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(54) **WALL-HUNG TOILET SYSTEM**

(57) A wall-hung toilet system, comprising a toilet body (1), a sewage drain pipe set (2), and a wall-hung bracket (3). The wall-hung bracket (3) is arranged to be fixedly connected to a wall body (4); the toilet body (1) is fixed to the wall-hung bracket (3); the toilet body (1) is provided with a sewage outlet (122); and the sewage drain pipe set (2) is provided on the outer side of the wall body (4) and is arranged to communicate the sewage outlet (122) with a ground sewage drain pipe (5).

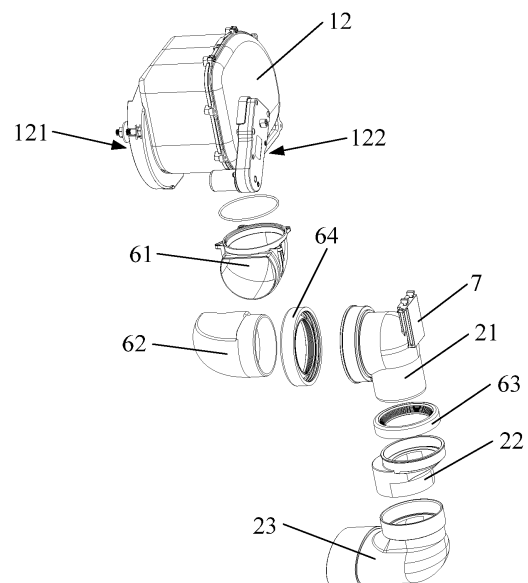


FIG. 4

EP 4 563 761 A1

Description

Technical Field

[0001] The present application relates to, but is not limited to, the field of bathroom equipment, and in particular to a wall-mounted toilet system.

Background

[0002] Wall-mounted toilets usually need to be mounted by chiseling a wall or building a wall. The installation is troublesome and laborious. Chiseling or building walls will increase the construction period to varying degrees, and the installation operation requires relatively high skills of the mounting master. In addition, some wall-mounted toilets have external racks and the wall digging is not needed. However, in the actual installation process, the sewage discharge pipeline needs to enter the wall, resulting in the need to still dig the wall during the overall installation process of the wall-mounted toilet, which is troublesome and laborious, and the installation cycle is long.

Summary

[0003] The following is a summary of the subject matter described in detail herein. This summary is not intended to limit the protection scope of the claims.

[0004] An embodiment of the present application provides a wall-mounted toilet system. The wall-mounted toilet system includes a toilet body, a sewage discharge pipe group, and a wall-mounted bracket. The wall-mounted bracket is configured to be fixedly connected with a wall body, and the toilet body is fixed to the wall-mounted bracket. The toilet body is provided with a sewage outlet. The sewage discharge pipe group is provided outside the wall body and is configured to communicate the sewage outlet with a ground sewage discharge pipeline.

[0005] After reading and understanding the brief description of the drawings and implementations of the present application, other aspects may be understood.

Brief Description of Drawings

[0006] When considered in conjunction with the drawings, embodiments of the present application can be more completely and better understood and many accompanying advantages thereof can be readily known by referring to the following description. However, the drawings described herein are used to provide an understanding of the embodiments of the present application and form part of the embodiments of the present application, and the schematic embodiments of the present application and their explanations are used to explain the present application and do not constitute a limitation on the present application, wherein:

FIG. 1 is a first schematic structural diagram of a wall-mounted toilet system according to an exemplary embodiment;

FIG. 2 is a schematic structural exploded diagram of a wall-mounted toilet system according to an exemplary embodiment;

FIG. 3 is a schematic structural diagram of a sewage discharge device and a sewage discharge pipe group according to an exemplary embodiment;

FIG. 4 is a schematic structural exploded diagram of a sewage discharge device and a sewage discharge pipe group according to an exemplary embodiment;

FIG. 5 is a schematic structural diagram of a fixing element according to an exemplary embodiment;

FIG. 6 is a second schematic structural diagram of a wall-mounted toilet system according to an exemplary embodiment; and

FIG. 7 is an enlarged view of a structure of part A in FIG. 6.

[0007] The description of reference signs:

1-toilet body, 11-toilet seat body, 111-toilet bowl, 112-sewage discharge port, 113-mounting cavity, 12-sewage discharge device, 121-sewage inlet, 122-sewage outlet, 123-sewage discharge box, 124-rotary sewage discharge pipe, 125-driving motor, 2-sewage discharge pipe group, 21-rear discharge pipe, 22-adjustment pipe, 23-ground discharge pipe joint, 3-wall-mounted bracket, 4-wall body, 5-ground sewage discharge pipeline, 61-first connecting pipe, 62-second connecting pipe, 63-first sealing element, 631-first mounting portion, 632-first sealing portion, 64-second sealing element, 7-fixing element, 71-fixing block, 72-limiting protrusion.

Detailed Description

[0008] Embodiments of the present application are described below, and examples of the embodiments are shown in the drawings, in which the same or similar reference signs throughout denote the same or similar elements or elements having the same or similar functions. The embodiments described below by referring to the drawings are exemplary, are only intended to explain the embodiments of the present application, and cannot be interpreted as limitations on the embodiments of the present application.

[0009] An embodiment of the present application provides a wall-mounted toilet system, as shown in FIGS. 1 to 6. The wall-mounted toilet system includes a toilet body 1, a sewage discharge pipe group 2, and a wall-mounted bracket 3. The wall-mounted bracket 3 is configured to be fixedly connected with a wall body 4, and the toilet body 1

is fixed to the wall-mounted bracket 3. The toilet body 1 is provided with a sewage outlet 122. The sewage discharge pipe group 2 is disposed outside the wall body 4, and is configured to communicate the sewage outlet 122 with a ground sewage discharge pipeline 5.

[0010] The wall-mounted bracket 3 plays a role of fixedly mounting the toilet body 1, the wall-mounted bracket 3 is fixedly mounted at a set position of the wall body 4, and a toilet seat body 11 is fixedly mounted on the wall-mounted bracket 3. The wall-mounted bracket 3 is externally installed and is mounted on a cavity body through expansion bolts and other components. There is no need to chisel or build a wall for the mounting, which saves time and labor, and has relatively low skill requirements for a mounting master, thereby facilitating the reduction of mounting costs. The toilet body 1 and the wall-mounted bracket 3 can be connected by bolts or the like.

