

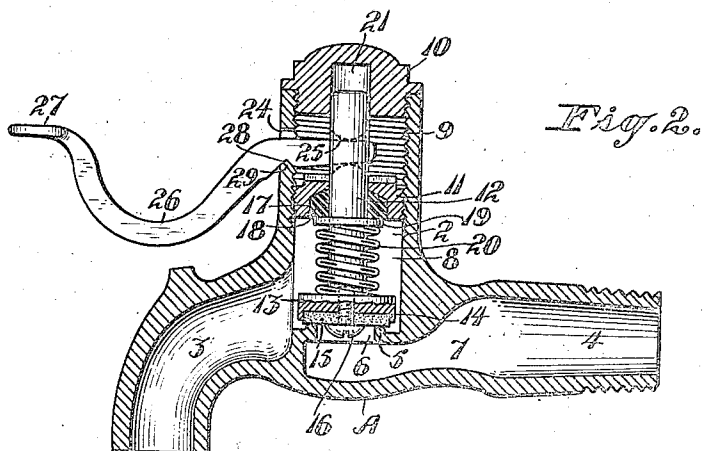
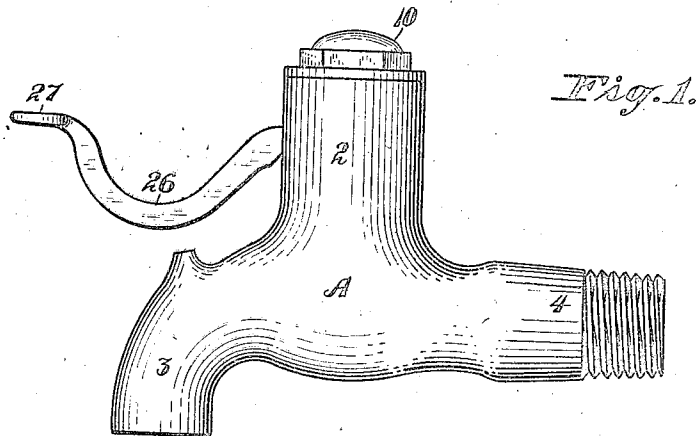
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WATER FAUCET

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UNITED STATES PATENT OFFICE.

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WATER FAUCET.

Application filed February 2, 1921. Serial No. 441,800.

To all whom it may concern:

Be it known that I, WHITNEY S. MERRILL, a citizen of the United States, residing at the city and county of San Francisco and State of California, have invented new and useful Improvements in Water Faucets, of which the following is a specification.

This invention relates to a water faucet, and especially to faucets of the self-closing type.

One of the objects of the present invention is in general to improve and simplify the construction of water faucets, to reduce the number of parts employed, to lessen the cost of manufacture, and especially to provide a self-closing faucet in which wear and leakage will be reduced to a minimum.

Another object of the invention is to provide a faucet in which all parts are readily removable to facilitate inspection, repairs, etc., and in which the valve is closed and normally maintained in contact with its seat by a spring; said spring being adjustable so that variations in water pressure may be readily taken care of.

Further objects will hereinafter appear.

The invention consists of the parts and the construction, combination and arrangement of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Fig. 1 is a side elevation of the valve.

Fig. 2 is a central vertical longitudinal section through the same.

Referring to the drawings in detail, A indicates in general a casing which is divided into three sections, to-wit, an integral valve housing section or neck 2, a spout or nozzle section 3, and a connecting or supporting section 4. Formed intermediate the sections 3 and 4 is a valve seat section 5 in which is formed a central opening 6, said opening forming a communication between the passage formed in the spout 3 and a passage 7 formed in the connection 4. Formed interior of the section 2 and in alignment with the valve seat 5 is a chamber 8. The upper portion of this chamber is threaded as at 9 and is adapted to receive a cap 10 and an intermediate guide member 11. Formed in the guide 11 is a central opening in which is slidably mounted a valve stem 12. Secured on the lower end of said stem is a valve 13, and formed in the face of said valve is a recess 14 for the reception of a gasket 15, said gasket being secured in

