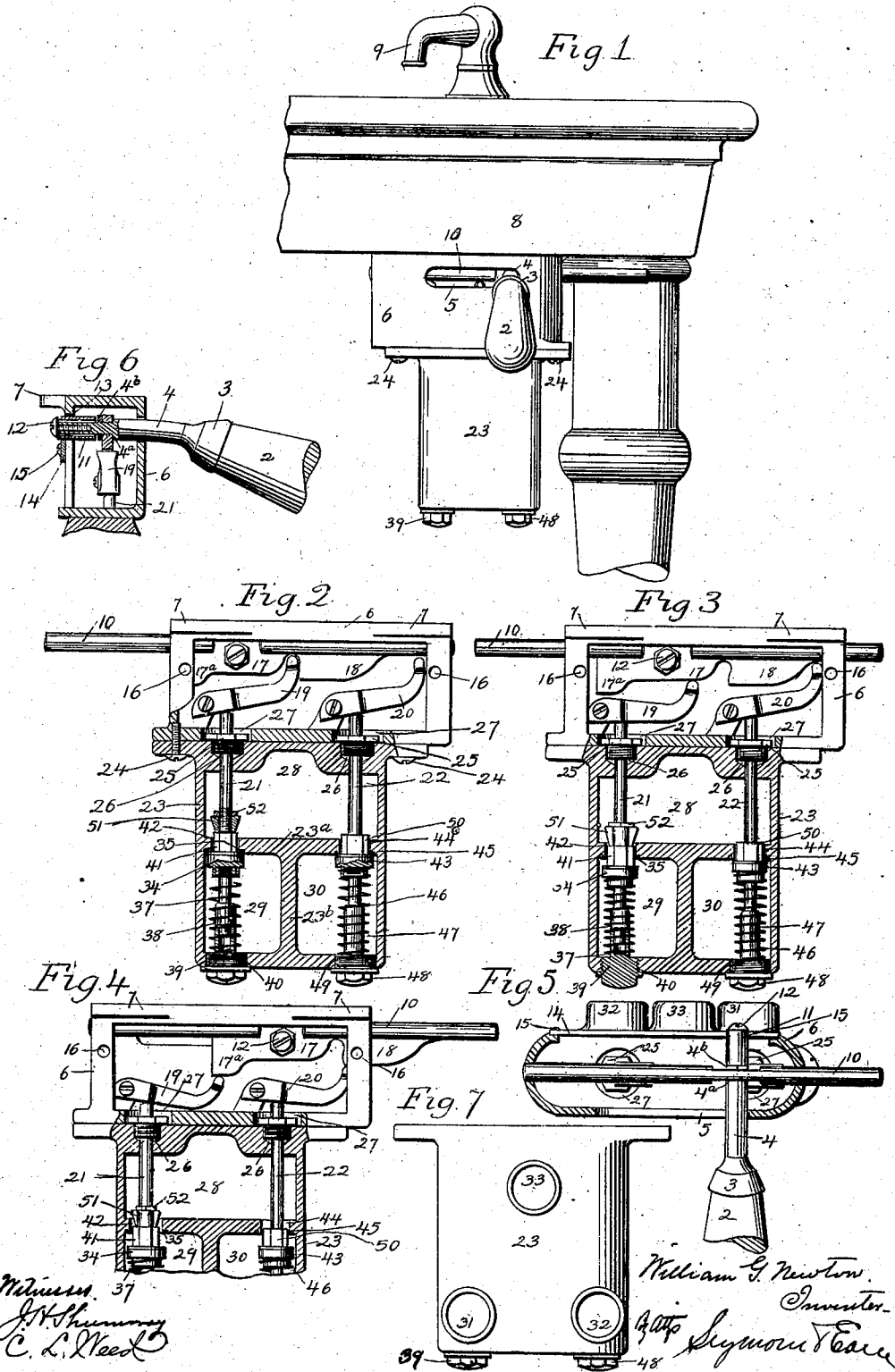


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W. G. NEWTON.
KNEE ACTION SUPPLY FIXTURE FOR LAVATORIES.

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UNITED STATES PATENT OFFICE.

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KNEE-ACTION SUPPLY-FIXTURE FOR LAVATORIES.

