May 3, 1927. 1,627,020

G. O. DOUGHERTY

PEDAL ACTUATED FAUCET

Filed Oct. 21, 1922

FIG. 1.

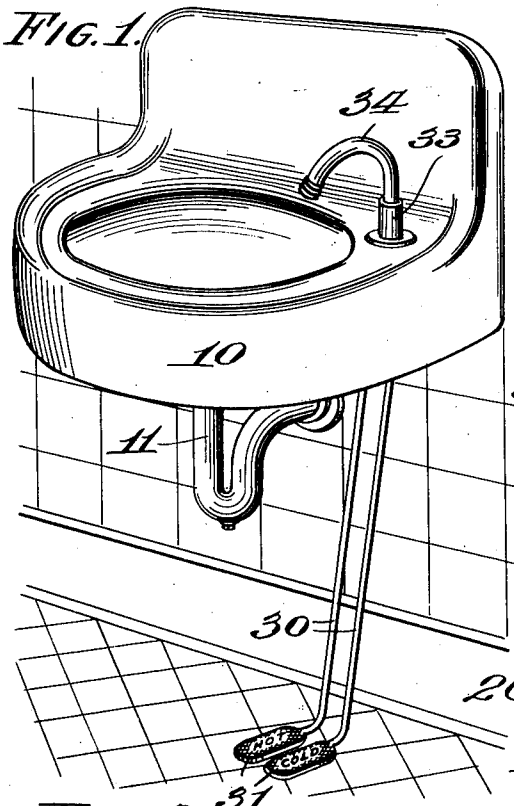


FIG. 2

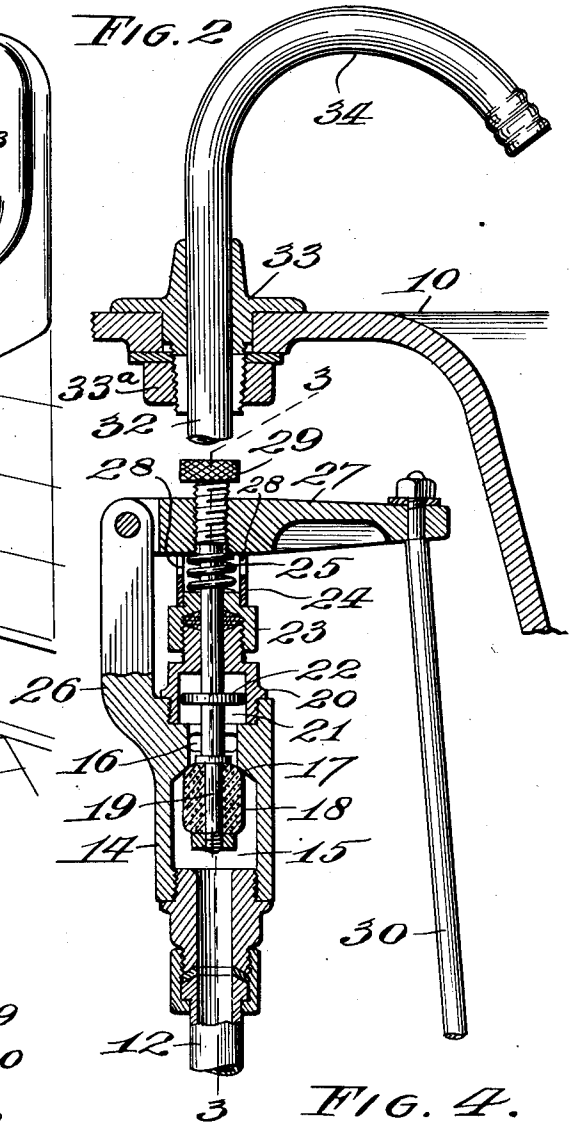


FIG. 3.

