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Thermostatic water supply device free from hand touch

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(71) Applicant(s)
Business Zone Ltd.

(72) Inventor(s)
Cheng, Kuei-Lin20101014

(74) Agent/Attorney
A.P.T. Patent and Trade Mark Attorneys, 383 Goodwood Road, Westbourne Park, SA, 5041

2010100855 06 Aug 2010

ABSTRACT

The present invention provides a water supply device which provides for adjusting an outlet temperature and controls discharge of a water faucet without using hands. The entire water supply device includes a water faucet, a water control assembly and a water control valve. The water control valve is provided with a cold water inlet pipe, a hot water inlet pipe and a first outlet pipe; whereas, the water control assembly is connected with the first outlet pipe and a second outlet pipe is connected between the water control assembly and the water faucet. The water control valve adjusts yields of the cold and hot water entering into the first outlet pipe, while the water control assembly controls the discharge of the water faucet, thereby preventing germs on the hands from being remained on the water faucet.

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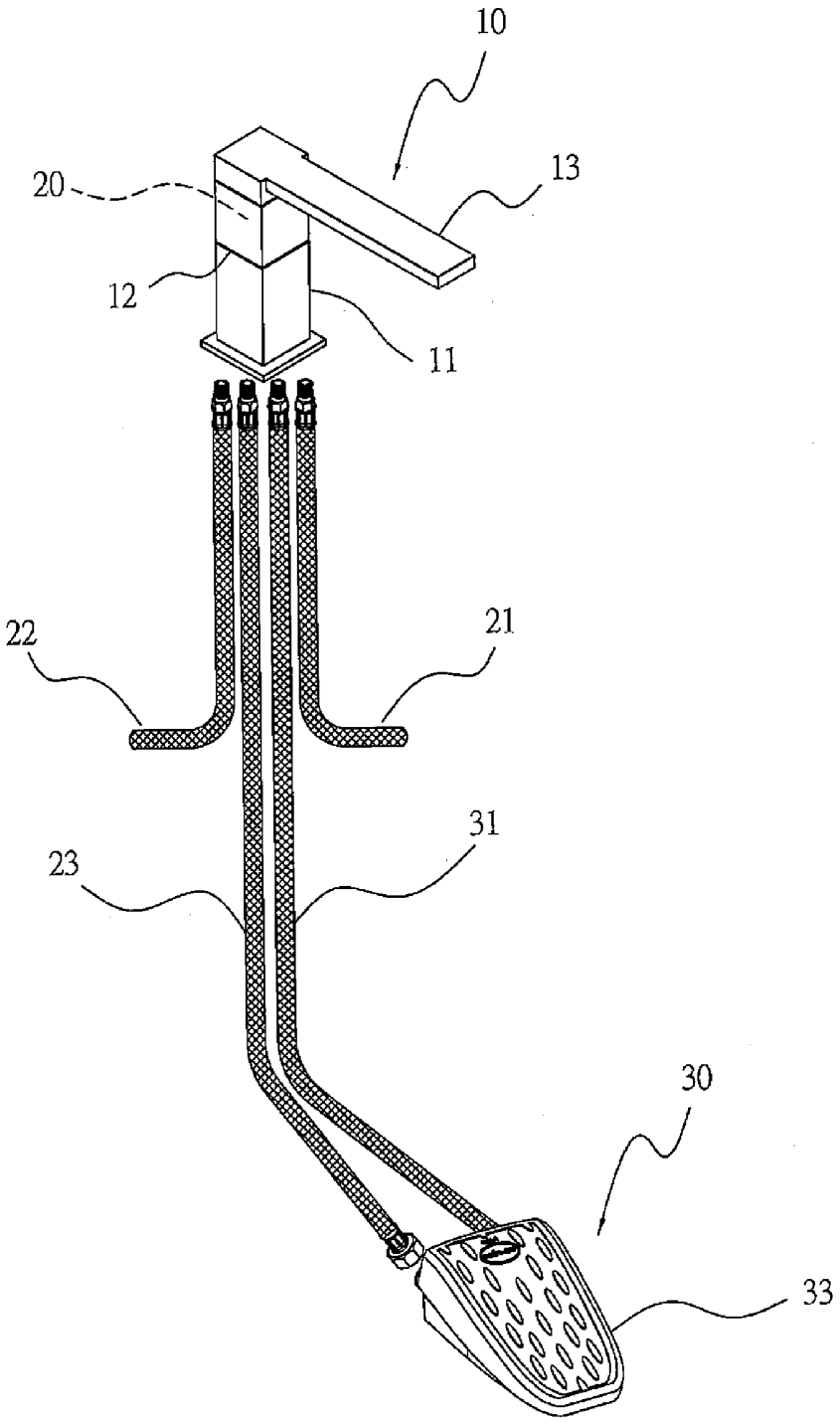

