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(54) **LAVATORY FAUCET**

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(57) **ABSTRACT**

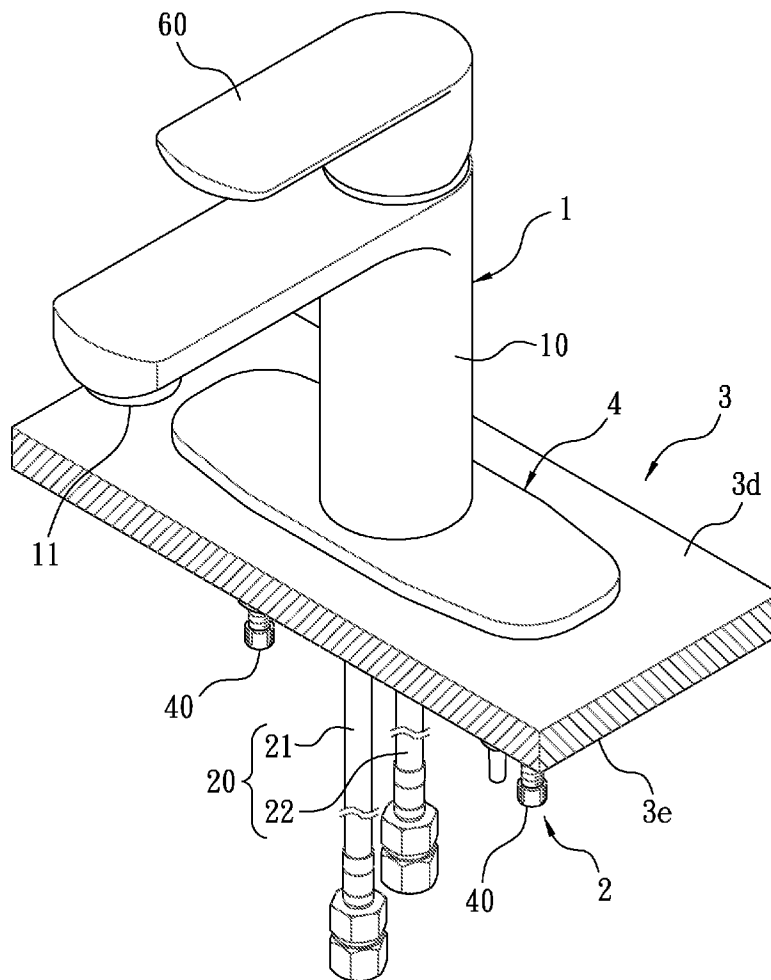
A lavatory faucet is fixed on a basin and contains: a body and a fixing device. The body includes a housing and a supply pipe assembly; the fixing device includes a mounting seat, two screw rods, and two clamping blocks; the basin includes a central orifice, a left orifice, and a right orifice. The mounting seat includes an upper fitting sleeve, two extending wings for abutting against a top face of the basin, and two support feet. The upper fitting sleeve has a channel defined therein relative to the central orifice, each extending wing has a through hole to insert each support foot, and each support foot has a first stopping fence. Each screw rod extends out of the through hole and is rotated above the mounting seat, each clamping block is screwed with each screw rod and is limited by the first stopping fence as rotating each screw rod.

