, and water flows into the annular passage along the arc-shaped water inlet grooves to define a hollow annular water curtain with a centrifugal force. When a tangential centrifugal force of the water guided by a lower flow section is greater than its surface tensional force, it will break, so that the water will break into particles and disperse after maintaining a certain length of the water curtain. After the dispersing, a certain range of continuous water spray will be formed. A bathing area is large, and a single particle-shaped water spray has a good particle feeling. The water of the hollow water outlet mechanism is distorted, so there is a need for further improvement.

BRIEF SUMMARY OF THE DISCLOSURE

[0003] The present disclosure provides a hollow water outlet mechanism and a water outlet device comprising the hollow water outlet mechanism, which solves the deficiencies of the hollow water outlet mechanism in the background.

[0004] In order to solve its technical problems, a first technical solution of the present disclosure is as follows:

[0005] A hollow water outlet mechanism, which is hollow to define a hollow hole, characterized in that: the hollow water outlet mechanism comprises a water inlet passage, a first annular cavity, a middle annular cavity and a final annular cavity; the first annular cavity is in communication with the water inlet passage; a plurality of first water blocking strips are circumferentially disposed between the first annular cavity and the middle annular cavity at intervals, water in the first annular cavity flows into the middle annular cavity through a first interval between every two adjacent first water blocking strips; an annular water passage is disposed between the middle annular cavity and the final annular cavity, the water in the middle annular cavity overflows and flows into the final annular cavity through the annular water passage, the water flows out along the final annular cavity, and air is sucked in from the hollow hole during a process of the flowing out.

[0006] In order to solve its technical problems, a second technical solution of the present disclosure is as follows:

[0007] A water outlet device, which is a water outlet faucet, the water outlet faucet is disposed with the hollow water outlet mechanism.

[0008] In order to solve its technical problems, a third technical solution of the present disclosure is as follows:

[0009] A water outlet device, which is a shower, the shower is disposed with the hollow water outlet mechanism.

[0010] Compared with the existing techniques, the technical solution has the following advantages.

[0011] The first annular cavity is used to convert a water unilateral inflow from the water inlet passage into a water annular flow, so as to reduce a flow rate of the water unilateral inflow and to make a flow rate of a full circle to be uniform. The plurality of first water blocking strips circumferentially disposed at intervals is used to convert the water annular flow into a plurality of water radial flow flowing into the second annular cavity and circumferentially disposed at intervals, so as to rectify and convert the water unilateral inflow into a water multilateral inflow. The water in the middle annular cavity overflows and flows into the final annular cavity through the annular water passage to reduce a water flow rate, to ensure the water to define a complete circle structure, and to prevent from breaking. The water flows out along the final annular cavity, the air is sucked in from the hollow hole during the process of the flowing out. Water drops from a high place to increase the flow rate and to suck the air from the hollow hole, so as to define hollow water. The hollow water is not distorted, and is beautiful and water-saving.

[0012] The second annular cavity and the plurality of second water blocking strips circumferentially disposed at intervals are used to adjust a flow direction of a rotating water, to convert the plurality of water radial flow into a flow directing to a center, to make a flow rate of a full circle to be uniform, so as to rectify and convert the rotating water into a non-rotating water. The water in the third annular cavity overflows and flows into the fourth annular cavity through the annular water passage to reduce a water flow rate, to ensure the water to define a complete circle structure, and to prevent from breaking.

[0013] The light emitting mechanism comprises an annular light emitting portion, the annular light emitting portion is disposed below the water passing base and surrounds the outer side of the fourth annular cavity. The fixed base, the water suction base and the water passing base are made of the light-transmitting material, a light is scattered by the water to light up the water suction base, people enjoy a beautiful hollow water flow directly, and to enhance user experience.

[0014] The light emitting mechanism further comprises

a hydroelectric generating mechanism, which is disposed in the water inlet passage and is electrically connected to the light emitting portion, the hydropower technology is applied to a water outlet of a product, and the water drives the electric generating mechanism to operate to achieve a lighting effect. When water flows through, the hydroelectric generating mechanism operates, a light lights up, and when no water flows through, the light lights off.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] The present disclosure will be further described below in combination with the accompanying drawings and embodiments.

FIG. 1 illustrates an exploded perspective view of a hollow water outlet mechanism according to an embodiment.

FIG. 2 illustrates a perspective view of a fixed base according to the embodiment.

FIG. 3 illustrates a perspective view of a water suction base according to the embodiment.

FIG. 4 illustrates a perspective view of a water passing base according to the embodiment.

FIG. 5 illustrates a first cross-sectional view of the hollow water outlet mechanism according to the embodiment.

FIG. 6 illustrates a second cross-sectional view of the hollow water outlet mechanism according to the embodiment.

FIG. 7 illustrates a perspective view of the hollow water outlet mechanism applied to a first basin faucet according to the embodiment.

FIG. 8 illustrates a cross-sectional view of the first basin faucet.

FIG. 9 illustrates an exploded perspective view of the first basin faucet.

FIG. 10 illustrates a perspective view of the hollow water outlet mechanism applied to a kitchen faucet according to the embodiment.

FIG. 11 illustrates a perspective view of the hollow water outlet mechanism applied to a second basin faucet according to the embodiment.

FIG. 12 illustrates a perspective view of the hollow water outlet mechanism applied to a handheld shower according to the embodiment.

FIG. 13 illustrates a perspective view of the hollow water outlet mechanism applied to a shower according to the embodiment.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0016] Referring to FIGS. 1-6, a hollow water outlet mechanism is hollow to define a hollow hole 41, and comprises a water inlet passage 42, a first annular cavity 43, a second annular cavity 44, a third annular cavity 45 and a fourth annular cavity 46. The first annular cavity 43, the second annular cavity 44, the third annular cavity 45, the fourth annular cavity 46, and the hollow hole 41 are disposed in an inward direction. The first annular cavity 43 is in communication with the water inlet passage 42. A plurality of first water blocking strips 47 and 47' is circumferentially disposed between the first annular cavity 43 and the second annular cavity 44 at intervals, and water in the first annular cavity 43 flows into the second annular cavity 44 through a first interval defined between every two adjacent first water blocking strips 47 and 47' (i.e., between two adjacent first water blocking strips 47, two adjacent first water blocking strips 47', between two first water blocking strips 47 and 47', etc.) of the plurality of first water blocking strips 47 and 47'. A plurality of second water blocking strips 48 are circumferentially disposed between the second annular cavity 44 and the third annular cavity 45 at intervals, and the water in the second annular cavity 44 flows into the third annular cavity 45 through a second interval defined between every two adjacent second water blocking strips 48 of the plurality of second water blocking strips 48. An annular water passage 49 is disposed between the third annular cavity 45 and the fourth annular cavity 46. The water in the third annular cavity 45 overflows and flows into the fourth annular cavity 46 through the annular water passage 49, the water flows out along the fourth annular cavity 46, and air is sucked in from the hollow hole 41 during a process of the flowing out. In this embodiment, annular shapes (i.e., the first annular cavity 43, the second annular cavity 44, the third annular cavity 45 and the fourth annular cavity 46) have circular structures, but they are not limited to thereto, as required, the annular shapes can also be rectangular structures, square structures, polygonal structures, etc.

[0017] In the hollow water outlet mechanism of this embodiment: the first annular cavity 43 is used to convert a water unilateral inflow from the water inlet passage 42 into a water annular flow, so as to reduce a flow rate of the water unilateral inflow and to make a flow rate of a full circle to be uniform. The plurality of first water blocking strips 47 and 47' circumferentially disposed at intervals is used to convert the water annular flow into a plurality of water radial flow flowing into the second annular cavity 44 and circumferentially disposed at intervals, so as to rectify and convert the water unilateral inflow into a water multilateral inflow. The second annular cavity 44 and the plurality of second water blocking strips 48 circumferentially disposed at intervals are used to adjust a flow direction of a rotating water, to convert the plurality of water radial flow into a flow directing to a center, to make a flow rate of a full circle to be uniform, so as to rectify and convert the rotating water into a non-rotating water. The water in the third annular cavity 45 overflows and flows into the fourth annular cavity 46 through the annular water passage 49 to reduce a water flow rate, to ensure the water to define a complete circle structure, and to prevent from breaking. The water flows out along the fourth annular cavity 46, the air is sucked in from the hollow hole

41 during the process of the flowing out. Water drops from a high place to increase the flow rate and to suck the air from the hollow hole, so as to define hollow water.