FIG.1

2010100855 06 Aug 2010

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Regulation 3.2

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Patents Act 1990

INNOVATION SPECIFICATION FOR AN INVENTION ENTITLED

Invention title:	Thermostatic water supply device free from hand touch
Name of Applicant:	Business Zone Ltd.
Address for Service	A.P.T. Patent and Trade Mark Attorneys PO Box 222 Mitcham, S.A. 5062

The invention is described in the following statement:

201010085 5 06 Aug 2010

THERMOSTATIC WATER SUPPLY DEVICE FREE FROM HAND TOUCH

BACKGROUND OF THE INVENTION

a) Field of the Invention

The present invention relates to piping and a valve control technology of a water supply system, and more particularly to a thermostatic water supply device free from hand touch, by which an outlet temperature can be adjusted and there is no need to control discharge of a water faucet by hands.

b) Description of the Prior Art

Normally, when using a water faucet to get water, a water source will directly provide water to the water faucet and by turning on or off the water faucet, a discharge condition (e.g., a yield and a breakthrough time, etc.) of the water faucet can be controlled. Therefore, under a condition that water is supplied normally by the water source, once a user turns on the water faucet, water will flow out of the water faucet continuously, allowing water to be used successfully.

In other words, the user needs to turn the water faucet by hands that the discharge condition of the water faucet can be controlled. Yet, as there are a lot of users in an ordinary public place, if the water faucet is not cleaned regularly, then dirt will be easily accumulated and germs can be easily spreading out.

Accordingly, in a hospital or a restaurant kitchen, a water supply device, discharge of the water faucet of which is controlled by stepping, will be used frequently to prevent the water faucet from being touched by both hands that germs or dirt on the hands will be remained on the water faucet or a related water supply switch to form a path for spreading out the germs.

Nevertheless, most conventional water supply devices free from hand touch are only equipped with the function of controlling the discharge of the water faucet and are not yet provided with a function of adjusting the outlet temperature. Therefore, it is not very convenient to use these conventional water supply devices and will relatively reduce applicability of the water supply devices free from hand touch.

SUMMARY OF THE INVENTION

Accordingly, the primary object of the present invention is to provide a thermostatic water supply device free from hand touch, by which the outlet temperature can be adjusted and there is no need to control the discharge of the water faucet by hands.

To achieve the aforementioned object, the thermostatic water supply device free from hand touch, according to the present invention, includes primarily a water faucet, a water control assembly and a water control valve, wherein the water control valve is provided with a cold water inlet pipe, a hot

water inlet pipe and a first outlet pipe; whereas, the water control assembly is connected with the first outlet pipe and is connected to the water faucet through a second outlet pipe.

The water control valve is used primarily to control yields of cold and hot water entering into the first outlet pipe, achieving an object of adjusting the water temperature. In addition, through the water control assembly, the user is able to control continuity of a passage between the first outlet pipe and the second outlet pipe, thereby controlling the discharge of the water faucet.

In particular, using an extension function of the second outlet pipe, the water control assembly can be fitted at a location where the user can step by a foot or other part of body conveniently, without touching by both hands to control the discharge of the water faucet. Therefore, germs on the hands will not be remained on the water supply device, which removes a path for spreading out the germs.

To enable a further understanding of the said objectives and the technological methods of the invention herein, the brief description of the drawings below is followed by the detailed description of the preferred embodiments.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows a three-dimensional view of a thermostatic water supply device

free from hand touch, according to the present invention.

FIG. 2 shows a structural exploded view of the thermostatic water supply device free from hand touch, according to the present invention.

FIG. 3 shows a schematic view of movement of water in pipes of the thermostatic water supply device free from hand touch, according to the present invention.

FIG. 4 shows a structural schematic view of a water control assembly, according to a second embodiment of the present invention.

