

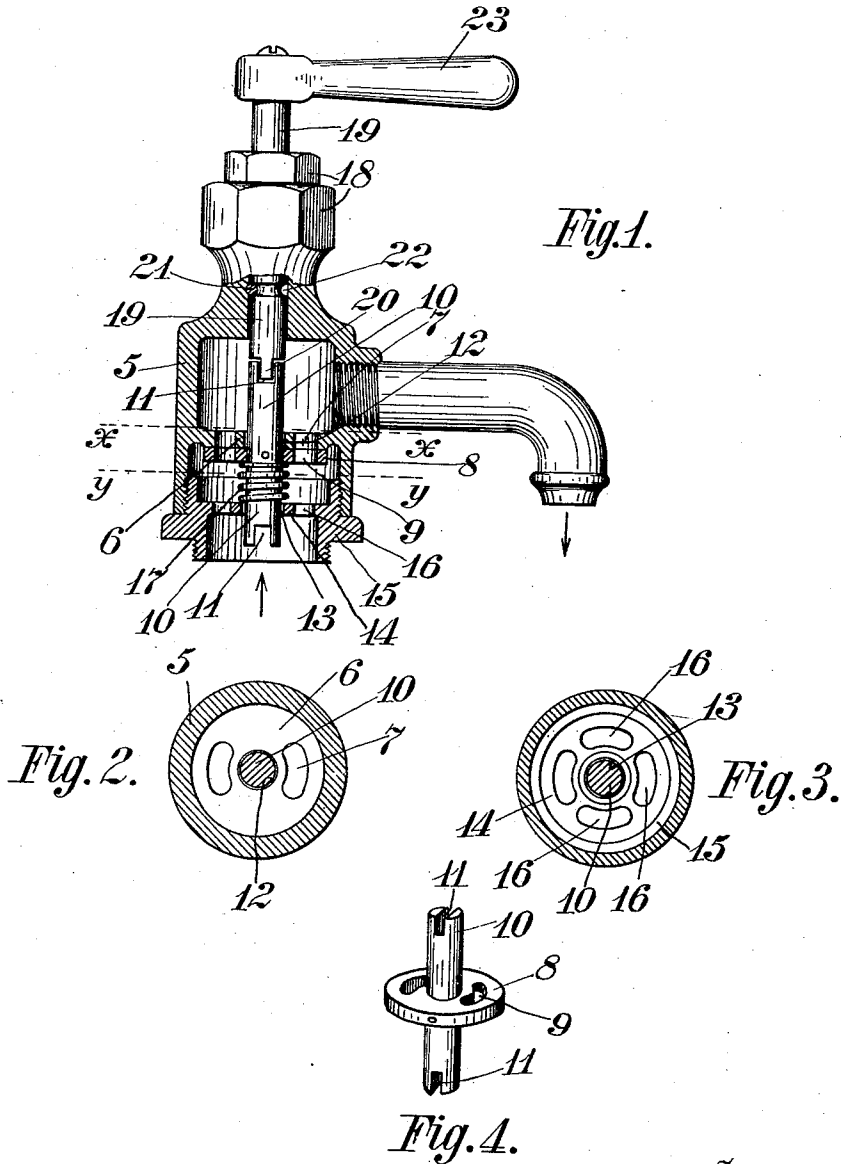
T. RODERICK.

VALVE.

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1,120,975.

Patented Dec. 15, 1914.



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UNITED STATES PATENT OFFICE.

THOMAS RODERICK, OF COLUMBUS, OHIO.

VALVE.

1,120,975.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, THOMAS RODERICK, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Valves, of which the following is a specification.

One of the objects of this invention is to provide an improved valve of simple and economical construction in which a washer is dispensed with.

Another object is to provide a valve which is reversible so that if one face becomes worn or damaged the other can be presented to the seat.

The invention is embodied in the example herein illustrated and described the features of novelty being pointed out in the claims.