[0018] The plurality of first water blocking strips 47 and 47' at least comprise two wide water blocking strips 47' and the other water blocking strips 47. A width of each of the two wide water blocking strips 47' is greater than a width of each of the other water blocking strips 47. The two wide water blocking strips 47' are radially and symmetrically disposed relative to an axial line (i.e., a center line) of the hollow hole 41, and the two wide water blocking strips 47' are aligned with a communication position between the water inlet passage 42 and the first annular cavity 43. Moreover, a central angle of each of the two wide water blocking strips 47' is greater than a central angle of each of the other water blocking strips 47. For example, the central angle of the two wide water blocking strips 47' is 2-5 times of the central angle of each of the other water blocking strips 47 to prevent a large amount of the water from flowing into the second annular cavity 44 through the first interval closest to the communication position (i.e., the communication position between the water inlet passage 42 and the first annular cavity 43), thereby improving a water uniformity of each of the first intervals. Further, the plurality of first water blocking strips 47 and 47' cooperate to define the first intervals in an annular array.

[0019] The plurality of second water blocking strips 48 are in an annular array. A height of the annular water passage 49 is higher than a height of the first interval, the heights of the first interval is higher than a height of the second interval, and the height of the second interval is higher than a lower annular port of the fourth annular cavity 46. The annular water passage 49 is connected between a top peripheral edge of the third annular cavity 45 and a top peripheral edge of the fourth annular cavity 46.

[0020] In this specific embodiment, the hollow water outlet mechanism comprises a fixed base 1, a water suction base 2 and a water passing base 3.

[0021] The fixed base 1 comprises a first surrounding wall 11, the fixed base 1 is disposed with the water inlet passage 42, and the first surrounding wall 11 comprises a first water passing hole 111 penetrating an inner side and an outer side and being in communication with the water inlet passage 42, and the first water passing hole 111 defines the communication position between the water inlet passage 42 and the first annular cavity 43. The water suction base 2 is disposed with a fifth surrounding wall 21 and an upper annular wall 22 fixedly connected to an outer side of the fifth surrounding wall 21. A lower side of the upper annular wall 22 is further fixed with a third surrounding wall 23, and the third surrounding wall 23 is separated from the fifth surrounding wall 21 out and in (i.e. the third surrounding wall 23 at least partly encompasses the fifth surrounding wall 21). The water suction base 2 is disposed in the first surrounding wall 11 of the fixed base 1, and a sealing structure 24 is disposed between an outer peripheral wall of the upper annular wall 22 and the first surrounding wall 11. The water passing base 3 comprises a fourth surrounding wall 31 and a lower annular wall 32 fixedly connected to an outer side of the fourth surrounding wall 31. An upper side of the lower annular wall 32 is fixed with a second surrounding wall 33, the second surrounding wall 33 is separated from the fourth surrounding wall 31 out and in (i.e. the second surrounding wall 23 is separated from the fourth surrounding wall 31 and at least partly encompasses the fourth surrounding wall 21). The water passing base 3 is disposed in the first surrounding wall 11 of the fixed base 1, a sealing structure is disposed between an outer peripheral wall of the second surrounding wall 33 and the first surrounding wall 11, and the second surrounding wall 33 is separated from the first surrounding wall 11. The water suction base 2 and the water passing base 3 are disposed up and down (i.e. the water suction base 2 is disposed above the water passing base 3), and the upper annular wall 22 and the lower annular wall 32 are disposed up and down (i.e. the upper annular wall 22 is disposed above the lower annular wall 32). The four surrounding walls 31 are disposed between the fifth surrounding wall 21 and the third surrounding wall 23 of the water suction base 2, and the third surrounding wall 23 is disposed between the second surrounding wall 33 and the fourth surrounding wall 31 of the water passing base 3. The first annular cavity 43 is defined between the first surrounding wall 11 and the second surrounding wall 33, the second annular cavity 44 is defined between the second surrounding wall 33 and the third surrounding wall 23, the third annular cavity 45 is defined between the third surrounding wall 23 and the fourth surrounding wall 31, and the fourth annular cavity 46 is defined between the fourth surrounding wall 31 and the fifth surrounding wall 21.

[0022] An upper portion of the second surrounding wall 33 is disposed with the plurality of first water blocking strips 47 and 47', and a lower portion of the third surrounding wall 23 is disposed with the plurality of second water blocking strips 48. An upper end surface of the plurality of first water blocking strips 47 and 47' abuts a lower annular surface of the upper annular wall 22, an upper end surface of the fourth surrounding wall 31 is separated from the upper annular wall 22 to define the annular water passage 49. A lower end surface of the third surrounding wall 23 is separated from an upper annular surface of the lower annular wall 32.

[0023] In this embodiment, the hollow water outlet mechanism further comprises a light emitting mechanism 5, the light emitting mechanism 5 comprises an annular light emitting portion 51 and a hydroelectric generating mechanism 52, the annular light emitting portion 51 is disposed below the water passing base 3 and surrounds an outer side of the fourth annular cavity 46. The hydroelectric generating mechanism 52 is disposed in the water inlet passage 42 and is electrically connected to the light emitting portion 51 to provide power for the light

emitting portion 52 when the water flows. In a specific structure, a bottom surface of the lower annular wall 32 is concave to define an annular groove 34, the annular light emitting portion 51 is fixed in the annular groove 34 to emit upward light. Moreover, the fixed base 1, the water suction base 2 and the water passing base 3 are made of a light transmission material, such as transparent PE material.

[0024] FIGS. 7-9 illustrate schematic views of the hollow water outlet mechanism applied to a first basin faucet. The first basin faucet comprises a faucet module 61, a hose module 62, a mounting and fixing module 63, a connection module 64, the hollow water outlet mechanism 65, and the hydroelectric generating module 52. The hose module 62 comprises two hoses respectively in communication with cold water and hot water. The faucet module 61 comprises a faucet body 611, a valve base 614, a valve core 612, a handle 613, etc. An inner side of the faucet body 611 is disposed with a second water inlet passage, the valve core 612 and the valve base 614 are connected to the two hoses and the second water inlet passage, that is, the second water inlet is connected to a first water inlet passage (i.e., the water inlet passage 42), and the handle 613 is connected to the valve core 612 to drive a relative movement of the valve core 612 to achieve a waterway control. The mounting and fixing module 63 comprises a locking cap 631 and a fixed sleeve 632 configured to fix the faucet body 611 on the countertop. The hydroelectric generating module 52 comprises a hydroelectric generating base 521 and a hydroelectric generator 522. The hydroelectric generator 522 comprises an inclined water body and a power generating module. The water drives an impeller to rotate, and the impeller rotates to drive the power generating module to generate power. The connection module 64 is connected to the faucet body 611, the hollow water outlet mechanism 65, etc. The connection module 64 comprises a component module 641, a plastic pipe 642, an intermediate connection cover 643 and a face cover 644. The faucet body 611 has an L-shaped structure.

[0025] Referring to FIG. 10, a water outlet device is a kitchen faucet. The kitchen faucet comprises a faucet body 71, a valve core disposed in the faucet body 71, a handle 72 operatively connected to the valve core, and a pull-out faucet 73 configured to slide relative to the faucet body 71. The pull-out faucet 73 is disposed with the hollow water outlet mechanism.

[0026] Referring to FIG. 11, the water outlet device is a second basin faucet, which differs from the first basin faucet in that the faucet body 611 defines a ⊦ shaped structure.

[0027] Referring to FIG. 12, the water outlet device is a handheld shower and comprises a handheld portion 81 and a head portion 82, the head portion is disposed with the hollow water outlet mechanism.

[0028] Referring to FIG. 13, the water outlet device is a shower and comprises a hand shower 91 and a rain shower 92. The hand shower 91 and the rain shower 92 are both disposed with the hollow water outlet mechanism.

