(No Model.)

L. SIMMONS.

VALVE OR FAUCET.

No. 589,102. Patented Aug. 31, 1897.

Fig. 1.

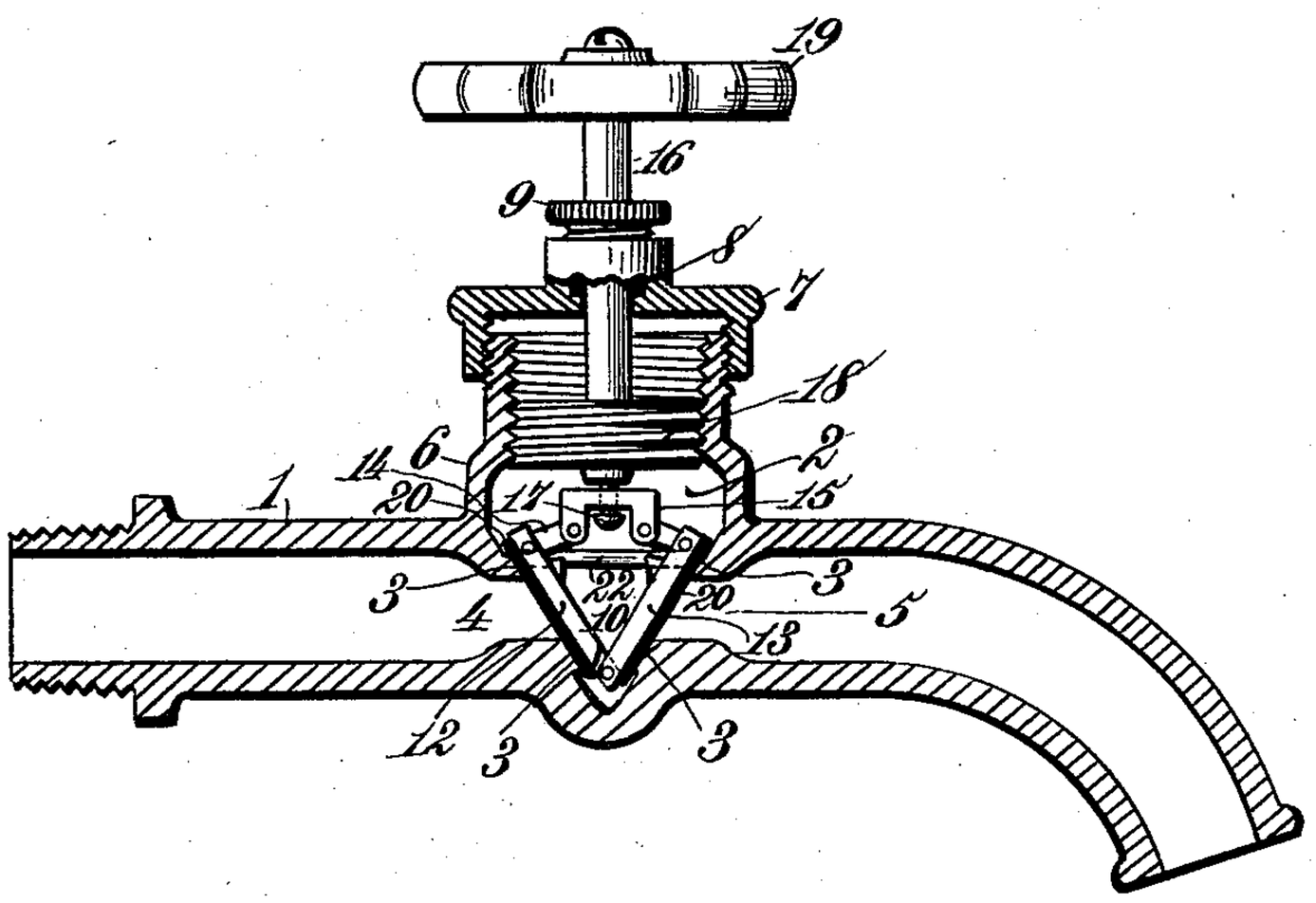


Fig. 2.

