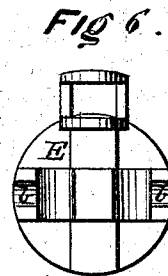
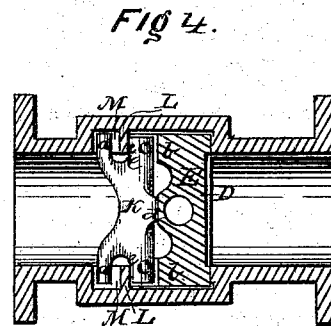
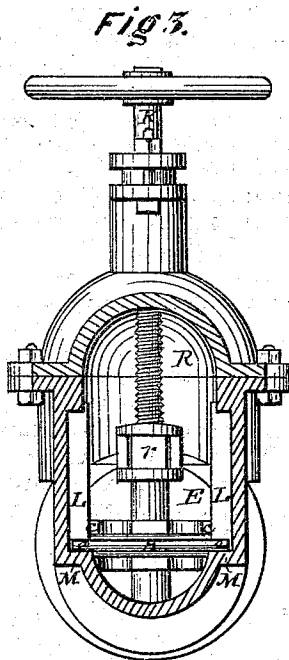
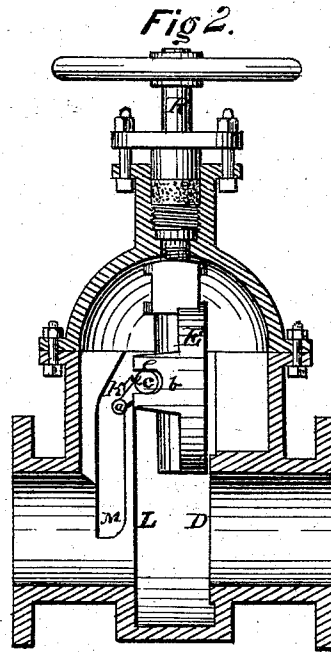
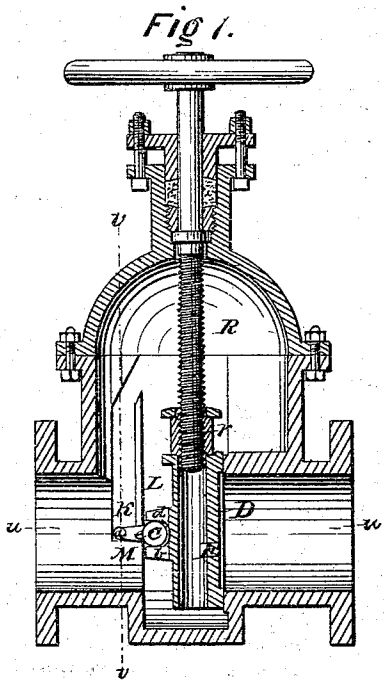


S. H. BROWN.
Stop-Valves for Hydrants.

No. 154,121.

Patented Aug. 18, 1874.



Witnesses
Geo. P. Lawton
Austin F. Park.

Inventor.
Silas H. Brown

UNITED STATES PATENT OFFICE.

SILAS H. BROWN, OF LANSINGBURG, NEW YORK.

IMPROVEMENT IN STOP-VALVES FOR HYDRANTS.

Specification forming part of Letters Patent No. **154,121**, dated August 18, 1874; application filed December 11, 1871.

To all whom it may concern:

Be it known that I, SILAS H. BROWN, of Lansingburg, in the county of Rensselaer and State of New York, have invented an Improvement in Stop-Valves for Hydrants and Steam, Water, and Gas Pipes and Cocks, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 7 is an elevation of a central section with the valve closed; Fig. 8, an elevation of a partial central section with the valve open; Fig. 9, an elevation of a section at the line *v v* in Fig. 7; Fig. 10, a plan of a section at the line *u u* in Fig. 7; and Figs. 11 and 12, elevations of detached parts, all of one and the same stop-valve which embodies the distinguishing features of my invention.

