W. MOORE.

Improvement in Low-Water Indicators and Alarms.

No. 129,159. Patented July 16, 1872.

Fig. 1.

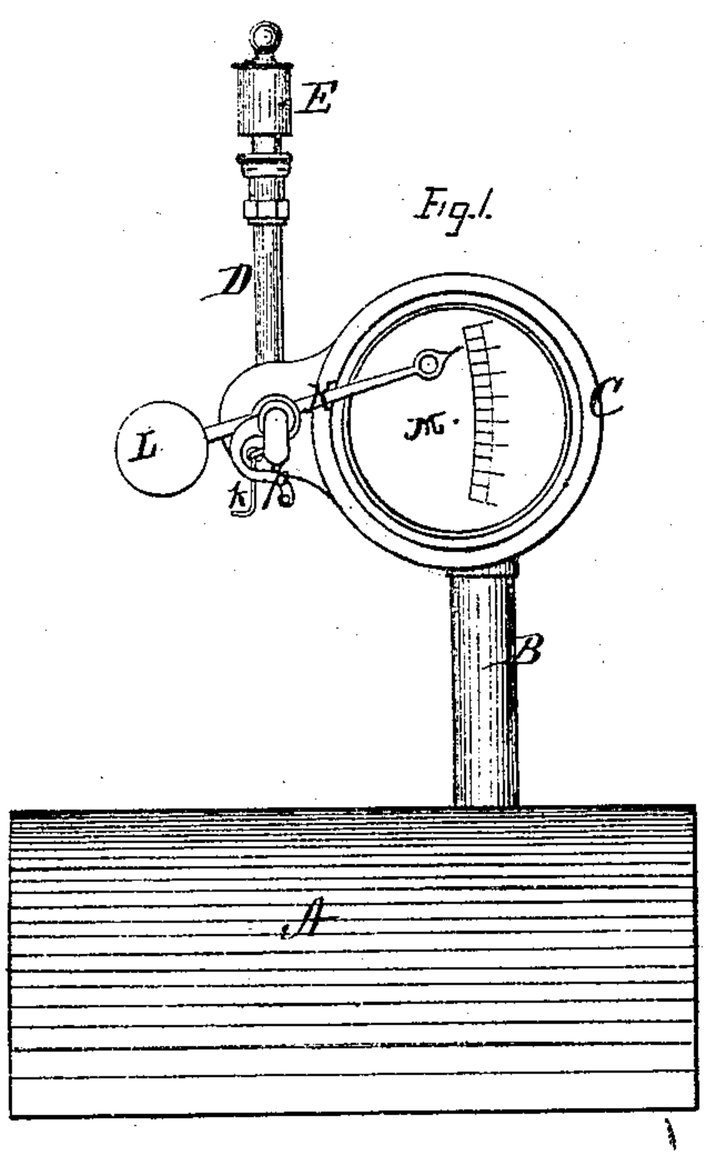


Fig. 2.

