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(54) **VERTICAL FAUCET WATER DISTRIBUTION DEVICE**

(57) A vertical faucet water distribution device comprising a main column (1) joined to the pavement, which incorporates a main faucet (5), and a second faucet (7) joined to a branch body (2) by means of which it joins the main column (1) through a frustoconical and staggered-shaped end that is housed inside the main column (1) and which is fixed by means of a clamping element (9) passing through the wall of the main column (1).

The vertical faucet water distribution device also comprise a cover (8) that wraps the branch body (2) with a curved-shaped end to support the main column (1) tightly while the branch body (2) is introduced until it is fixed by the clamping element (9), which immobilizes the branch body (2) and makes it easy to disassemble the same, and a support (3), intended to house a handle of a handheld showerhead (4), fixed to the cover (8) of the branch body (2) and with a fixed inclination with respect to the main column (1), which is determined when the cover (8) is fixed on the main column (1).

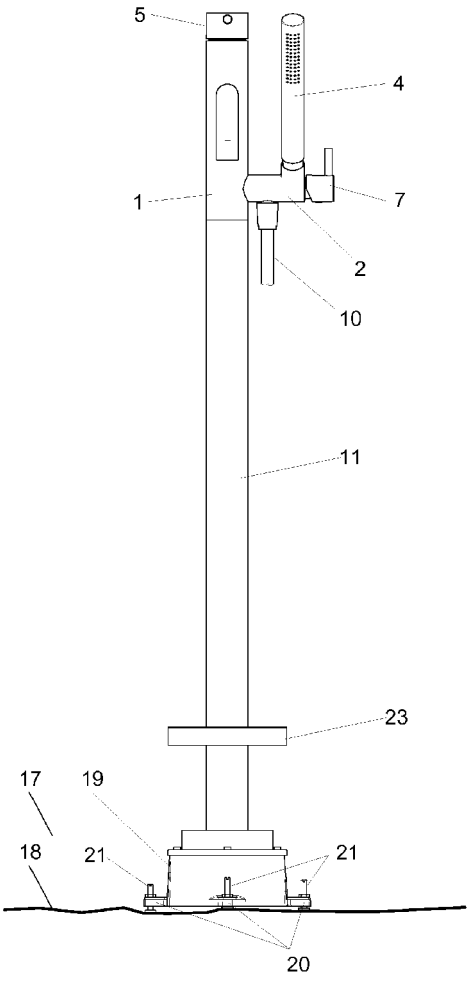


FIG. 1

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## Description

### OBJECT OF THE INVENTION

**[0001]** The present invention relates to a vertical faucet water distribution device formed by a main faucet located at one end of a main column incorporating a water outlet to a second faucet that supplies water to a handheld showerhead.

**[0002]** The invention is especially applicable to the faucet and bathroom component industry.

### TECHNICAL PROBLEM TO BE RESOLVED AND BACKGROUND OF THE INVENTION

**[0003]** In the current state of the art, bathtubs are preferably secured to the corner formed by two walls and even, if possible, secured to the two corners, thereby occupying the entire front of the room where it is installed.

**[0004]** However, there are situations in which it is necessary to install a bathtub separate from the wall or even when secured to a wall, sometimes they cannot access the water pipes through the wall, given they run through the floor.

**[0005]** In these cases, the general trend is to use faucets located in a vertical structure that is installed on the pavement or floor supporting the bathtub. This type of facilities must have a highly resistant floor mounting that must also allow the water pipes to be easily and effectively connected.

**[0006]** However, the faucets located in these facilities way exhibit a series of problems that are difficult to solve. The main problem is deciding how to connect the lateral intake to incorporate the handheld showerhead and for said handheld showerhead to be properly aligned once it is placed in its support, such that the water falls into the bathtub if the handheld showerhead is turned on.

**[0007]** This is the reason why these types of faucets usually do without the handheld showerhead and only have a faucet. This way, the main need is satisfied, which is to incorporate a faucet for filling the bathtub, and the structure of the faucet is made less complex without the handheld showerhead, which involves rather high manufacturing costs as it is fundamental to properly seal all water connections.

**[0008]** The present invention solves these problems, which have not been solved in the present state of the art, by providing a device for connecting to the main column in a perpendicular manner the faucet that incorporates a second adjustment faucet for the handheld showerhead which, in addition, incorporates a support for placing the handheld showerhead so that the water outlet is always directed towards the inside of the bathtub.

