

SILAS H. BROWN'S

IMPROVEMENT IN STOP-VALVES

101425

PATENTED APR 5 1870

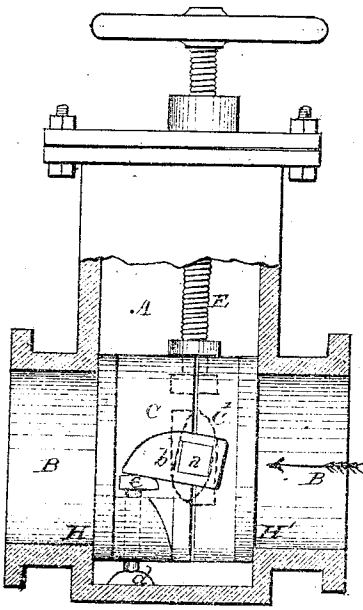


Fig. 1

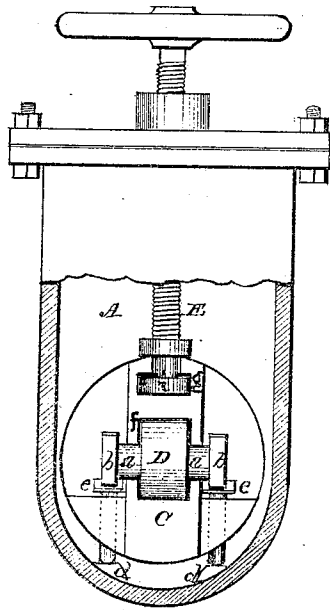


Fig. 2

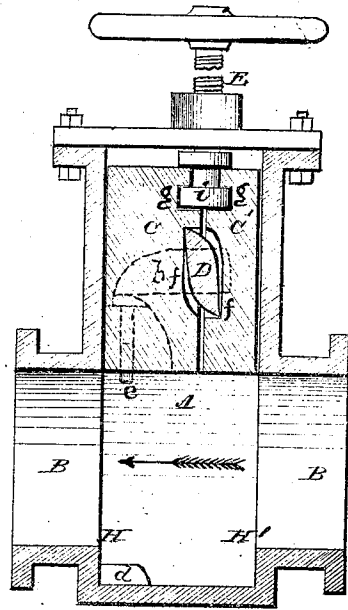


Fig. 3

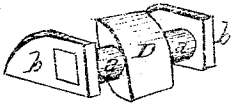


Fig. 4

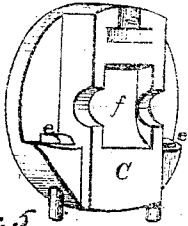


Fig. 5

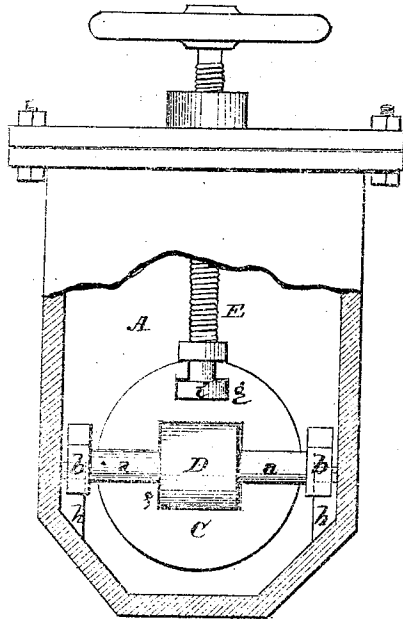
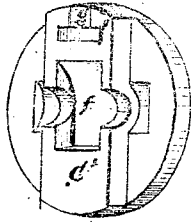


Fig. 6

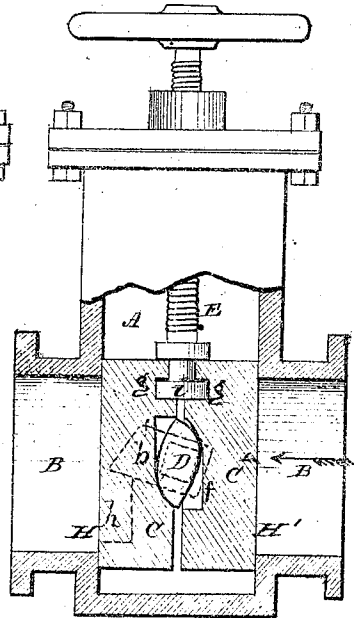


Fig. 7

Witnesses -

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SILAS H. BROWN, OF TROY, NEW YORK.