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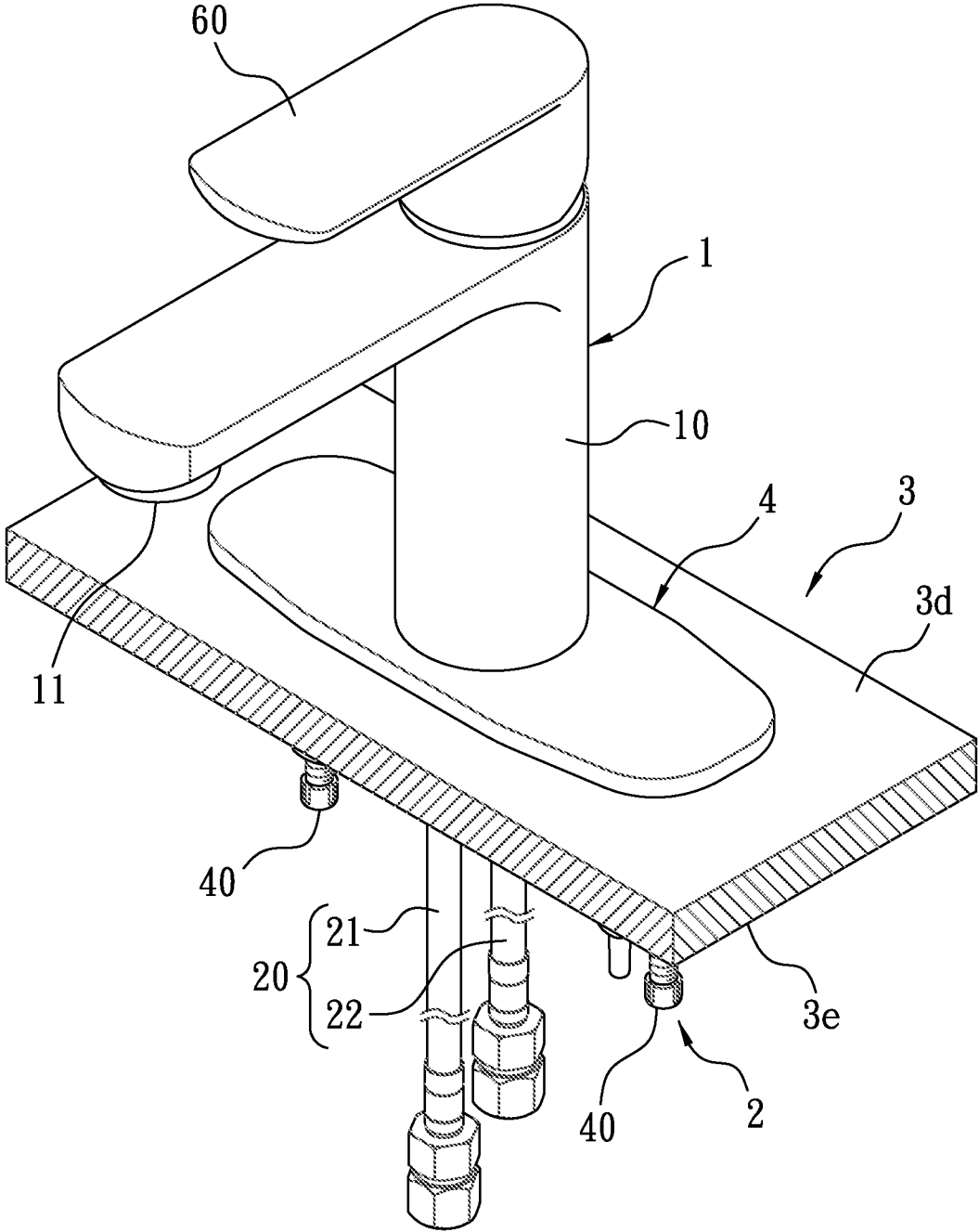