[0011] The sewage outlet 122 of the toilet body 1 is in communication with the ground sewage discharge pipeline 5 on the ground through the sewage discharge pipe group 2, so as to realize the ground discharge mode of the wall-mounted toilet, so that it is not needed to chisel a wall or build a wall during the installation process of the wall-mounted toilet system, which is convenient for installation. The sewage discharge pipe group 2 is externally mounted, which is convenient and quick to repair when failure occurs during subsequent use.

[0012] In an exemplary embodiment, as shown in FIGS. 3 and 4, the sewage discharge pipe group 2 includes a rear discharge pipe 21, an adjustment pipe 22, and a ground discharge pipe joint 23 which are communicated in sequence. An inlet of the rear discharge pipe 21 is in communication with the sewage outlet 122, and an outlet of the ground discharge pipe joint 23 is in communication with the ground sewage discharge pipeline 5.

[0013] The inlet of the rear discharge pipe 21 is in communication with the sewage outlet 122 of the toilet body 1, and an outlet of the rear discharge pipe 21 is in communication with an inlet of the adjustment pipe 22. The outlet of the adjustment pipe 22 is in communication with an inlet of the ground discharge pipe joint 23, and the outlet of the ground discharge pipe joint 23 is in communication with the ground sewage discharge pipeline 5, so that the toilet body 1 is communicated to the ground sewage discharge pipeline 5.

[0014] The rear discharge pipe 21 extends rearward after being in communication with the toilet body 1, and extends to a position above the ground discharge pipe joint 23. The adjustment pipe 22 is used for adjusting the connection position, so that when the rear discharge pipe 21 is not positioned directly above the ground discharge pipe joint 23, the rear discharge pipe 21 can still be communicated through the adjustment pipe 22. The inlet of the ground discharge pipe joint 23 extends out of the ground, and the other end of the ground discharge pipe joint 23 extends into the ground to communicate with the

ground sewage discharge pipeline 5.

[0015] In an exemplary embodiment, as shown in FIGS. 3 and 4, the rear discharge pipe 21 is an elbow pipe, the inlet of the rear discharge pipe 21 is provided forward, and the outlet of the rear discharge pipe 21 is provided downward.

[0016] The inlet of the rear discharge pipe 21 is provided forward so as to communicate with the sewage outlet 122 of the toilet body 1. The outlet of the rear discharge pipe 21 is provided downward so as to communicate with the adjustment pipe 22, thereby discharging sewage into the ground sewage discharge pipeline 5.

[0017] The rear discharge pipe 21 in the form of an elbow pipe facilitates the provision of a connecting structure at the bend to be connected and fixed with the wall-mounted bracket 3.

[0018] The rear discharge pipe 21 may be provided with a transitional fillet at the bend to prevent sewage from accumulating at the bend.

[0019] In an exemplary embodiment, as shown in FIGS. 3 and 4, the inlet of the adjustment pipe 22 is provided upward, the outlet of the adjustment pipe 22 is provided downward, and a central axis of the outlet of the adjustment pipe 22 is positioned on a front side of a central axis of the inlet of the adjustment pipe 22.

[0020] The inlet of the adjustment pipe 22 is provided upward so as to communicate with the outlet of the rear discharge pipe 21. The outlet of the adjustment pipe 22 is provided downward so as to communicate with the ground sewage discharge pipeline 5. The adjustment pipe 22 is used to adjust the mounting position of the rear discharge pipe 21.

[0021] The central axis of the outlet of the adjustment pipe 22 is positioned on the front side of the central axis of the inlet of the adjustment pipe 22. In other words, the adjustment pipe 22 includes an outlet section positioned relatively forward and an inlet section positioned relatively rearward. The inlet section positioned relatively rearward is in communication with the outlet of the rear discharge pipe 21, and the outlet section positioned relatively forward extends the outlet of the adjustment pipe 22 forward so as to align with the ground discharge pipe joint 23 on the ground, which makes full use of the space at the rear of the toilet body 1, and avoids interference between pipes within the rear of the toilet and the wall body 4.

[0022] In an exemplary embodiment, as shown in FIGS. 3, 4 and 6, the ground discharge pipe joint 23 is an elbow pipe, the inlet of the ground discharge pipe joint 23 is provided upward, and the outlet of the ground discharge pipe joint 23 is provided forward.

[0023] The inlet of the ground discharge pipe joint 23 is provided upward so as to communicate with the outlet of the adjustment pipe 22, and the outlet of the ground discharge pipe joint 23 is provided forward so as to communicate with the ground sewage discharge pipeline 5 underground.

[0024] The inlet of the ground discharge pipe joint 23 extends upward out of the ground, which is convenient for the operator to communicate the ground discharge pipe joint 23 with the adjustment pipe 22. The outlet of the ground discharge pipe joint 23 is buried underground and connected to the ground sewage discharge pipeline 5 in advance.

[0025] The ground discharge pipe joint 23 may be provided with a transitional fillet at the bend to prevent sewage from accumulating at the bend.

[0026] In an exemplary embodiment, the wall-mounted toilet system further includes a connecting pipe, a first seal element 63, and a second sealing element 64. One end of the connecting pipe is in communication with the sewage outlet 122, and the other end of the connecting pipe is in communication with the inlet of the rear discharge pipe 21. The first sealing element 63 is disposed between the rear discharge pipe 21 and the adjustment pipe 22. The second sealing element 64 is disposed between the connecting pipe and the rear discharge pipe 21.

[0027] One end of the connecting pipe is connected to the sewage outlet 122 of the toilet body 1, and the other end of the connecting pipe is in communication with the inlet of the rear discharge pipe 21. The communicating pipe may be an elbow pipe with multiple sections to connect the sewage outlet 122 at different height positions to the inlet of the rear discharge pipe 21.

[0028] As shown in FIG. 4, the connecting pipe may include a first connecting pipe 61 and a second connecting pipe 62. An inlet of the first connecting pipe 61 extends upwardly so as to communicate with the sewage outlet 122, and an outlet of the first connecting pipe 61 extends toward one side in a horizontal direction and is in communication with an inlet of the second connecting pipe 62. An outlet of the second connecting pipe 62 extends horizontally rearward so as to communicate with the inlet of the rear discharge pipe 21. The first connecting pipe 61 and the second connecting pipe 62 may be fixed by adhesive, and the first connecting pipe 61 may be fixed to the toilet body 1 (a sewage discharge box 123) by screw connection or the like.