No. 853,726.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM G. NEWTON, a citizen of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Knee-Action Supply-Fixtures for Lavatories; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in

Figure 1 a broken view in front elevation showing a washbowl provided with my improved knee-action supply fixture. Fig. 2 a detached view of the fixture partly in rear elevation and partly in vertical section, and shown with its hot and cold water valves closed. Fig. 3 a corresponding view showing the cold water valve open. Fig. 4 a corresponding view with the hot water valve open, and the cold water valve partly closed. Fig. 5 a detached view of the device partly in plan and partly in horizontal section. Fig. 6 a broken view in vertical section, showing the connection between the shank of the knee-lever and the operating slide. Fig. 7 a detached view in rear elevation of the valve-casing, showing the inlet ports and the outlet port.

My invention relates to an improvement in knee-action supply fixtures for hospital lavatories and the like, the object being to produce a simple and convenient device adapted to be operated by the knees rather than by the hands of the user, the usual cold and hot water faucets being dispensed with and the contamination of the fixture by septic hands being avoided.

With these ends in view my invention consists in the construction and combination of parts to be hereinafter described and pointed out in the claims.

In carrying out my invention as herein shown, I employ a handle-like porcelain knee-lever 2 mounted in a socket 3 at the outer end of a shank 4 passing through a horizontal slot 5 in a chambered fixture-body 6 formed with horizontal lugs 7 by which it is bolted to the bottom of a wash bowl 8 to which cold or tempered water is supplied through a fixed dummy spout 9. The said shank 4 passes through a rod-like operating

slide 10 located within the said body 6 and bearing at its ends in the end walls thereof, the shank being formed with a shoulder 4^a and threaded for the reception of a binding nut 4^b, whereby the shank is rigidly secured to the slide.

An anti-friction roller 11 turning upon the projecting inner end of the shank 4 and retained in place thereupon by a screw 12 rides upon the bearing edge 13 of the body 6 and upon the upper edge of a horizontal bar 14 removably attached by screws 15 to the open inner face of the body the end walls of which are formed with screw holes 16 for the reception of the screws 15. The said operating slide 10 is furnished with a depending cold water cam 17 and a hot water cam 18 respectively coacting with a cold water lever 19 and a hot water lever 20 pivotally mounted within the lower portion of the body 6 in position to coact respectively with the upwardly projecting ends of valve stems 21 and 22 mounted in a valve casing 23 fastened by screws 24 to the lower face of the body 6.

The spindles 21 and 22 have bearing at their upper ends in the upper wall of the casing and pass upward through nut-like glands 25 and through packing material 26 held in place by the glands, the flanged upper portions of which enter clearance spaces 27 in the lower face of the body 6. The said valve-casing 23 is divided by suitable partitions 23^a and 23^b into three compartments, namely, a mixing chamber 28, a cold water chamber 29 and a hot water chamber 30. The chamber 29 is formed in its inner wall with an inlet port 31 through which cold water is introduced to it, the chamber 30 with a corresponding inlet 32 through which hot water is introduced into it and the chamber 28 with an outlet port 33 connected with the dummy spout already mentioned.

The spindle 21 carries a cold water valve 34 coacting with an annular rib-like valve seat 35 upon the lower face of the horizontal partition 23^a in the valve-casing, the valve 34 being threaded for adjustment upon the spindle and held in place against the seat 35 by means of coiled spring 37.

The lower end of the spindle 21 has bearing in a guide-stem 38 formed upon a nut 39 closing a threaded opening 40 in the bottom of the valve-casing from which the stem 21 and spring 37 may be removed by removing

the said nut. The spindle 21 is formed as shown with radial webs 41 which guide the spindle as it plays up and down in the port 42 through which the cold water flows from the cold water valve chamber 29 into the mixing chamber 28. The corresponding spindle 22 carries an adjustable hot-water valve 43 normally closing the port 44 in the partition 23^a and coacting with an annular rib-like valve-seat 45 against which it is held by a coiled spring 46, the lower end of the spindle being entered into and guided in a hollow stem 47 carried by a nut 48 entered into a hole 49 in the bottom of the valve-casing 23. The spindle 22 is also furnished with radial ribs 50 which play up and down in the port 44 and guide it.

In order to control the amount of cold water passing into the mixing chamber 28 from the cold water chamber 29, I employ an adjustable tapering plug 51 mounted upon the spindle 21 of the cold water valve 34 and held in any desired position of adjustment by means of a nut 52, this plug being partially entered into the cold water port 41 so as to partially shut off the entrance of cold water into the mixing chamber 28, by means of a supplemental cold water cam 17^a formed upon the cold water cam 17.

