(No Model.)

J. MILLER.

AUTOMATIC CUT-OFF.

No. 406,847. Patented July 9, 1889.

Fig. 1.

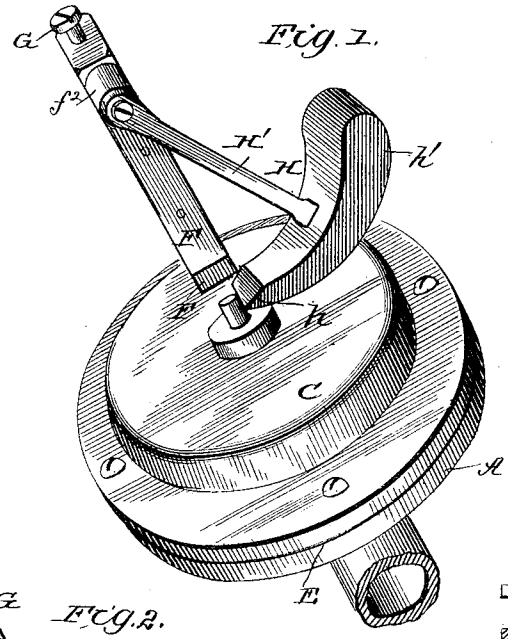


Fig. 2.

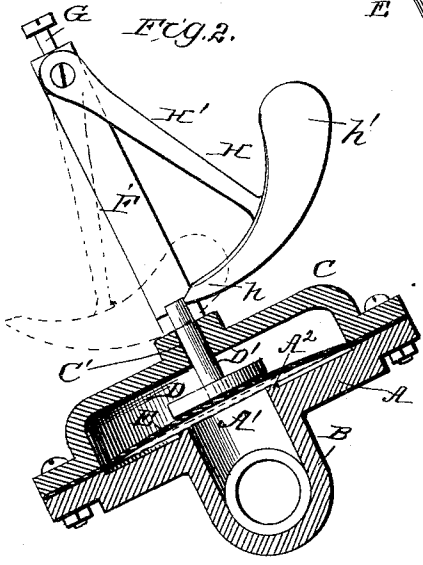


Fig. 3.

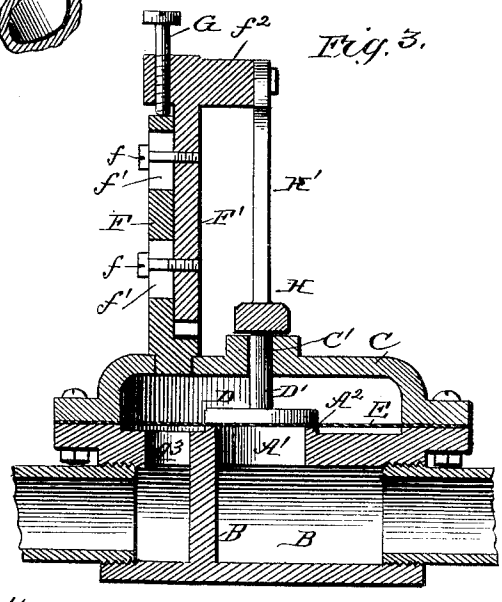
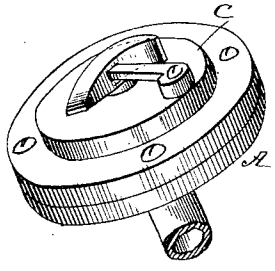


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH MILLER, OF GREENFIELD, INDIANA, ASSIGNOR TO JOSEPH MILLER AND HENRY SNOW, OF SAME PLACE.

AUTOMATIC CUT-OFF.

SPECIFICATION forming part of Letters Patent No. 406,847, dated July 9, 1889.

Application filed April 6, 1889. Serial No. 306,262. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH MILLER, of Greenfield, in the county of Hancock and State of Indiana, have invented a new and useful Improvement in Automatic Cut-Offs, of which the following is a specification.

