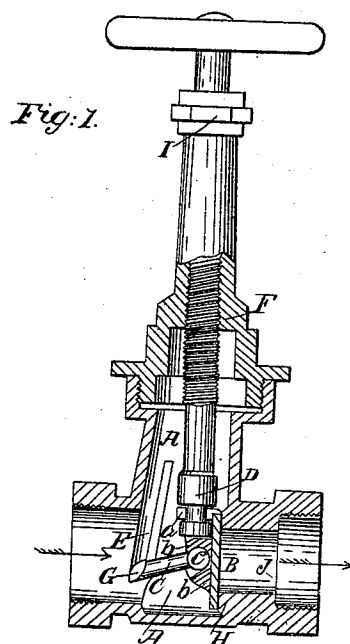
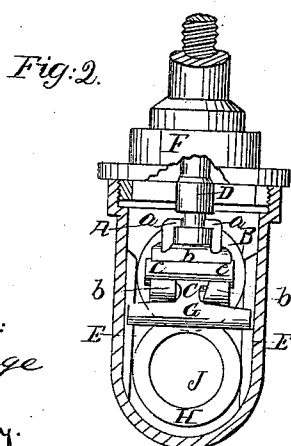
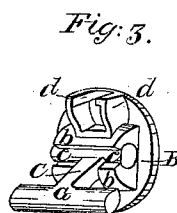


S. H. Brown,
Stop Cock,
No 77,448, *Patented May 5, 1868.*



Witnesses:
J. S. Barney.

Inventor:
Silas H. Brown.

United States Patent Office.

SILAS H. BROWN, OF TROY, NEW YORK.

Letters Patent No. 77,448, dated May 5, 1868.

IMPROVEMENT IN STOP-VALVES.

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, SILAS H. BROWN, of Troy, in the county of Rensselaer, and State of New York, have invented a new Improved Stop-Valve or Gate; and I do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the annexed drawings, and to the letters of reference marked thereon, forming a part of this specification, in which—

Figure 1 is a longitudinal vertical section of said improved stop-valve,

Figure 2 is a transverse vertical section, and

Figure 3 is a perspective view of the valve and its closing brace-lever, as removed from its chamber.

The same letters refer to like parts in each of the said figures.

My said invention and improvement consist in the construction and employment of a movable brace-lever, hinged to and operating in combination with a valve or gate, its seat, chamber, and stem or rod, in manner substantially as hereinafter fully described and shown, for the purpose of shutting the said valve or gate perfectly tight on or against its seat, at the completion of its closing movement, and keep it so shut until its opening movement again commences, which then relieves said valve of the shutting-pressure of said closing brace-lever, to allow of its being easily opened.

By this invention and improvement a simple and effective closing and tightening-device is constructed and applied to the stop-valves or gates of water, steam, and gas-pipes, which, at the end of the valve's closing movement by its stem, sets, holds, and braces the same tight to its seat, thus completely preventing any leakage of fluids, gases, or vapors therefrom.

To enable others skilled in the art to make and use my said invention, I now proceed to fully describe its construction and operation, as follows:

In the annexed drawings, A A, in fig. 1, represents a valve-box or chamber of a pipe, J, which has a flush or level valve-seat, H, and closing on and against this seat is a valve or gate, B, which is moved off and on its seat, or opened therefrom, and closed thereon, either to open or to stop the passage-way of the pipe or chamber, by means of its stem, D, provided with a screw-thread, of suitable pitch to operate effectually said valve, and this stem is adapted to and is operated, by means of its hand-wheel or handle at its top, in its corresponding pitch of female-screw thread in the standard or neck F, and is connected with the aforesaid valve by means of a shouldered head, turning within a socket or jaws, *a a*, formed on or attached to the aforesaid valve B, in manner substantially as shown in said drawings.

Affixed to or formed on said valve B is a socket or lever-brace holding-jaws, *b b'*, with a slot across its face, and attached or hinged to said valve B is a lever-brace, C, which is constructed with journals, *e e*, at its valve-end, and with a cross-head guide, G, at its opposite end. This brace-lever is connected to the aforesaid valve by passing its journal-end into and between the holding-jaws *b b'*, which the aforesaid slot therein admits of so doing, by receiving the shank or bar C, which then may drop into a notch made in the under holding-jaw, *b'*, so that the said lever or brace-bar C is thus simply and effectually hinged to the said valve or gate B, and so as to successfully accomplish its intended purpose in connection therewith.

On each side of the aforesaid valve-chamber or box A A, there are made suitable guide-grooves or shouldered, E E, or their equivalent devices, which are respectively inclined or curved from their lower parts upward and toward the valve-seat H. The degree or amount of this declination from a vertical or a parallel to said valve-seat H is sufficient when it serves to keep the cross-head guide-ends G of said brace-lever, which has its movements in said shouldered guides or grooves, firmly down on its seat at the bottom of said inclined or curved shouldered grooves, so that a firm bearing or fulcrum is had to cause the said lever-brace C, when actuated by the valve-stem D, to press or brace the valve tightly on and against its seat H, and to hold it thereon without liability of the fulcrum-end G of said brace-lever slipping off or up from its seat in said grooves to relax its closing pressure on said valve.

Whenever the valve B is moved, or opened, or closed, the aforesaid lever-brace moves with it, the guide-end

G thereof moving within said shoulder-grooves, in manner as shown in fig. 2, which represents said valve as fully opened or lifted clear of its seat, and thereby leaving an entirely unobstructed passage-way for the contents of the pipe.

Instead of a screw-stem being used to raise and lower the valve, a plain stem with a lever-handle may be used.

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

In combination with a valve, B, and its actuating-stem D, I claim a movable or sliding-lever brace, C, so attached to and operating with the valve, that when said valve is closed, said lever braces it tight on its seat, and when said valve is opened, said lever moves with it, so as to leave an entirely unobstructed passage-way within the pipe, in manner substantially as herein described, and for the purpose as set forth.

Also, in combination with said valve B, its stem D, and sliding brace-lever C, I claim the grooves or shoulders E E of the valve-chamber A, said grooves or shoulders being inclined relatively to the valve-seat H, substantially as and for the purposes described.

Also, I claim the combination and arrangement of the valve B, its stem D, the sliding, movable brace-lever C, and the grooves or shoulders E E, when applied in manner substantially as described, and operating for the purposes as set forth.

SILAS H. BROWN.

Witnesses:

J. J. SAVAGE,
J. L. BARNEY.