Like parts are marked by the same letters in the different figures.

In the stop-valves described in my United States Letters Patent No. 101,425, the two parts of each sliding double valve, when closed between two opposite valve-seats, are forced outward against those seats by means of a combined lever and cam carried by and acting between and against the backs of the two parts of the valve.

The principal object of my present invention is to dispense with and avoid the expense of one of those two valve-seats and one of the two parts of the double valve, and at the same time have the single valve forced against its seat, on being closed, by means of a combined lever and cam carried by the valve; and the principal distinguishing feature of this invention is the combination, with a valve-seat and single sliding valve carrying a combined lever and cam, of a fixed stop or stops to support one end of the said cam-lever, and stationary bearings for the rear side of the cam part of the lever to rest against when the valve is closed, so that the closed valve shall be pressed against its seat by means of the said combined cam and lever.

In the aforesaid drawing, D is the valve-seat, and E is the single valve, arranged to be slid to and fro across the seat to close and open the passage therein. R is a rod or stem, which has a hand-wheel fast on its top outside of the valve-chamber, and which is fitted to be turned, without moving endwise, in a stuff-

ing-box in the top of the cap of the valve-chamber, and which has on its inner portion a screw, which works in a nut, *r*, that is held loosely, but securely, in or on the valve, so that, by turning the stem R in one direction, the valve E will be slid shut on the seat D, as shown in Figs. 7, 9, and 10, and, by turning the stem in the opposite direction, the valve will be slid open, as in Fig. 8; but the valve may be slid open and shut across its seat by any other suitable means. K is a combined lever and cam, carried by the sliding valve E. The cam-lever K has a cam, *d*, to bear against the back of the valve, and has lateral projections *c c*, fitted in socket-bearings *b b* on the valve, so that the cam-lever is thereby carried by and with the valve in its sliding movements, and so that the rear side, *e*, of the parts *c c* of the cam-lever shall bear against the front sides of the fixed bearings L L in the valve-chamber when the valve shall be closed, as shown in Fig. 10. The part K also has lever-arms *a a*, which bear on the stationary seats or stops M M in the valve-chamber when the valve is closed.

While the valve E is open, as in Fig. 8, the cam-lever K hangs loosely on the valve; but when the valve is being slid nearly shut, the lever-arms *a a* are first stopped by the seats M M, and, as the valve continues to slide shut, and bears or presses down on the parts *c c*, the ends of the arms *a a* slide back on the seats M M, and the cam-lever consequently turns, so as to tighten the cam *d* and the rear side of the parts *c c* between and, respectively, against the back side of the valve E and the front side of the bearings L L, as shown in Fig. 10, and thereby press the valve very tightly against the seat D. Upon beginning to slide the valve E open, the cam-lever K is thereby turned and released, so as to loosen the valve on its seat and permit the valve to be slid off freely.

There is an essential difference between my present invention and that shown in my patent dated May 5, 1868. In that patent the valve is pressed against its seat only by a simple brace. In my present invention the valve is pressed against its seat simply by the lever K, of which *c c* are its pivots between its short arm *d* and its branched long arm *a*,

as clearly shown by Figs. 7, 10, and 11. The arm *a* does not act as a brace, nor does the arm *d*; and the arm *a* simply serves to turn the arm *d* and press it against the back of the valve, and the force with which the valve is pressed against its seat depends upon the relative acting lengths of the arms *a* and *d* of the lever *K*.

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

The combination of the valve-seat, sliding valve, elongated fixed bearings or ways *L L*,

stationary stops *M M*, and the lever *K*, having its pivots *c c* held by and between the said fixed bearings or ways and the sockets *b b* on the valve, and the arms *d* and *a* of the lever being arranged, in respect to the back of the valve and the stops *M M*, substantially as described.

SILAS H. BROWN.

Witnesses:

URI MALLERY,
AUSTIN F. PARK.