FIG. 5 shows a schematic view of an arrangement of use of the thermostatic water supply device free from hand touch, according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

A thermostatic water supply device free from hand touch, according to the present invention, is a water discharge device which can provide for adjusting an outlet temperature of a water faucet and can control the discharge of the water faucet by triggering with a leg, a foot or other object, so as to prevent germs or dirt on the hands from being remained on the water faucet or a related water supply switch. Referring to FIGS. 1 to 3, the thermostatic water supply device free from hand touch comprises a water faucet 10, a water control valve 20 and a water control assembly 30.

The water control valve 20 is provided with a cold water inlet pipe 21 to

connect cold water, a hot water inlet pipe 22 to connect hot water and a first outlet pipe 23 to receive water from the cold water inlet pipe 21 and the hot water inlet pipe 22. The water control valve 20 functions to distribute yields of the cold and hot water entering into the first outlet pipe 23, under a user's control (e.g. rotating in a predetermined direction).

The water control assembly 30 is connected with the first outlet pipe 23 of the water control valve 20 and is connected to the water faucet 10 through a second outlet pipe 31. The water control assembly 30 functions to make continuity of a passage between the first outlet pipe 23 and the second outlet pipe 31, under the user's control, so as to control the discharge of the water faucet 10.

Referring to FIG. 4, the water control assembly 30 is provided with a valve seat 32 which is connected to the first outlet pipe 23 and the second outlet pipe 31, and a pedal 33 which provides for controlling an operation of the valve seat 32. A valve stem 321 of the valve seat 32 is fixedly provided with a rotary table 34 and a set of linking rod 35 is connected between the rotary table 34 and the pedal 33, driving the rotary table 34 to rotate in a predetermined direction following the user's stepping on the pedal 33, and driving synchronously the valve stem 321 of the valve seat 32 to rotate, so as to control the continuity of the passage between the first outlet pipe 23 and the

second outlet pipe 31.

In addition, a side of the pedal 33 can be further provided with a clamping plate 36 having plural clamping parts 361, and an end of the pedal 33 adjacent to the clamping plate 36 is provided with a fixing part 331. By movement of the fixing part 331 among the clamping parts 361, the set of lining rod 35 further drives the valve stem 321 of the valve seat 32 to rotate, thereby controlling the yield of the second outlet pipe 31.

Referring to FIG. 1 and FIG. 2 simultaneously, the thermostatic water supply device free from hand touch, according to the present invention, uses primarily the water control valve 20 to adjust the yields of the cold and hot water entering into the first outlet pipe 23, thereby achieving an object of adjusting the water temperature. Additionally, through controlling the continuity of the passage between the first outlet pipe 23 and the second outlet pipe 31 by the water control assembly 30, the discharge of the water faucet 10 is further controlled.

Referring to FIG. 5, when using the thermostatic water supply device free from hand touch, according to the present invention, the water faucet 10 can be installed above a water tank 40 and by using an extension function of the second outlet pipe 31, the water control assembly 30 can be fitted at a place where the user can conveniently step by a foot or other part of body (such as

putting the water control assembly 30 below the water tank 40), without touching by both hands to control the discharge of the water faucet 10; therefore, germs on the hands will not be remained on the water faucet 10 or a related water supply switch, thereby effectively removing a path for spreading out the germs.

Moreover, as shown in FIG. 1 and FIG. 2, the water faucet 10 of the present invention is further provided with a strut 11 to install the water control valve 20. An upper side of the strut 11 is provided with an adjusting knob 12 which is operated by the user to drive the water control valve 20 to operate, thereby distributing the yields of the cold and hot water entering into the first outlet pipe 23. The strut 11 is additionally provided with a handle 13 which is connected with the second outlet pipe 31 to integrate the water control valve 20 at the water faucet 10, thereby increasing convenience in using and installing the water supply device.

It is of course to be understood that the embodiments described herein is merely illustrative of the principles of the invention and that a wide variety of modifications thereto may be effected by persons skilled in the art without departing from the spirit and scope of the invention as set forth in the following claims.

2010100855 06 Aug 2010

What is claimed is:

1. A thermostatic water supply device free from hand touch, comprising:

a water faucet;

a water control valve which is provided with a cold water inlet pipe, a hot water inlet pipe and a first outlet pipe, and which is used to distribute yields of the cold and hot water entering into the first outlet pipe; and

a water control assembly which is connected with the first outlet pipe of the water control valve and which is connected to the water faucet through a second outlet pipe, with the water control assembly being used to control continuity of a passage between the first outlet pipe and the second outlet pipe.