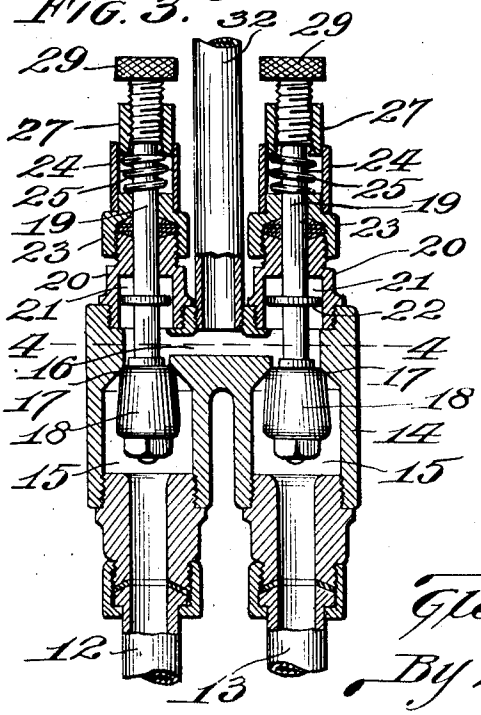
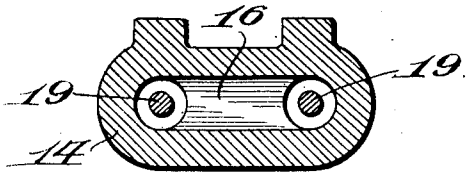


FIG. 4.



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UNITED STATES PATENT OFFICE.

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PEDAL-ACTUATED FAUCET.

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My invention relates generally to devices for controlling the flow of fluids and more particularly to a faucet or spigot that controls the flow of water into a stationary wash bowl, basin, bath tub, shower bath, drinking fountain, sink or the like, the principal objects of my invention being to generally improve upon and simplify the construction of the existing forms of similar devices and to provide a construction utilizing a single faucet or spigot, in which the amount, force or flow and temperature of the water may be instantly and accurately regulated, controlled and modified so as to meet individual requirements and desires, and at the same time, to leave the hands of the user of the wash bowl free at all times during washing operations.

Further objects of my invention are to provide a relatively simple, practical, and efficient pedal actuated and controlled faucet, that will enable the user to wash in running water, thereby wholly eliminating the possibilities of infection or the transmission of disease germs between users of the bowl with which the faucet is associated; further, to provide a device of the character referred to that is relatively simple in construction, capable of being easily and cheaply produced and readily applied to the various forms of stationary wash bowls or basins now in general use; further, to provide a pedal actuated and controlled faucet that may be adjusted and "set" so as to very accurately control the volume flow of water into the bowl or basin, thereby minimizing the wastage of water; and further, to provide a faucet wherein the valves that control the flow of water through the ducts in the faucet body, are normally held closed and upon their seats by the pressure of the water in the main supply mains.

Still further objects of my invention are to provide a fluid flow controlling device that is of strong and durable structure, of neat and finished appearance, and which will form an attractive, convenient and sanitary appliance for wash bowls, basins, sinks and tubs of homes, offices, private and public bath rooms and lavatories, barber shops and the like or wherever a fluid controlling faucet or valve is made use of.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts that will be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which:

Fig. 1 is a perspective view of a stationary wash bowl, and showing my improved fluid flow controlling device applied thereto.

Fig. 2 is a vertical section taken lengthwise through the center of one side of the double valve forming a part of the device.

Fig. 3 is a vertical section taken on the line 3—3 of Fig. 2.

Fig. 4 is a horizontal section taken on the line 4—4 of Fig. 3.

Referring by numerals to the accompanying drawings, 10 designates a stationary wash bowl or basin, 11 the waste pipe leading therefrom, and 12 and 13, the hot and cold water supply pipes respectively.

These pipes are suitably connected, preferably at a point beneath the skirt of the bowl 10, to a double valve housing 14 having twin chambers 15.

One of these chambers is in direct communication with hot water supply 12 and likewise the other chamber is in direct communication with the cold water supply pipe 13.

The upper ends of the twin chambers communicate with the ends of a horizontal chamber 16 in the upper portion of housing 14 and formed at the upper ends of the chambers 15 are valve seats 17 upon which normally rest valves 18 of suitable material.

These valves are carried by the lower ends of stems 19 that extend upward through the ends of chamber 16 and through short vertically disposed housings 20 that are removably seated in the top of housing 14 above the ends of chamber 16.

Housings 20 are provided with substantially cylindrical chambers 21, and positioned therein are discs 22 that are secured to the valve stems 19, and which cooperate with the chambers 21 in forming the dash pots to restrict, to a certain degree, the movements of the valve carrying stems, particularly when the valves are forced onto their seats by the pressure of the water in chambers 15.

Obviously the diameters of the discs 22 are slightly less than the internal diameters of the chambers 21, thus permitting the water within said chambers to flow past the edges of said discs as the latter move vertically through the chambers.

Screw seated on the top of the housings 20, are gland nuts 23, and positioned there-

upon are short upwardly projecting cylindrical housings 24.