[0029] The aforementioned embodiments are merely some embodiments of the present disclosure, and the scope of the disclosure of is not limited thereto. Thus, it is intended that the present disclosure cover any modifications and variations of the presently presented embodiments provided they are made without departing from the appended claims and the specification of the present disclosure.

Claims

1. A hollow water outlet mechanism, which is hollow to define a hollow hole (41), **characterized in that**: the hollow water outlet mechanism comprises a water inlet passage (42), a first annular cavity (43), a middle annular cavity and a final annular cavity; the first annular cavity (43) is in communication with the water inlet passage (42); a plurality of first water blocking strips (47, 47') are circumferentially disposed between the first annular cavity (43) and the middle annular cavity at intervals, water in the first annular cavity (43) flows into the middle annular cavity through a first interval between every two adjacent first water blocking strips (47, 47'); an annular water passage (49) is disposed between the middle annular cavity and the final annular cavity, the water in the middle annular cavity overflows and flows into the final annular cavity through the annular water passage (49), the water flows out along the final annular cavity, and air is sucked in from the hollow hole (41) during a process of the flowing out.

2. The hollow water outlet mechanism according to claim 1, **characterized in that**: the middle annular cavity comprises a second annular cavity (44) and a third annular cavity (45), and the final annular cavity comprises a fourth annular cavity (46); the first water blocking strips (47, 47') are disposed between the first annular cavity (43) and the second annular cavity (44); the second annular cavity (44) is in communication with the third annular cavity (45), the annular water passage (49) is disposed between the third annular cavity (45) and the fourth annular cavity (46), and the water in the third annular cavity (45) overflows and flows into the fourth annular cavity (46) through the annular water passage (49).

3. The hollow water outlet mechanism according to claim 2, **characterized in that**: a plurality of second water blocking strips (48) are circumferentially disposed between the second annular cavity (44) and the third annular cavity (45) at intervals, and the water in the second annular cavity (44) flows into the third annular cavity (45) through a second interval

between every two adjacent second water blocking strips (48).

4. The hollow water outlet mechanism according to claim 3, **characterized in that**: the plurality of first water blocking strips (47, 47') at least comprises one or more wide water blocking strips (47') and the other water blocking strips (47), and a width of each of the one or more wide water blocking strips (47') is larger than a width of each of the other water blocking strips (47), the one or more wide water blocking strips (47') are radially and symmetrically disposed relative to a center line of the hollow hole (41), and the one or more wide water blocking strips (47') are aligned with a communication position between the water inlet passage (42) and the first annular cavity (43).

5. The hollow water outlet mechanism according to claim 1, **characterized in that**: the plurality of first water blocking strips (47, 47') cooperate to define first intervals in an annular array.

6. The hollow water outlet mechanism according to claim 2, **characterized in that**: the annular water passage (49) is connected between a top peripheral edge of the third annular cavity (45) and a top peripheral edge of the fourth annular cavity (46).

7. The hollow water outlet mechanism according to claim 2, **characterized in that**: the first annular cavity (43), the second annular cavity (44), the third annular cavity (45), the fourth annular cavity (46) and the hollow hole (41) are disposed in an inward direction.

8. The hollow water outlet mechanism of claim 7, **characterized in that** a height of the annular water passage (49) is higher than a height of the first interval, the height of the first interval is higher than a height of the second interval, and the height of the second interval is higher than a lower annular port of the fourth annular cavity (46).

9. The hollow water outlet mechanism according to claim 2, **characterized in that**: co
mprises a fixed base (1), a water suction base (2) and a water passing base (3);
the fixed base (1) comprises a first surrounding wall (11), the fixed base (1) is disposed with the water inlet passage (42), and the first surrounding wall (11) is disposed with a first water passing hole (111) penetrating an inner side and an outer side and being in communication with the water inlet passage (42);
the water suction base (2) is disposed with a fifth surrounding wall (21) and an upper annular wall (22) fixedly connected to an outer side of the fifth surrounding wall (21), a lower side of the upper annular wall (22) is further fixed with a third surrounding wall (23), the third surrounding wall (23) is separated from the fifth surrounding wall (21) out and in; the water suction base (2) is disposed in the first surrounding wall (11) of the fixed base (1), and a sealing structure is disposed between an outer peripheral wall of the upper annular wall (22) and the first surrounding wall (11);
the water passing base (3) comprises a fourth surrounding wall (31) and a lower annular wall (32) fixedly connected to an outer side of the fourth surrounding wall (31), an upper side of the lower annular wall (32) is fixed with a second surrounding wall (33), and the second surrounding wall (33) is separated from the fourth surrounding wall (31) out and in; the water passing base (3) is disposed in the first surrounding wall (11) of the fixed base (1), a sealing structure is disposed between an outer peripheral wall of the second surrounding wall (33) and the first surrounding wall (11), and the second surrounding wall (33) is separated from the first surrounding wall (11);
the water suction base (2) and the water passing base (3) are disposed up and down, the fourth surrounding wall (31) is disposed between the fifth surrounding wall (21) and the third surrounding wall (23) of the water suction base (2), and the third surrounding wall (23) is disposed between the second surrounding wall (33) and the fourth surrounding wall (31) of the water passing base (3); and
the first annular cavity (43) is defined between the first surrounding wall (11) and the second surrounding wall (33), the second annular cavity (44) is defined between the second surrounding wall (33) and the third surrounding wall (23), the third annular cavity (45) is defined between the third surrounding wall (23) and the fourth surrounding wall (31), and the fourth annular cavity (46) is defined between the fourth surrounding wall (31) and the fifth surrounding wall (21).

10. The hollow water outlet mechanism according to claim 9, **characterized in that**: an upper portion of the second surrounding wall (33) is disposed with the first water blocking strips (47, 47'), and a lower portion of the third surrounding wall (23) is disposed with the second water blocking strips (48).

11. The hollow water outlet mechanism of claim 9, **characterized in that**: an upper end surface of the plurality of first water blocking strips (47, 47') abuts a lower annular surface of the upper annular wall (22), and an upper end surface of the fourth surrounding wall (31) is separated from the upper annular wall (22) to define the annular water passage (49).

12. The hollow water outlet mechanism of claim 9, **characterized in that**: a lower end surface of the third surrounding wall (23) is separated from an upper an-

nular surface of the lower annular wall (32).

13. The hollow water outlet mechanism according to any one of claims 1 to 12, **characterized in that**: further comprises a light emitting mechanism (5), the light emitting mechanism (5) comprises an annular light emitting portion (51), and the annular light emitting portion (51) surrounds an outer side of the fourth annular cavity (46).

14. The hollow water outlet mechanism according to claims 11 or 12, **characterized in that**: further comprises a light emitting mechanism (5), the light emitting mechanism (5) comprises an annular light emitting portion (51), and the annular light emitting portion (51) is disposed below the water passing base (3) and surrounds an outer side of the fourth annular cavity (46); the fixed base (1), the water suction base (2) and the water passing base (3) are all made of a light transmission material.

15. The hollow water outlet mechanism of claim 14, **characterized in that**: a bottom surface of the lower annular wall (32) is concave to define an annular groove (34), and the annular light emitting portion (51) is disposed in the annular groove (34).

16. A water outlet device, which is a water outlet faucet, **characterized in that**: the water outlet faucet is disposed with the hollow water outlet mechanism according to any one of claims 1 to 12.