FIG. 1

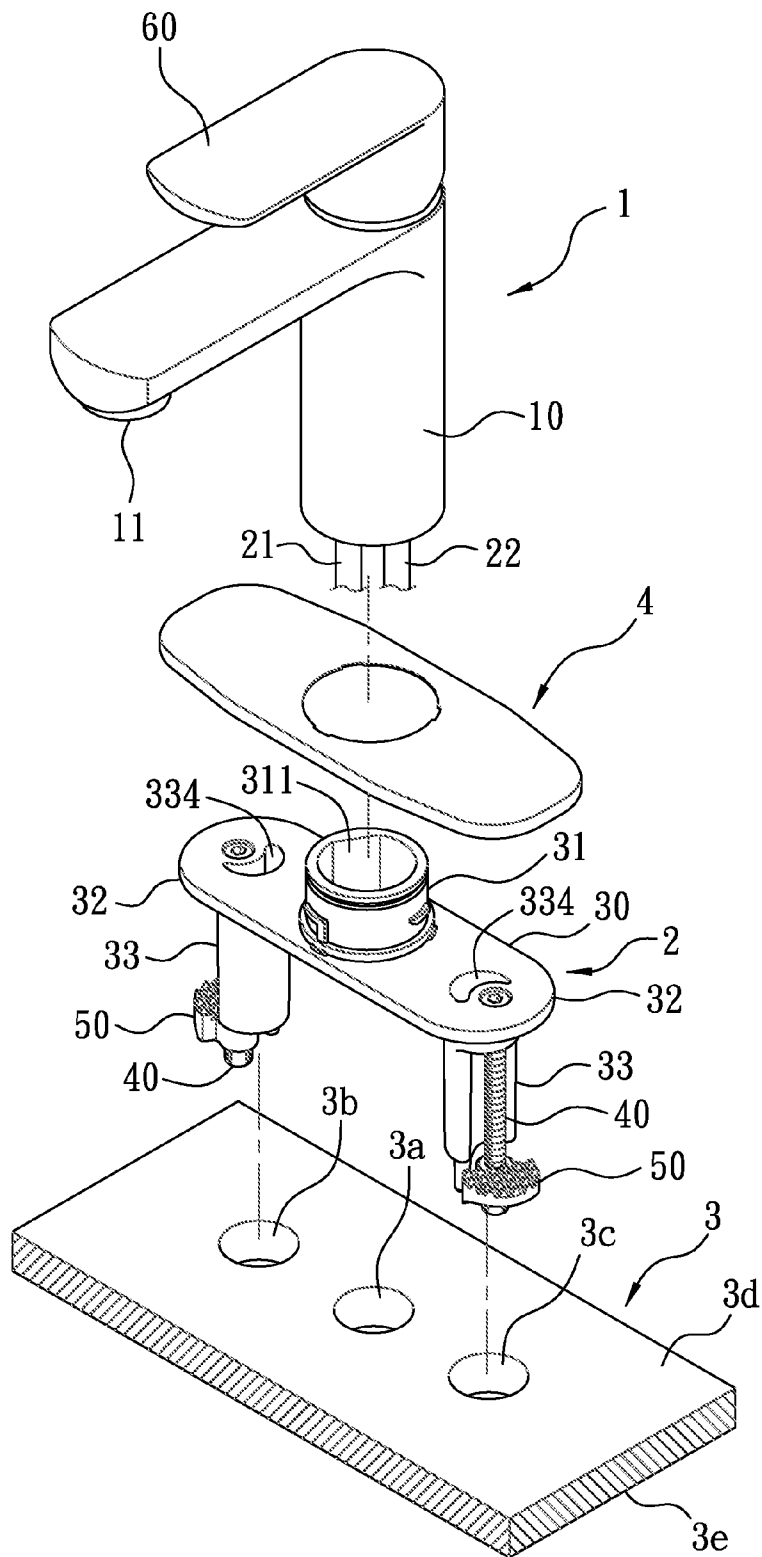


FIG. 3

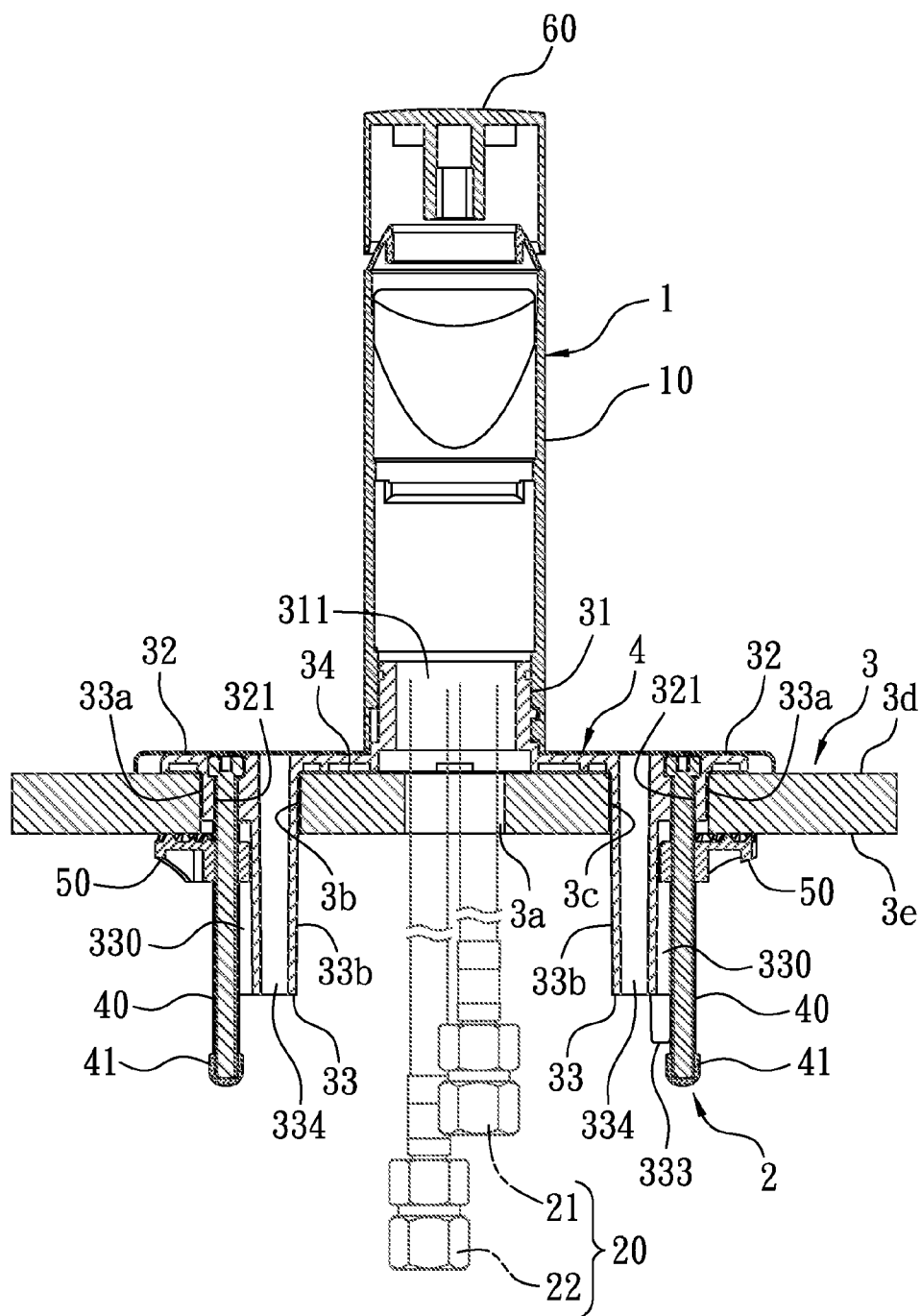


FIG. 4

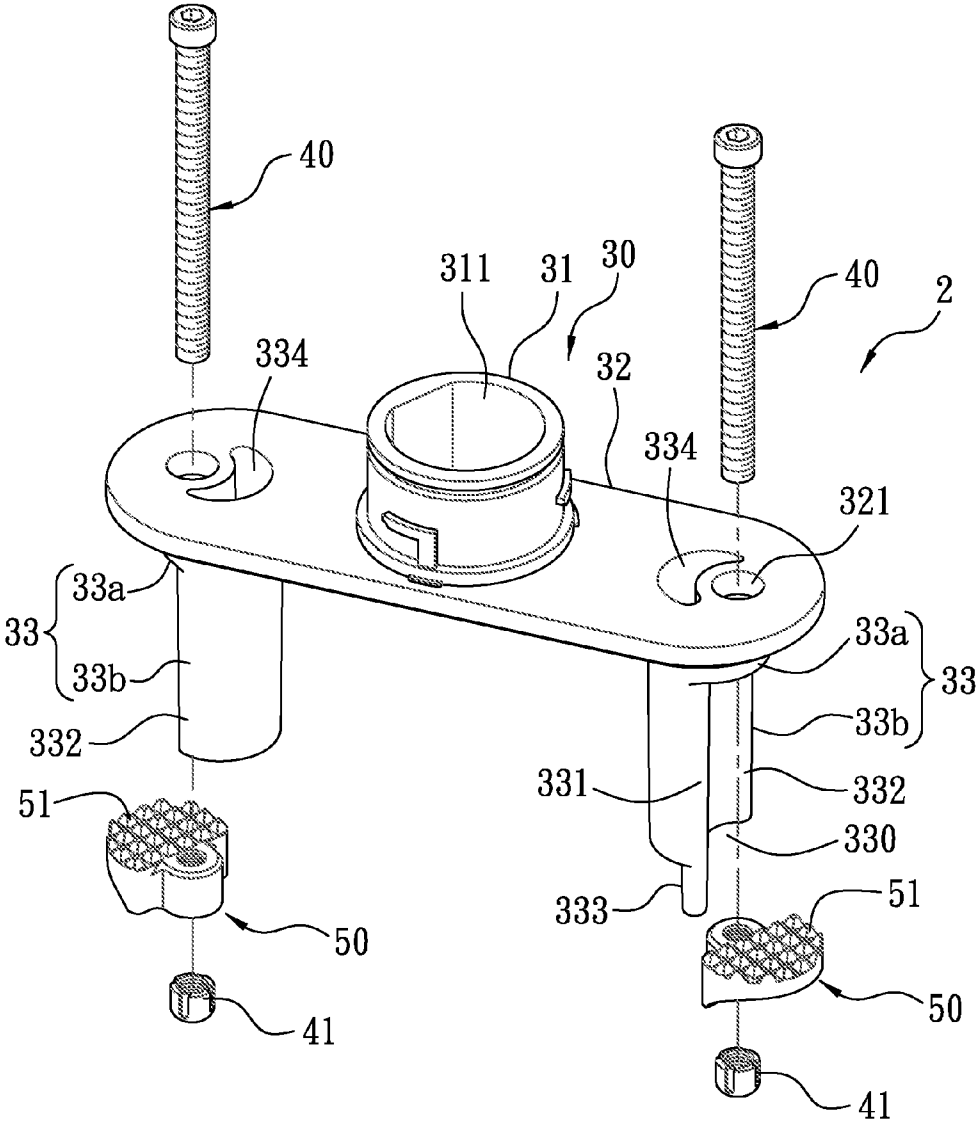


FIG. 5

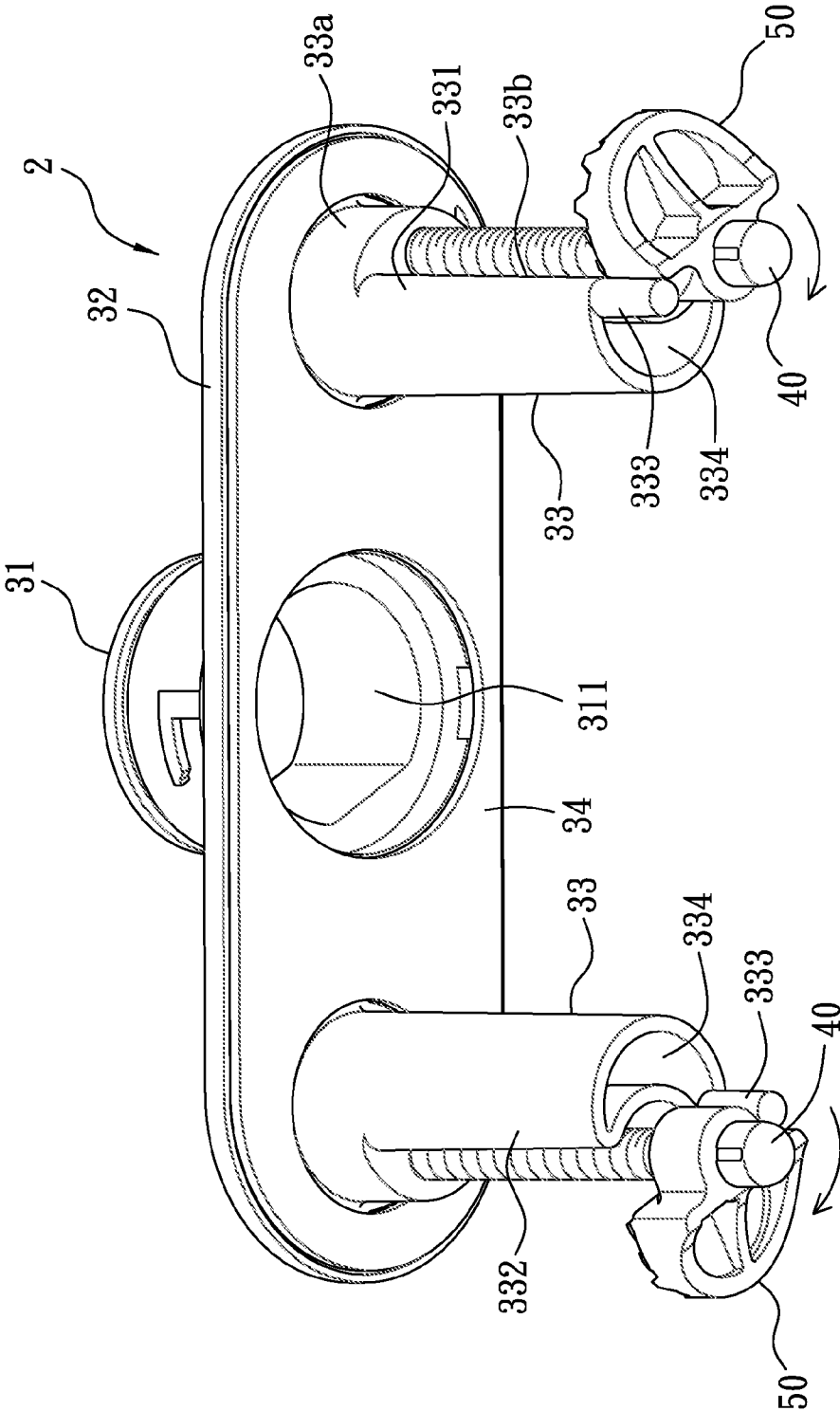


FIG. 6

LAVATORY FAUCET

FIELD OF THE INVENTION

[0001] The present invention relates to a lavatory faucet fixed on a basin with a central orifice, a left orifice, and a right orifice.

BACKGROUND OF THE INVENTION

[0002] A conventional facet 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 U.S. Pat. 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] However, the faucet is applicable for the basin with a single orifice, because a diameter of the orifice is larger than 34 mm. Therefore, when the basin has three orifices, a diameter of which is less than 32 mm, the mounting seat cannot be fixed in the three orifices. Even through a size of the mounting seat is reduced, a channel in the mounting seat is decreased accordingly, so the supply pipe assembly cannot be mounted in the channel.

[0005] The present invention has arisen to mitigate and/or obviate the afore-described disadvantages.

SUMMARY OF THE INVENTION

[0006] One aspect of the present invention is to provide a lavatory faucet which is capable of overcoming the shortcomings of the conventional lavatory faucet.

[0007] To obtain the above, a lavatory faucet is fixed on a basin and contains: a body and a fixing device. The body includes a housing and a supply pipe assembly connecting with the body to delivery water; the fixing device includes a mounting seat, two screw rods, and two clamping blocks. The basin includes a central orifice, a left orifice, and a right orifice.

