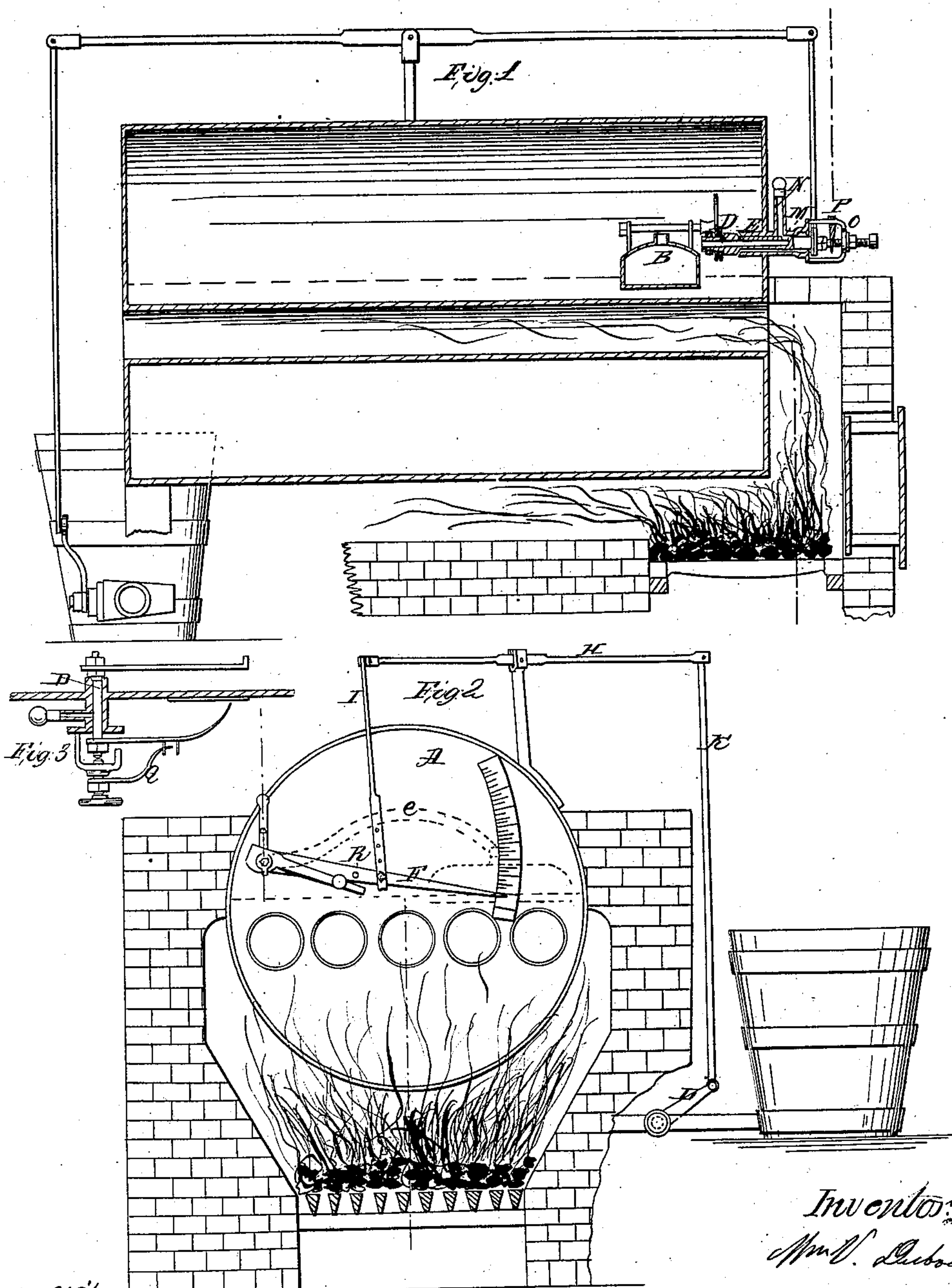


W. V. Dubois,
Steam-Boiler Indicator.
No 85,485. Patented Dec. 29, 1868.



Witnesses:
Amos W. Ryan
O. C. Cotton

Inventor:
W. V. Dubois
per Wm. S. Allen

United States Patent Office.