### DESCRIPTION OF THE INVENTION

**[0009]** In order to achieve the objectives and avoid the drawbacks mentioned above, the present invention describes a vertical faucet water distribution device by which water is conveyed to a main faucet and to a second faucet that supplies water to a handheld showerhead.

**[0010]** The main faucet is joined to a main column solidly joined by means of reversible fixing means to a fixed column that is coupled to the pavement by a fixing device. To achieve this, the main column incorporates joints fixed to each one of the ends of the two water pipes of the main column for an easy coupling to the corresponding pipes of the fixed column.

**[0011]** The second faucet is joined to the main column through a branch body having a frustoconical and staggered end housed inside the main column.

**[0012]** The branch body is fixed to the main column by means of a clamping element that passes through the wall of the main column to reach the frustoconical end of the branch body, which immobilizes the branch body, on the one hand, and on the other, makes it easy to disassemble the same.

**[0013]** Furthermore, the branch body is surrounded by a cover that provides protection and improves its appearance in the form of a frame. The cover is fixed to the branch body by means of the fitting to the hose of the handheld showerhead, which immobilizes the two parts.

**[0014]** The cover of the branch body furthermore comprises a support for fixing the handle of the handheld showerhead. Since the cover has a fixed position with respect to the main column, just as the support does, if the showerhead is fixed to the support and the faucet is opened, the water will fall into the bathtub and will not splash outside.

**[0015]** The branch body also comprises a calibrated cartridge to prevent the passage of water to the second faucet at a temperature higher than a set value, to prevent a user from suffering burns.

**[0016]** The main column is reversibly joined to a fixed column, such that the two faucets form a single, removable assembly. Both the fixed column and the main column house a cold water pipe and a hot water pipe that are fixed by means of joints. The branch body also comprises channels through which the respective cold and hot water pipes of the main column and branch channels, connected to the water channels, are joined for supplying water to the second faucet.

### BRIEF DESCRIPTION OF THE FIGURES

**[0017]** To complete the description of the invention and provide a better understanding of its characteristics according to a preferred embodiment thereof, a set of drawings has been attached, where the following figures have been represented in an illustrative rather than limitative manner:

- Figure 1 represents an elevation view of the vertical faucet water distribution device object of the present invention.
- Figure 2 represents a side view of the vertical faucet

water distribution device object of the present invention in the position of use next to a bathtub.

- Figure 3 represents a sectional view of the joint of the water distribution body to the faucet of the handheld showerhead with the main water supply column to the main faucet.
- Figure 4 represents a sectional view of the water distribution body to the faucet of the handheld showerhead.
- Figure 5 represents a plan view of the device of the invention sectioned at the height of the second faucet.

**[0018]** Below is a list of the references used in the figures:

1. Main column.
2. Branch body.
3. Support.
4. Handheld showerhead.
5. Main faucet.
6. Calibrated cartridge.
7. Second faucet.
8. Cover.
9. Clamping element.
10. Showerhead hose.
11. Fixed column.
12. Cold water pipe.
12'. Hot water pipe.
13. Cold water branch channel.
13'. Hot water branch channel.
14. Cold water channel.
14'. Hot water channel.
15. Joint.
16. O-rings.
17. Floor.
18. Pavement.
19. Main body.
20. Fastening.
21. Levelling element.
22. Hole.
23. Frame.

## DESCRIPTION OF A PREFERRED EMBODIMENT OF THE INVENTION

**[0019]** Figure 1 represents the vertical faucet water distribution device of the invention showing a fixed column (11) anchored to the floor to which the main column (1) of the device of the invention is fixed. Said main column (1) contains the main faucet (5) and the branch body (2) for supplying water to the second faucet (7) connected to the handheld showerhead (4).

**[0020]** Figure 3 shows how, inside the fixed column (11), there are two pipes (12, 12') for transporting cold water and hot water, respectively. These pipes (12, 12') are joined to others that match up with the main column (1) to bring hot and cold water to the main faucet (5). The pipes (12, 12') of the fixed column (11) are joined to the pipes (12, 12') of the main column (1) by means of joints (15) incorporated by the pipes (12, 12') of the main column (1) at the free ends thereof. These joints (15) further incorporate O-rings (16) to improve sealing.