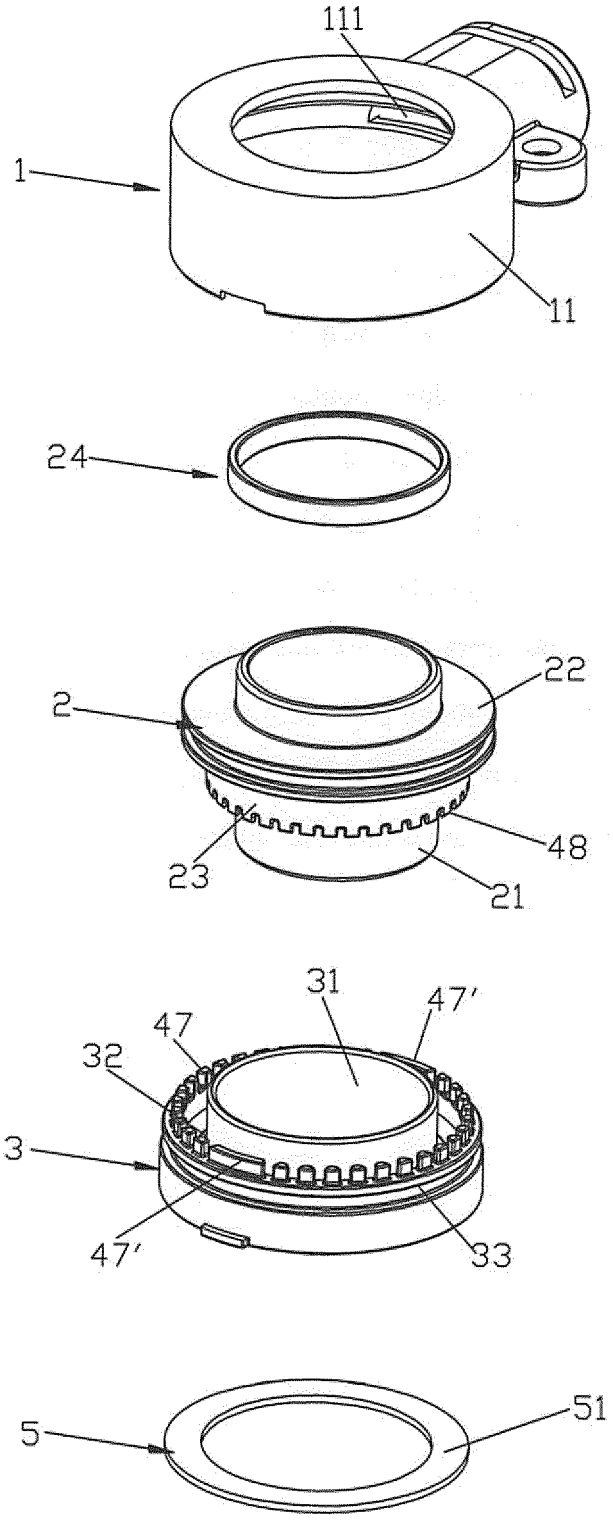

FIG. 1

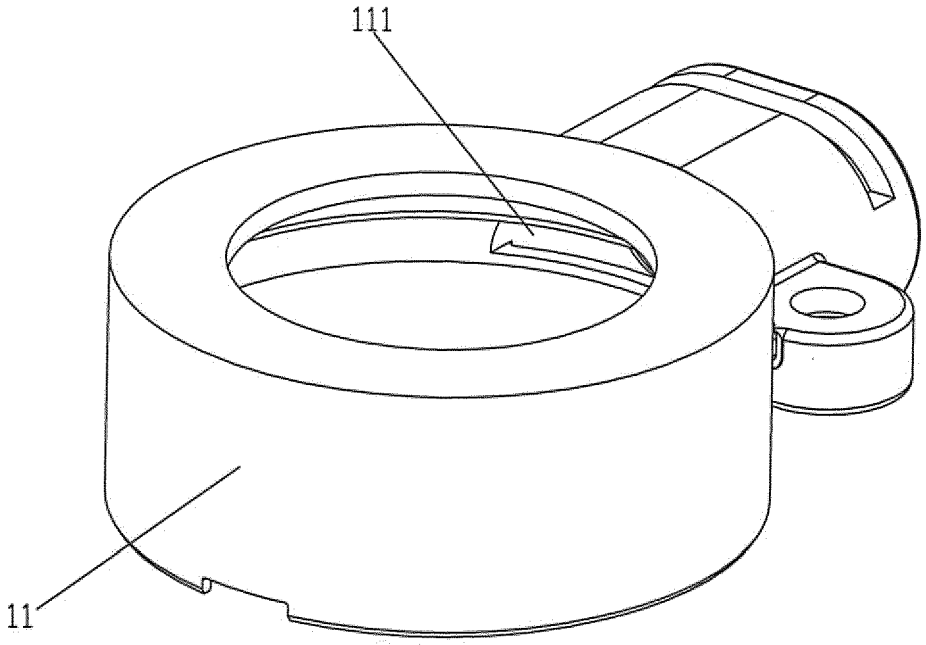

FIG. 2

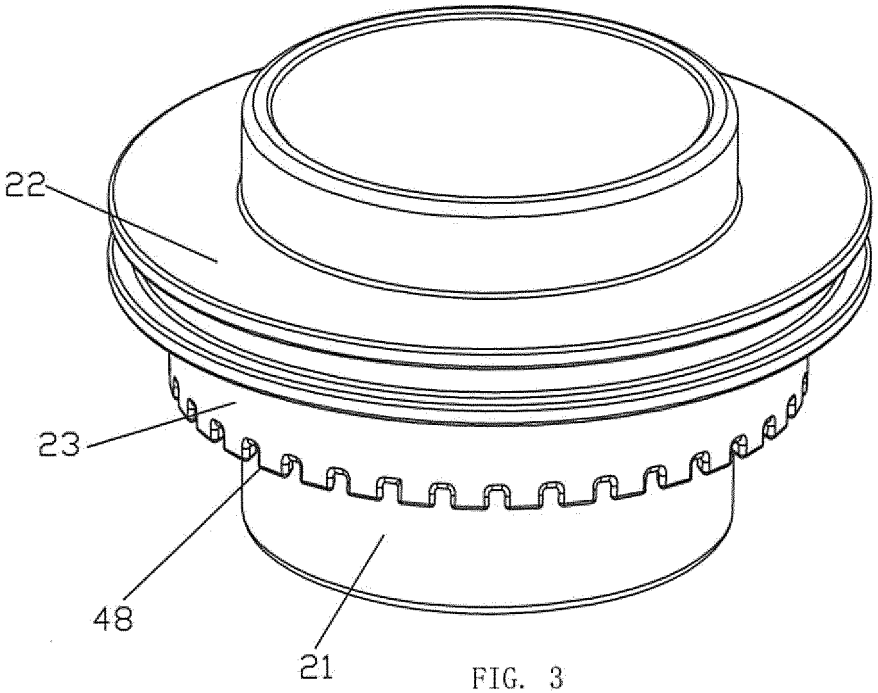