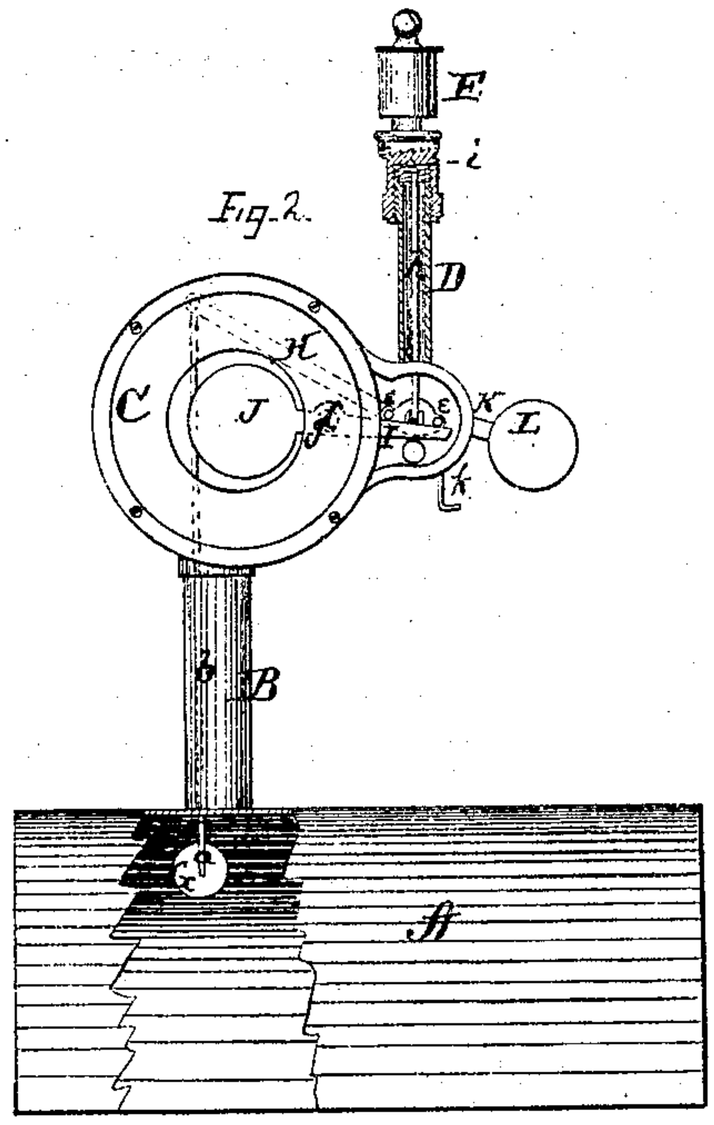


Fig. 3.

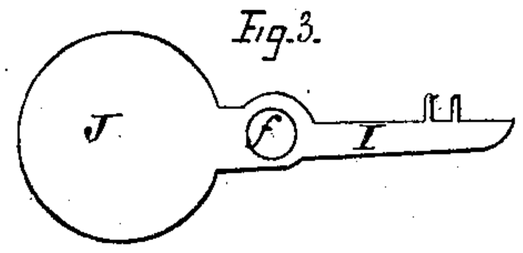


Fig. 4.

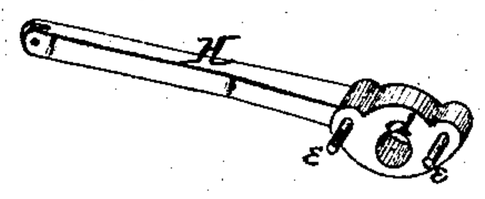


Fig. 5.

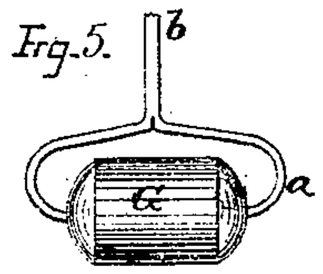


Fig. 6.

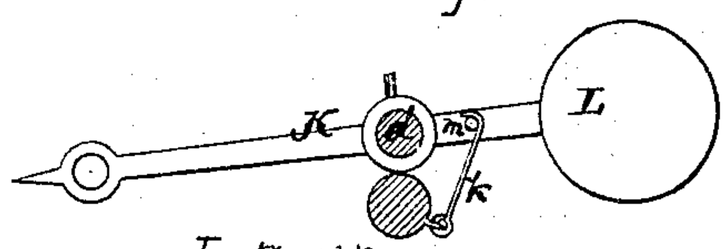
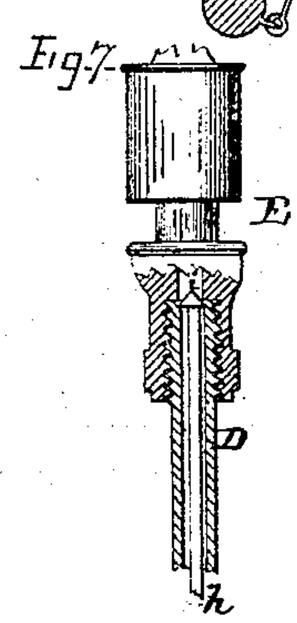


Fig. 7.