**[0021]** Figure 3 also shows how the one of the ends of the branch body (2) has a frustoconical and staggered shape by means of which it joins the main column (1) through a hole. The frustoconical structure has two channels (14, 14'), one for cold water (14) and the other for hot water (14') to provide hydraulic communication between the cold water pipe (12) and the hot water pipe (12') of the fixed column (11) and the corresponding pipes (12, 12') of the main column (1) towards the main faucet (5). Each of these channels (14, 14') exhibits branch channels (13, 13') along the branch body (2) to convey the water from the fixed column (11) to the second faucet (7).

**[0022]** In figure 3 it is possible to see how the branch body (2) is fixed to the main column (1) by means of a clamping element (9) which, by means of an opening in the main column (1), is fixed to the end of the frustoconical structure of the branch body (2). Being so fixed makes it possible to axially immobilize the branch body (2) to the main column (1). This fixing system also makes it possible to easily access the inside of the main column (1) and the branch body (2) in the case of a breakdown. The branch body (2) is connected to the main column (1) by means of a hole in the main column (1) in which the frustoconical end of the branch body (2) is inserted until it is fixed by the clamping element (9), while a protective cover (8) that surrounds the branch body (2) abuts tightly on the outside of the main column (1), for which it has the corresponding curved shape. In addition, the cover (8) is fixed to the branch body (2) by means of the fitting to the hose (10) of the handheld showerhead (4). This way, the joint is immobilized in the plane perpendicular to the axis of the branch body (2).

**[0023]** The main column (1) can incorporate a thermostatic cartridge for controlling the temperature of the water leaving the main faucet (5), such that it can be adjusted.

**[0024]** However, the temperature of the water leaving the branch body (2) is not yet adjusted, due to which, in order to prevent the water from passing through at a temperature higher than a previously set value so as to avoid burns through the water coming out of the handheld showerhead (4), the channels of the branch body (2) end in a calibrated cartridge (6). This limitation does not occur in the main faucet (5), since it is very common to need water at a high temperature to fill the bathtub quickly, due to which a cartridge without any temperature limits is usually incorporated.

**[0025]** The calibrated cartridge (6) is located at one end of the branch body (2) forming part thereof, and is also surrounded by the cover (8), which provides protection and acts as a frame.

**[0026]** The mixture of cold and hot water produced in

the calibrated cartridge (6) is controlled by the second faucet (7) which, therefore, controls the temperature of the water coming out of this calibrated cartridge (6) by means of a channel that leads to an opening in which the hose (10) of the handheld showerhead (4) is located.

**[0027]** The cover (8) of the branch body (2) incorporates a support (3) for housing the handle of the handheld showerhead (4). Since the cover (8) has a fixed position with respect to the axis of the main column (1), just as the support (3) does, the water outlet through the handheld showerhead (4) is always directed towards the inside of the bathtub and will not splash outside.

**[0028]** A fixing device is required for fixing the fixed column (11) to the floor. This device is composed of a body (19) from which fastenings (20) protrude, each with a levelling element (21) and an opening (22).

**[0029]** The levelling elements (21) level the device and ensure the fixed column (11) remains vertical, regardless of the type of pavement (18) on which it is located. There are holes made in the pavement (18) positioned in relation to the openings (22) to introduce chemical plugs which ensure the device is firmly fixed to the pavement (18). Subsequently the device is covered to the floor (17) with mortar and the mouth of the device, which protrudes from the floor (17), is covered with a frame (8) incorporating the fixed column (11).

**[0030]** It is to be understood that the present invention should not be limited to the embodiment described herein. Other configurations may be executed by experts in the art in view of the present disclosure. Accordingly, the scope of the invention is defined by the following claims.

## Claims

1. A vertical faucet water distribution device comprising a main column (1) firmly joined to a pavement, which incorporates a main faucet (5), **characterized in that it** further comprises:

   - a second faucet (7) joined to a branch body (2) by means of which it joins the main column (1) through a frustoconical and staggered-shaped end that is housed inside the main column (1) and which is fixed by means of a clamping element (9) passing through the wall of the main column (1),
   - a cover (8) that surrounds the branch body (2) with a curved-shaped end to support the main column (1) tightly while the branch body (2) is introduced until it is fixed by the clamping element (9), which immobilizes the branch body (2) and makes it easy to disassemble the same, and
   - a support (3), intended to house a handle of a handheld showerhead (4), fixed to the cover (8) of the branch body (2) and with a fixed inclination with respect to the main column (1), which is determined when the cover (8) is fixed on the main column (1).