FIG. 3

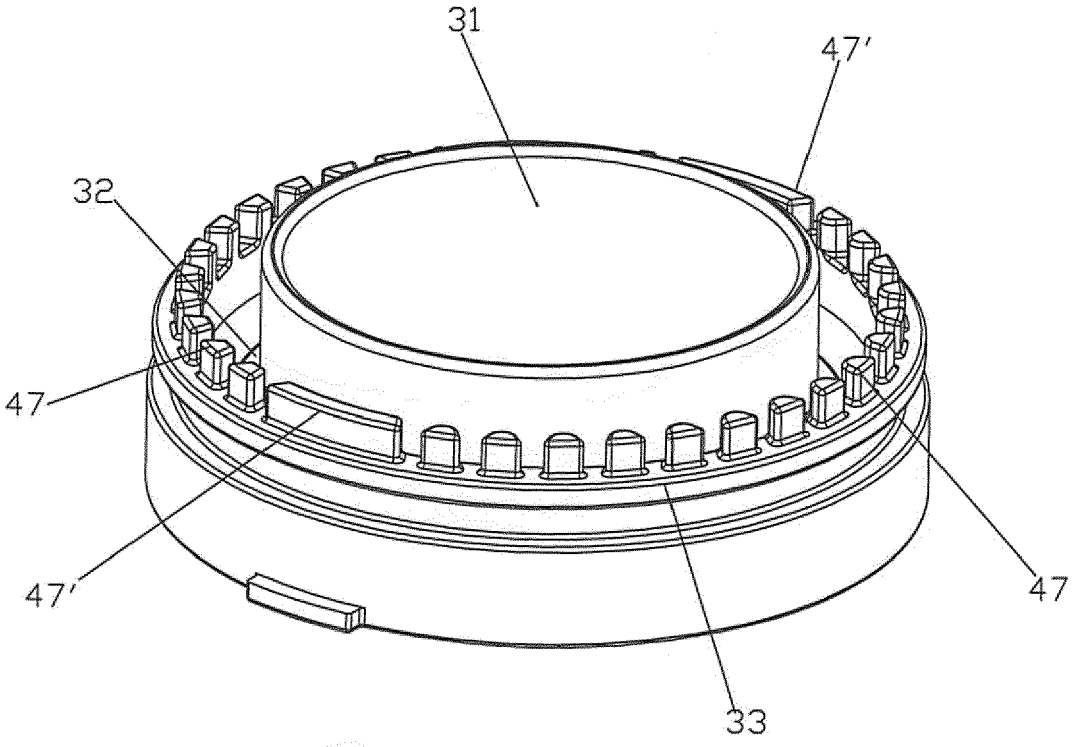

FIG. 4

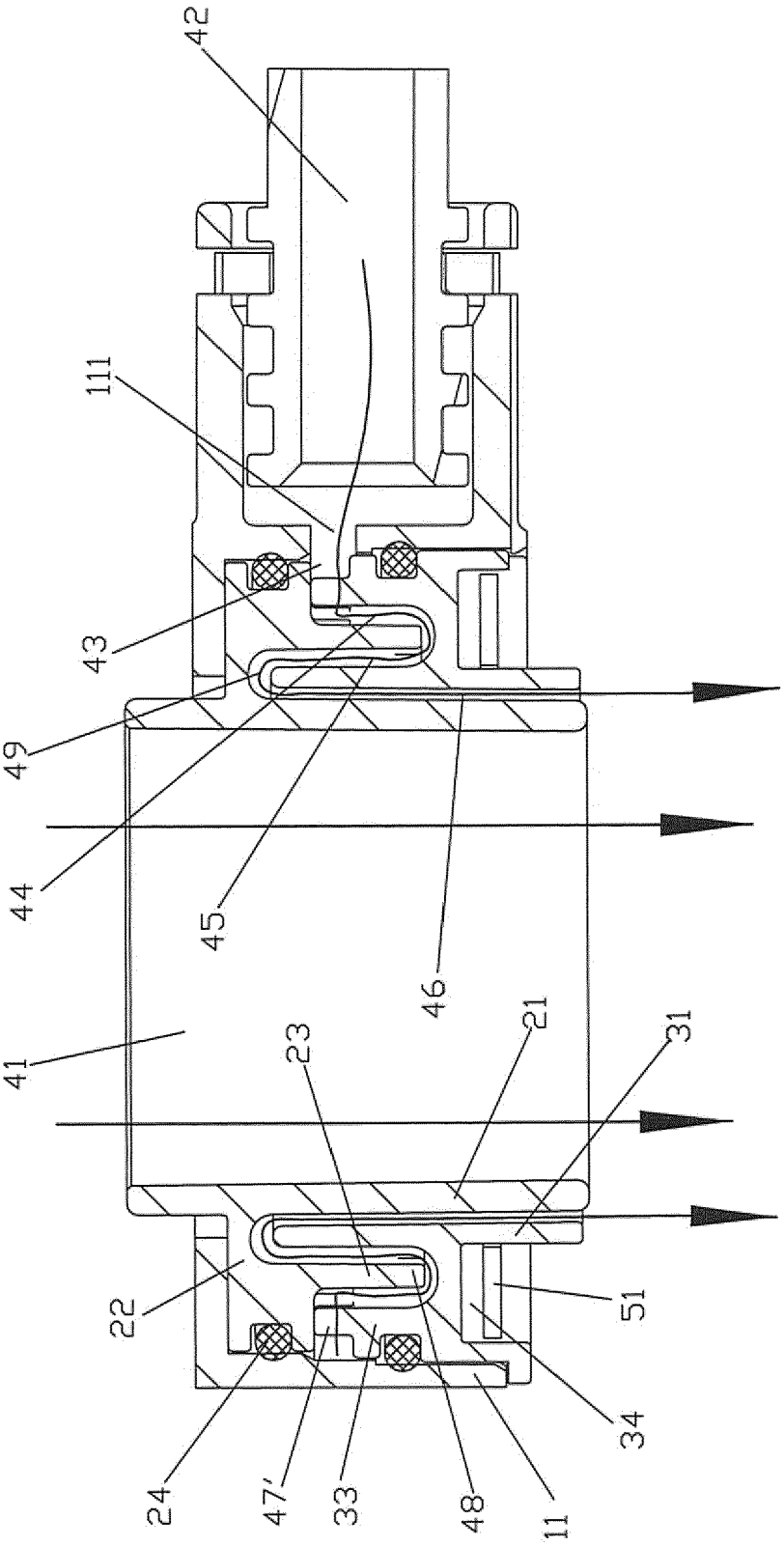

FIG. 5