2. The thermostatic water supply device free from hand touch, according to claim 1, wherein the water control assembly is provided with a valve seat which is connected to the first outlet pipe and the second outlet pipe, and a pedal which is used to control an operation of the valve seat, with a valve stem of the valve seat being fixedly provided with a rotary table, and a set of linking rod being connected between the rotary table and the pedal to drive the rotary table to rotate in a predetermined direction following a user's stepping on the pedal, and

to drive synchronously the valve stem of the valve seat to rotate.

3. The thermostatic water supply device free from hand touch, according to claim 1, wherein the water control assembly is provided with a valve seat which is connected with the first outlet pipe and the second outlet pipe, and is provided with a pedal which is used to control an operation of the valve seat, with a valve stem of the valve seat being fixedly provided with a rotary table, and a set of linking rod being connected between the rotary table and the pedal to drive the rotary table to rotate in a predetermined direction following a user's stepping on the pedal, and to drive synchronously the valve stem of the valve seat to rotate; a side of the pedal being provided with a clamping plate having plural clamping parts and an end of the pedal adjacent to the clamping plate being provided with a fixing part which moves among the clamping parts.

4. The thermostatic water supply device free from hand touch, according to claim 1, wherein the water faucet is provided with a strut to install the water control valve, with the strut being provided with an adjusting knob to drive the water control valve to operate and the strut being additionally provided with a handle to connect with the second outlet pipe.

10

5. The thermostatic water supply device free from hand touch, according to claim 4, wherein the water control assembly is provided with a valve seat which is connected with the first outlet pipe and the second outlet pipe, and is provided with a pedal which is used to control an operation of the valve seat, with a valve stem of the valve seat being fixedly provided with a rotary table, and a set of linking rod being connected between the rotary table and the pedal to drive the rotary table to rotate in a predetermined direction following a user's stepping on the pedal, and to drive synchronously the valve stem of the valve seat to rotate.

6. The thermostatic water supply device free from hand touch, according to claim 4, wherein the water control assembly is provided with a valve seat which is connected with the first outlet pipe and the second outlet pipe, and is provided with a pedal which is used to control an operation of the valve seat, with a valve stem of the valve seat being fixedly provided with a rotary table, and a set of linking rod being connected between the rotary table and the pedal to drive the rotary table to rotate in a predetermined direction following a user's stepping on the pedal, and to drive synchronously the valve stem of the valve seat to rotate; a side of the pedal being provided with a clamping plate having

plural clamping parts and an end of the pedal adjacent to the clamping plate being provided with a fixing part which moves among the clamping parts.