any suitable manner or as here shown by a screw 16. Formed in the guide member 11 is an annular groove 17 for the reception of a suitable packing 18, and engageable therewith is a movable packing gland 19, and interposed between the gland and the member 13 is a helical spring 20 which normally exerts sufficient pressure on the valve to maintain it in closed position. Formed in the cap 10 is a central recess 21 into which the upper end of the valve stem extends. This recess forms a guide for the upper end of the stem and also limits the upward movement thereof. Formed in the forward side of the casing section 2 is a vertically disposed slot 24, and extending through said slot and a slot 25 formed in the valve stem is a handle 26, on the outer end of which is formed a thumb piece 27. The handle is employed for the purpose of opening the valve by imparting a vertical movement thereto, and it is also hook shaped as shown in Figs. 1 and 2 to permit a bucket or like receptacle to be supported therefrom; the weight of said receptacle under ordinary circumstances being sufficient to maintain the valve in open position while the receptacle is being filled. The handle is otherwise provided with a notch or recess which engages a support 29 formed in the lower end of the slot 24. The support 29 forms a pivotal point about which the handle 26 swings when operated, and the notch 28 serves the function of retaining the handle against accidental endwise removal with relation to the slot and the valve stem. The slot 24 is however sufficiently long to permit the handle to be lifted vertically a sufficient distance to clear the notch 28 with relation to the support or shoulder 29. This permits the handle to be readily removed when occasion may demand.

From the foregoing description it can be seen that an exceedingly simple faucet has been provided, that is a faucet which is simple and substantial in construction and from which the operating parts may be readily removed for inspection, repair, etc. For instance if it is desired to renew the gasket 15, it will only be necessary to remove the handle 26, the cap 10 and the guide member 11; the cap 10 being unscrewed by an ordinary wrench, and the guide member 11 by a socket wrench; a slot being formed in the upper end of the guide member to permit engagement and turning movement by

means of a socket wrench of suitable construction. With these parts removed, the valve stem, the valve and the spring supported thereby may be lifted directly out of the casing and the gasket renewed. Other parts subject to wear may similarly be easily removed and replaced.

Another important feature of the present invention is the provision of a guide member which is vertically adjustable with relation to the valve stem. This is of importance as it permits adjustment of the spring 11. For instance in certain instances it is found that the water pressure in the city mains averages approximately forty pounds to the square inch; in such instances it is necessary to turn the guide member or lower the same until the compression of the spring 11 is sufficient to hold the valve against the seat, and besides exert sufficient pressure to prevent leakage between the valve seat and the gasket 15. If the hydrostatic head or water pressure is less, it is possible to reduce the spring tension by again adjusting the guide member, and conversely, if higher water pressures are encountered, further pressure of the spring may have to be exerted by lowering the guide member; the lowering or raising of the guide member being accomplished by turning the same, as it is entirely held in position by the internally threaded portion shown.

Another important feature is the provision of a self-tightening packing gland, that is the gland 19 is constantly subjected to the pressure or tension of the spring 11 and as such maintains the packing 18 under such pressure that it automatically packs about the stem as wear takes place, thus reducing leakage to a minimum.

Another important feature is the provision of a handle which may serve as a hook-shaped support for cooking utensils, such as buckets, hot water kettles, etc.; further a handle which may be readily removed whenever desired. This feature should be a de-

cided advantage where children are in the habit of constantly tampering or playing with the faucets.

While certain features of the present invention are more or less specifically illustrated, I wish it understood that various changes in form and proportion may be resorted to within the scope of the appended claims, similarly that the materials and finish of the several parts employed may be such as the experience and judgment of the manufacturer may dictate or varying uses may demand.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. A faucet of the character described, comprising a casing having a valve seat and provided with an integral neck having an opening, a valve cooperating with the seat and provided with a stem extending into the said neck, a spring arranged on the stem for urging the valve to its seat, a lever extending through the opening in the neck and operatively connected with the valve stem, and a guide member supported by the neck below the said opening and receiving and guiding the stem, and having a packing constituting the packing of the faucet and forming an abutment for the said spring.

2. A faucet of the character described, comprising a casing having a valve seat and provided with an integral neck having an opening, a valve cooperating with the valve seat and having a stem extending into the neck, a lever passing through the said opening and operatively connected with the said stem, a spring disposed on the valve stem for urging the valve to its seat, and a guide member adjustably mounted in the neck below the said opening and receiving and guiding the stem and provided in its lower face with an annular groove and having a packing arranged in the said groove constituting the packing of the faucet and forming an abutment for the spring.

WHITNEY S. MERRILL.