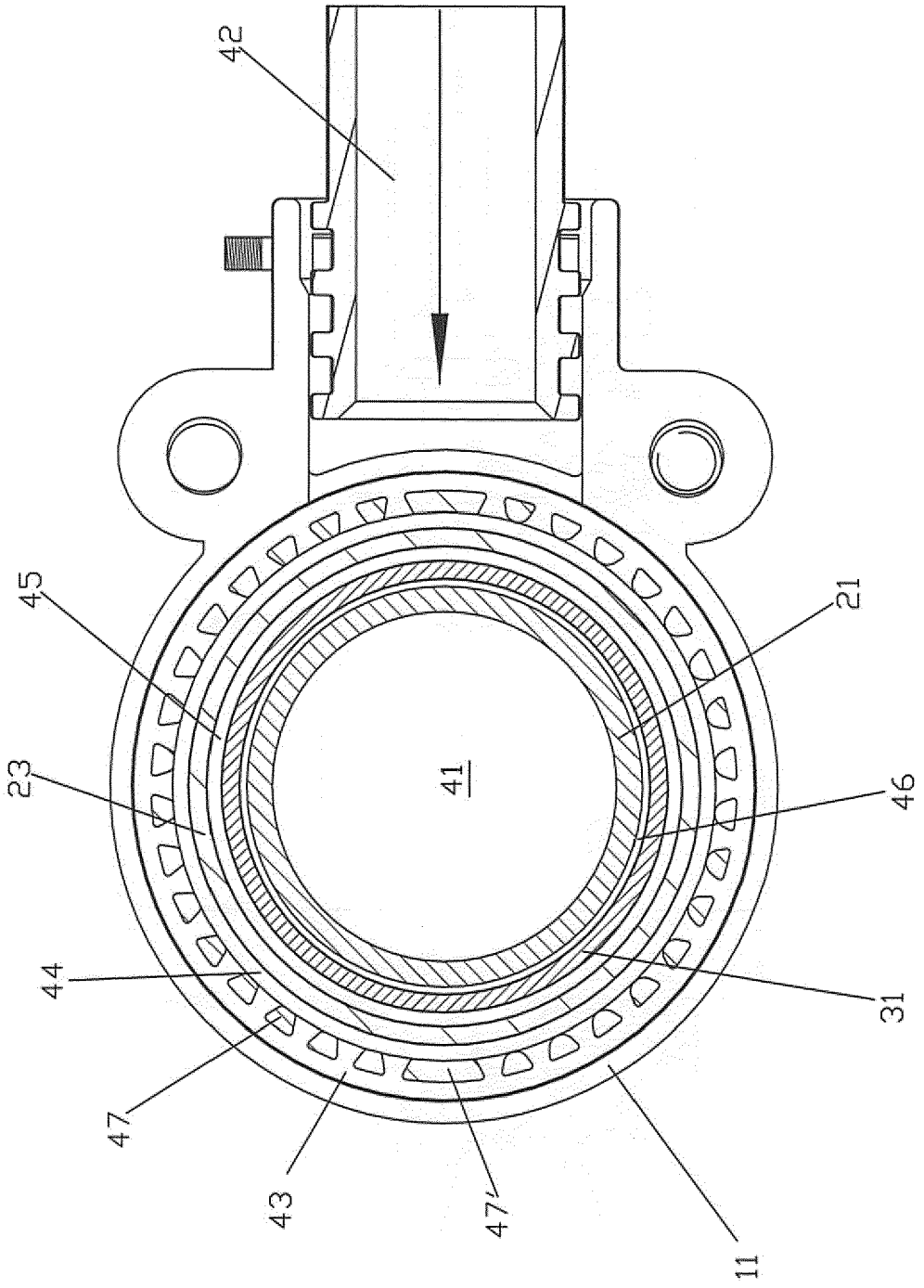

FIG. 6

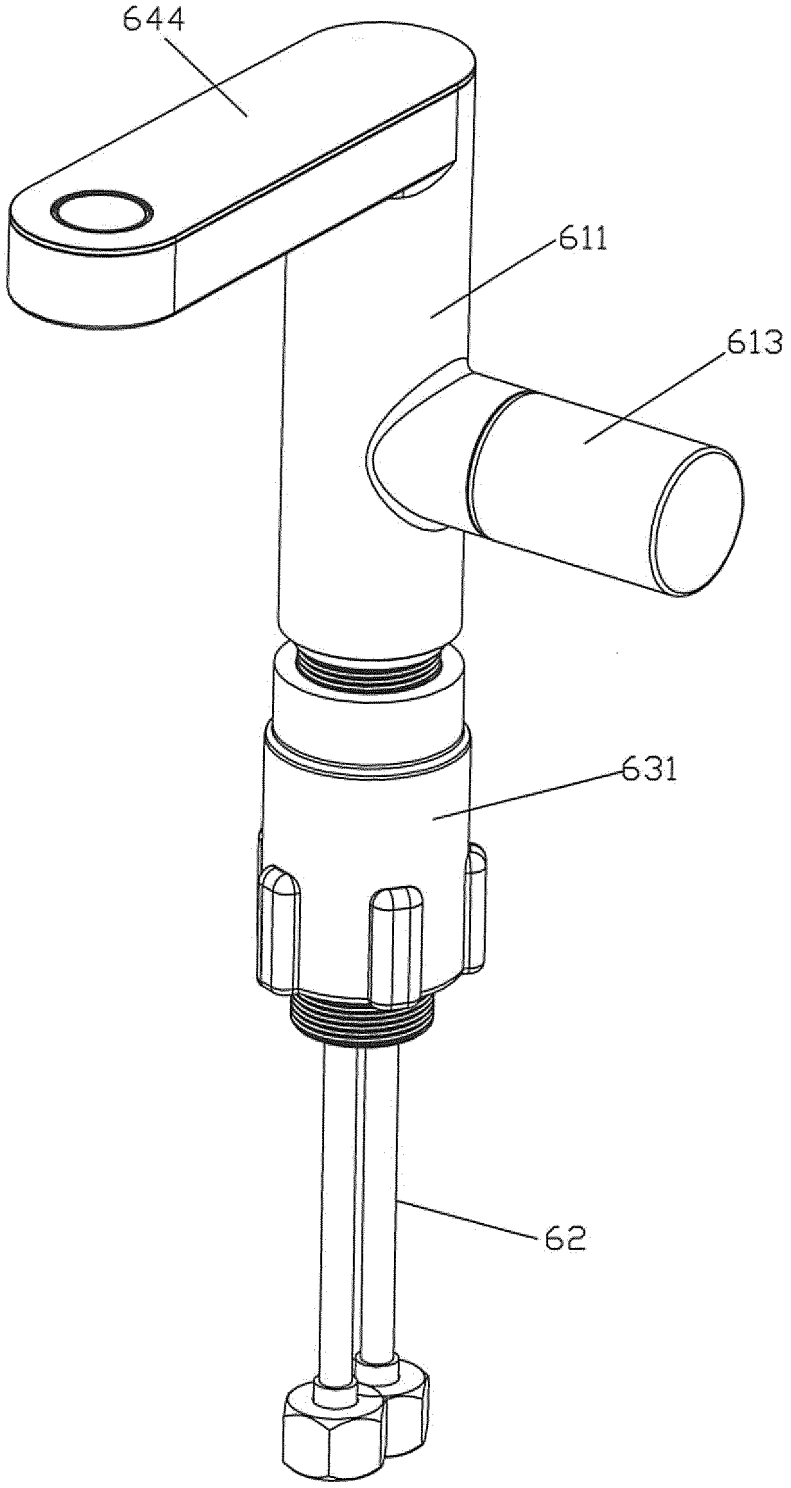

FIG. 7

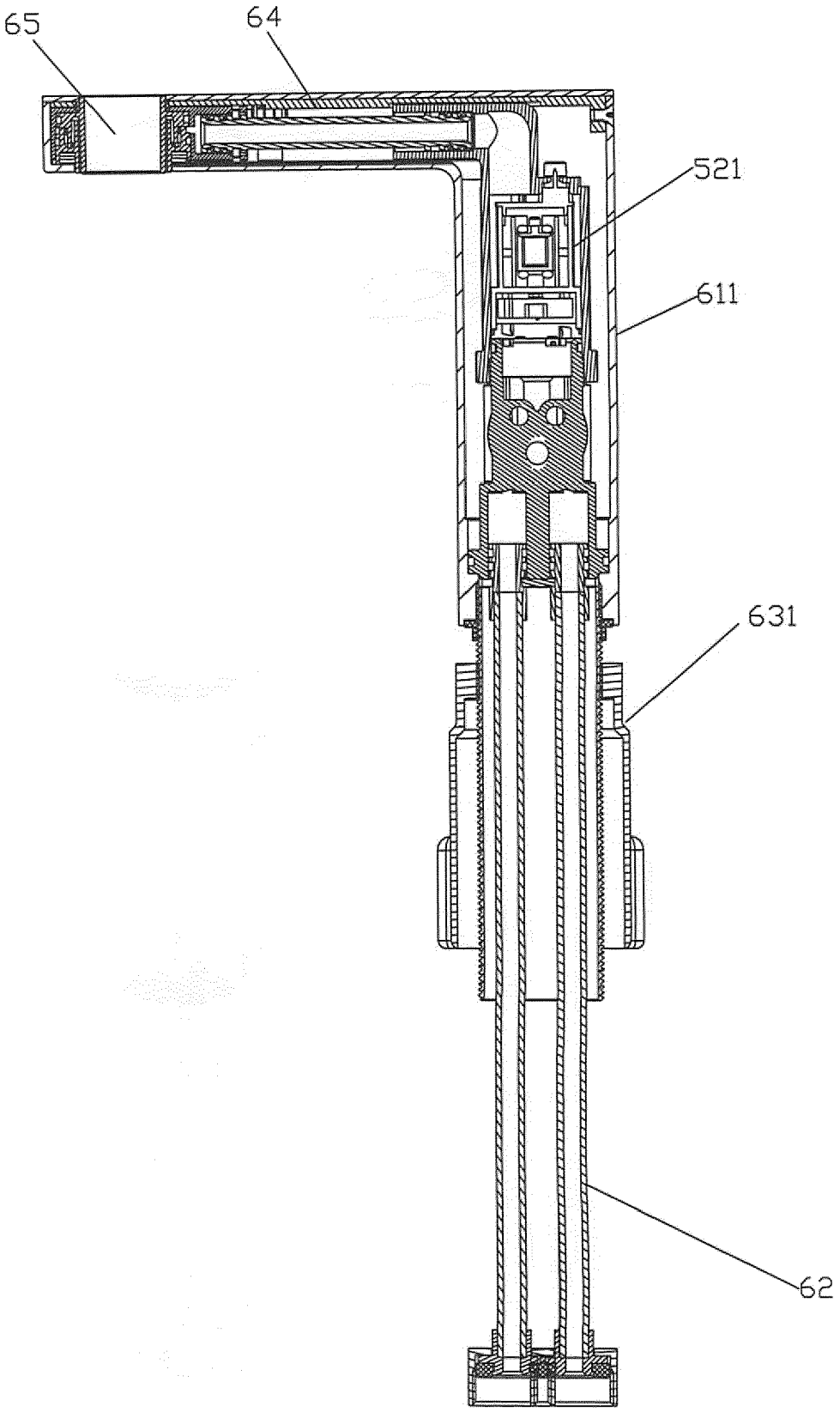

