W. H. Hedges,

Faucet.

No. 112,035. Patented Feb. 21, 1871.

Fig. 1.

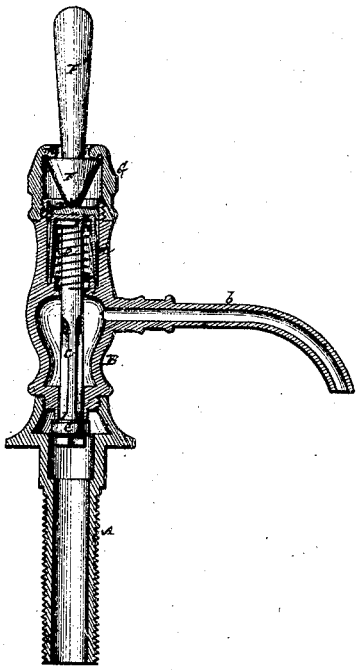

Fig. 2.

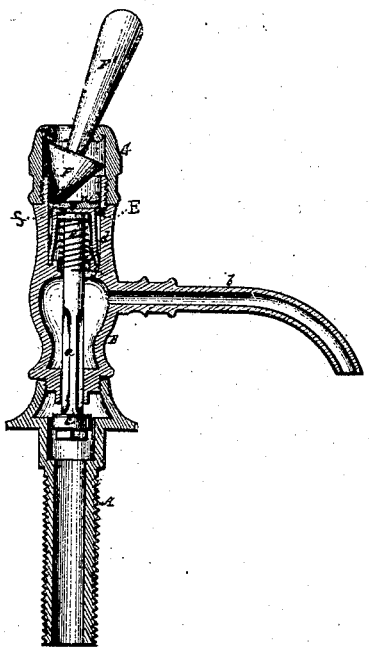

Fig. 3.

Witnesses.
Fred Haynes
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William H. Hedges

United States Patent Office.

WILLIAM H. HEDGES, OF NEWARK, NEW JERSEY.

Letters Patent No. 112,035, dated February 21, 1871.

IMPROVEMENT IN FAUCETS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM H. HEDGES, of Newark, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Cocks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figures 1 and 2 represent longitudinal sections of a cock constructed in accordance with my improvement; and

Figure 3 a diagram, showing, on a larger scale, the plate or surface on which the handle operates to open and close the valve of the cock.

Similar letters of reference indicate corresponding parts.

My invention consists in a novel means for opening or opening and closing the valve of the cock, the same comprising a loose handle or lever, formed with a conical or rounded inner end, that is incased by a guard or hollow cap, and that bears on an indented plate or surface arranged over the stem of the valve, so that, on said handle or lever being adjusted to occupy a position in line with the valve-stem, a spring connected with the valve closes the latter, the inner end of the lever then entering a tapering recess in the plate to admit of such action.

To open the valve the lever is slightly tipped to one side, in any direction, causing the lever to ride out of the recess and to press down on the plate or surface over the valve-stem, the lever during such action resting against a fulcrum or stop formed by the guard or hollow cap.

The plate or surface against which the cone acts may also be constructed with a locking-ridge, to hold the lever at its set when tipped to open the valve, or the general contour of the plate may be tapering from its recess as a center, so that the lever or handle, except it is purposely held back, will be returned to its normal position by the action of the spring in closing the valve.

The invention also includes a novel construction of cup-packing over the valve-stem, and which makes a close joint alike under pressure being brought to bear upon it either from the inside or outside.

Referring to the accompanying drawing which shows the invention as applied to a basin-cock, although it is equally applicable to other cocks—

A is the stand-pipe or inlet-connection, and

B the valve-box, having a bib, *b*, and fitted with a valve, C, opening downward, the stem *c* of which, that is fluted to allow of the passage of the water, passes into an upper chamber, *d*, in the valve-box, in which a spring, *e*, is arranged to lift upon the stem for the purpose of closing the valve.