The upper portions of the valve stems 19 pass upwardly through the nuts 23 and housings 24 and arranged on said stems within said housings are expansive coil springs 25, the lower ends of which bear on the tops of said nuts.

Brackets 26 are formed integral with the rear side of valve housing 14 and said brackets project upwardly, directly behind the members 20, 23 and 24.

Pivotally connected to the upper end of each bracket 26, is the rear end of a horizontally disposed lever 27, each of which overlies the corresponding housing 24 and valve stem 19. The upper portion of each housing 24 is notched front and rear as designated by 28, and these notches receive the corresponding lever 27 and retain the same against any lateral movement while in operation.

Screw seated in each lever 27, is an adjusting screw 29, the lower end of which bears directly on the upper end of the corresponding valve stem 19.

Each lever 27 and associated parts is yieldingly supported by the corresponding one of the springs 25 and thus the valve carrying stem is relieved of the weight of said lever and parts carried thereby.

Set screws 29 may be adjusted so that their lower ends barely touch, or are just clear of the upper ends of the valve stems 19.

Secured to the forward end of each lever 27 is the upper end of a rod 30 that extends downward into a plane near the floor and the lower end of each rod carries a horizontally disposed foot plate 31.

The two plates 31 lie side by side in a plane, an inch or two above the surface of the floor and said plates may be provided with properly arranged designating marks, for instance, the words "Hot" and "Cold".

The rods 30 are preferably inclined slightly so that their lower ends, that carry the foot plates, occupy positions convenient to the right foot of a person standing directly in front of the wash bowl.

Seated in the top of housing 14 between the housings 20 and communicating with the central portion of chamber 16, is the lower end of a tube 32 that extends upwardly through a clamping bushing 33 that is arranged in the top of the bowl and that portion of the tube above the bowl is provided with a return bend or gooseneck 34, so that its open end discharges directly into the bowl. A nut 33^a is screwed onto the lower portion of bushing 33 and simultaneously clamps said bushing to the tube 32 and to the body of the bowl or basin 10.

Under normal conditions, or while not in use, the valves 18 are held upon their seats by the pressure of the water in the supply pipes 12 and 13 and chambers 15, and the weight of the rods 30, foot plates 31 and levers 27 is carried by the springs 25, as heretofore described.

To bring about a flow of hot or cold water from the open end of the bent portion 34 of pipe 32, the corresponding foot plate 31 is depressed by foot pressure, and as a result, the corresponding lever 27 is actuated so that the screw carried by the depressed lever bears downward on the corresponding valve stem 19, thereby unseating the corresponding valve 18 and permitting water, either hot or cold, as the case may be, to flow past the open valve into chamber 16, and from thence through tube 32 into the wash bowl.

If a flow of warm water or moderately heated water is desired, then the foot of the operator is placed over both plates 31 and with downward pressure thereupon, both valves 18 may be simultaneously unseated to permit hot and cold water to flow from the supply pipes 12 and 13 into chambers 15 and from thence into chamber 16, which in this instance serves as a mixing chamber, and from the latter the water of the desired temperature flows through tube 32 and discharges into the wash bowl.

Obviously by proper manipulation of the foot upon the plates 31, so as to depress one plate more than the other, the temperature of the water discharged into the bowl may be easily and accurately regulated. When pressure of the foot upon the plates 31 is removed, springs 25 will instantly act to swing the levers 27 to their normal positions and as the pressure of the screws 29 on the valve stems is relieved, the latter will be returned to their normal elevated positions by the pressure of the water in chamber 15 against the valves 18.

The closing movement of the valves toward their seats is yieldingly resisted by the dash pot effect of the discs 22 in the chambers 21 and thus said valves return to their seats without pounding and the noise resulting therefrom.

Inasmuch as the power to open the valve is applied to the long end of lever 27, the latter is actuated to open the valve 18 against the water pressure with comparatively little effort.

Valves or faucets of my improved construction may be utilized for controlling the flow of all fluids, liquids, gases, air or steam.

It will be noted that the valve stem 19 in my improved faucet is "full floating"—that is, it is not directly connected to any part of the faucet and the valve is retained upon its seat, wholly by the pressure of the fluid or liquid beneath it.

The screw 29 in the lever 27 performs three functions, viz. when the valve or faucet is installed, the screw may be adjusted so as to determine the distance be-

tween the foot plate 31 and the floor, it may be set so as to fix the degree to which the valve is removed from its seat, consequently regulating the temperature of the water that issues from the faucet and it may be adjusted so as to accurately regulate the volume flow of water from the faucet.