FIG. 8

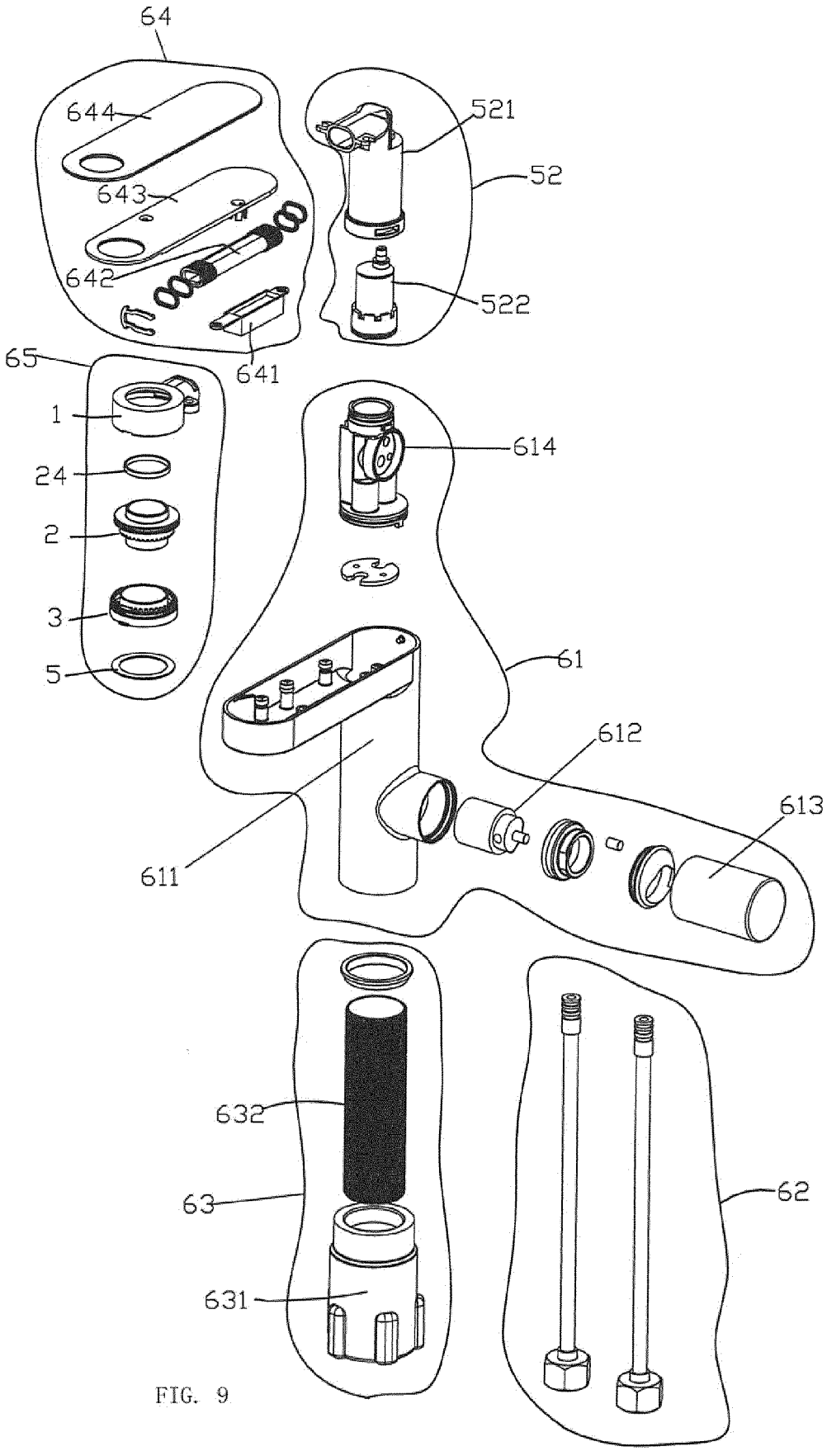
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FIG. 9

