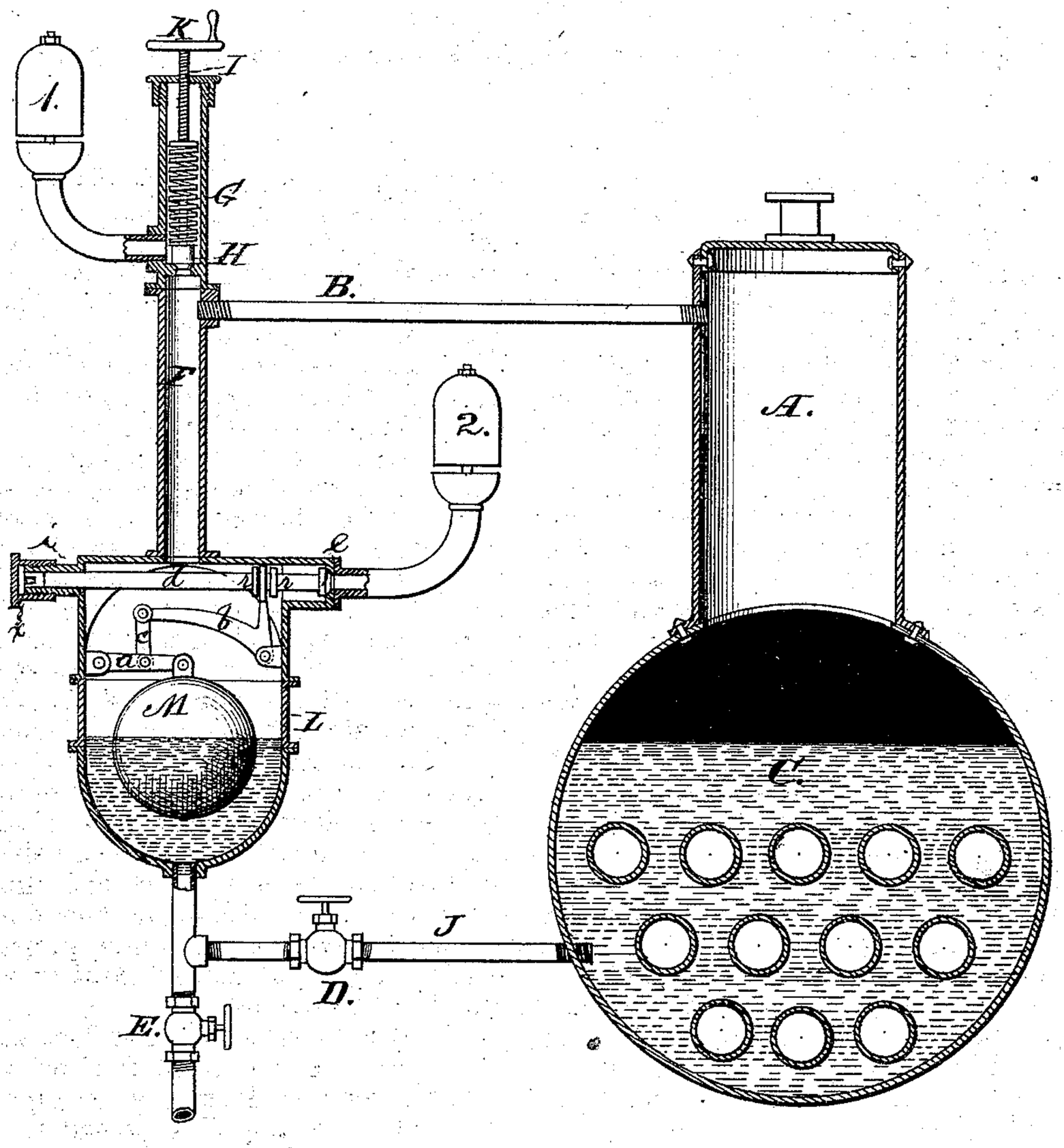
C. N. MYERS.

Low Water-Indicators.

No. 154,513. Patented Aug. 25, 1874.



Witnesses.

Jacob Richler

Sylvester Chase.

Inventor:

Charles N. Myers.

UNITED STATES PATENT OFFICE.

CHARLES N. MYERS, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN LOW-WATER INDICATORS.

Specification forming part of Letters Patent No. **154,513,** dated August 25, 1874; application filed June 6, 1873.

To all whom it may concern:

Be it known that I, CHARLES N. MYERS, of the city of Chicago, in the county of Cook and State of Illinois, have invented a new and Improved Method of Indicating High Steam and Low Water for all Steam-Boilers; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and the letters of reference marked thereon.

The invention relates specifically to the construction and arrangement of parts, as hereinafter described and claimed, whereby a valve, which controls the access of steam to an alarm-whistle, is supported in the case containing the float, also connected with the latter, and adapted to be ground to its seat.

The generator C has a steam-dome, A, which communicates with the tube F of the alarm apparatus. Said tube rises vertically from the float case or chamber, and has a lateral extension, on which an alarm-whistle is located. When the steam-pressure in the tube exceeds the tension of the spring in its upper portion the valve H, on which it presses, will be raised from its seat and the alarm-whistle 1 sounded by admission of steam to the lateral arm. The tension or pressure of the spring is regulated by means of a screw-rod, I, working through a cap on the upper end of tube F, and operated by a hand-wheel or crank, K, as shown. The pipe J is the means of communication between the water-space of the boiler C and the bottom of the case or chamber L, containing the float M. Thus, the level of the water in the generator C will always be the same as in the float-chamber. The float is a hollow metal sphere, preferably made of hemispherical sections screwed together, and is pivoted to an arm or lever, *a*, which is, in turn, hinged to a lug at the side of the case. An elbow-lever, *b*, is pivoted, at its angle, to the opposite side of the case, and connected with lever *a* by a link, *c*. Its shorter vertical arm forms suitable connection with a horizontal rod, *d*, having a valve, *e*, formed on one end to close the mouth of the tube leading to the alarm-whistle 2, while its opposite end works in a tubular extension, *i*, of the float-case. Collars *r r* are formed on the shaft or rod *d*, and the vertical arm of lever *b* is forked to adapt it to embrace and support said rod, and act against the collars to open or close the valve. It is apparent that when the water falls below a certain level the float will act on the valve-rod through the medium of the levers *a b*, open the passage to whistle 2, and thus allow steam to enter and sound the alarm. The aforesaid tubular extension *i* of the case L is closed by a screw-cap, which permits the insertion of a suitable tool for turning the valve-rod *d* to grind the valve to its seat, when required, to prevent leakage. To this end I preferably form a groove or notch, *x*, in the end of the valve-rod, to adapt it for the application of the turning device.

It will be seen that the valve-rod is thus supported by or has its bearings in the shorter arm of the elbow-lever and the tubular extension *i*. At the same time the valve is operated by said lever-support, and the arrangement is such that it may be ground to its seat, when required, without other preparation or preliminary labor than removal of the screw-cap from the extension *i*.

The liquid contents of the float-case, which is conical or spherical at the bottom for the purpose, may be drawn off by pipe E when the cock D of pipe J is turned to close the passage to the boiler.

The float, case, valve, valve-stem, and valve-seats will, in practice, be nickel-plated to prevent corrosion.

What I claim is—

The horizontally-reciprocating rod *d*, carrying valve *e*, and having collars *r r* and notch *x*, the elbow-lever *b*, and tubular extension *i*, combined as shown and described, and arranged with relation to the float-case, as specified.

CHARLES N. MYERS.

Witnesses:

JACOB RICHTER,

SYLVESTER CHASE.