2. The vertical faucet water distribution device according to claim 1, **characterized in that** the branch body (2) comprises a calibrated cartridge (6) that prevents the passage of water to the second faucet (7) at a temperature higher than a set value.

3. The vertical faucet water distribution device according to claim 1, **characterized in that** the cover (8) is fixed to the branch body (2) by means of a fitting for fixing the hose (10) of the handheld showerhead (4) to the device.

4. The vertical faucet water distribution device according to claim 2, **characterized in that** the main column (1) is fixed to a fixed column (11) in a reversible manner, so that the two faucets (5, 7) form a removable assembly.

5. The vertical faucet water distribution device according to claim 4, **characterized in that** both the fixed column (11) and the main column (1) house a cold water pipe (12) and a hot water pipe (12') that are fixed by means of joints (15).

6. The vertical faucet water distribution device according to any one of the preceding claims, **characterized in that** the branch body (2) comprises channels (14, 14') that provide continuity to the cold water pipe (12) and the hot water pipe (12 ') of the main column (1) and branch channels (13, 13') connected to the respective cold water (14) and hot water (14') channels for supplying water to the second faucet (7).

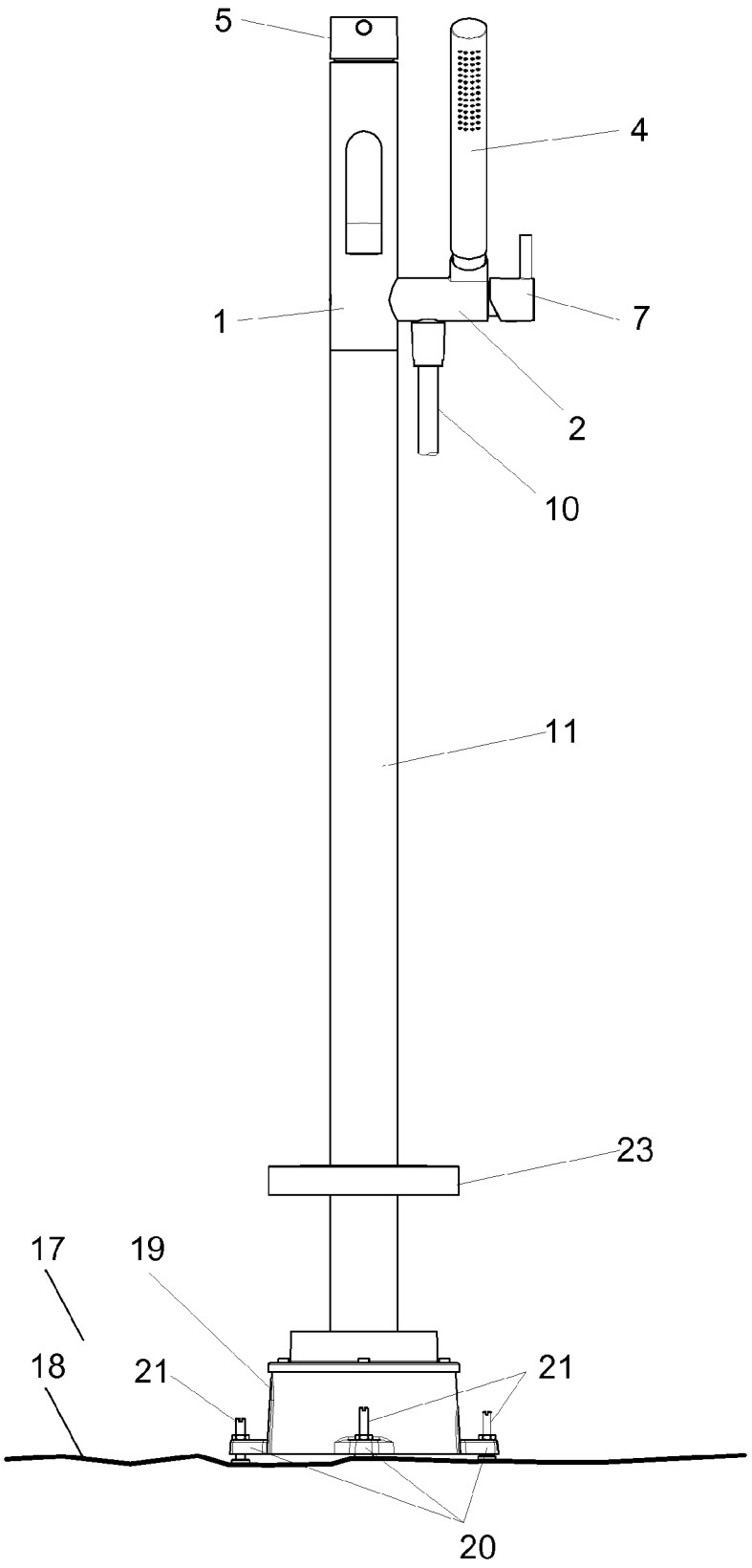


FIG. 1

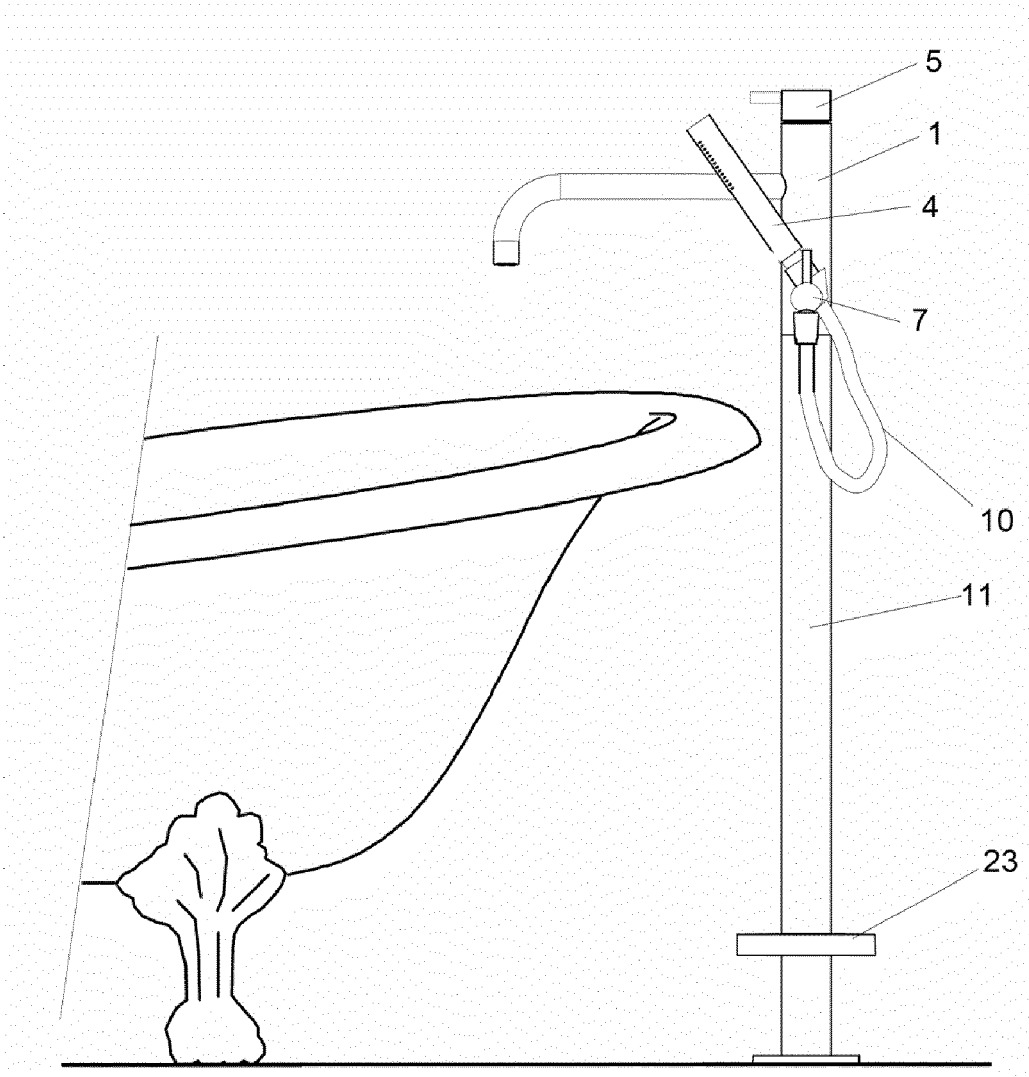


FIG. 2

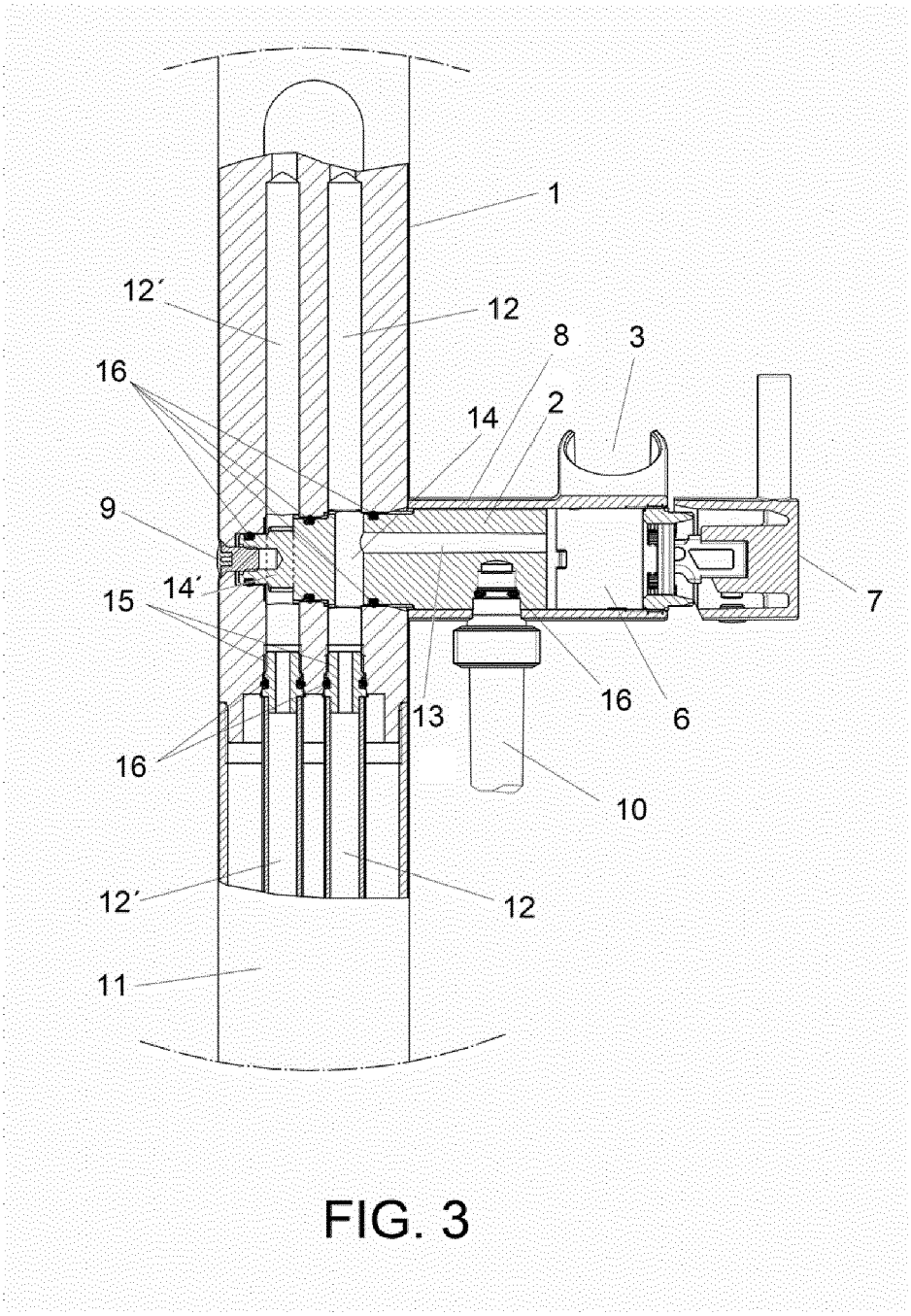


FIG. 3

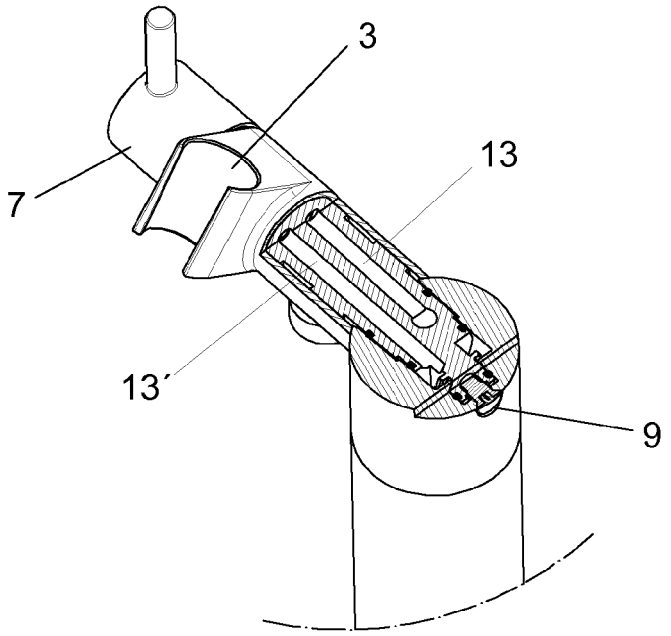


FIG. 4

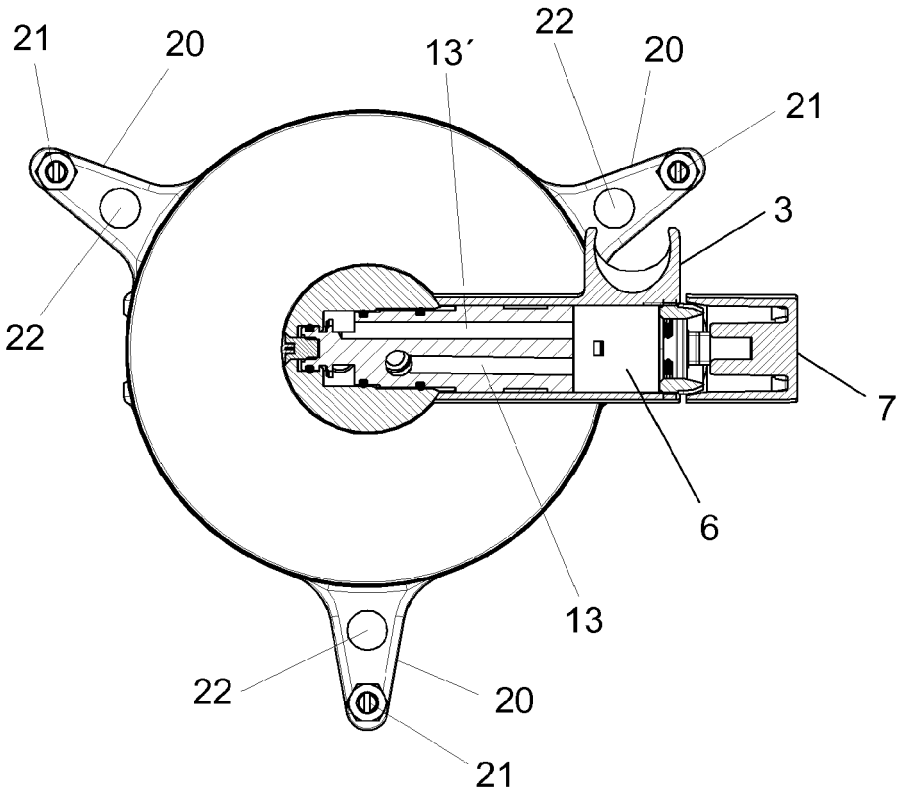


FIG. 5

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# EUROPEAN SEARCH REPORT

Application Number
EP 18 18 8444

## DOCUMENTS CONSIDERED TO BE RELEVANT

| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (IPC) |
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TECHNICAL FIELDS SEARCHED (IPC)

E03C
A47K

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| Munich | 16 May 2019 | Leher, Valentina |

CATEGORY OF CITED DOCUMENTS

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## ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 18 18 8444

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