[0008] The mounting seat includes an upper fitting sleeve for connecting with the housing, two extending wings extending outwardly from a bottom end of an outer wall of the upper fitting sleeve to abut against a top face of the basin, and two support feet extending downwardly from two bottom ends of two outer walls of the two extending wings to insert through and to retain with the left orifice and the right orifice of the basin; the upper fitting sleeve has a channel defined therein relative to the central orifice of the basin so that the supply pipe assembly extends out of the central orifice via the channel; each extending wing has a through hole to insert each support foot; and each support foot has a first stopping fence formed on an outer wall thereof.

[0009] Each screw rod extends out of the through hole of the mounting seat and is rotated above the mounting seat.

[0010] Each clamping block is screwed with each screw rod and is limited by the first stopping fence of each support foot as rotating each screw rod, such that each clamping block moves upwardly to retain with a bottom face of the basin and to clamp the mounting seat and the body on the basin.

[0011] Thereby, the lavatory faucet of the present invention has advantages as follows:

[0012] 1. The lavatory faucet is applicable for the basin with the central orifice, the left orifice, and the right orifice, the diameter of which is less than 32 mm.

[0013] 2. The diameter of the channel is larger than that of the central orifice, and the two support feet are retained with the left orifice and the right orifice by ways of the two screw rods and two clamping blocks so that the mounting seat is fixed on the basin, and only the supply pipe assembly is inserted through the central orifice easily.

[0014] 3. The two screw rods are rotated, and the two clamping blocks screwed with the two screw rods are rotated to accommodate in the two support feet or below two stop columns so that the fixing device is mounted on the basin easily, thereafter the two screw rods are rotated above the mounting seat of the basin so that the two clamping blocks engage with the bottom face of the basin tightly, thus fixing the fixing device. Accordingly, the body is fitted on the upper fitting sleeve of the fixing device, the supply pipe assembly is inserted through the central orifice of the basin from the channel of the upper fitting sleeve, thus fixing the lavatory faucet easily and quickly.

BRIEF DESCRIPTION OF THE DRAWINGS

[0015] FIG. 1 is a perspective view showing the application of a lavatory faucet according to a preferred embodiment of the present invention.

[0016] FIG. 2 is another perspective view showing the application of the lavatory faucet according to the preferred embodiment of the present invention.

[0017] FIG. 3 is a perspective view showing the exploded components a part of the lavatory faucet according to the preferred embodiment of the present invention.

[0018] FIG. 4 is a cross sectional view showing the application of the lavatory faucet according to the preferred embodiment of the present invention.

[0019] FIG. 5 is a perspective view showing the exploded components of a fixing device of the lavatory faucet according to the preferred embodiment of the present invention.

[0020] FIG. 6 is a perspective view showing the operation of the lavatory faucet according to the preferred embodiment of the present invention.

[0021] FIG. 7 is another perspective view showing the operation of the lavatory faucet according to the preferred embodiment of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0022] With reference to FIGS. 1-3, a lavatory faucet according to a preferred embodiment of the present invention is fixed on a basin 3 and comprises: a body 1 and a fixing device 2; the body 1 includes a housing 10 and a supply pipe assembly 20 connecting with the body 10 to delivery water; the fixing device 2 includes a mounting seat 30, two screw rods 40, and two clamping blocks 50; the basin 3 includes a

central orifice 3a, a left orifice 3b, and a right orifice 3c, wherein a diameter of each of the central orifice 3a, the left orifice 3b, and the right orifice 3c is less than 32 mm.

[0023] An improvement of the lavatory faucet of the present invention is described as follows.

[0024] The mounting seat 30, as shown in FIGS. 4 and 5, includes an upper fitting sleeve 31, two extending wings 32 extending outwardly from a bottom end of an outer wall of the upper fitting sleeve 31 to abut against a top face 3d of the basin 3, and two support feet 33 extending downwardly from two bottom ends of two outer walls of the two extending wings 32 to insert through and to retain with the left orifice 3b and the right orifice 3c of the basin 3. The two extending wings 32 connect together on the upper fitting sleeve 31.

[0025] The upper fitting sleeve 31 has a channel 311 defined therein relative to the central orifice 3a of the basin 3 so that the supply pipe assembly 20 extends out of the central orifice 3a via the channel 311; each extending wing 32 has a through hole 321 to insert each support foot 33; and each support foot 33 has a first stopping fence 331 formed on an outer wall thereof.

[0026] Each screw rod 40 extends out of the through hole 321 of the mounting seat 30 and is rotated.

[0027] Each clamping block 50 is screwed with each screw rod 40 and is limited by the first stopping fence 331 of each support foot 33 as rotating each screw rod 40 tightly, such that each clamping block 50 moves upwardly to retain with a bottom face 3e of the basin and to clamp the mounting seat 30 and the body 1 on the basin 3.

[0028] A diameter of the channel 311 is larger than that of the central orifice 3a, as illustrated in FIG. 4, such that the upper fitting sleeve 31 does not stop the supply pipe assembly 20 passing through the central orifice 3a of the basin 3.