In the accompanying drawing—Figure 1 is a vertical section of a faucet containing the invention. Fig. 2 is a section on the line $x-x$ looking down. Fig. 3 is a section on the line $y-y$ looking down. Fig. 4 is a perspective view of the valve and its stems.

In the views 5 designates the case of an ordinary water faucet. Within the case below the discharge of the faucet is a web or diaphragm 6 of metal having ports 7 the lower or inlet or pressure side of said diaphragm forming the valve seat.

8 designates the valve body which is of metal of disk form, flat and smooth on both faces and provided with ports 9 corresponding substantially in size and form to those of the valve seat. The ports 7 and 9 are of such dimensions that the valve upon being turned, say, a quadrant or less a closing of the ports is effected. The valve body is pinned to the middle of an axially located stem 10 the opposite ends of which are notched or grooved as seen at 11. The valve body is thus, in effect, provided with two stems identical with each other. One of these stems is extended up through a central opening 12 in the valve seat, said opening being of slightly larger diameter than that of the stem so as to admit a slight play of the valve laterally on its seat. The other stem extends downward through a central opening 13 in a web or spider 14 in a union 15. The central opening 13 is also of slightly larger diameter than that of the stem so as not to interfere with the play of the valve before referred to. The web or spider 14 has additional openings 16 to permit the free passage of water or other fluid

to the faucet. On the stem and interposed between the spider 14 and the lower side of the valve body is a light coil spring 17 tending to press the valve body toward its seat. The principal function of this spring is to hold the valve up when the ports are open because when said ports are closed water pressure is usually sufficient to hold the valve on its seat. Extending through a stuffing box 18 in the upper part of the valve case is a valve stem portion 19 having at its lower end a tongue 20 which loosely engages within the valve case the notch or groove 11 of the uppermost end of the valve stem. This looseness of engagement is to permit the play of the valve before referred to. The valve stem portion 19 is held from vertical removal by a removable pin 21 extending through the neck of the case and tangentially to a peripheral groove 22 in said stem portion 19. The upper outer extremity of the stem portion 19 has affixed to it a handle 23 for oscillating the stem portion 19 and the valve. From this construction it will be observed that the valve having some freedom of lateral or rocking movement and being subject to pressure automatically accommodates itself to its seat.

If the valve on one face becomes unduly worn or damaged the valve can be reversed and the other face placed against the seat.

Because the valve is located on the lower side of the web or diaphragm the stuffing box of the valve stem portion 19 is relieved of pressure and hence there is no danger of leakage.

One of the stems can be omitted and the device, if desired, made irreversible. Other changes can be made without departing from the gist of the invention as claimed.

I have shown and described my invention as used in connection with a faucet but subject to such restrictions as may be imposed by the prior art, the invention is not confined to any particular use.

What I claim is:

1. The combination of a valve case having a single valve seat provided with a stem opening, a rotary reversible valve to seat on said valve seat, a spring for holding the valve on said seat, a stem projecting into said opening toward the opposite side of the valve seat and means at that side for operating the valve, said opening being of larger diameter than the valve stem to permit play thereof.

2. The combination of a valve case having a single valve seat, a rotary reversible valve body to seat on said seat having identical stems projecting in opposite directions, a
5 perforated union through which one of said stems extends, said valve seat provided with an opening into which either portion of said stem may be extended, and a spring for holding said valve on the seat when the
10 valve is opened.

3. The combination of a valve case having a single valve seat provided with a stem opening, a rotary reversible valve on the pressure side of said valve seat, identical
15 stems one of which projects into said open-

ing toward the opposite side of the valve seat, the diameter of said opening being greater than that of the stem to permit lateral play thereof, a spring for holding the valve toward its seat, and detachable operating means engaging said stem at said last named side of the seat, the connection between said operating means and the stem being loose fitting to permit lateral play of the valve, substantially as described.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."