My invention consists in a new and improved automatic cut-off, which will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view of my new and improved cut-off. Fig. 2 is a central sectional view of the same. Fig. 3 is a central sectional view, taken at right angles to the view shown in Fig. 2, and Fig. 4 is a perspective view showing a slight modification of my invention.

The same letters of reference indicate corresponding parts in all the figures.

My new and improved automatic cut-off is designed for gas, steam, or water, and may be attached to any valve, and will work perfectly when placed at any angle not to exceed forty-five degrees.

Referring to the several parts by letter, A indicates the lower circular plate of the valve, which is cast or otherwise secured to the tube B, this plate having the circular central opening A′, surrounded by the seat A^2. The water, gas, or steam passes from the tube B through opening A′ into the valve-chamber, and out through the opening A^3 into the tube on the other side of the partition B′ in the tube B. The upper half C of the valve-chamber is arched, as shown, to give room for the play of the valve and for the water, &c., to pass through.

D indicates the valve, the stem D′ of which passes through a central opening C′ in the upper half C of the valve-chamber. A rubber diaphragm E is secured between the halves of the valve-chamber, and the valve D may rest upon the upper side of this flexible diaphragm, as shown in the drawings; or the valve-stem may pass through the rubber diaphragm and the valve rest directly on the seat A^2.

The above-mentioned parts are old, and form no part of my invention, as my cut-off is adapted to be applied to any kind of valve having a valve-seat.

Upon the upper plate C is secured an adjustable post consisting of a stationary half F, to which the movable half F′ is secured by screws *f f* passing through longitudinal slots *f′* in the stationary half F. The half F′ is adjusted by a set-screw G.

At the end of a projection f^2 of the part F′ is pivoted the upper end of the central arm H′ of the quadrant or locking-lever H. This lever is curved in the arc of a circle, and its lower end *h* is reduced, while it increases in thickness and weight toward its upper end *h′*.

The device standing at an angle, as shown, when the locking-lever is swung back the pressure of the gas, water, or steam raising the valve pushes the valve-stem out, when the point *h* of the lever rests lightly against the side of the valve-stem. When the pressure is withdrawn, the valve will drop back to its place, when the locking-lever will swing down by its own weight over the end of the valve-stem, thus locking the valve securely down to its seat, as shown in the drawings. To open the valve, the locking-lever is swung up and back clear of the valve-stem, so that the valve will rise by pressure, when the point of the lever will rest against the side of the stem, as before.

Instead of the adjustable post, to which the locking-wedge is pivoted, it may be pivoted directly to the side of the top plate, as shown in Fig. 4, when the side of the curved wedge is beveled, so that while the end of the wedge rests against the side of the valve-stem when the valve is raised, when the valve falls the beveled wedge will slide down over the end of the valve-stem by its own weight, and thus securely lock and hold the valve shut on its seat.

The adjustable half F′ of the post can be adjusted by the screw G in or out to raise or lower the pivoted locking-wedge to the exact extent desired.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood. It will be seen that I obviate the necessity of leveling the cut-off, as it may be attached to a pipe at almost any angle, while the cut-off operates automatically and perfectly, and will

always hold (lock) the valve close and firmly on its seat, preventing any movement whatever on the part of the valve, which is a great advantage. When the wedge is raised to open the valve, there is no pressure whatever against the end of the valve-stem, while when the valve closes the wedge slides directly over the end of the stem.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a cut-off, the combination, with a valve having the projecting stem, of a pivoted locking-wedge, substantially as set forth.

2. In a cut-off, the combination, with a valve having the projecting stem, of the locking-wedge pivoted to a post on the valve-casing, substantially as set forth.

3. In a cut-off, the combination, with a valve having the projecting stem, of the adjustable post, and the locking-wedge pivoted to the same, substantially as set forth.

JOSEPH MILLER.

Witnesses:
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ALBERT R. HUGHES.