(No Model.)

A. P. HOWES.

FAUCET.

No. 417,916. Patented Dec. 24, 1889.

Fig. 1.

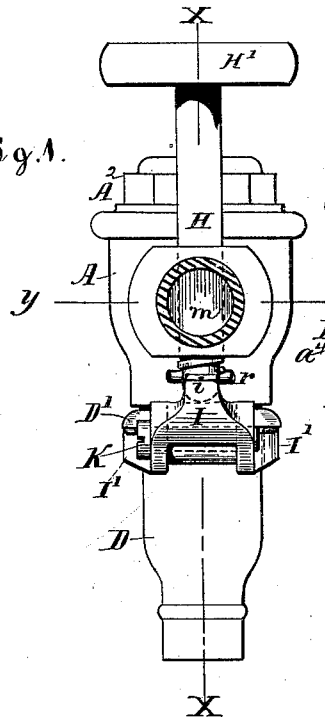


Fig. 2.

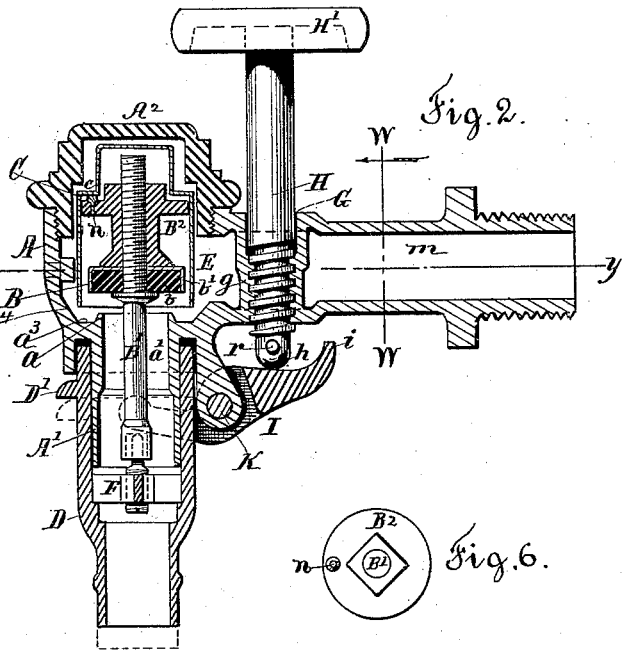
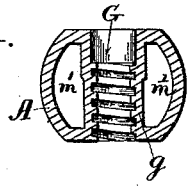


Fig. 6.

Fig. 4.



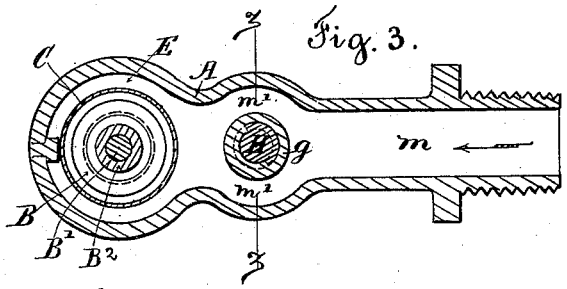


Fig. 3.

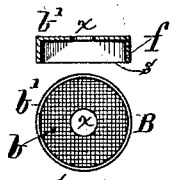


Fig. 7.

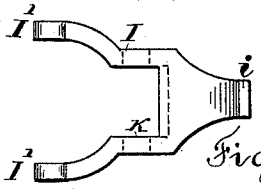


Fig. 5.

Witnesses.
Simeon E. King
M. M. Barton

Inventor
Albert P. Howes
By Chas. H. Burleigh
Attorney.

UNITED STATES PATENT OFFICE.

ALBERT P. HOWES, OF WORCESTER, MASSACHUSETTS, ASSIGNOR OF TWO-THIRDS TO EDMUND CONVERSE AND AMBROSE T. MATTHEWS, OF SAME PLACE.

FAUCET.

SPECIFICATION forming part of Letters Patent No. 417,916, dated December 24, 1889.

Application filed November 7, 1888. Serial No. 290,246. (No model.)

To all whom it may concern:

Be it known that I, ALBERT P. HOWES, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Faucets, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The objects of my present invention are to provide in a faucet of that class wherein an inverted cup is arranged over the valve-puppet a lug or stud disposed eccentric to the disk of the puppet and for causing the cup to close upon and leave its seat in a slightly-inclined manner, as hereinafter explained.

Another object is to provide in a faucet of the class named a screw in combination with a lifting-lever for raising the nozzle and opening the valve, as hereinafter explained.

These objects I attain by mechanism such as shown and described, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a transverse section at line W W, and Fig. 2 is a longitudinal section at line X X, showing a faucet embracing my improvements. Fig. 3 is a longitudinal section at line *y y*. Fig. 4 is a transverse section at line *z z*. Fig. 5 is a plan of the lifting-lever separate. Fig. 6 is a top view of the valve-puppet, and Fig. 7 shows the packing-disk and its shell or case.

