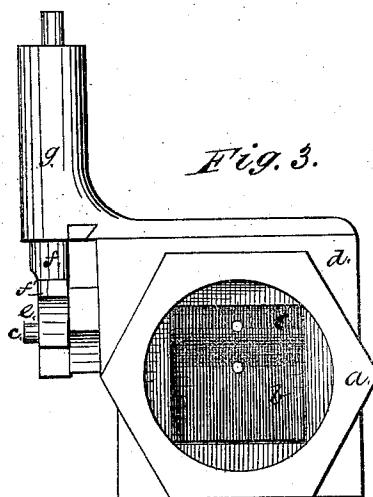
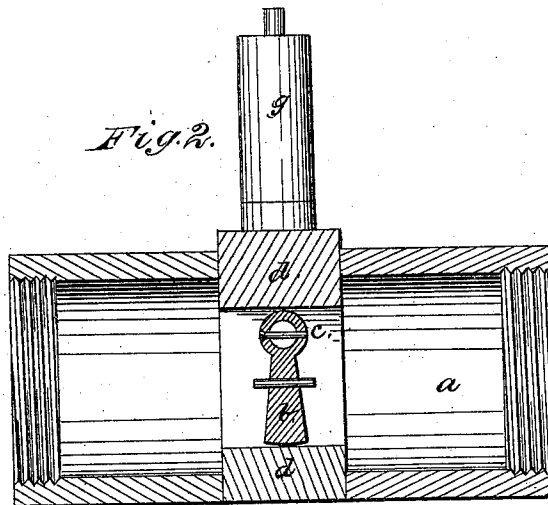
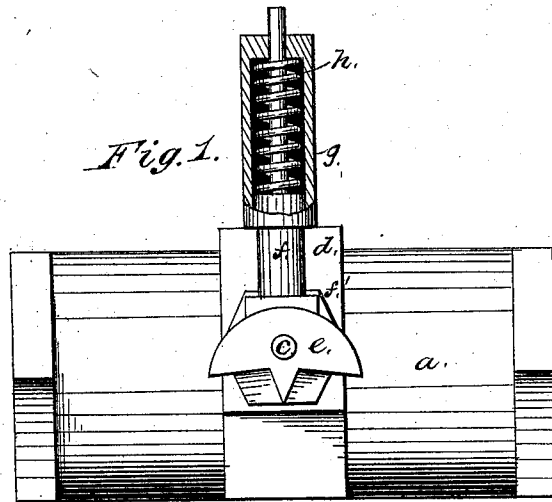


B. W. HOXIE.
CURRENT INDICATOR.

No. 177,840.

Patented May 23, 1876.



Witnesses:
Robt. F. Gaylord

Inventor:
Benjamin W. Hoxie.

UNITED STATES PATENT OFFICE.

BENJAMIN W. HOXIE, OF HARTFORD, CONNECTICUT, ASSIGNOR TO JOHN H. BINGHAM; SAID BINGHAM ASSIGNOR OF ONE-HALF HIS RIGHT TO LYDIA A. HOXIE, OF SAME PLACE.

IMPROVEMENT IN CURRENT-INDICATORS.

Specification forming part of Letters Patent No. **177,840**, dated May 23, 1876; application filed April 15, 1876.

To all whom it may concern :

Be it known that I, BENJAMIN W. HOXIE, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to a Current Indicator, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a side view. Fig. 2 is a view in central longitudinal vertical section. Fig. 3 is an end view.

This device is intended for insertion in the feed-water pipe leading into a steam-boiler, to denote whether the feed-pump is working properly and forcing a current of water through the pipe into the boiler. It is also intended for other analogous uses, where it is desired to know whether a current is flowing through a pipe.

It has a valve-body, *a*, with interior screw-threads at the ends, whereby to connect to the pipe. There is hung within the body the swinging valve *b*, filling or about filling the aperture at that point. The shaft *c*, upon which this valve is hung, rotates with it, and projects through the side of the body *a*, coming out through the stuffing-box *d*, and bearing the cam *e*, on which rests the broadened foot *f'* of the pillar or rod *f*, sliding or playing in the post *g*, and pressed down by the spring *h*. The shape of the broadened foot *f'* corre-

sponds to the shape of the cam *e*, so that the downward pressure of the spring tends to bring the valve *b* to position to close the current-aperture; but the spring is only strong enough to effect this action, and not strong enough to obstruct the current. The valve is free to swing either way, so as to denote a current in either direction, as the pipe may be used for contrary currents, and it may be desired to know which way the current is flowing. The shape of the cam corresponds to this double action.

It will be readily understood from the foregoing that when no current is flowing, the cam will stand in the position represented in Fig. 1, but that a passing current will raise the valve and correspondingly tilt the cam, and show the direction and amount of the current. If desired, (and I have so proposed,) an index-finger can be attached to the outer end of shaft *c*, moving over the face of a graduated dial, to more accurately indicate the amount of the current.

I claim as my invention—

In combination, valve *b*, with its shaft *c*, cam *e*, and spring-pillar *f*, all substantially as described, and for the purposes set forth.

BENJAMIN W. HOXIE.

Witnesses:

W. E. SIMONDS,
ROBT. F. GAYLORD.