Normally the several parts of my improved fixture occupy the positions shown in Fig. 2, both valves being closed, and the lever 19 being in close proximity to the cold water valve cam 17. To turn on the cold water, the user uses his knee to push the knee-lever 2 from right to left for a short distance, whereby the operating-slide 10 will be correspondingly moved from right to left. During this movement the cam 17 will depress the lever 19 into the position shown in Fig. 3, depressing the spindle 21 and opening the cold water valve 34. Cold water will thus be admitted into the mixing chamber 28 and supplied from the spout 9. The described movement of the slide also brings the rise of the hot-water cam 18 into close proximity to the end of the hot-water lever 20.

To temper the water delivered by the spout 9, the lever 2 is moved from right to left enough more to bring the said cam 18 into play for depressing the lever 20 and hence depressing the spindle 22 and opening the hot-water valve 43, admitting hot water into the mixing chamber 28 in which it will be commingled with the cold water, the tempered water being delivered from the spout 9. In case the water is not warm enough, the user presses the knee-lever 2 from right to left to the limit of such movement, thus bringing the supplemental cold water cam 17^a into play for depressing the spindle 21 so as to bring its plug 51 into action for partially closing the cold water valve port 41, whereby the flow of cold water is partially checked. Hot water will now be

supplied to the mixing chamber 28 in excess of cold water and the water delivered from the spout 9 will be hotter than before but not scalding hot as it is desirable that under no conditions shall the fixture deliver scalding water to the spout.

It will thus be seen that without using either hand, but by the knees alone the fixture may be operated to deliver to the bowl either cold water or hot water of two temperatures. The temperature of the hotter water delivered will depend upon the use to which the fixture is put, and may be regulated by changing the position of the plug 51 upon the cold water spindle 21 which may readily be removed from the fixture for the purpose. By making the valve-casing readily removable from the fixture-body, the glands may be removed and the packing replaced without removing the body from the bowl to which it should be firmly bolted or otherwise secured. In this way the valves and their appurtenances may be given any required attention without disturbing the fixture-body and its longitudinally movable slide.

I claim:—

1. In a knee-action water-supply fixture for lavatories, the combination with an operating slide, of a knee-lever for the operation thereof, valves provided with valve spindles, and levers for coaction with the said spindles arranged to be operated by the said slide:
2. In a knee-action water-supply fixture for lavatories, the combination with an operating-slide, of a knee-lever for operating the said slide, hot and cold water valves, spindles for the said valves, levers for operating the said spindles, and cams located upon the said slide for coaction with the said levers.
3. In a knee-action water-supply fixture for lavatories, the combination with an operating-slide, a knee-lever for the operation thereof, hot and cold water valves, spindles therefor, a cut-off plug mounted upon the spindle of the cold water valve, levers operated by the slide and coacting with the said spindles, and cams carried by the slide for coaction with the said levers, including a supplemental cold water cam.
4. In a knee-action water-supply fixture for lavatories, the combination with an operating-slide, of a knee-lever connected therewith for operating the same, an antifriction roller for the slide, hot and cold water valves, spindles for the said valves, and connection between the said spindles and slide for the operation of the former.
5. In a knee-action water-supply fixture for lavatories, the combination with a chambered body, of an operating slide mounted therein for horizontal movement, a knee-lever entering the said body and connected with the said slide, a valve-casing applied to the said body, valve-spindles mounted in the

said casing, valves carried by the said spindles, and levers pivotally mounted in the body and operated upon by the said slide for working the said spindles.

5 6. In a knee-action water-supply fixture for lavatories, the combination with a body, of a longitudinally movable slide located therein and having bearing in the ends thereof, a knee-lever provided with a shank entering the said body and connected with the said slide and furnished with an anti-friction roller, bearings in the said body for the said roller, a valve-casing, hot and cold water valves located therein, spindles for the said 10 valves, levers pivotally mounted in the body in position to engage with the said spindles, and cams located upon the said slide for the operation of the said levers.

7. In a knee-action water-supply fixture 20 for lavatories, the combination with a fixture-body, of a longitudinally movable slide located therein, a knee-lever connected with the said slide for operating the same, a valve-

casing adapted to be removably attached to the said fixture, valves located in the said 25 casing, and means interposed between the slide and the valves for operating the latter by the former.

8. In a knee-action water-supply fixture, the combination with the fixture-body, of a 30 longitudinally movable slide located therein, a knee-lever connected with the said slide for operating the same, cams located upon the slide, levers mounted in the said body for operation by the cams, a valve-casing adapted to be removably attached to the said body, 35 valve spindles mounted in the said casing in position to be operated by the said levers, and valves carried by the said spindles.

In testimony whereof, I have signed this 40 specification in the presence of two subscribing witnesses.

WILLIAM G. NEWTON.

Witnesses:

T. S. COLEMAN,
ERVING A. WRIGHT.