[0029] A first end of the first connecting pipe 61 extends upward in a height direction, and a second end of the first connecting pipe 61 extends in a first direction of a horizontal plane. A first end of the second connecting pipe 62 extends in a second direction of the horizontal plane so as to communicate with the second end of the first connecting pipe 61, and a second end of the second connecting pipe 62 extends rearward along the horizontal plane so as to communicate with the inlet of the rear discharge pipe 21. The first direction of the horizontal plane may be a direction extending to the left on the horizontal plane. The second direction of the horizontal plane may be a direction extending to the right on the horizontal plane, as shown in FIG. 4. The bent configuration of the first connecting pipe 61 and the second connecting pipe 62 can allow them to bypass a driving motor 125 on the sewage

discharge box 123 for driving a rotary sewage discharge pipe 124 to rotate, thereby avoiding interference. Furthermore, the bent configuration of the first connecting pipe 61 and the second connecting pipe 62 can also reduce the position requirement of the sewage outlet 122, and the first connecting pipe and the second connecting pipe of different sizes can be selected to connect and communicate different models of sewage discharge devices.

[0030] The first sealing element 63 is used to improve a sealing performance between the rear discharge pipe 21 and the adjustment pipe 22, which avoids water leakage, air leakage and the like at the connection between the rear discharge pipe 21 and the adjustment pipe 22, and improves the working reliability of the wall-mounted toilet system. Furthermore, the first sealing element 63, the rear discharge pipe 21, and the adjustment pipe 22 are convenient to disassemble and replace, and can be separately disassembled and replaced later when the pipe is damaged, thereby reducing the usage cost of the user.

[0031] In addition to the first sealing element 63, a sealant may also be used between the rear discharge pipe 21 and the adjustment pipe 22.

[0032] The second sealing element 64 is used to improve the sealing performance between the connecting pipe and the rear discharge pipe 21, which avoids water leakage, air leakage and the like at the connection between the connecting pipe and the rear discharge pipe 21, and improves the working reliability of the wall-mounted toilet system. Furthermore, the second sealing element 64, the connecting pipe, and the rear discharge pipe 21 are convenient to disassemble and replace, and can be separately disassembled and replaced later when the pipe is damaged, thereby reducing the usage cost of the user.

[0033] In addition to the second sealing element 64, a sealant may also be used between the connecting pipe and the rear discharge pipe 21.

[0034] In an exemplary embodiment, as shown in FIG. 7, the first sealing element 63 includes a first mounting portion 631 and a first sealing portion 632 that are both in an annular shape, and the first sealing portion 632 is positioned radially inside the first mounting portion 631. A first end of the first sealing portion 632 is connected to the first mounting portion 631, and the other end of the first sealing portion 632 extends downward in an axial direction of the first sealing element 63 and extends obliquely inward in a radial direction. An outlet end of the rear discharge pipe 21 extends into an inlet end of the adjustment pipe 22, and the first mounting portion 631 is sleeved outside the inlet end of the adjustment pipe 22. The first sealing portion 632 is positioned between the adjustment pipe 22 and the rear discharge pipe 21 and abuts against an outer circumferential surface of the outlet end of the rear discharge pipe 21.

[0035] The outlet end of the rear discharge pipe 21 extends into the inlet end of the adjustment pipe 22. In other words, a size of the inlet end of the adjustment pipe

22 is larger than a size of the outlet end of the rear discharge pipe 21, so as to prevent sewage or the like from leaking here.

[0036] The first mounting portion 631 is sleeved outside the inlet end of the adjustment pipe 22, where it may be an interference fit, which mainly plays a role of fixing the position of the first sealing element 63. The first sealing portion 632 is installed between the outlet end of the rear discharge pipe 21 and the inlet end of the adjustment pipe 22 through interference fitting, which mainly plays a role of sealing to avoid water leakage, air leakage, and the like.

[0037] The first sealing element 63 may be a rubber element.

[0038] In an exemplary embodiment, the second sealing element 64 includes a second mounting portion and a second sealing portion that are both in an annular shape, and the second sealing portion is positioned radially outside the second mounting portion. A first end of the second sealing portion is connected to the second mounting portion, and the other end of the second sealing portion extends rearward in an axial direction of the second sealing element 64 and is obliquely inward in a radial direction. An outlet end of the connecting pipe extends into the inlet end of the rear discharge pipe 21, and the second mounting portion is sleeved outside the inlet end of the rear discharge pipe 21. The second sealing portion is positioned between the rear discharge pipe 21 and the connecting pipe and abuts against an outer circumferential surface of the outlet end of the connecting pipe.

[0039] The outlet end of the connecting pipe extends into the inlet end of the rear discharge pipe 21. In other words, a size of the inlet end of the rear discharge pipe 21 is larger than a size of the outlet end of the connecting pipe, so as to further prevent sewage or the like from leaking here.

[0040] The second mounting portion is sleeved outside the inlet end of the rear discharge pipe 21, where it may be an interference fit, which mainly plays a role of fixing the position of the second sealing element 64. The second sealing portion is installed between the outlet end of the connecting pipe and the inlet end of the rear discharge pipe 21 through interference fitting, which mainly plays a role of sealing to avoid water leakage, air leakage, and the like.

[0041] The second sealing element 64 may be a rubber element.

[0042] In an exemplary embodiment, as shown in FIGS. 3 to 5, the wall-mounted toilet system further includes a fixing element 7 mounted on the rear discharge pipe 21, and the fixing element 7 is connected to the wall-mounted bracket 3.

[0043] The fixing element 7 is provided on the rear discharge pipe 21 as a connecting structure to be connected and fixed with the wall-mounted bracket 3, which may play a role of fixing the sewage discharge pipe group 2, and avoid the sewage discharge pipe group 2 being

shaken, displaced and the like due to impact from water flow and the like during use.

[0044] A plurality of fixing elements 7 may be provided on the rear discharge pipe 21 to improve the fixing effect of the sewage discharge pipe group 2. In some cases, the fixing element 7 may also be provided on the adjustment pipe 22, which is not limited in the present application.

[0045] In an exemplary embodiment, as shown in FIG. 5, the fixing element 7 includes a fixing block 71 and a limiting protrusion 72. One end of the fixing block 71 is fixedly connected to the rear discharge pipe 21, and the other end of the fixing block 71 is provided with the limiting protrusion 72. The limiting protrusion 72 is snap-fitted with and fixed to the wall-mounted bracket 3.

[0046] The fixing block 71 can be bonded, snap-fitted or screwed with the rear discharge pipe 21, and the limiting protrusion 72 is snap-fitted with and fixed to the wall-mounted bracket 3, so that the connection between the fixing element 7 and the mounted wall is a detachable connection, which is convenient for subsequent replacement and maintenance, etc.

[0047] The fixing element 7 may also be of other forms, for example, the fixing element 7 may be a wire rope for fixed connection.