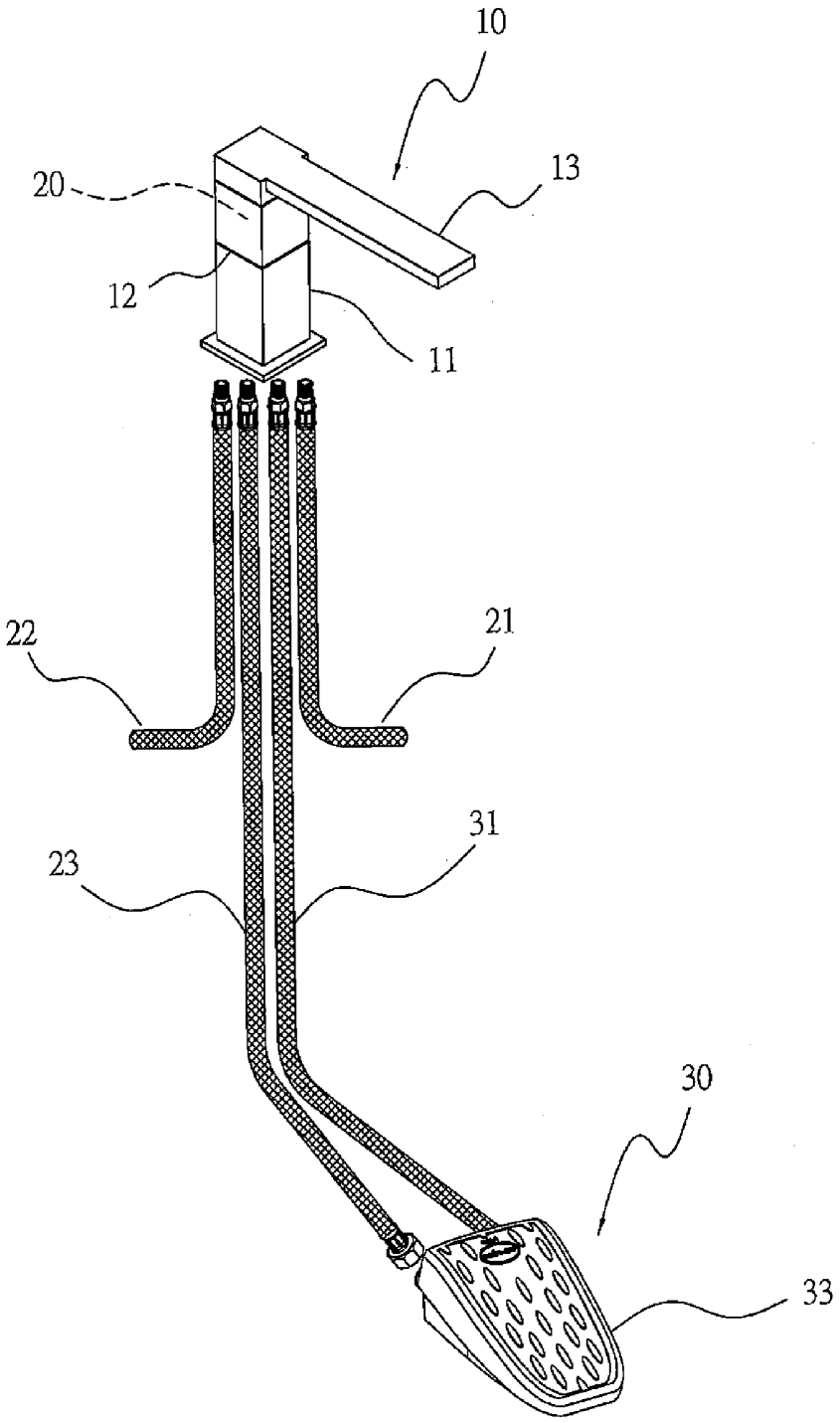

FIG.1