The stem *c* is protected against leakage, at its passage through the junction of the chamber *d* with the body of the valve-box, by a cup-packing, D, of India rubber or other suitable soft and flexible material, arranged to cover the valve-stem as a cap, and to enter at its lower edge an annular recess, *f*, in the base of the chamber *d*.

The upper end of said packing fits within a cylindrical recess in a plate or cap, E, which is free to slide as a piston up and down within the chamber *d*.

A cup-packing thus arranged protects the cock from leakage past its valve-stem, not only as regards pressure being brought to bear upon said packing from its inside, but also, as in some cocks for different purposes, is necessary against pressure of air or fluid from its outside, and the same forms a close, curtain-like packing, capable of being flexed, and straightening again, without opening the joint closed by it, in both the opening and closing movement of the valve. The said packing also, by its elasticity, acts as a spring to throw back or aid in throwing back the handle.

The plate E is made with a central tapering recess, *s*, in its outer surface, which surface is virtually the outer or upper end of the valve-stem, and which, when the cup-packing is dispensed with, may be such.

Arranged to fit in a free manner within this recess is an inverted cone, F, under cover of a guard or hollow cap, G, and attached to or forming the inner end of a loose handle or lever, F′, which projects through an enlarged opening in the outer end of the cap.

When this lever and cone are adjusted to occupy a position in line with the valve-stem, as shown in fig. 1, the valve C is closed by the action of the spring *e*, and the entry of the cone F as a male center within the recess *s*, and by the pressure of the cone, through the action of the spring up against a stop or inner rim, *m*, of the cap G, the lever and cone are retained in such position against being accidentally tipped, thus keeping the valve closed.

To open the valve it is only necessary to slightly tip or tilt the lever F′ to one side, in any direction, which may be done by a suitable pressure of the thumb. This throws the cone F out of the tapering recess *s*, and onto or over a plain surface or ridge, *n*, on the plate E, which locks the lever in its tilted position, as shown in fig. 2. In such action the stop *m* acts as a fulcrum for the lever, and the cone, in riding out of the recess *s*, bears on the plate E to open the valve. When it is required to close the valve again the lever F′ is struck or started back till the cone F commences to enter the recess *s*, when the recoil of the spring *e* completes the action and returns the lever and cone to their normal position, shown in fig. 1.

The plain locking surface or ridge *n* on the plate E is dispensed with and the tapering recess *s* made more

extended when the cock is required to be wholly self-closing under the action of the spring *e*, the cone F, or other suitably-shaped inner extremity of the lever F in such case never wholly leaving the tapering recess *s*, when said lever F is tipped or tilted to open the valve, by lateral pressure or action of the cone on said recess. The hand then is required to be held on the lever to keep the valve open, and on releasing hold the cock becomes self-closing.

It is not necessary that the portion F should be literally a cone, but simply or preferably of a tapering construction, either in straight lines or curved; but it will suffice here to term it a cone, or the whole handle as a loose conical or tapering pointed lever fitted to enter a tapering recess in the end of the valve or its stem. When the cock is disposed to occupy other than a vertical position, then its parts or surfaces will lie in different positions to those here named. The valve itself may be of any suitable construction, as also the spring which closes it, and said spring, if desired, be differently arranged.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The loose conically-pointed handle or lever F, under control of a stop, *m*, arranged to serve as a fulcrum, in combination with the tapering recess *s* in the valve or its stem, or plate E covering the outer end of the latter, and a spring operating to close the valve, substantially as specified.

2. The combination of the locking surface or ridge *n* with the tapering recess *s* and cone F of the loose or independent handle, arranged to act on the valve under the combined action of a stop or fulcrum and spring controlling the valve, essentially as herein set forth.

3. The flexible cup-packing D over the outer end of the valve-stem, in combination with the annular recess *f* at the base of the chamber, in which said packing is arranged, substantially as specified.

Witnesses: WILLIAM H. HEDGES.

FRED. HAYNES,

U. J. TUSKA.