[0048] In an exemplary embodiment, as shown in FIG. 6, the toilet body 1 includes a toilet seat body 11 and a sewage discharge device 12. The toilet seat body 11 is provided with a toilet bowl 111 and a sewage discharge port 112 communicated with the toilet bowl 111. The toilet seat body 11 is also provided with a mounting cavity 113, and the sewage discharge device 12 is positioned in the mounting cavity 113 and connected with the toilet seat body 11. The sewage discharge device 12 is provided with a sewage inlet 121 and a sewage outlet 122, and the sewage inlet 121 is in communication with the sewage discharge port 112.

[0049] Since the sewage discharge device 12 can be mounted in the mounting cavity 113, and the toilet body 1 does not need to enter the wall, it is different from the traditional wall-mounted toilet that requires a flushing system to be buried in the fake wall. Therefore, there is no need to remove the fake wall during maintenance, cleaning and other operations, and the maintenance operation is relatively convenient.

[0050] The toilet seat body 11 may be made of ceramic, or may be made of stainless steel or other materials.

[0051] In practical application, the sewage outlet 122 of the toilet body 1 (that is, the sewage outlet 122 of the sewage discharge device 12) can be provided downward, so that the sewage discharge pipe group 2 can directly extend downward to be in communication with the ground sewage discharge pipeline 5 on the ground after being communicated with the sewage outlet 122. It avoids the bending caused by the sewage discharge pipe group 2 extending horizontally first and then extending downward, and reduces the space requirement for the rear of the toilet body 1, such that the sewage discharge pipe group 2 can be conveniently communicated with the

ground sewage discharge pipeline 5.

[0052] In an exemplary embodiment, as shown in FIG. 6, the sewage discharge device 12 includes a sewage discharge box 123 and a rotary sewage discharge pipe 124 positioned in the sewage discharge box 123. An inlet of the rotary sewage discharge pipe 124 is in communication with the sewage inlet 121, and an outlet of the rotary sewage discharge pipe 124 is in communication with the sewage outlet 122. The rotary sewage discharge pipe 124 can be rotated relative to the sewage discharge box 123 to discharge sewage.

[0053] The sewage discharge device 12 further includes the sewage discharge box 123, and the rotary sewage discharge pipe 124 is rotatably connected to the sewage inlet 121 of the sewage discharge box 123. When sewage is discharged, the sewage in the toilet bowl 111 enters the rotary sewage discharge pipe 124, rotates downward with the rotary sewage discharge pipe 124, is discharged from the rotary sewage discharge pipe 124 under gravity, and is discharged into the sewage discharge pipe group 2 through the sewage outlet 122.

[0054] The sewage discharge function of the wall-mounted toilet can be realized with the rotary sewage discharge pipe 124, such that the original in-wall water tank of the wall-mounted toilet can be eliminated, the product installation is simpler, the maintenance is more concise, and the product cost is more optimized.

[0055] In an exemplary embodiment, the wall-mounted bracket 3 includes a bracket body, and the bracket body is provided with a wall body 4 connecting portion and a toilet connecting portion. The wall body 4 connecting portion is configured to be connected with the wall body 4 so as to arrange the bracket body outside the wall body 4 and to be fixed to the wall body 4, and the toilet connecting portion is configured to be connected with the toilet body 1 so as to fix the toilet body 1 to the bracket body.

[0056] The wall-mounted bracket 3 includes a bracket body. The wall body 4 connecting portion of the bracket body is used to realize a connection between the wall-mounted bracket 3 and the wall body 4. The toilet connecting portion is used for realizing a connection between the wall-mounted bracket 3 and the toilet body 1. Since the bracket body is arranged outside the wall body 4, it is an external wall-mounted bracket 3, which avoids the wall-chiseling or wall-building mounting mode of the traditional wall-mounted toilet product, greatly saves labor and material costs, and reduces the skill requirements for the mounting master. It is not needed to break the wall and then repair the wall during the subsequent maintenance process of the external wall-mounted bracket 3, thus also reducing the subsequent maintenance cost.

[0057] In practical application, the rear of the toilet seat body 11 may be provided with an inner concave portion for accommodating the wall-mounted bracket 3, so that the wall-mounted bracket 3 is positioned in the inner concave portion after the toilet seat body 11 is connected with the wall-mounted bracket 3. Further, the wall-mounted bracket 3 is covered and shielded by the toilet

seat body 11, so as to realize the hiding of the wall-mounted bracket 3 and improve the overall aesthetic appearance of the wall-mounted toilet system.

[0058] In the description of the embodiments of the present application, it should be noted that the orientations or positional relationships indicated by "upper", "lower", "an end", "a side" and the like are based on the orientations or positional relationships shown in the drawings, which are only for the convenience of describing the present application and simplifying the description, and do not indicate or imply that the referred structure has a specific orientation, or is constructed and operates in a specific orientation, and therefore cannot be understood as a limitation on the present application.

[0059] In the description of the embodiments of the present application, the terms "connection", "assembly", and "mounting" should be understood broadly unless otherwise expressly specified and limited. For example, the term "connection" may be a fixed connection, may be a detachable connection, or may be an integrated connection. The term "connection" may be a direct connection or an indirect connection through an intermediate medium, and may be an internal communication between two elements. For those of ordinary skills in the art, specific meanings of the above terms in the present application can be understood according to situations.

[0060] The embodiments described in the present application are exemplary and not limiting. It will be apparent to those of ordinary skill in the art that more embodiments and implementations may be available within the scope of the embodiments described in the present application. Although many possible combinations of features are shown in the drawings and discussed in the implementations, many other combinations of the disclosed features are also possible. Unless specifically limited, any feature or element of any embodiment may be used in combination with, or may substitute for, any other feature or element of any other embodiment.

[0061] The embodiments of the present application include and contemplate combinations with features and elements known to those of ordinary skill in the art. The embodiments, features and elements already disclosed in the embodiments of the present application may also be combined with any conventional features or elements to form the unique technical solutions defined by the claims. Any feature or element of any embodiment may also be combined with features or elements from other technical solutions to form another unique technical solution defined by the claims. Accordingly, it should be understood that any of the features shown and/or discussed in the embodiments of the present application may be implemented alone or in any suitable combination. Thus, the embodiments are not subjected to limitations other than those made in accordance with the appended claims and their equivalent substitutions. In addition, various modifications and changes may be made within the protection scope of the appended claims.