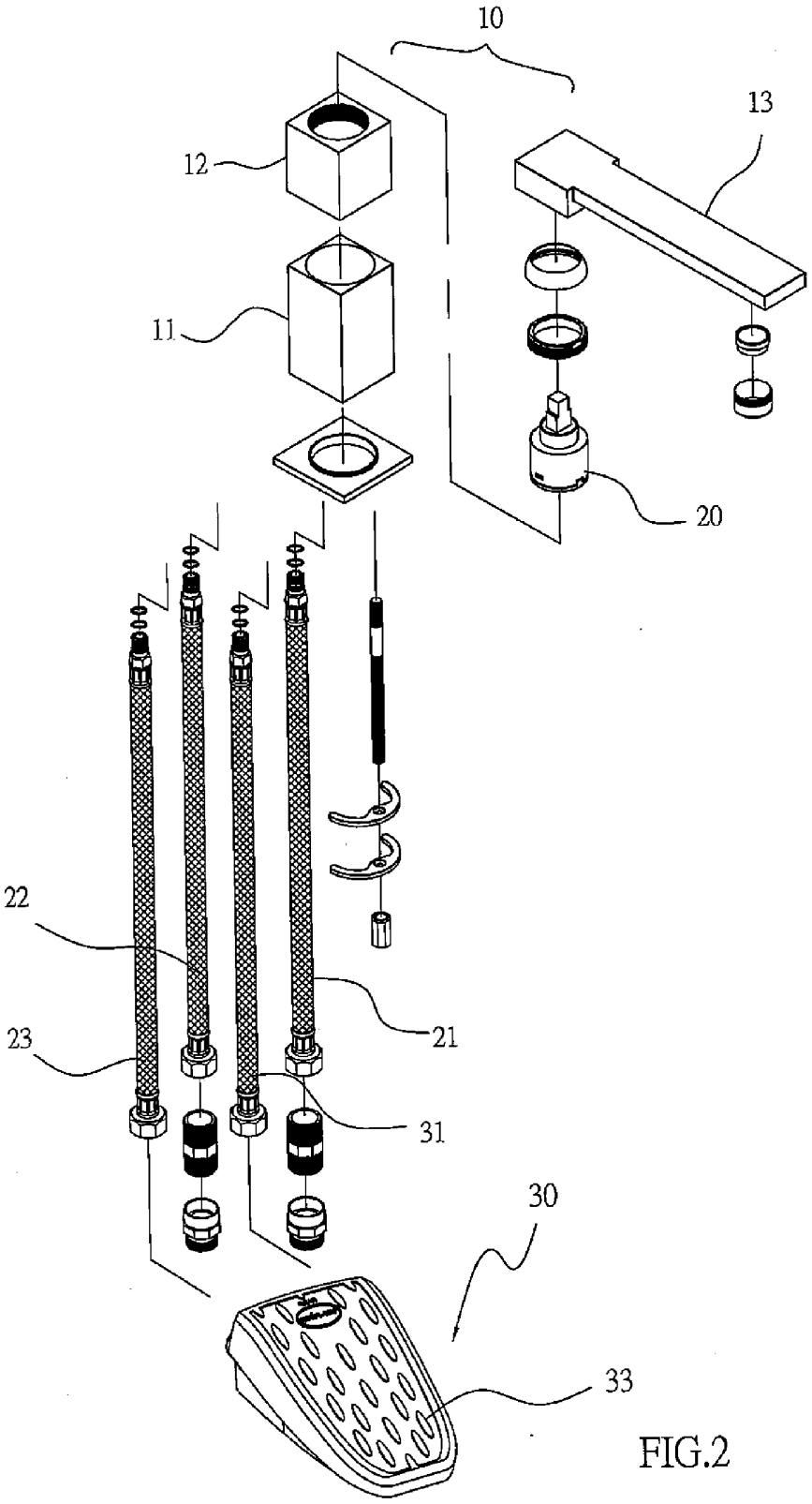

FIG.2

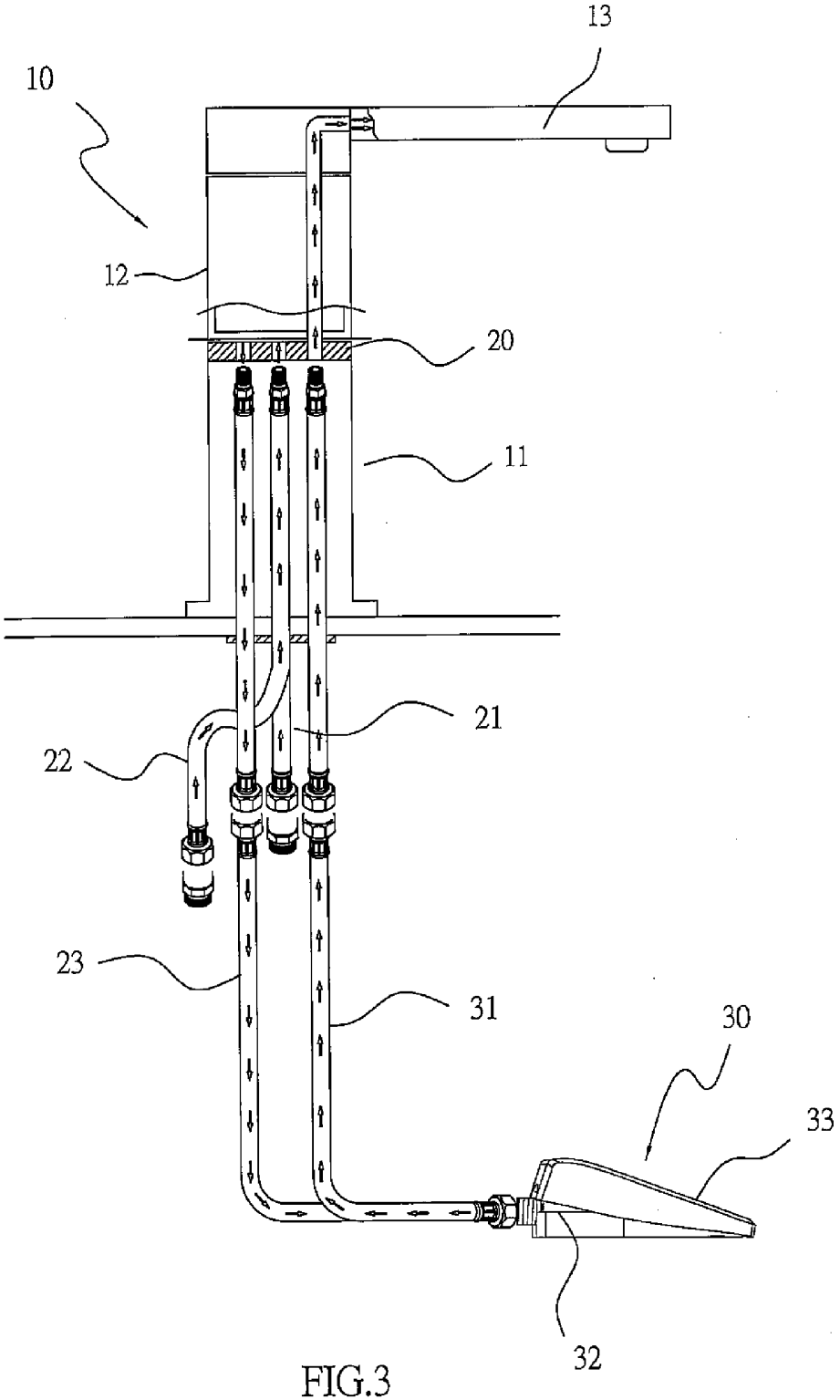