[0029] Each support foot 33 further has a second stopping fence 332 formed on the outer wall thereof adjacent to the first stopping fence 331, such that each clamping block 50 is limited as rotating each screw rod 40 loosely so that each clamping block 50 moves downwardly and remove from the bottom face 3e of the basin 3.

[0030] The first stopping fence 331 of each support foot 33 has an extending post 333 extending outwardly from a bottom end thereof; when each clamping block 50 is located opposite to the extending post 333, each screw rod 40 is rotated loosely, as shown in FIG. 6, so that each clamping block 50 is driven by each screw rod 40 to locate below each support foot 33, and each support foot 33, each screw rod 40, and each clamping block 50 inserts through each of the left orifice 3b and the right orifice 3c of the basin 3.

[0031] Referring to FIGS. 4 to 6, each support foot 33 also has a base 33a for connecting with each extending wing 32 and a stop column 33b extending downwardly from a bottom end of the base 33a. Each support foot 33 is accommodated and positioned by the base 33a and the left orifice 3b and the right orifice 3c of the basin 3; the stop column 33b is an arcuate protrusion and has the first stopping fence 331 and the second stopping fence 332 which are both formed on two sides of the stop column 33a. Each support foot 33 further has an accommodating space 330 defined thereon below the base 33a and adjacent to the stop column 33b, as shown in FIG. 7, to accommodate each screw rod 40 and a part of each clamping block 50, and the through hole 321 is located above the accommodating space 330.

[0032] Each support foot 33 further has an aperture 334 passing through each extending wing 32, as illustrated in FIG. 7, to reduce manufacture material and weight.

[0033] Each screw rod 40 includes a defining sheath 41 screwing with a bottom end thereof, as shown in FIG. 5, to stop each clamping block 50 moving downwardly and removing from each screw rod 40.

[0034] Each clamping block 50 includes a plurality of engaging teeth 51 arranged on a top surface thereof, as illustrated in FIGS. 4 and 5, to engage with the bottom face 3e of the basin 3 tightly.

[0035] The lavatory faucet further comprises a decorative slat 4 clamped between a bottom end of the body 1 and the top surface of each extending wing 32, as shown in FIGS. 3 and 4, to cover each extending wing 32.

[0036] The mounting seat 30 further includes a bushing 34, as shown in FIGS. 4 and 7, and a profile of the bushing 34 is equal to that of each extending wing 32; the mounting seat 30 further includes two side openings 341 defined on two sides thereof to insert the two support feet 33 and includes a central opening 342 formed between the two side openings 341 and corresponding to the central orifice 3a of the basin 3, such that the bushing 34 is clamped between the two extending wings 32 of the mounting seat 30 and the top face 3d of the basin 3 to provide stable positioning effect and waterproof effect.

[0037] The lavatory faucet is a single handle faucet, so the housing 10 of the body 1 is formed in an inverted L shape and has a control valve (not shown) fixed in a top end thereof, a bottom end of the control valve is coupled with the supply pipe assembly 20, and the supply pipe assembly 20 includes a first inlet pipe 21 for flowing cold water and a second inlet pipe 22 for flowing hot water 22, and a mixing ratio of the cold water and the hot water is adjusted and controlled by an operating bar 60 mounted on a top end of the control valve, such that the cold water, the hot water or a mixed water of the cold water and the hot water flows out of an outlet 11 of the housing 10.

[0038] The lavatory faucet can be other types of faucets, such as a pull out faucet, wherein the housing 10 of the body 1 has a pull-out spray head disposed in a mouth thereof and an outflow pipe joined with the pull-out spray head and a bottom end of the control valve to flow the mixed water, such that the supply pipe assembly of the pull out faucet includes the first inlet pipe 21, the second inlet pipe 22, and the outflow pipe for flowing the cold water, the hot water or the mixed water toward the pull-out spray head. It is well-know that the outflow pipe is comprised of a valve pipe and a house connecting with the pull-out spray head. The upper fitting sleeve 31 is connected with the housing of the body of any type of faucet.

[0039] Thereby, the lavatory faucet of the present invention has advantages as follows:

[0040] 1. The lavatory faucet is applicable for the basin 3 with the central orifice 3a, the left orifice 3b, and the right orifice 3c, the diameter of which is less than 32 mm.

[0041] 2. The diameter of the channel 311 is larger than that of the central orifice 3a, and the two support feet 33 are retained with the left orifice 3b and the right orifice 3c by ways of the two screw rods 40 and two clamping blocks 50 so that the mounting seat 30 is fixed on the basin 3, and only the supply pipe assembly 20 is inserted through the central orifice 3a easily.