It will be noted that the pedals or valve actuating levers of my improved faucet are hung or suspended from above, thus wholly eliminating the necessity for cutting, marring or disfiguring the floor when the faucet is installed.

Faucets of my improved construction may be easily and cheaply produced, are capable of ready installation on the various types of bowls, basins and sinks now in use, enable the user to wash in running water of the desired temperature, and provides a convenient, attractive, sanitary and economical appliance for all bath rooms, lavatories, barber shops and the like or wherever fluid controlling faucets or valves are utilized.

Obviously the details of construction of my improved faucet may be varied slightly in size, form and arrangement, without departing from the spirit of the invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. In a faucet, a housing having twin fluid passageways that are adapted to be connected to separate sources of fluid supply, a valve arranged in each passageway for controlling the flow of fluid therethrough, which valves are maintained in closed position by the pressure of the fluid from the sources of supply, a common outlet duct leading from the valve controlled passageways, a spring supported pedal actuated lever for unseating each valve and a bearing member adjustably seated in each lever, which bearing member is engaged by the upper end of the stem of the corresponding valve.

2. In a faucet, a housing having twin fluid passageways that are adapted to be connected to separate sources of fluid supply, a valve arranged in each passageway for controlling the flow of fluid therethrough, which valves are maintained in closed position by the pressure of the fluid from the sources of supply, a common outlet duct leading from the valve controlled passageways, a spring supported pedal actuated lever for unseating each valve, a bearing member adjustably seated in each lever, which bearing member is engaged by the upper end of the stem of the corresponding valve and a dash pot for yieldingly resisting the closing movement of each valve.

3. In a faucet, a housing having a fluid passageway that is adapted to be connected to a source of fluid supply, a valve for controlling the flow of fluid through said passageway and normally retained upon its seat by the pressure of the fluid, a spring supported pedal actuated lever for unseating said valve and an adjustable member seated in said lever and bearing on the upper end of the stem of said valve.

4. In a faucet, a housing having twin fluid passageways that are adapted to be connected to separate sources of fluid supply, a valve arranged in each passageway for controlling the flow of fluid therethrough, which valves are maintained in closed position by the pressure of the fluid from the sources of supply, a common outlet duct from the valve controlled passageways, and a spring supported pedal actuated lever for unseating said valve.

5. In a faucet, a housing having a pair of valve chambers, each of which is adapted to be connected to a source of fluid supply, a common chamber with which the valve chambers are connected, a discharge pipe leading from said chamber, valves normally closing communication between the valve chambers and the common chamber, which valves are normally retained in closed position by fluid pressure, a pedal carrying lever for unseating each valve and a member adjustably seated in each lever and bearing on the upper end of the stem of the corresponding valve.

6. In a faucet, a housing having a pair of valve chambers, each of which is adapted to be connected to a source of fluid supply, a common chamber with which the valve chambers are connected, a discharge pipe leading from said common chamber, valves normally closing communication between the valve chambers and the common chamber, which valves are normally retained in closed position by fluid pressure, a pedal carrying lever for actuating each valve and an adjustable member between each valve and its actuating lever.

7. In a faucet, a housing having a pair of valve chambers, each of which is adapted to be connected to a source of fluid supply, a common chamber with which the valve chambers are connected, a discharge pipe leading from said common chamber, valves normally closing communication between the valve chambers and the common chamber, which valves are normally retained in closed position by fluid pressure and a spring supported pedal carrying lever for unseating each valve.

8. In a faucet, a housing having a pair of valve chambers, each of which is adapted to be connected to a source of fluid supply, a common chamber with which the valve chambers are connected, a discharge pipe leading from said common chamber, valves normally closing communication between the valve chambers and the common chamber, which valves are normally retained in closed position by fluid pressure, a pedal carrying

lever for unseating each valve and a dash pot associated with each valve for yieldingly resisting its closing movement.

9. In a faucet, a housing having a fluid passageway in which is formed a valve seat, a valve normally resting upon said seat, a stem carrying said valve, a dash pot associated with said stem and a pedal actuated spring supported lever for actuating said stem to unseat said valve.

10. In a faucet, a housing having a fluid passageway, in which is formed a valve seat, a valve normally resting upon said seat, a stem carrying valve, a dash pot, associated with said stem and a pedal actuated spring supported lever for actuating said stem to unseat said valve, and adjustable means between said valve stem and lever.

In testimony whereof I have signed my name to this specification.

GLENN O. DOUGHERTY.