

Henry G. Ludlow.
Sliding Stop-Valve.

110926

PATENTED JAN 10 1871

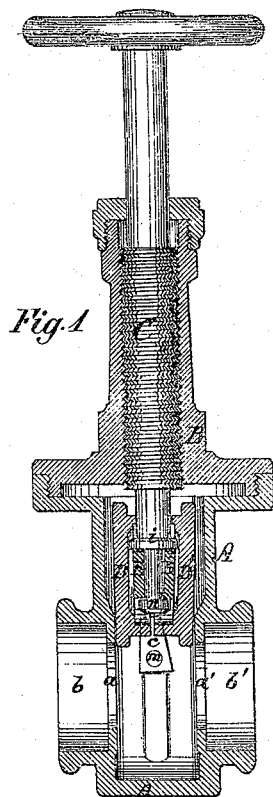


Fig. 1

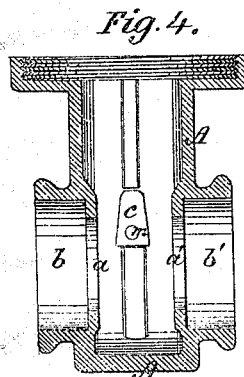


Fig. 4.

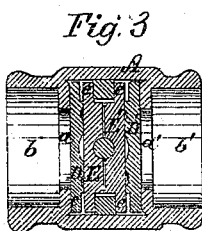


Fig. 3

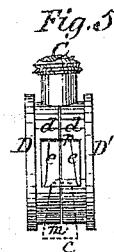


Fig. 5

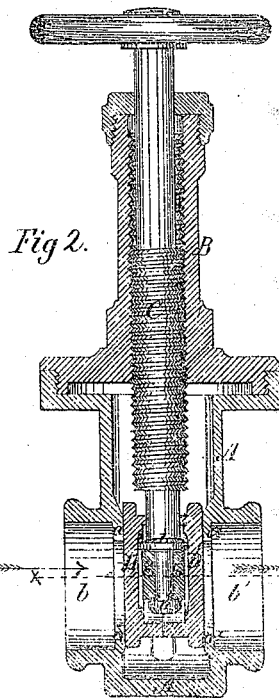


Fig. 2.

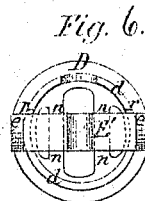


Fig. 6.

Witnesses
Wm. C. Smith & Johnson
J. B. Watkins

Henry G. Ludlow
By his Attorneys
Oppenheimer & Johnson

United States Patent Office.

HENRY G. LUDLOW, 2D, OF TROY, NEW YORK, ASSIGNOR TO LUDLOW VALVE MANUFACTURING COMPANY, OF SAME PLACE.

Letters Patent No. 110,928, dated January 10, 1871.

IMPROVEMENT IN SLIDING 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, HENRY G. LUDLOW, 2d, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Sliding Stop-Valves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing of the same, which make part of this specification, and in which—

Figure 1 represents a vertical section of the valve, the gates being shown as open;

Figure 2 represents a similar section, the gates being shown as closed;

Figure 3 represents a horizontal section at the line $x x$ of fig. 2;

Figure 4 represents a section of the valve-case and its adjustable incline;

Figure 5, an edge view of the double gates and wedges detached from the case; and

Figure 6, a view of the inner side of one of the gates and its adjustable wedge.

My invention relates to that class of stop-valves in which the gates are made separate and distinct from the stem which carries them; and

It consists in the employment of a movable incline or inclines, which acts in conjunction with wedges to press the gates to their seats, and thereby overcome the disadvantage which would arise in case one gate strikes its seat before the other, which would be likely to occur if the incline was fixed.

My invention also consists in the employment of one or more wedges between the gates, in conjunction with a movable incline or inclines.

My invention also consists in the employment of adjustable wedges, in conjunction with a movable incline or inclines.

In the accompanying drawing—

The shell or case A is provided with two seats, $a a'$, surrounding the inlet and outlet openings $b b'$, and two movable inclines c , attached to the shell on its opposite inner sides, for a purpose to be presently described.

The case is provided with the usual cap B, through which passes the stem C, which carries and operates the gates and wedges.

The gates D D' are ground to fit their respective seats $a a'$, and are provided with one or more wedges, E E', arranged, in the example represented in the drawing, to cross the diameter of the gates, and are held in their proper positions by notched rims d , figs. 5 and 6, or other suitable means, formed on the contiguous surfaces of the gates.

They are made adjustable in their bearings, so as to partially rock, move in and out with the stem and in the direction of their length, to accommodate themselves to the gates or inclines, and thus avoid the necessity of accurate fitting, and also to relieve the gates from binding or friction in being opened and closed.

This adjustment is obtained by the capacity of the wedges to move lengthwise independent of the gates, to have a slight movement with the stem independent of the gates, and to rock either endwise or crosswise in their bearings and guides, which have sufficient space or opening r in the rims d and ribs n , fig. 6, on the inner faces of the gates, to allow of this accommodation of the wedges.

In the instance shown, the acting portions e of the wedges are formed on the projecting ends of the bars D D', and the valve-stem C is connected to these wedge-bars between the gates, so as to allow it to swivel thereon, and be held in position by collars i and n' , which embrace the wedges, as shown in figs. 1 and 2.

The inclines c are arranged to receive the action of the wedges in closing the gates, and in order that both gates may be pressed to their seats equally and without catching, the incline or inclines are capable of having a lateral movement upon a pivot-pin, m , so that, in case one gate strikes its seat first, the valve will move away slightly to allow said gate to pass upon and be pressed to its seat.

Instead of attaching the stem to the wedges, it may be attached to the gates if desired.

The wedges, instead of being adjustable, may be fixed to the gates without departing from my invention so long as they act in conjunction with a movable or adjustable incline or inclines.

Instead of operating the gates by the inward and outward movement of the stem, they may be operated by a screw-stem revolving on its axis and passing through a screw attached to the gates or wedges.

So, also, is it obvious that a single gate and wedge may be used to carry out my invention without departing from its spirit.

Having described my invention,

I claim—

1. A movable or adjustable incline or inclines, C, in combination with an adjustable or fixed valve-operating wedge or wedges, e E, essentially as described.
2. One or more gates D, in combination with an adjustable incline or inclines, c , and adjustable or fixed wedge or wedges E, essentially as described.
3. The wedge or wedges E, arranged between the gates, in conjunction with a movable incline or inclines, c , as described.
4. The combination, in a stop-valve, of the gates D D', wedges E E', incline or inclines c , stem C, and case or shell A B, the several parts being constructed, arranged, and operating as described.

In testimony whereof I have hereunto set my hand.
HENRY G. LUDLOW, 2D.

Witnesses:

A. E. H. JOHNSON,
T. H. UPPERMAN.