(No Model.)

J. HOWES.

FAUCET.

No. 256,480. Patented Apr. 18, 1882.

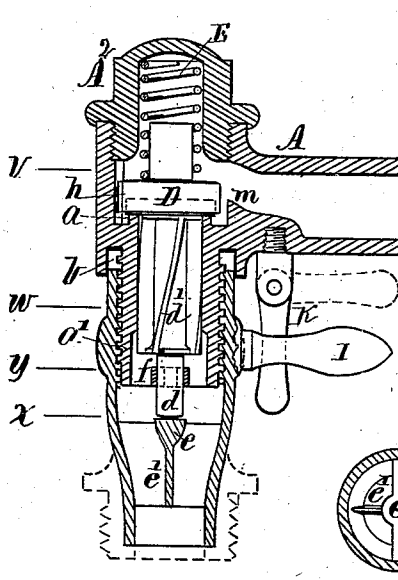

Fig. 2

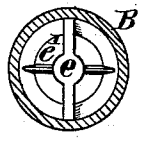

Fig. 5

Fig. 6

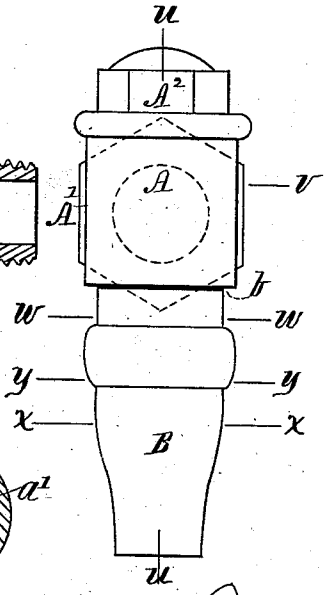

Fig. 1

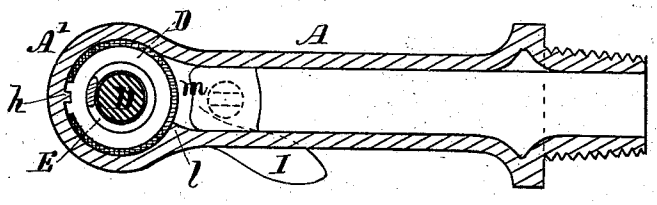

Fig. 3

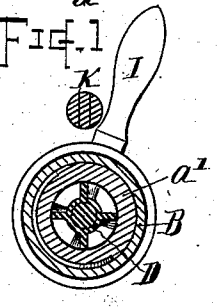

Fig. 4

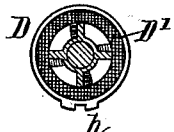

Fig. 8

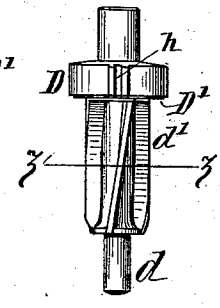

Fig. 7

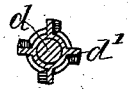

Fig. 9

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UNITED STATES PATENT OFFICE.

JOHN HOWES, OF WORCESTER, MASSACHUSETTS.

FAUCET.

SPECIFICATION forming part of Letters Patent No. 256,480, dated April 18, 1882.

Application filed November 10, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN HOWES, of Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Faucets; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The object of my present invention is to provide a desirable and practicable faucet for water-service, &c., which shall be economical in manufacture, simple and durable in construction, easy of operation, and convenient and efficient in use. I attain these objects by a faucet the mechanism of which is constructed and organized as illustrated and described herein, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a front view of my improved faucet. Fig. 2 is a vertical section through the same at line *u u*, Fig. 1. Fig. 3 is a horizontal section at line *v v*. Fig. 4 is a horizontal section at line *w w*. Fig. 5 is a horizontal section at line *x x*. Fig. 6 is a horizontal section at line *y y*. Fig. 7 is a side view of the valve-piece. Fig. 8 is a sectional view at line *z z*, looking toward the top end of the valve-piece; and Fig. 9 is a sectional view at line Z Z, looking toward the lower end of the valve-piece.

Referring to the drawings, A denotes the body of the faucet, which is composed of the hollow neck portion, having a suitable connecting-nipple at one end and provided at its other end with a vertically-chambered head, A′, containing the horizontal valve-seat *a*, and a depending hollow projection, *a′*, having a coarse screw-thread formed on its exterior surface for receiving the nozzle or thimble B, as illustrated.

The upper opening of the head-chamber is closed by a screw-cap or hollow nut, A^2. The valve-seat *a* is formed by an annular flange or bevel about the central bore or passage, as shown. The head is recessed or under-grooved at its junction with its lower threaded portion, as at *b*, for the reception of the top end of the thimble B, which is made so as to match said groove or offset *b* and to form a close joint therewith, when it is screwed up on the part *a′*, so that there will be no liability of water escaping at that point by being forced out between the screw-threads by the back-pressure occasioned when a hose or filter is attached to the faucet-nozzle. A packing-ring may be inserted in said recess *b*, if desired, or a close-fitting surface formed therein to match the top end of the thimble.

The valve-piece D, which is made in the form shown in Fig. 7, is arranged within the chamber of the head portion A′ to act in vertical direction and to be closed by the pressure of the water. Its face or packing D′ rests upon the seat *a*, while its body portion, which is provided with twisted ribs or flanges *d′*, passes down through the passage or bore of the part *a′* below the seat, and its reduced end or stem *d* is guided by the flanges or ribs *d′*, fitting within the hollow of the part *a′*, or by a small eye-bar, *f*, fixed across the lower end of the passage, as illustrated.