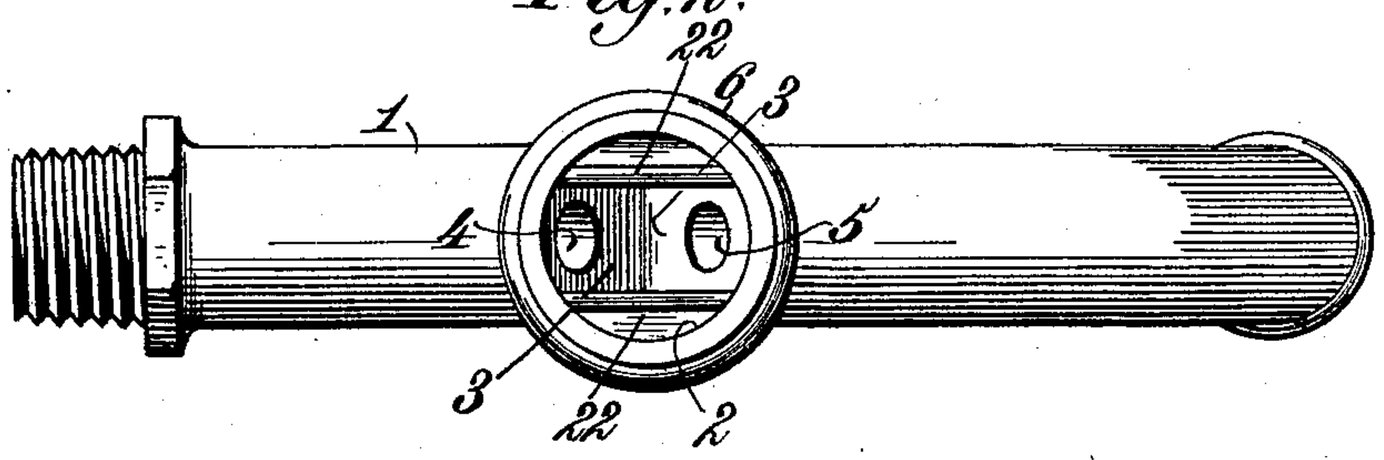
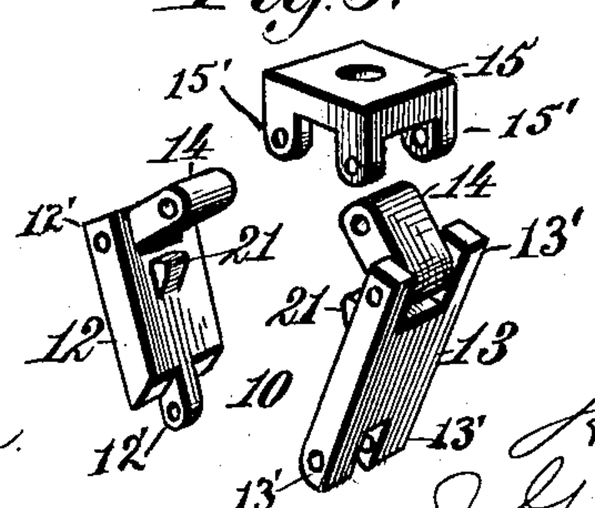


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

LEO SIMMONS, OF WASHINGTON, DISTRICT OF COLUMBIA.

VALVE OR FAUCET.

SPECIFICATION forming part of Letters Patent No. 589,102, dated August 31, 1897.

Application filed August 20, 1896. Serial No. 603,285. (No model.)

To all whom it may concern:

Be it known that I, LEO SIMMONS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Valves or Faucets; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cocks or faucets, and more particularly to improvements in that class of faucets known as "straightway" valves, which have two openings in the valve-casing, with a corresponding number of valves for closing said openings.

It is the purpose of this invention to provide a non-frictional valve of this class which will be perfectly tight or close fitting, so as to prevent any leakage of water or other fluid when shut off, and will be durable and not easily worn out.

It is a further purpose of my invention to provide a valve which is simple in construction, easy in operation, and comparatively inexpensive to manufacture.

Briefly the invention consists of a valve-casing having a wedge-shaped valve-seat and a correspondingly-shaped valve consisting of a pair of valve faces or wings hinged directly together at their lower ends and connected at their upper ends to a vertically-movable spindle by means of links, the valve as thus constructed being of wedge shape to fit the correspondingly-shaped seat in the casing.

To these ends the invention consists in the novel features of construction and new combinations of parts hereinafter more fully described, and particularly pointed out in the claims which follow this specification.

In order to enable others skilled in the art to make, use, and construct my invention, I will now proceed to describe the same in detail, reference being had to the accompanying sheet of drawings, wherein—

Figure 1 is a longitudinal view of a valve constructed according to my invention. Fig. 2 is a plan view of the valve-casing with the valve removed; and Fig. 3 is a detail perspective view of the valve proper, the parts being disconnected.