Witnesses:
Jas. E. Hutchinson
C. L. Evert

Inventor.
William Moore,
per
Alexander Mason
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM MOORE, OF KOKOMO, INDIANA.

IMPROVEMENT IN LOW-WATER INDICATORS AND ALARMS.

Specification forming part of Letters Patent No. 129,159, dated July 16, 1872.

To all whom it may concern:

Be it known that I, WILLIAM MOORE, of Kokomo, in the county of Howard and in the State of Indiana, have invented certain new and useful Improvements in Low and High Water Indicator and Alarm; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

My present invention is especially intended to be an improvement upon the following patents granted to me, viz.: June 5, 1866, for automatic boiler-feeder; June 16, 1868, for water-indicator for steam-generators; and October 13, 1868, for low-water indicator; and the nature of my invention consists in the construction and arrangement of the high and low water alarm; and also in the float being made to revolve, all of which will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a side elevation of my device; Fig. 2 is a view of the opposite side, partly in section; and Figs. 3 to 7 are enlarged detached views of the same.

As in two of the patents above referred to I attach a steam-chamber, C, by means of a pipe, B, to the top of a boiler, A, of any ordinary construction; or where the internal arrangement of a boiler does not admit of a float being put inside, I put it on the top of an auxiliary chamber attached thereto by means of steam and water pipes. Inside of the chamber C there is a lever, H, which is attached to a shaft at *d*, said shaft passing out of the chamber C through a stuffing-box. The other end of this lever H is attached, by a rod, *b*, to the float G on the surface of the water in the boiler, thereby giving motion to the lever by the rising and falling of the water in the boiler. Within the chamber C is also placed a horizontal lever, I, working on a fulcrum at *f*, one end of said lever being, by means of a rod, *h*, attached to the whistle-valve *i*, the other end having a counter-weight, J, for the purpose of closing the valve *i*. On the lever H are inserted two pins, *e e*, which project out over the lever I, so that when the lever H is drawn down by the float one of said pins will come in contact with the lever I, and consequently the valve *i* is drawn open, and the alarm of low-water is given; and, vice versa, when water gets too high the other pin *e* comes in contact with the lever I and the valve *i* is drawn down, and the alarm of high-water is given. The limitation of the high and low water alarm is graduated by raising and lowering the whistle E on the tube D, the connection between the same being by means of screw-threads, as shown in Fig. 7, and the seat of the valve *i* formed in the whistle. To the shaft *d*, outside of the chamber C, is secured a finger or hand, K, pointing to the dial M, and provided with a counter-weight, L, said hand moving with the lever H. Outside of the chamber C is a hook, *k*, to catch on a pin, *m*, attached to the lever K, which is for the purpose of raising the lever H, so that the valve *i* may be closed to prevent the continual annoyance of the whistle after the alarm of low water is given. This hook is so arranged as to disengage itself when the water is again raised to its proper height. To the shaft *d* is further attached an arm, *p*, for the purpose of attaching to my automatic boiler-feeder, patented June 5, 1866. The float G is made of any suitable material, usually of metal, and poised on centers at *a a*, so as to revolve on the same, the object being that, when any mud or sediment contained in the water should collect on the top side of the float, its weight will cause it to revolve to the under side, thereby being released, which enables the float to retain its buoyancy in the water.

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

1. In a high and low water indicator, the combination, with a boiler, A, pipe B, and steam-chamber C, of the lever I, weight J,

valve *i*, and the lever H with pins *e e*, all constructed and arranged substantially as set forth.

2. The hook *k*, arranged in connection with the lever H, substantially as and for the purposes herein set forth.

3. The revolving float G, for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 8th day of April, 1872.

WM. MOORE.

Witnesses:
J. D. JOHNSON,
C. G. ARMSTRONG.