[0042] 3. The two screw rods 40 are rotated, and the two clamping blocks 50 screwed with the two screw rods 40 are rotated to accommodate in the two support feet 33 or below

two stop columns 33 so that the fixing device 2 is mounted on the basin 3 easily, thereafter the two screw rods 40 are rotated above the mounting seat 30 of the basin 3 so that the two clamping blocks 50 engage with the bottom face 3e of the basin 3 tightly, thus fixing the fixing device 2. Accordingly, the body 1 is fitted on the upper fitting sleeve 31 of the fixing device 2, the supply pipe assembly 20 is inserted through the central orifice 3a of the basin 3 from the channel 311 of the upper fitting sleeve 31, thus fixing the lavatory faucet easily and quickly.

[0043] 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.

What is claimed is:

1. A lavatory faucet being fixed on a basin and comprising: a body and a fixing device; the body including a housing and a supply pipe assembly connecting with the body to delivery water; the fixing device including a mounting seat, two screw rods, and two clamping blocks; the basin including a central orifice, a left orifice, and a right orifice; characterized in that:

the mounting seat includes an upper fitting sleeve for connecting with the housing, two extending wings extending outwardly from a bottom end of an outer wall of the upper fitting sleeve to abut against a top face of the basin, and two support feet extending downwardly from two bottom ends of two outer walls of the two extending wings to insert through and to retain with the left orifice and the right orifice of the basin; the upper fitting sleeve has a channel defined therein relative to the central orifice of the basin so that the supply pipe assembly extends out of the central orifice via the channel; each extending wing has a through hole to insert each support foot; and each support foot has a first stopping fence formed on an outer wall thereof;

each screw rod extends out of the through hole of the mounting seat and is rotated above the mounting seat; each clamping block is screwed with each screw rod and is limited by the first stopping fence of each support foot as rotating each screw rod, such that each clamping block moves upwardly to retain with a bottom face of the basin and to clamp the mounting seat and the body on the basin.

2. The lavatory faucet as claimed in claim 1, characterized in that a diameter of the channel of the upper fitting sleeve is larger than that of the central orifice.

3. The lavatory faucet as claimed in claim 1, characterized in that each support foot further has a second stopping fence formed on the outer wall thereof adjacent to the first stopping fence, such that each clamping block is limited as rotating each screw rod loosely so that each clamping block moves downwardly and remove from the bottom face of the basin.

4. The lavatory faucet as claimed in claim 1, characterized in that the first stopping fence of each support foot has an extending post extending outwardly from a bottom end

thereof; when each clamping block is located opposite to the extending post, each screw rod is rotated loosely, so that each clamping block is driven by each screw rod to locate below each support foot, and each support foot, each screw rod, and each clamping block inserts through each of the left orifice and the right orifice of the basin.

5. The lavatory faucet as claimed in claim 3, characterized in that each support foot also has a base for connecting with each extending wing and a stop column extending downwardly from a bottom end of the base; each support foot is accommodated and positioned by the base and the left orifice and the right orifice of the basin; the stop column is an arcuate protrusion and has the first stopping fence and the second stopping fence which are both formed on two sides of the stop column; each support foot further has an accommodating space defined thereon below the base and adjacent to the stop column to accommodate each screw rod and a part of each clamping block, and the through hole is located above the accommodating space.

6. The lavatory faucet as claimed in claim 1, characterized in that each support foot further has an aperture passing through each extending wing.

7. The lavatory faucet as claimed in claim 1, characterized in that a diameter of each of the central orifice, the left orifice, and the right orifice of the basin is less than 32 mm.

8. The lavatory faucet as claimed in claim 1, characterized in that each screw rod includes a defining sheath screwing with a bottom end thereof to stop each clamping block moving downwardly and removing from each screw rod.

9. The lavatory faucet as claimed in claim 1, characterized in that each clamping block includes a plurality of engaging teeth arranged on a top surface thereof to engage with the bottom face of the basin.

10. The lavatory faucet as claimed in claim 1, characterized in that the two extending wings connect together on the upper fitting sleeve.

11. The lavatory faucet as claimed in claim 1, characterized in that further comprising a decorative slat clamped between a bottom end of the body and the top surface of each extending wing to cover each extending wing.

12. The lavatory faucet as claimed in claim 1, characterized in that the supply pipe assembly includes a first inlet pipe for flowing cold water and a second inlet pipe for flowing hot water.

13. The lavatory faucet as claimed in claim 12, characterized in that the supply pipe assembly includes an outflow pipe for flowing the cold water, the hot water or a mixed water of the cold water and the hot water.

14. The lavatory faucet as claimed in claim 5, characterized in that the mounting seat further includes a bushing, and a profile of the bushing is equal to that of each extending wing; the mounting seat further includes two side openings defined on two sides thereof to insert the two support feet and includes a central opening formed between the two side openings and corresponding to the central orifice of the basin, such that the busing is clamped between the two extending wings of the mounting seat and the top face of the basin.

* * * * *