WILLIAM V. DUBOIS, OF COVINGTON, INDIANA, ASSIGNOR TO HIMSELF, WILLIAM A. SANGSTER, AND I. G. SANGSTER, OF SAME PLACE.

Letters Patent No. 85,435, dated December 29, 1868.

IMPROVEMENT IN WATER-INDICATORS FOR BOILERS.

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, WILLIAM V. DUBOIS, of Covington, in the county of Fountain, and State of Indiana, have invented a new and useful Improvement in Water-Gauges and Alarms for Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal sectional elevation of a boiler provided with my improvement.

Figure 2 represents a front elevation of the same.

Figure 3 represents a modification of one part of my invention.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide an improved self-acting water-gauge, for indicating the height of the water, and regulating the supply for steam-boilers; also an alarm, for giving notice when the water in the boiler is too low.

It consists of an indicator-finger, arranged on the end of the boiler, to be worked over a scale, whereon the height of the water is shown, by an oscillating shaft passing through a cock in the head of the boiler, with a ground seat, or a seat otherwise made steam-tight, and connected, internally, by a lever to a float, whereby the oscillating motion is communicated to the said shaft. The said finger is also connected to the water-cock of the supply-pipe by levers, and the supply of water thereby regulated.

It also consists in the arrangement of the cock with an alarm-whistle, and a means of actuating the cock, to admit the steam to the whistle, to cause an alarm when the water falls too low in the boiler.

In the drawings—

A represents a steam-boiler, provided with a float, B, which is made of any suitable metal, and connected by a lever, C, shown best in dotted lines in fig. 2, to the valve-shaft D, passing through the cock E, and connected, at its outer end, to the pointer F, which, by working over the scale G, indicates the height of water in the boilers.

The finger F is connected, by the lever H and connecting-rods I and K, to the cock L, in the supply-pipe, and thereby regulates the amount of water thrown into the boiler.

As the water in the boiler falls, the said cock will be opened wider, as is well understood.

In case the apparatus, as above described, fails to keep the boiler properly supplied, as sometimes occurs, by reason of failure of the pumps, or from other causes, it is desirable to provide a means of notifying the attendant, which I have accomplished in the following manner:

The shaft D is arranged to have a slight reciprocating movement, and the lateral opening M, in the same, is intended to be forced outward by the pressure of the steam, when the boiler is in proper working-condition, so as not to be in communication with the passage N.

The cock E, at its outer end, is provided with a yoke, O, from the upper bow of which is suspended a weighted curved wedge, the bit of which is set between the end of the shaft D and the point of a set-screw, Q, arranged in the said yoke, coincident with the axis of the said shaft.

The finger F is provided with a pin, R, which strikes the stem of the wedge, when the water falls to a certain level, and forces the said shaft D inward, opening communication from the passage M to the whistle, thereby warning the attendant of the condition of the water.

Instead of the weighted wedge P, a lever, Q, may be secured to the screw, as shown in fig. 3, and arranged to be actuated by the pointer F, in the same manner as the lever of the wedge is actuated, so as to turn the screw in the direction to force the shaft D, of the cock, inward, and thereby allow the steam to escape into the whistle.

The shaft D, of the cock, may, instead of being provided with the central bore and the lateral passage M, be arranged to allow the steam to escape around it, when the valve is raised off the seat.

Having thus described my invention,

I claim as new, and desire to secure by Letters Patent—

1. The combination, with the cock E, of the whistle N, weighted wedge P, and valve-shaft D, substantially as described.

2. The arrangement of the float B, arms O F, cock E, scale G, lever H, connecting-rods I K, and the water-cock L, substantially as described.

WILLIAM V. DUBOIS.

Witnesses:

H. O. PATTERSON,
WM. N. WILLIS.