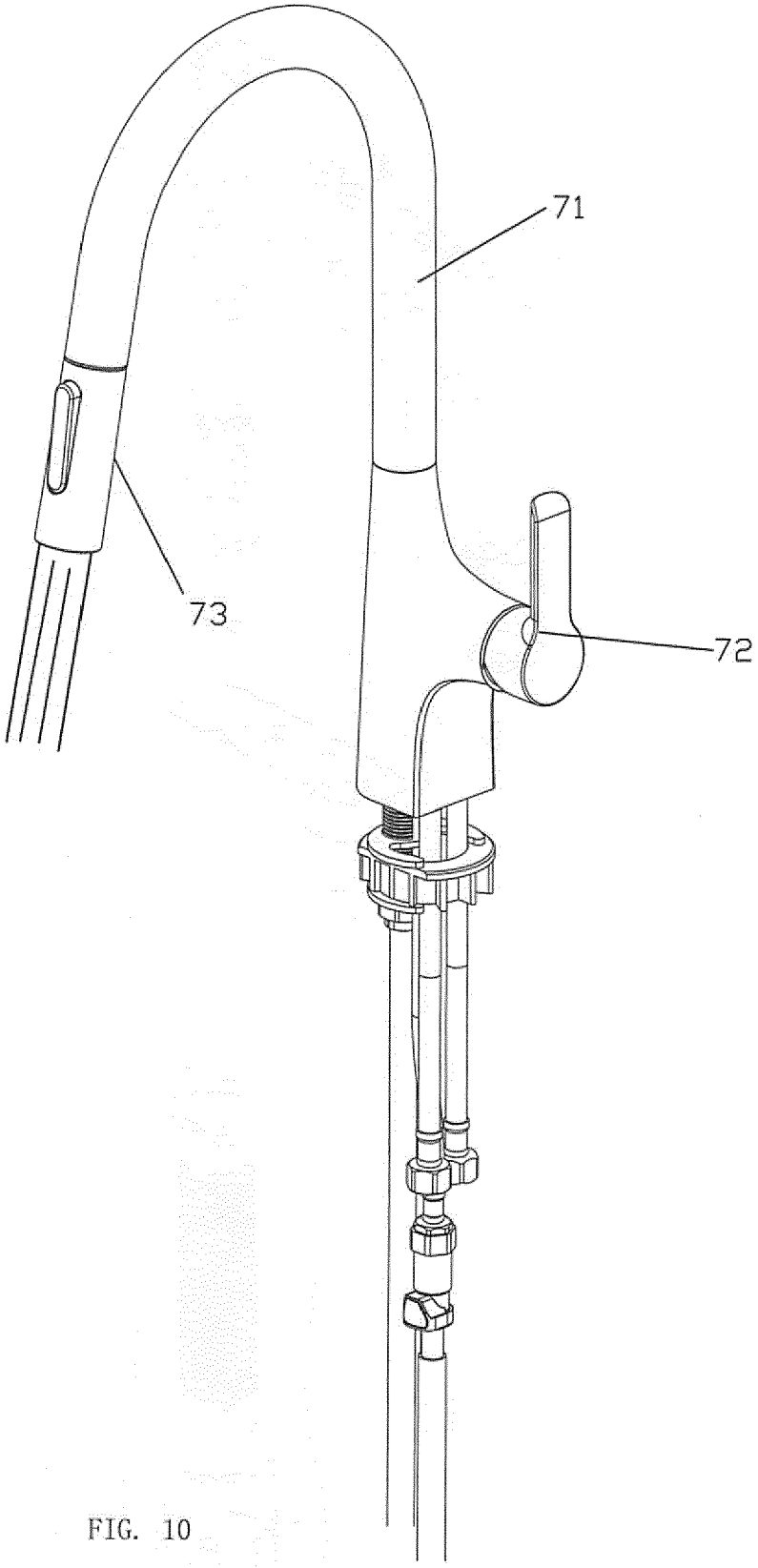

FIG. 10

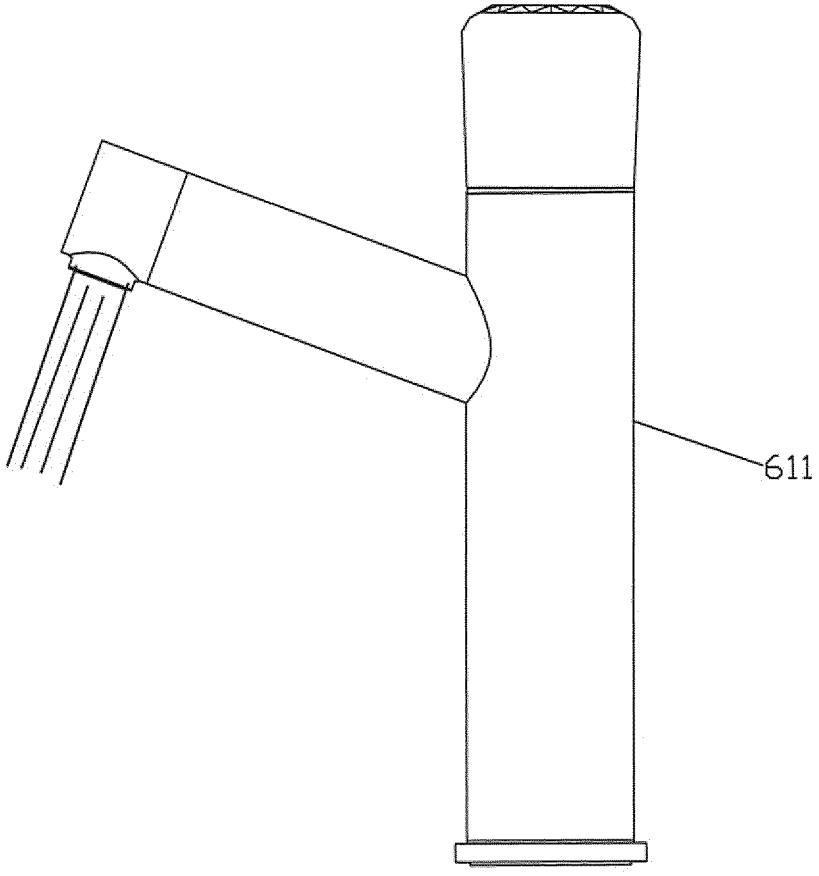

FIG. 11

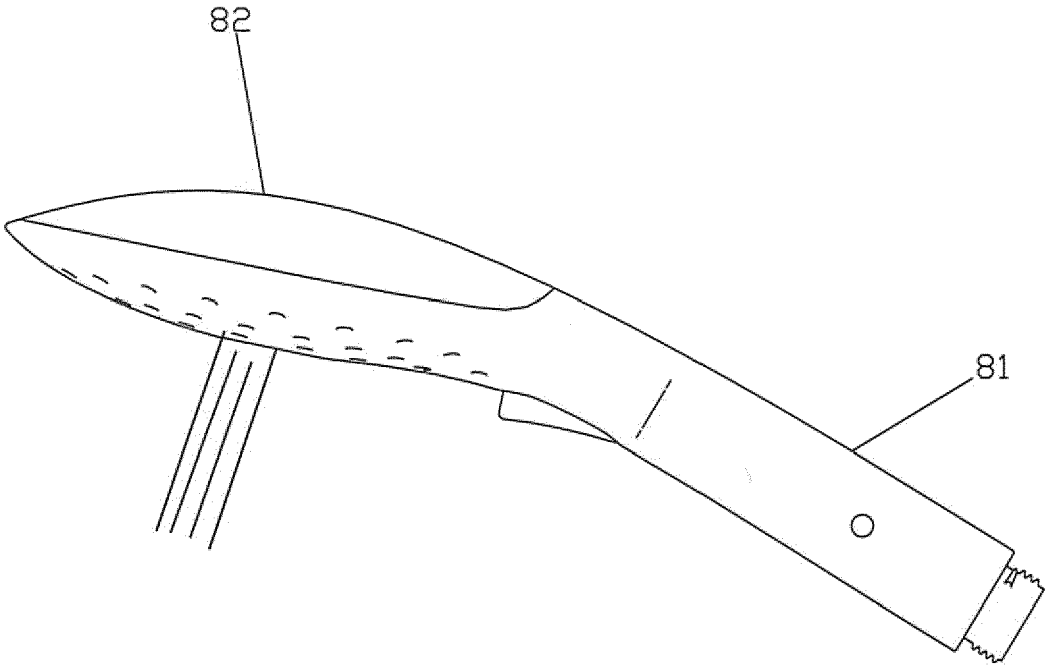

FIG. 12

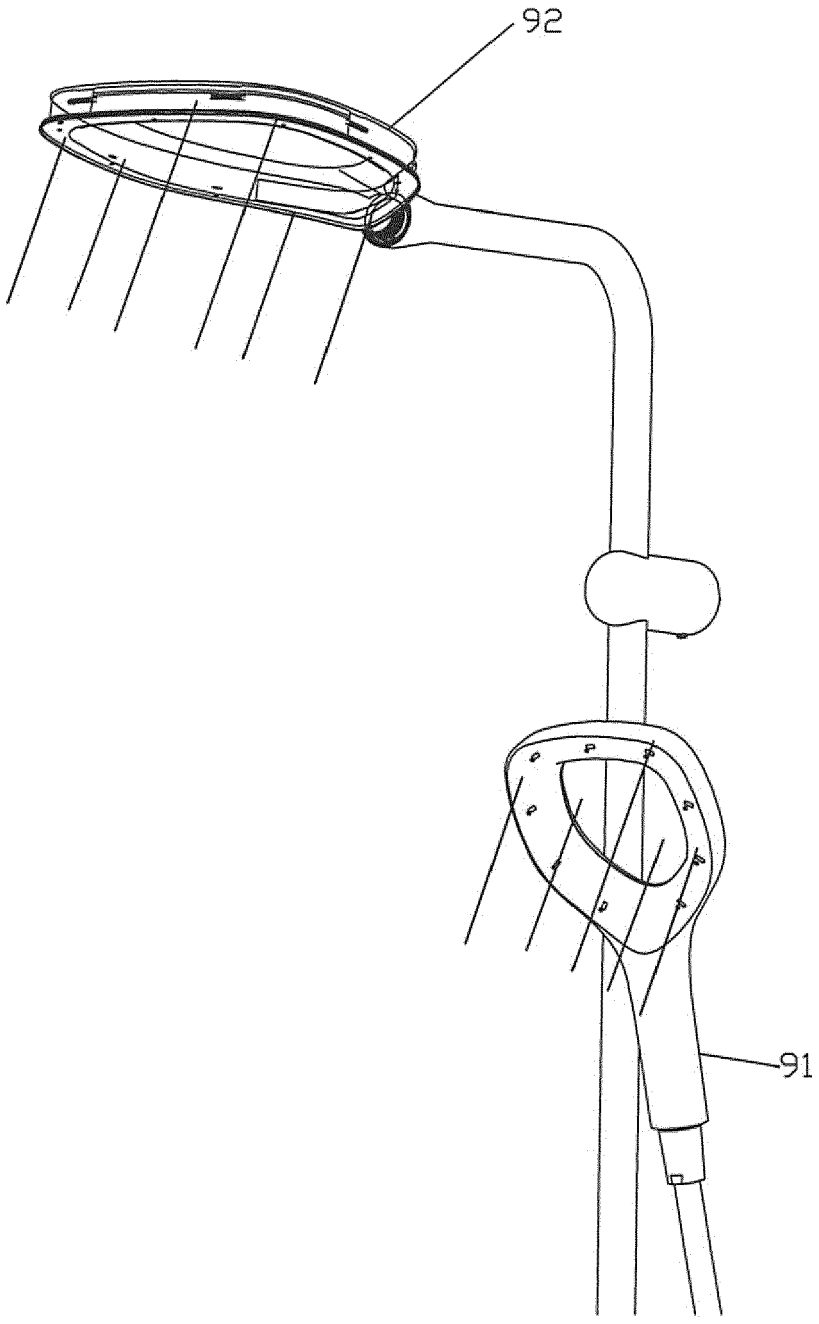

FIG. 13

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EUROPEAN SEARCH REPORT

Application Number
EP 20 02 0578

DOCUMENTS CONSIDERED TO BE RELEVANT

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	24 March 2021	Lohse-Busch, Heike

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