Referring now to the drawings, the reference-numeral 1 designates the valve-casing, which may be of any desired form and provided with an inlet and outlet opening and with a central valve-chamber 2. The valve-chamber is formed at its lower portion by inclined side walls 3 3, which constitute a wedge-shaped valve-seat, and in the center of these side walls are arranged the liquid-passages 4 5, which are substantially opposite each other. Extending upward from the valve-casing is the valve-dome 6, which is provided with screw-threads upon its interior and exterior, those upon the interior being preferably larger and extending over the entire inner surface of the dome. A cap 7 is screwed upon the top of the valve-dome and is provided with a central aperture 8, through which the valve-spindle passes, and is also preferably provided with a stuffing-box 9, of any suitable construction, so as to insure against leakage at these parts.

The reference-numeral 10 designates my improved valve, which consists of a pair of wings or plates 12 13, that are formed at their upper and lower ends with apertured ears 12′ 13′, as shown, the lower ones of which interlock and are pivoted together in any suitable manner. Between the ears at the upper ends of the plates or wings are loosely or pivotally connected the links 14, which in turn are pivoted between downwardly-extending ears 15′, formed on a head 15. This head is swiveled to the lower end of the valve-operating spindle 16 by means of a screw or other fastening device 17, which is passed loosely through an aperture in the head and into the end of the spindle. Secured directly to the lower portion of the spindle is a circular disk or body 18, which is exteriorly screw-threaded, so as to engage with the threads within the valve-dome. It will now be readily seen that by turning the handle 19, which is secured to the spindle, the circular disk or body 18 will be raised or lowered, according to the direction the handle is turned, and the valve will be accordingly raised or pressed to its seat.

It is to be noted that the lower down the spindle is screwed the tighter the valve-plates will be pressed against the valve-seat. This is due to the link connection between the spindle and upper ends of the valve plates or wings.

In raising the valve from its seat the spindle in being screwed upward first draws the valve-plates together away from the valve-seat and then raises the valve. By this operation it will be seen that there is no friction between the valve and valve-seat during the opening and closing of the valve. To the outer face of each valve plate or wing is secured a rubber or leather packing-strip 20, as shown in Fig. 1 of the drawings, which will insure a tight seating of the valve.

In order to prevent the links from being pressed down too far, which might result in straining their connections, I have formed an outwardly-projecting lug 21 upon the inner face of each valve-plate directly below the links, so that as soon as the valve is opened out to its greatest width the links will strike against the lugs or stops and further downward movement of the same will be prevented and the straining of the parts avoided.

Arranged within the interior of the valve-casing, longitudinally with the same, I have provided a pair of guide rods or bars 22, one upon each side of the valve-openings. These rods serve to keep the valve-plates perfectly true and in a correct position for the proper seating of the valve-plates and also prevent any sidewise or lateral movement of the valve.

It will be seen from the foregoing description that I provide a valve that can be quickly and tightly forced to its seat and as easily opened to allow the flow of liquid, and owing to the fact that the valve and seat are each of wedge shape a much better and safer water seal is effected; and, further, the parts are so constructed and arranged that the valve can be readily taken apart for inspection, cleaning, or repair.

I do not wish to be understood as confining myself to any particular form or construction of valve-casing, as any form will answer the purpose of this invention, the essential features of which are the wedge-shaped valve-seat, the wedge-shaped valve consisting of the hinged plates, and the linked connection of the valve with the valve-spindle.

What I claim, and desire to secure by Letters Patent, is—

1. In a valve, the combination with the valve-casing provided with a V-shaped valve-seat, of a V-shaped valve consisting of a pair of plates hinged together at their lower ends, an operating device for moving the valve to and from its seat, a linked connection between the valve and operating device, and stop-lugs on the valve-plates directly below the links for limiting the downward movement of the latter, substantially as described.

2. In a valve, the combination with the valve-casing provided with a V-shaped valve-seat, of a V-shaped valve consisting of a pair of plates hinged together at their lower ends, an operating device for the valve, links connecting the valve-plates and operating device, and guide-rods secured to and spanning the walls of the valve-seat and acting on each side of the valve-plates, substantially as described.

3. In a valve having a V-shaped valve-seat, a V-shaped valve consisting of a pair of plates hinged together at their lower ends and having a linked connection at their upper ends with an operating device for moving the valve to and from its seat, stop-lugs on the valve-plates directly below the links, and guide-rods secured to and spanning the walls forming the valve-seat, said rods acting on each side of the valve-plates, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

LEO SIMMONS.

Witnesses:
J. G. MEYERS, Jr.,
C. L. SHEPHERD.