Letters Patent No. 101,425, dated April 5, 1870.

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 certain new and useful Improvements in Stop-Valves for water, steam, and other conduit pipes; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and letters of reference marked thereon, making part of this specification, in which—

Figure 1 is a vertical longitudinal section of a pipe and valve-box, with the valve closed;

Figure 2 is a vertical cross-section of fig. 1.

Figure 3 is a vertical longitudinal section of a pipe and valve-chamber, with the valve opened;

Figure 4 is a separate view of the valve-cam;

Figure 5 shows the respective cam-sides of the valve;

Figure 6 shows a modification in the manner of operating the closing-cam; and

Figure 7 is a vertical section thereof.

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

My said invention consists in the construction, arrangement, and combination with each other of certain mechanical devices, in manner substantially as hereinafter fully described and shown, thereby constituting an improved stop-valve, whereof the principal distinguishing features consist in the employment and arrangement of a double cam between the respective parts of the stop-valve, which double cam operates to shut and hold said valve tight on its seats; and

It also consists in the combination and arrangement of the respective devices actuating said cam, with and between said respective parts of the stop-valve, so as to move therewith when opened or lifted, and thus leave no obstruction in the passage-way.

To enable others skilled in the art to make and use my said improved valve, I now proceed to fully describe its construction and operation.

In the accompanying drawing—

A indicates a valve-box or chamber of a conduit pipe, B B, which is provided with the respective valve-seats H H', arranged opposite each other, as shown.

Within the said chamber A there is arranged the stop-valve, which is moved therein to open and close the passage-way of the pipe, by means of the screw-stem or rod E connected to said valve by a button, *i*, and socket *g*, substantially as shown, and turning in a nut at the top of said chamber A.

The stop-valve is made in two parts, C and C'.

The inner side of each part is recessed, substantially as shown at *f*, (see fig. 5,) for receiving the double cam D with its journals *a a*, and arms or projections therefrom, *b b*.

At the lower side of the part C of the valve there are made guide-holes or slots, and arranged so as to slide or be movable therein are the cam pins or rods *c c*, substantially as shown in the drawings aforesaid.

These several parts of the valve are now arranged and combined together for use by placing said cam-pins or rods *c c* in their places in the part C, then arranging the double cam D in its recess *f*, with its arms *b b* over the heads of the cam-pins *c c*.

The operating screw-rod or stem of the valve is then placed in position, and the other part C' of the valve put thereon. The valve is then slipped into its box A, and the cover-plate thereof bolted fast to said chamber.

The valve is operated to close it tight on its seats H H' by turning a wheel or lever handle of said screw-stem, which drives the valve down and causes the aforesaid cam-pins *c c* to rest on the bottom part *d d* of the valve-chamber A, so that the further movement of the valve causes the said pins *c c* to slide or move, and bring their heads in operative contact with the cam-arms *b b*, thereby moving or turning the cam faces on and against the respective parts C and C' of the valve, which thus closes and holds it tight on its seats H H', in manner substantially as shown in the annexed drawing.

The valve is opened by drawing it with all its operative parts into the upper part of its chamber A, by means of its stem E aforesaid, thus leaving an unobstructed passage-way.

Figs. 6 and 7 of the annexed drawing show a modification in the manner of actuating the arms or projections *b b* of the double cam D.

Instead of the sliding cam-pins *c c* moving with the valve, as before described, fixed projections, *h h*, are made on each side of the valve-chamber A, substantially as shown, upon which the said arms or projections *b b* of the double cam D, as the valve is closing, strike, which shuts tight the valve, in manner as before done.

Having thus described my invention,

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

1. The employment and arrangement of the double cam D, between the respective parts C and C' of the stop-valve, substantially as and for the purpose described.

2. The combination with each other of the valve parts C and C', the double cam D, the arms or pro-

jections *b b*, the pins *e e*, or their equivalent, the valve-chamber *A*, and the stem *E*, substantially as described.

3. The combination and arrangement, with and between the parts *O* and *O'*, of the valve, of the double cam *D*, its projections *b b*, and the actuating-pins or rods *e e*, all substantially as described.

4. The stop-valve, composed of the parts *C* and *C'*, when constructed substantially as set forth, so as to

be closed on its seats by the action of the double cam *D*, pins *e e*, and stem *E*, and when opened to carry said cam and pins with it into its chamber *A*, thereby leaving a clear passage-way, as described.

SILAS H. BROWN.

Witnesses:

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