Claims

1. A wall-mounted toilet system, comprising a toilet body, a sewage discharge pipe group, and a wall-mounted bracket, wherein the wall-mounted bracket is configured to be fixedly connected with a wall body, the toilet body is fixed to the wall-mounted bracket, the toilet body is provided with a sewage outlet, and the sewage discharge pipe group is provided outside the wall body and is configured to communicate the sewage outlet with a ground sewage discharge pipeline. 5
2. The wall-mounted toilet system according to claim 1, wherein the sewage discharge pipe group comprises a rear discharge pipe, an adjustment pipe and a ground discharge pipe joint that are communicated in sequence, an inlet of the rear discharge pipe is in communication with the sewage outlet, and an outlet of the ground discharge pipe joint is in communication with the ground sewage discharge pipeline. 10
3. The wall-mounted toilet system according to claim 2, wherein the rear discharge pipe is an elbow pipe, the inlet of the rear discharge pipe is provided forward and an outlet of the rear discharge pipe is provided downward. 15
4. The wall-mounted toilet system according to claim 2, wherein an inlet of the adjustment pipe is provided upward, an outlet of the adjustment pipe is provided downward, and a central axis of the outlet of the adjustment pipe is located on a front side of a central axis of the inlet of the adjustment pipe. 20
5. The wall-mounted toilet system according to claim 2, wherein the ground discharge pipe joint is an elbow pipe, an inlet of the ground discharge pipe joint is provided upward, and the outlet of the ground discharge pipe joint is provided forward. 25
6. The wall-mounted toilet system according to any one of claims 2 to 5, further comprising: 30
 - a connecting pipe, wherein one end of the connecting pipe is in communication with the sewage outlet, and the other end of the connecting pipe is in communication with the inlet of the rear discharge pipe; 35
 - a first sealing element provided between the rear discharge pipe and the adjustment pipe; and
 - a second sealing element provided between the connecting pipe and the rear discharge pipe. 40
7. The wall-mounted toilet system according to claim 6, wherein the first sealing element comprises a first mounting portion and a first sealing portion that are both in an annular shape, the first sealing portion is positioned radially inside the first mounting portion, a first end of the first sealing portion is connected to the first mounting portion, and the other end of the first sealing portion extends downward in an axial direction of the first sealing element and extends obliquely inward in a radial direction; and 45
 - an outlet end of the rear discharge pipe extends into an inlet end of the adjustment pipe, the first mounting portion is sleeved outside the inlet end of the adjustment pipe, and the first sealing portion is positioned between the adjustment pipe and the rear discharge pipe and abuts against an outer circumferential surface of the outlet end of the rear discharge pipe. 50
8. The wall-mounted toilet system according to claim 6, wherein the second sealing element comprises a second mounting portion and a second sealing portion that are both in an annular shape, the second sealing portion is positioned radially outside the second mounting portion, a first end of the second sealing portion is connected to the second mounting portion, and the other end of the second sealing portion extends rearward in an axial direction of the second sealing element and is inclined inward in a radial direction; and 55
 - an outlet end of the connecting pipe extends into an inlet end of the rear discharge pipe, the second mounting portion is sleeved outside the inlet end of the rear discharge pipe, and the second sealing portion is positioned between the rear discharge pipe and the connecting pipe and abuts against an outer circumferential surface of the outlet end of the connecting pipe. 60
9. The wall-mounted toilet system according to any one of claims 2 to 5, further comprising a fixing element mounted on the rear discharge pipe, wherein the fixing element is connected with the wall-mounted bracket. 65
10. The wall-mounted toilet system according to claim 9, wherein the fixing element comprises a fixing block and a limiting protrusion, one end of the fixing block is fixedly connected with the rear discharge pipe, the other end of the fixing block is provided with the limiting protrusion, and the limiting protrusion is snap-fitted with and fixed to the wall-mounted bracket. 70
11. The wall-mounted toilet system according to any one of claims 1 to 5, wherein the toilet body comprises a toilet seat body and a sewage discharge device; 75
 - the toilet seat body is provided with a toilet bowl and a sewage discharge port communicated with the toilet bowl; the toilet seat body is also 80

provided with a mounting cavity, and the sewage discharge device is positioned in the mounting cavity and connected with the toilet seat body; and

the sewage discharge device is provided with a sewage inlet and the sewage outlet, and the sewage inlet is in communication with the sewage discharge port.

- 12.** The wall-mounted toilet system according to claim 11, wherein the sewage discharge device comprises a sewage discharge box and a rotary sewage discharge pipe positioned in the sewage discharge box, an inlet of the rotary sewage discharge pipe is in communication with the sewage inlet, and an outlet of the rotary sewage discharge pipe is in communication with the sewage outlet; and the rotary sewage discharge pipe is capable of rotating relative to the sewage discharge box to discharge sewage.
- 13.** The wall-mounted toilet system according to any one of claims 1 to 5, wherein the wall-mounted bracket comprises:
- a bracket body provided with a wall body connecting portion and a toilet connecting portion, the wall body connecting portion being configured to be connected to the wall body so as to arrange the bracket body outside the wall body and to fix to the wall body, and the toilet connecting portion being configured to be connected to the toilet body so that the toilet body is fixed to the bracket body.

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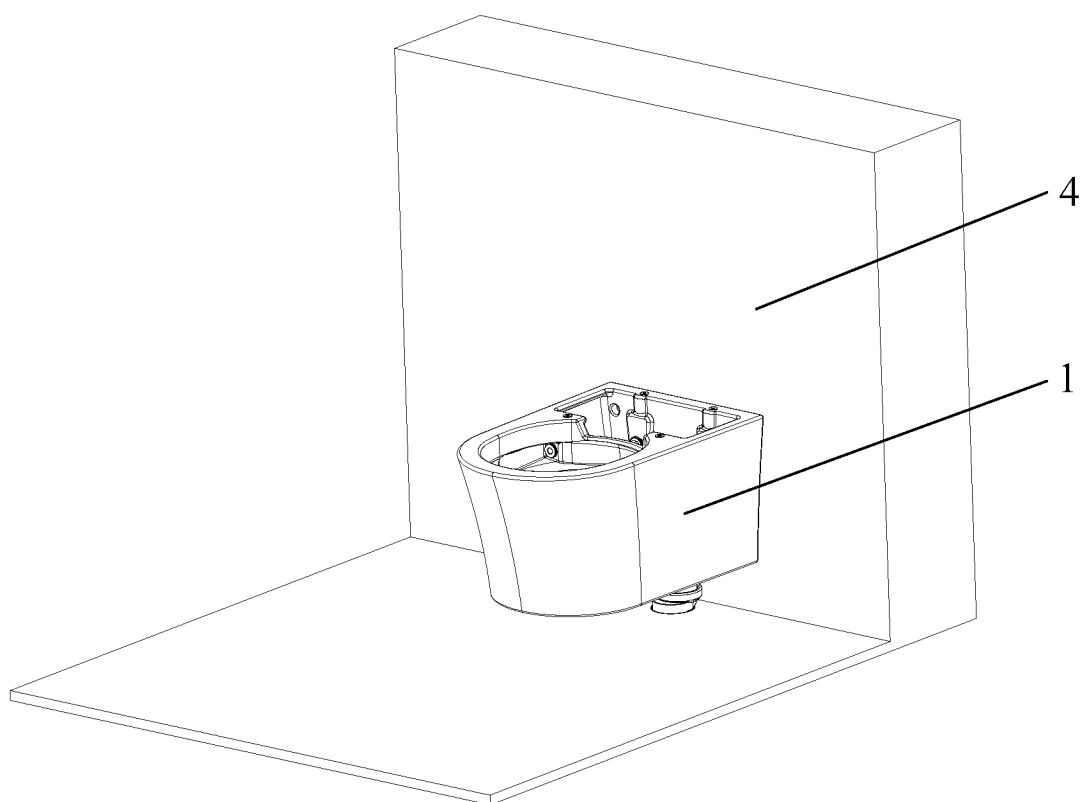