FIG.3

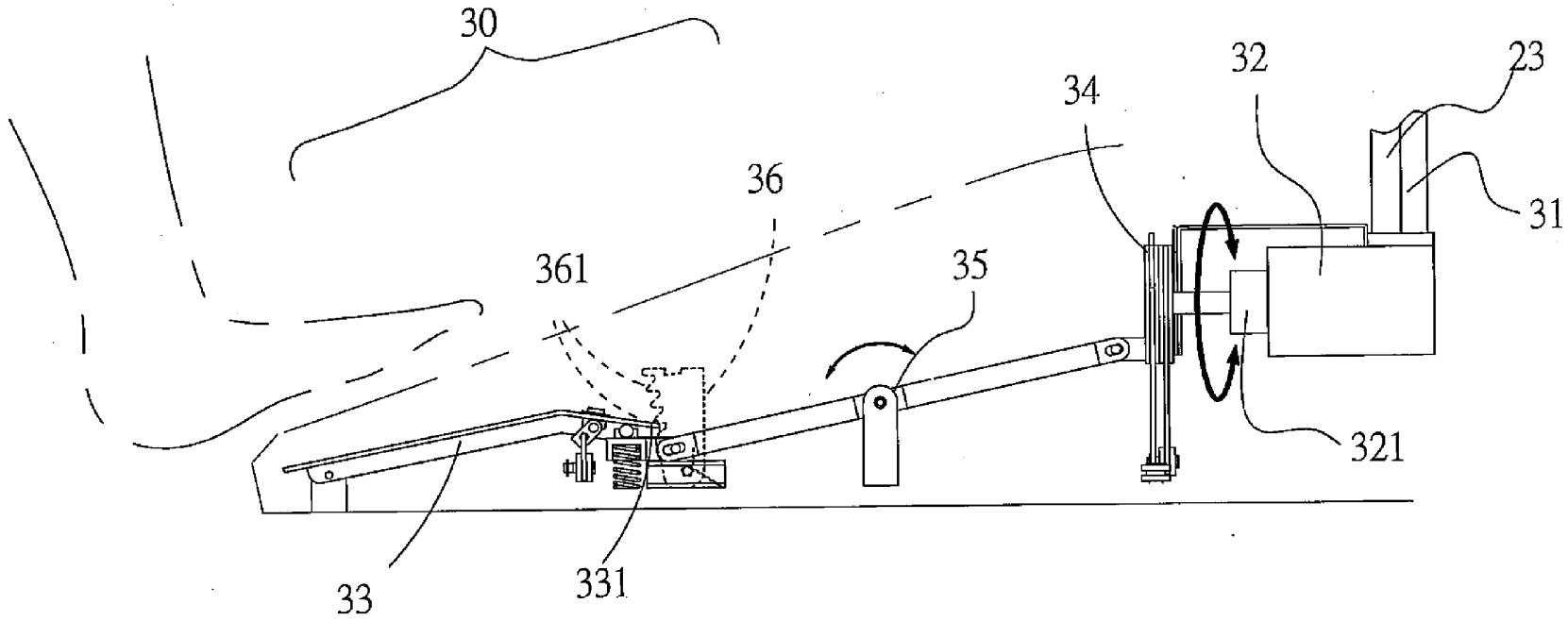

