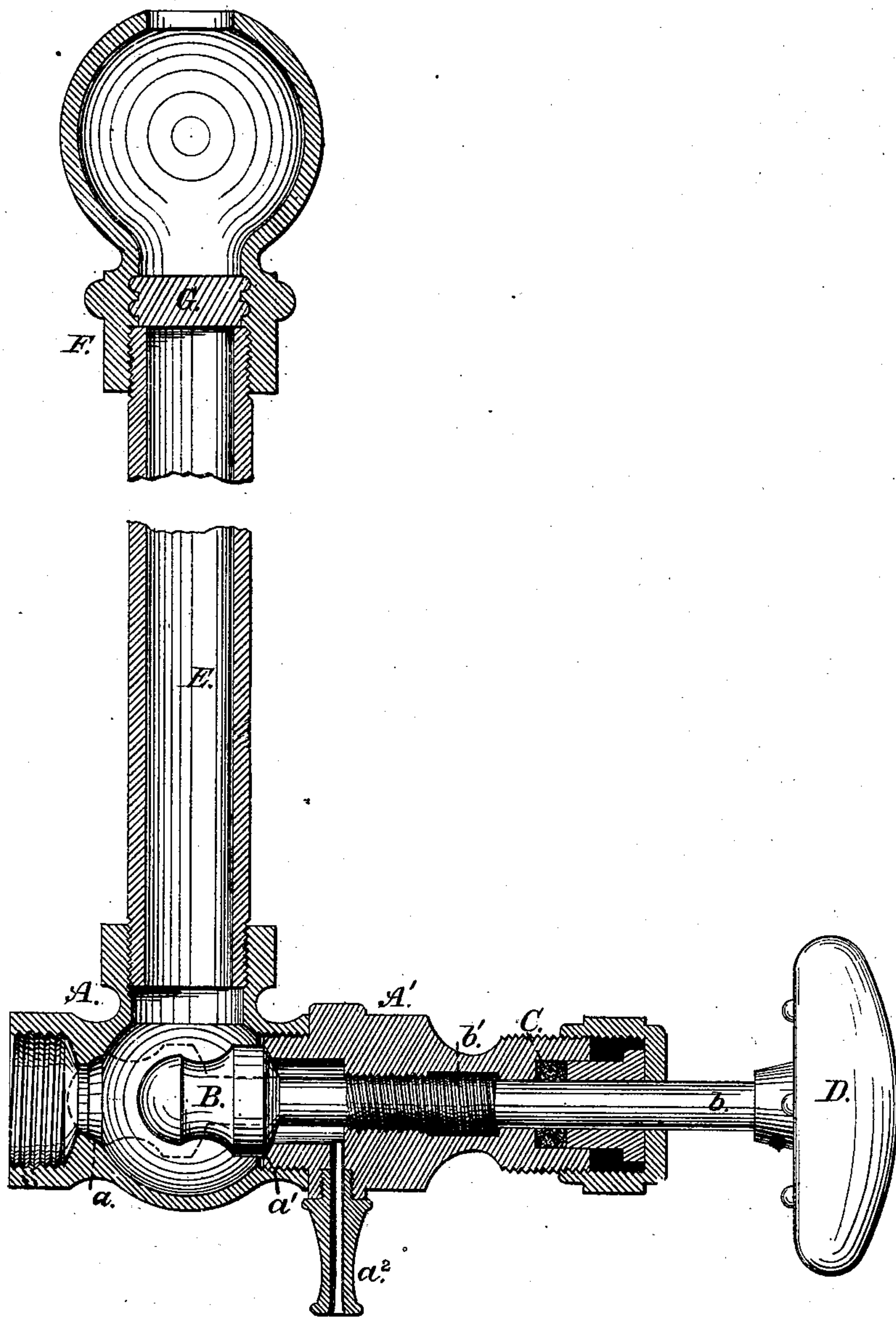


(No Model.)

M. C. JONES.
Combined Low Water Detector and Gage Cock.

No. 243,070.

Patented June 21, 1881.



Witnesses,

E. J. Renham.

E. G. Day.

Inventor,

M. C. JONES,

~ by ~

William H. Low,

Attorney.

UNITED STATES PATENT OFFICE.

MILTON C. JONES, OF TROY, NEW YORK.

COMBINED LOW-WATER DETECTOR AND GAGE-COCK.

SPECIFICATION forming part of Letters Patent No. 243,070, dated June 21, 1881.

Application filed October 23, 1880. (No model.)

To all whom it may concern:

Be it known that I, MILTON C. JONES, of Troy, in the county of Rensselaer and State of New York, have invented a new and useful
5 Improvement in Combined Low-Water Alarms and Gage-Cocks for Steam-Boilers, of which the following is a specification.

My invention consists in combining in a single appliance a low-water alarm provided
10 with a fusible metal plug, and a gage-cock provided with double-seated valve, the whole being constructed and arranged to operate as hereinafter described.

The accompanying drawing, which forms a
15 part of this specification, shows a vertical section of my invention through the center line thereof, and, as therein illustrated, A is the valve-casing, which, with the neck-piece A', forms a chamber containing the valve-seats *a*
20 and *a'*; B, the valve, provided with two bearing-faces arranged in opposite directions, one being adapted to fit into the seat *a* and the other into the seat *a'*. Said valve is also provided with the stem *b*, having a screw-thread,
25 *b'*, formed thereon that fits into a counterpart thread in the neck-piece A'; C, a stuffing-box at the outer end of the neck-piece A' for forming a steam-tight joint around the stem *b*; D, a hand-wheel fixed on the outer end of the
30 stem *b* for operating the valve B; E, a vertical metallic tube secured to the top of the casing A, so as to form an open communication with the chamber of said casing. It is provided with a detachable head, F, containing
35 a plug or disk, G, of fusible alloy that is compounded to melt at a temperature of about 212° Fahrenheit.

In attaching this device to a boiler it should be placed on the line of the lowest water-level.
40 The valve B, when drawn back against the seat *a'*, permits the water to flow into and fill the chamber of the casing A and tube E, and so long as the water continues to fill these

parts it will serve as a protection for the fusible plug G and prevent it from being melted, 45 and while this condition is maintained the device may be used as an ordinary gage-cock for testing the height of water in the boiler. To use it for that purpose the stem *b* must be turned to force the valve B clear from the
50 seat *a'*, when the water from the boiler will flow out through the opening in the nipple *a*². Should the water in the boiler fall below the low-water line, the tube E will become empty by reason of the greater gravity of the water 55 as against steam, and the device will then be opened for the inflow of steam from the boiler. When this occurs the heat of the steam will melt the fusible plug G, thereby leaving the end of the tube open, permitting the steam to
60 escape to give warning of the danger. The valve B may then be closed against the seat *a*, as indicated by the dotted lines in the drawing, to stop the flow of steam from the boiler until a new fusible plug is inserted to restore 65 the device to a proper condition for performing its functions.

By closing the valve B against the seat *a* the tube E and head F, or either of them, may be removed at any time for the purpose of 70 making an examination into the condition of those parts.

I claim as my invention—

A combined low-water alarm and gage-cock consisting of the valve-casing A, provided 75 with oppositely-arranged valve-seats *a* and *a'*, the double-acting valve B, adapted to fit into said seats, so as to close one of them at a time, and a fusible plug, G, connected to the metallic tube E, all constructed and arranged to 80 operate as specified.

MILTON C. JONES.

Witnesses:

EDWIN G. DAY,
WILLIAM H. LOW.