FIG. 1

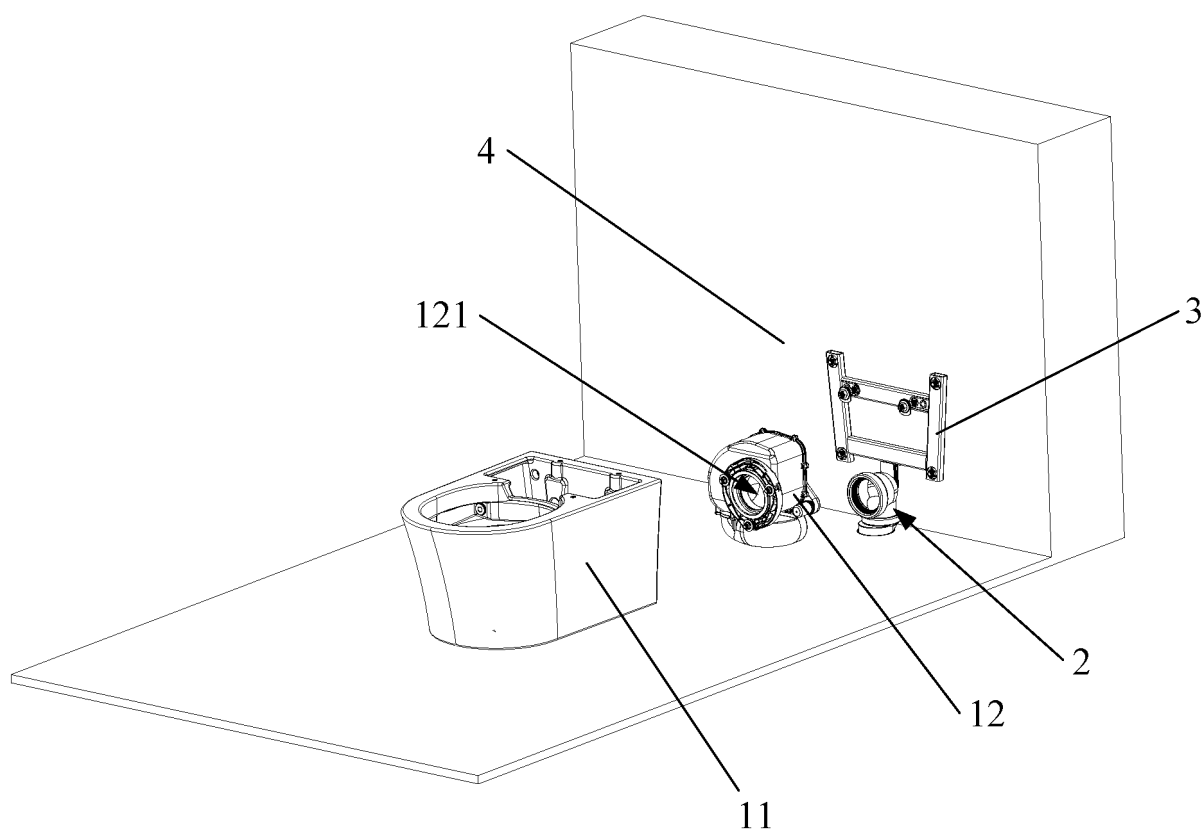


FIG. 2

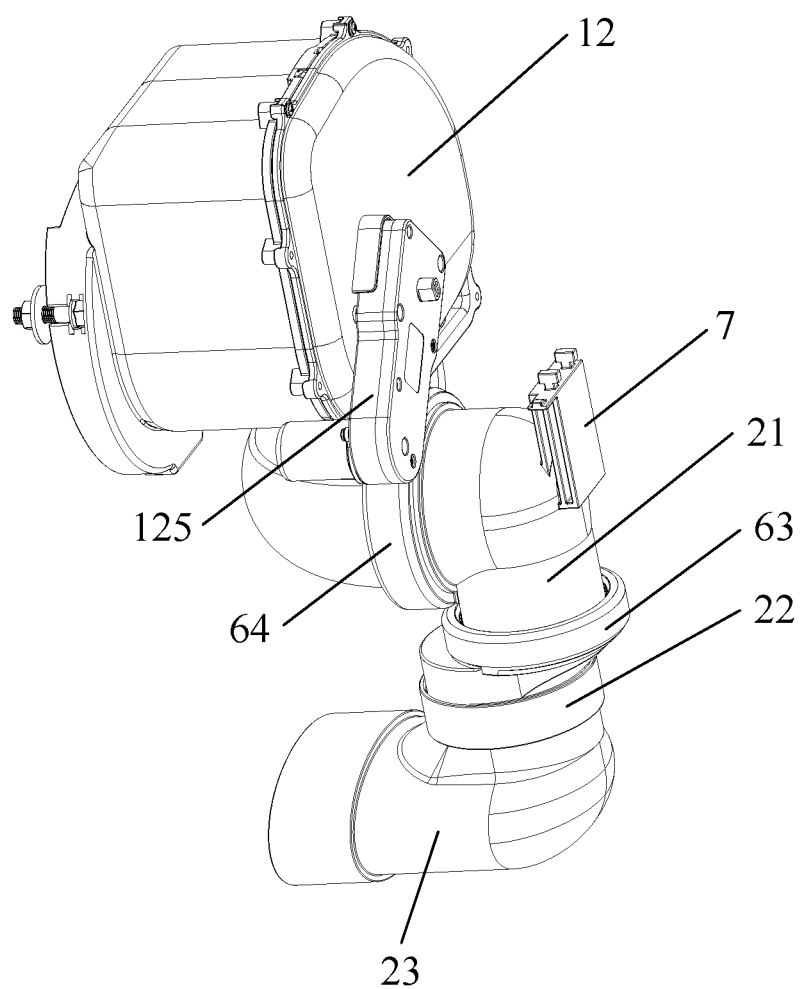


FIG. 3

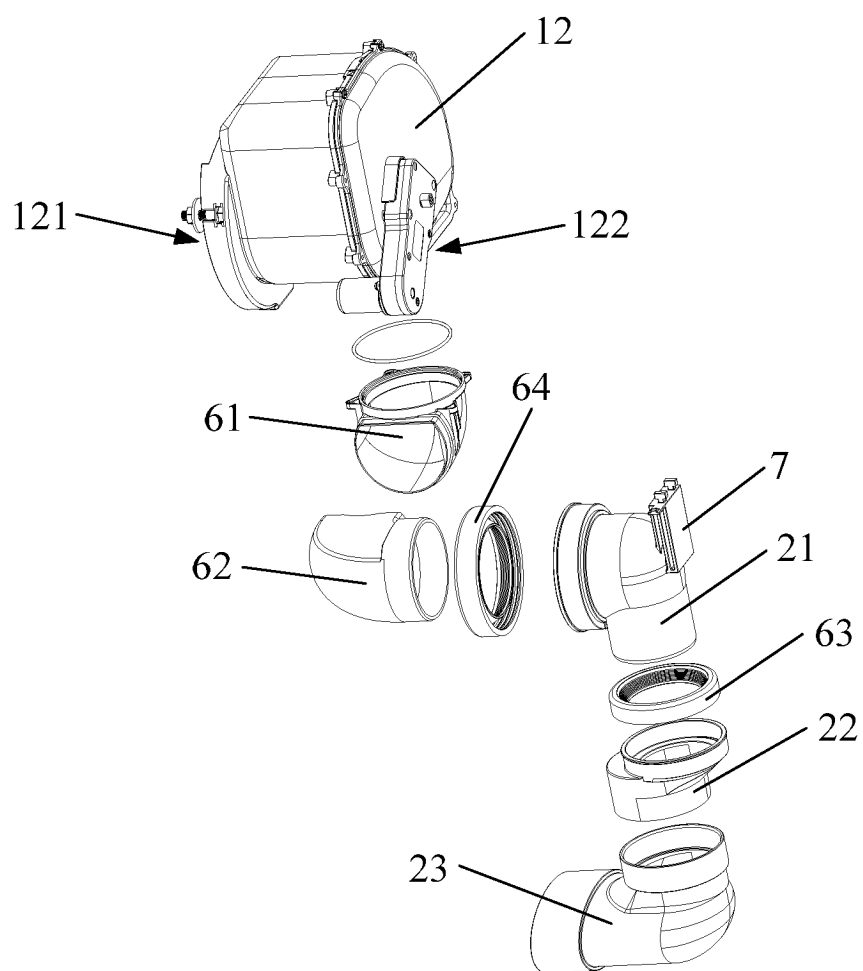


FIG. 4

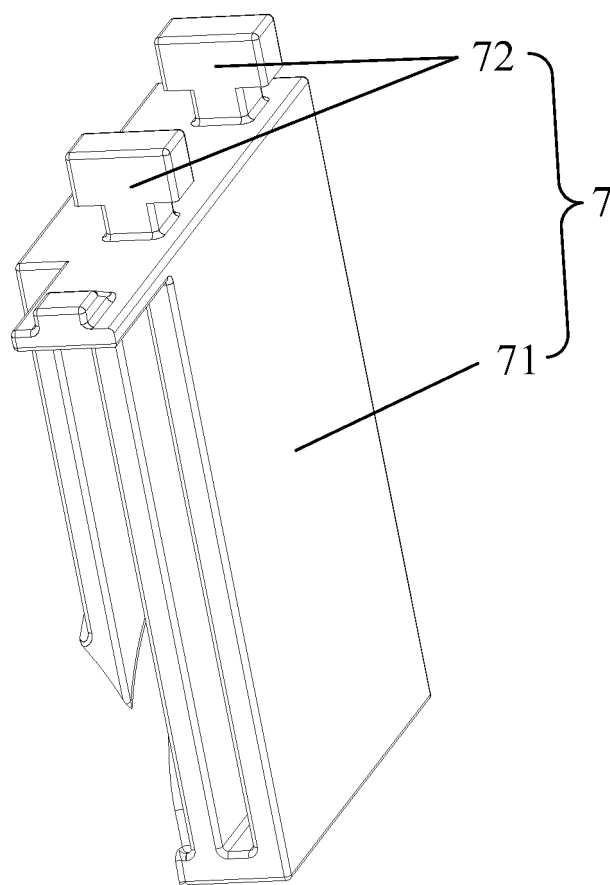


FIG. 5

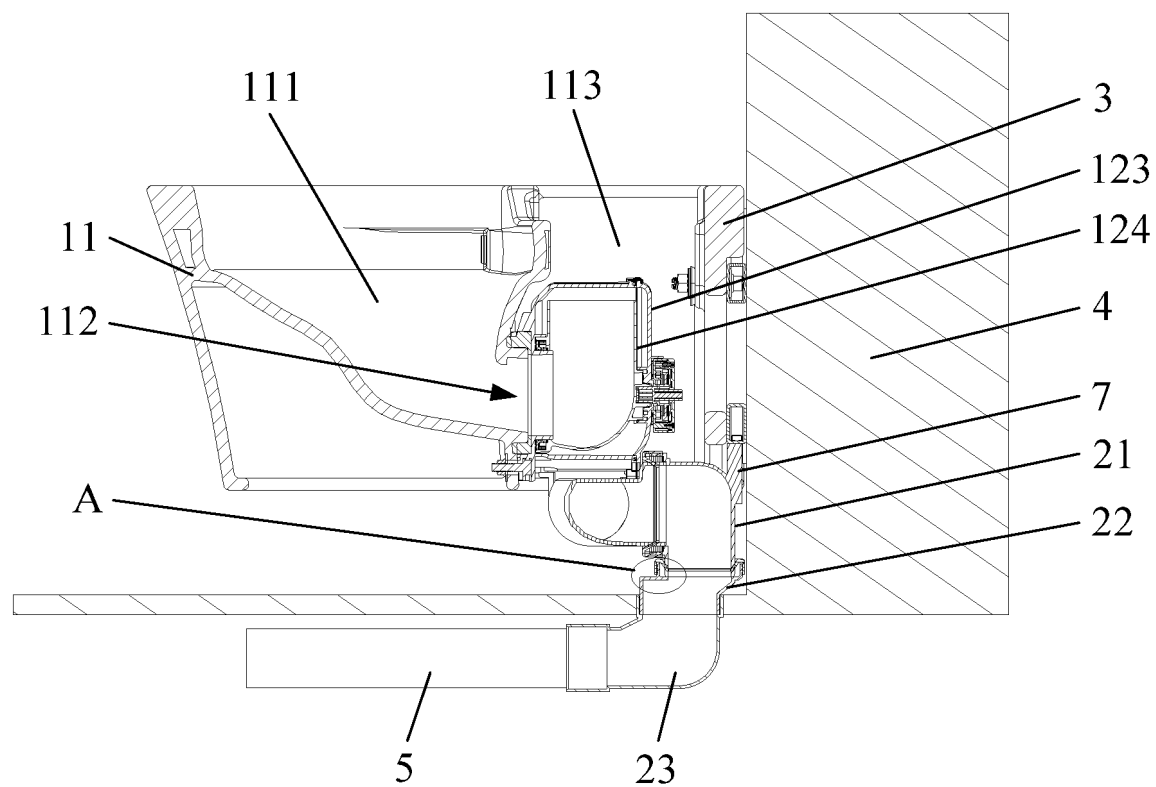


FIG. 6

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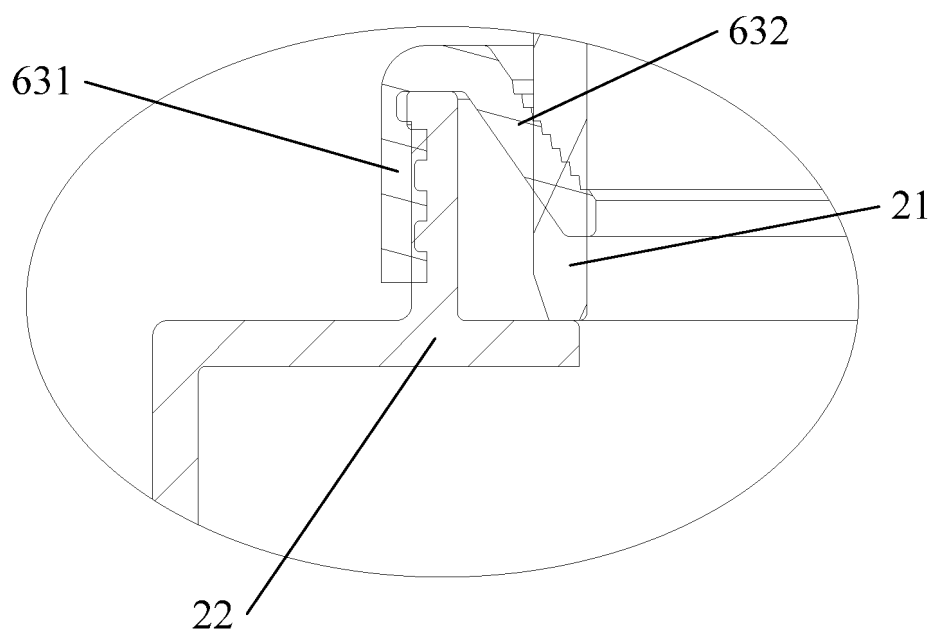


FIG. 7

INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2022/140109

A. CLASSIFICATION OF SUBJECT MATTER

E03D11/13(2006.01)i

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

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

E03D11

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

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNABS; CNTXT; VEN; CJFD: 马桶, 坐便器, 排污管, 支架, 支撑, 墙, toilet, discharge, drain, drainage, pipe, support, wall

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 213390404 U (TANGSHAN QILONG SANITARY WARE CO., LTD.) 08 June 2021 (2021-06-08) description, specific embodiments, and figures 1-6	1, 13