Referring to parts, A indicates the body or shell of the faucet provided with suitable means for attachment to the supply-pipe and having the inlet-passage *m*, a chamber E for the valve-puppet B and cup devices C, and a downwardly-projecting extension A′, through which the exit-passage *a′* is formed and upon which the discharge-nozzle D works up and down, the valve-seat *a*, cup-seating surface a^3, inclosing-cap A^2, and valve-lifting step F being constructed and arranged substantially as illustrated and described in Letters Patent No. 388,362 heretofore granted me.

In my present improvement the lifting-lever I is made substantially as shown in Figs. 2 and 5, and is centrally fulcrumed to the body at K, with its forward ends I′ extending to the sides of the nozzle D and engaging beneath its flange D′, while its rear end extends backward beneath the faucet-neck and is turned upward at the extremity or provided with a lug *i* to strike the under part of the body and prevent the nozzle from dropping lower than is necessary for closing the valve. The neck of the faucet in rear of the head is provided with a screw-threaded opening G, said neck being somewhat enlarged, and the inlet-passage *m* being divided, as at *m′*, by a solid column of metal *g*, through which the opening extends, as indicated. A screw-spindle H, having a suitable thumb head or handle H′, is fitted in said opening G, with its rounded lower end *h* below the neck in position to operate the lifting-lever I by pressing on its top surface. A pin *r*, inserted through the lower end of the screw with its ends projecting therefrom, serves as a guard to prevent the screw from being turned out.

The valve-spindle B′, which is screw-threaded along its upper part, is made to receive and support the valve-pad or packing-disk B, which latter is held in position thereon by the top piece or upper part of the puppet B^2, screwed onto said spindle, as shown. This pad or disk is composed of a semi-elastic packing substance *b*, Fig. 7, embedded within and permanently incased by a thin metallic casing *b′* in such a manner that the casing and packing substance are practically integral, and are made as follows: The metallic case is punched, as a disk, from thin sheet metal, and is then die-drawn in the manner of seamless ferrules to form the cylindrical flange *f*. Its edge *s* is then squared, and a hole *x* for the valve-spindle is punched through the center, thus making a thimble or cup such as shown in section, Fig. 7. Vulcanizable or semi-elastic packing compound (of ingredients such as heretofore used for packings, preferably that known as Jenkins' packing) is molded into this case or thimble, its face covered with a flat plate having a

center to preserve the form of the center hole, and the substance then vulcanized within the casing, thereby making a metallically re-enforced plate of packing, which can be used upon the puppet or valve in a faucet, and when the face becomes injured the pad, including the metal casing b' and filling b, can be readily renewed or replaced by another incased packing of the same kind. The pad or disk b, made as above described, is more perfect and uniform in texture and is more durable than the ordinary packings, and can be very economically made and quickly and cheaply renewed, and avoids any necessity of dressing or filing off the packing substance to make a proper fit with the puppet or the valve-seat, as is usually required with the ordinary packing-disks.

In the top side of the puppet-head B^2 and eccentric to the puppet axis I place a small pin or stud n, that projects sufficiently far above the surface of the puppet-head to strike the shoulder c of the valve-cup C when opening the faucet before other portions of the disk engage therewith, thus causing said cup when lifted to take a slightly-inclined position as it leaves or approaches its seat a^3. By thus lifting the cup from one side it starts with an easy action against the force or pressure of the water, and it is also prevented when dropped from striking full upon the seat or checking the flow beneath its edge otherwise than in a gradual and noiseless manner. The inclined surfaces a^4 around the seat a^3 serve to maintain the cup C central with said seat, notwithstanding the inclination imparted by the stud n when lifting it.

I am aware that a screw arranged through a pivoted lever connected by links with a sliding nozzle has been employed for lifting a valve in a faucet, and I do not desire to be understood as including such a construction as within the scope of my claims.

I claim as my invention to be secured by Letters Patent—

1. In combination with a faucet-body, its movable nozzle and valve-puppet, the lifting-lever centrally fulcrumed on said body, as at K, and engaging by arms I′ with a flange on said nozzle, and the operating-screw H, arranged through a screw-threaded opening in the neck of the body and engaging at its lower end with said lifting-lever for operating the faucet, as set forth.

2. In combination with the faucet-body, its movable nozzle and valve-puppet, the lifting-lever fulcrumed at K and having forwardly-extending arms that engage the nozzle, and a backwardly-extending arm provided with a stop-lug or turned-up end i, and the operating-screw H, fitted in the body to turn down upon said lever, substantially as and for the purpose set forth.

3. The combination, with the body having valve-seat a and surrounding seat a^3, the loose inverted cup C, and the valve-puppet, of the stud n, disposed on said valve-puppet at an eccentric position for engaging said cup at one side of its shoulder to lift and support it slightly inclined, substantially as and for the purpose set forth.

Witness my hand this 5th day of November, A. D. 1888.

ALBERT P. HOWES.

Witnesses:
CHAS. H. BURLEIGH,
ELLA P. BLENUS.