

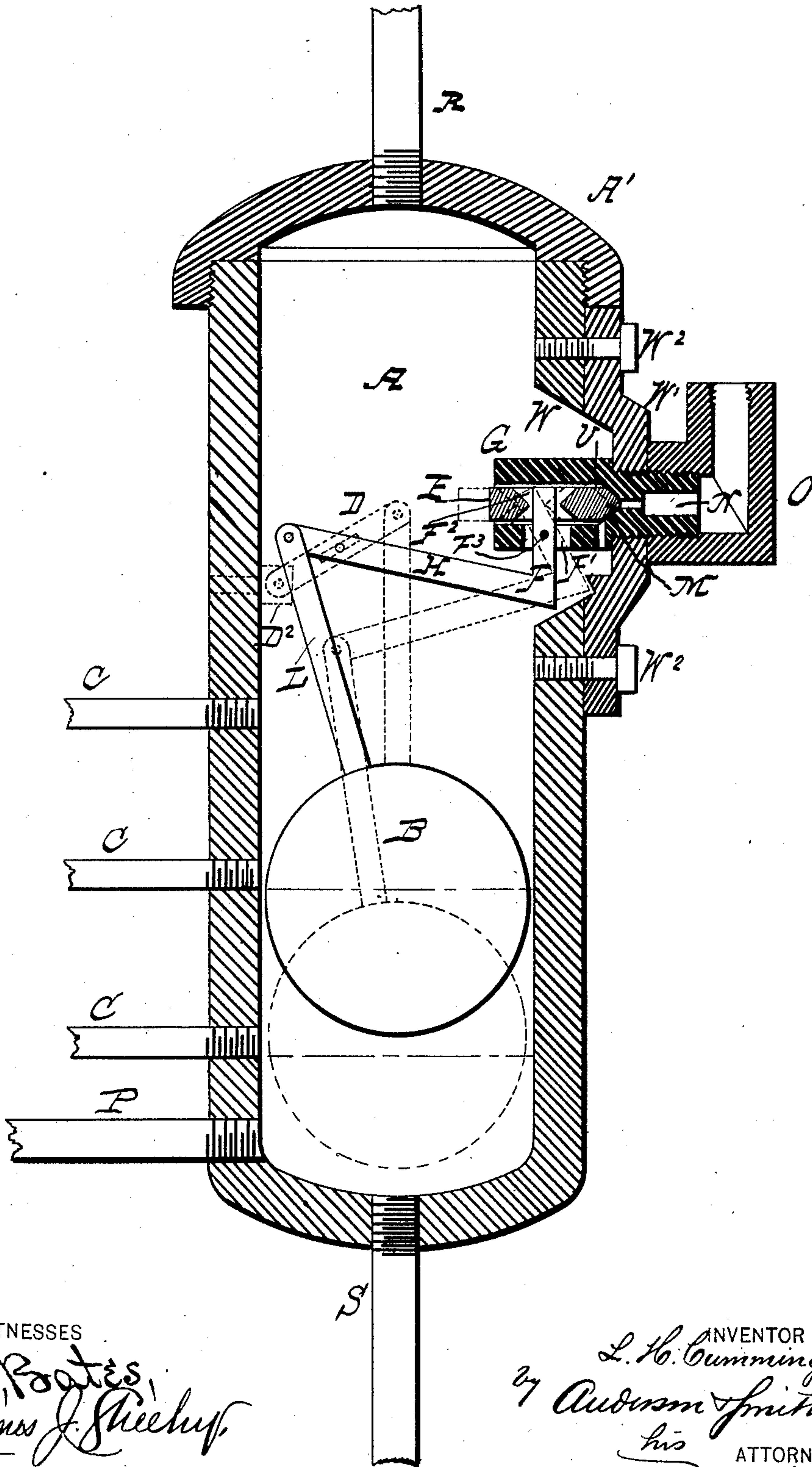
(No Model.)

L. H. CUMMINGS.

BOILER INDICATOR.

No. 303,365.

Patented Aug. 12, 1884.



WITNESSES  
*E. H. Boates,*  
*James J. Sheehy.*

INVENTOR  
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*by Anderson Smith*  
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# UNITED STATES PATENT OFFICE.

LAFAYETTE H. CUMMINGS, OF ROME, NEW YORK.

## BOILER-INDICATOR.

SPECIFICATION forming part of Letters Patent No. 303,365, dated August 12, 1884.

Application filed November 3, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, LAFAYETTE H. CUMMINGS, a citizen of the United States, residing at Rome, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Boiler-Indicators; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which forms a part of this specification.

The figure of the drawing is a representation of a vertical sectional view of my device.

This invention has relation to boiler-indicators; and it consists in the construction and novel arrangement of devices, as will be hereinafter fully described, and particularly pointed out in the claim appended.

Referring by letter to the accompanying drawing, A indicates the main cylinder of the water-alarm, which in full size should be three inches inside diameter, twelve inches outside length, and one-half inch metal wall thickness, although these dimensions may be varied at will.

C C C indicate the upper, lower, and intermediate gage-cocks. A' designates the cover to the cylinder, and it is put on with a screw-and-shoulder joint.

R indicates the steam-pipe, and S the drip-pipe.

W indicates a recess in one side of the cylinder-wall above the high-water line, and W' is a cap provided with a central threaded aperture, and secured to the cylinder A over the recess W by bolts W<sup>2</sup>.

G designates a valve-stock and guide, the threaded stem of which screws into the threaded aperture in the cap W' from the inside of the cylinder and projects outwardly from the cap to receive an elbow, O, which forms the whistle-stand. The valve-stock is slotted horizontally, and provided with a valve-seat, U, communicating with a steam-passage, N, in the threaded stem, and this valve-seat is provided with a plug-valve, E, having a soft-metal face, M. The valve-stock G is also slotted vertically at F', the slot intersecting the valve-seat or horizontal slot. The plug-valve is provided with a recess, F<sup>2</sup>, having

pointed side walls, and the short arm F of an angular lever, H, is fulcrumed in the vertical slot either above or below the horizontal slot at F<sup>3</sup>.

B designates an air-ball float, which is connected to the lever H by a stem, L. The upper and lower shoulders of the recess W are inclined, as shown, and prevent the lever H from falling sufficiently far to close the drip-pipes S when the float is arranged for a low-water alarm. The lever H and stem L are used in low-pressure boilers. By reversing the lever H, so as to be fulcrumed at the upper pivot by the rise of the water in the cylinder too high, the alarm will be sounded, thereby using the same parts either for a low-water or high-water alarm. For high-pressure boilers a compound-lever is provided, and it consists in adding to the lever H and stem L a short lever, D, hinged at D<sup>2</sup>. Its inner end is pivoted to the upper end of the stem L, and it is slotted intermediately of its ends and connected through its slot by a pin to the end of the long arm of the lever H. When the water falls below the low-water line or "danger" line, the air-ball float will fall with it and open the valve M, and the steam, escaping through the passage N, will sound the whistle and alarm any one within hearing. So in the high-water alarm the float will rise and open the valve through the lever, and sound the alarm.

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

In an indicator for steam-boilers, the combination, with the cylinder A, provided with the steam-pipe and drip-pipe, and the recess W, having the inclined shoulders, of the cap W', having the central threaded perforation, the valve-stock, and guide G, having the steam-passage N, and its outer end externally threaded to receive the elbow O, the plug-valve E M, arranged within the valve-stock, and the angle-lever H, fulcrumed therein and connected by a stem, L, to the air-ball float within the cylinder, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

LAFAYETTE H. CUMMINGS.

Witnesses:

W. E. WRIGHT,  
JNO. D. ARCHER.