FIG.4

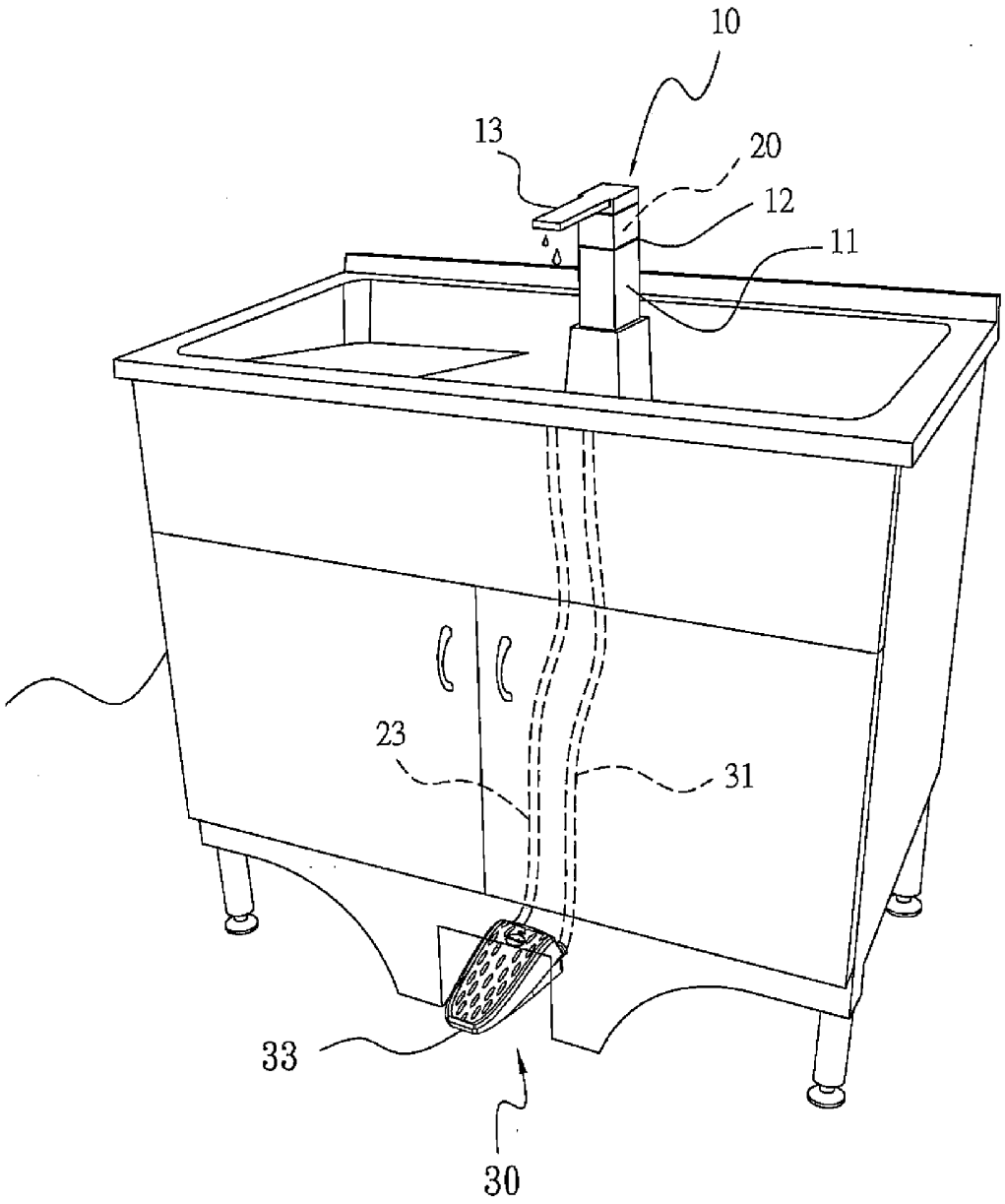

FIG.5