A spring, E, may be fitted within the cap to press the valve downward upon its seat. Said spring is of coiled wire, and is made to fit closely within the cavity of the cap A^2, and around the top projection of the valve D, so as to give a direct downward pressure and to obviate any liability of shaking or rattling.

Lugs and grooves *h* are formed on the valve D and shell A, which intermesh and retain the valve from turning on its axis, and a rotative strain is put upon the valve by deflecting the current of water toward one side, and producing a whirl or spiral action within the head-chamber by means of a boss or projection, *l*, located at the junction of the neck and head within the shell, and formed on one side of the passage only, so as to direct the flow of water toward the opposite side, causing it to impart its rotative tendency to the valve always in one and the same direction, and thus preventing any tendency of the valve to shake or vibrate by the action of the water flowing through the faucet. The twisted flanges *d′* also serve to give rotative strain for holding the lugs and grooves in contact toward one side, and thereby preventing any rattling or noise when drawing water from the faucet.

A lip or projection, *m*, is formed within the

passage for deflecting the water upward from the seat *a*, and thereby obviate any tendency of the stream of water to force itself beneath the rear edge of the valve more than at any other portion of its circle, and thereby cut or wear off the valve or seat unequally at its opposite sides.

The thimble B is fitted internally with a bridge or bearing step, *c*, that strikes the valve-stem *d* and raises the valve from its seat when said thimble is turned on the screw-threaded projection *a'*. A handle, I, is arranged on the thimble, by means of which it can be conveniently operated.

A stop-pin, K, is fixed in the under side of the neck for arresting the movement of the handle I and thimble B when the valve is closed. Said stop is in the present instance provided with a hinge-joint to permit of its being raised, as indicated by dotted lines, Fig. 2, thus allowing the handle to be swung completely around when desired.

The faucet is opened by swinging the handle to the front and closed by swinging it back against the top. When the faucet is completely opened the top end of the thimble makes a tight joint against the head at *b*, and prevents any leakage at that point when a hose is used on the faucet, as it may be by making the end of the thimble with a screw-coupling, as indicated in dotted lines, Fig. 2.

At the lower part of the thimble or nozzle B one or more thin bridges or plates, *c'*, are arranged across the passage, extending vertically for some five-eighths of an inch, more or less, as indicated. These plates serve to prevent the spiral action of the water from continuing to the exit-opening, and cause the delivery of the water in a straight smooth stream. These plates may be put in in the form of a cross, as in Fig. 5; or a single plate may be formed across the passage, or two parallel plates may be employed, as preferred.

By making the valve independent of the thimble or sleeve, and arranging it for action, as set forth, a free and easy working faucet is produced, and it is impossible to crush or injure the valve face or packing by force of the screw, as with some of the ordinary-constructed faucets. The opening and closing action of the valve, being governed by the screw-threads without connection of the parts, gives all the advantages of a compression-cock without the disadvantages incident thereto.

By removing the cap A^2 ready and convenient access is obtained to the chamber for removal of the valve or any foreign substances which may be admitted through the pipes and find lodgement in the chamber.

If desired, a wheel or circular rim could be employed in lieu of the handle I; but I prefer the construction shown.

I do not desire to claim broadly a valve closed by the pressure of the water, as I am aware that such feature is old. I am also aware that a rotating thimble-nozzle has been used for operating a faucet, but in a different construction from that herein shown and described.

Certain features of my improvements in faucets having been described and claimed in an application for separate Letters Patent bearing even date herewith, it will be understood that I do not include herein such features of invention as form the subject-matter of the claims embraced in my said accompanying application.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. The combination, substantially as hereinbefore described, of the body or shell A, having the externally-screw-threaded projection *a'* and valve-seat *a*, formed as shown, the independent valve-piece D, provided with the depending stem *d*, supported and guided within the part *a'* of said shell, and the screw-threaded thimble or nozzle B, having the bridge bar or plate *e* across its interior below the end of the valve-stem, the parts being constructed and adapted for operation as and for the purposes set forth.

2. The combination, as hereinbefore described, of the body A, having the screw-threaded extension *a'*, provided with an offset rim or groove, *b*, at the junction thereof with the head, and the screw-threaded valve-operating thimble B, having its top end fitted to and adapted for making a close joint at said offset or groove when in its elevated position, as and for the purpose set forth.

3. The shell A, provided with the deflecting lug or flange *m*, located within the neck-passage adjacent to the valve-seat *a*, whereby the current of water is deflected upward, as and for the purpose set forth.

4. In a water-service faucet, the combination, with the shell A and valve D, having intermeshing lugs and grooves *h* for preventing rotation of said valve, of an inclined projection, *l*, or deflector, whereby a whirl or spiral action is imparted to the water in contact with said valve, substantially as and for the purpose set forth.

5. The combination, with the rotating screw-threaded thimble B, provided with the handle I, of the hinged stop-pin K, fixed in the under part of the shell A, substantially as and for the purposes set forth.

Witness my hand this 5th day of November, A. D. 1881.

JOHN HOWES.

Witnesses:
CHAS. H. BURLEIGH,
R. A. MORGAN.