Y	CN 213390404 U (TANGSHAN QILONG SANITARY WARE CO., LTD.) 08 June 2021 (2021-06-08) description, specific embodiments, and figures 1-6	2-5, 9
Y	CN 211665878 U (SHENZHEN HEXINGHONG PLASTIC PRODUCTS CO., LTD.) 13 October 2020 (2020-10-13) description, specific embodiments, and figures 1 and 2	2-5, 9
A	CN 114411909 A (QUANZHOU KOMOO INTELLIGENT KITCHEN & SANITARY WARES CO., LTD.) 29 April 2022 (2022-04-29) entire document	1-13
A	CN 202899273 U (SHAOXING TONGZHENG PLASTIC PIPE CO., LTD.) 24 April 2013 (2013-04-24) entire document	1-13

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

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“&” document member of the same patent family

Date of the actual completion of the international search

10 April 2023

Date of mailing of the international search report

21 April 2023

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/CN2022/140109

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	CN 206916884 U (KOHLER CHINA INVESTMENT CO.,LTD.) 23 January 2018 (2018-01-23) entire document	1-13
A	CN 211774312 U (GUANGDONG JIXIANG CERAMICS INDUSTRY CO., LTD.) 27 October 2020 (2020-10-27) entire document	1-13
A	CN 214940753 U (JIANGMEN SHANZHI SANITARY WARE CO., LTD.) 30 November 2021 (2021-11-30) entire document	1-13
A	CN 216304844 U (BESTTER (XIAMEN) TECHNOLOGY INC.) 15 April 2022 (2022-04-15) entire document	1-13
A	JP H08302795 A (MATSUSHITA ELECTRIC WORKS LTD.) 19 November 1996 (1996-11-19) entire document	1-13
A	JP H084088 A (INAX CORP.) 09 January 1996 (1996-01-09) entire document	1-13

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INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.

PCT/CN2022/140109

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Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 213390404 U	08 June 2021	None	
CN 211665878 U	13 October 2020	None	
CN 114411909 A	29 April 2022	None	
CN 202899273 U	24 April 2013	None	
CN 206916884 U	23 January 2018	None	
CN 211774312 U	27 October 2020	None	
CN 214940753 U	30 November 2021	None	
CN 216304844 U	15 April 2022	None	
JP H08302795 A	19 November 1996	None	
JP H084088 A	09 January 1996	JP 2905957 B2	14 June 1999

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