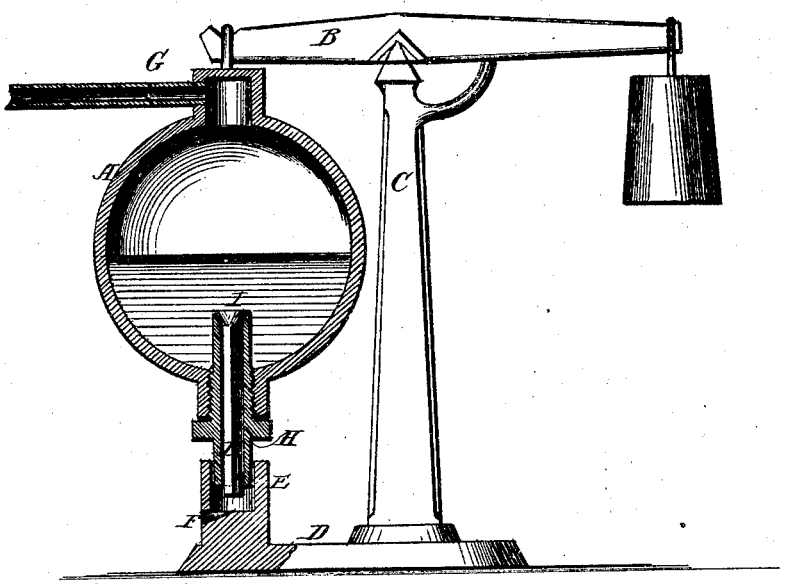
No. 108,215. PATENTED OCT. 11, 1870.

S. D. TRIPP.
STEAM TRAP.



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SETH D. TRIPP, OF LYNN, MASSACHUSETTS.

Letters Patent No. 108,215, dated October 11, 1870; antedated September 26. 1870.

IMPROVEMENT IN STEAM-TRAPS.

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, SETH D. TRIPP, of Lynn, in the county of Essex and State of Massachusetts, have invented a new and improved Steam-Trap; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvements in traps for the escape of the water of condensation in steam-heating and other pipes, and consists in an arrangement of a receiving vessel into which the water is allowed to flow, on a weighted balance-beam, and with a valve at the bottom opening inward, which will be opened, when the weight of the water carries the vessel down, by the stem which projects through the discharge-tube of the vessel coming into contact with any suitable stop to prevent the valve going down with the vessel, but which will resume its position on the valve-seat after the discharge of the water, when, by reason of the superior gravity of the weight, the vessel is raised again.

The drawing is a side view of my improved trap, partly sectioned.

A is the hollow water-receiving vessel, which I prefer to make spherical, but which may be of any approved form. It is suspended from the short arm of a weighted balance-beam, B, mounted on a post, C, of a stand, D, whereon is suitably placed a vertical hollow stud, E, having a lateral escape opening, F.

G is the water-pipe entering the vessel at the top, and designed to extend in a lateral direction, before connection with the steam-pipe, such a distance as to admit the end connected to the vessel A to rise and fall with the said vessel without offering material resistance to such movement.

H is the escape-pipe leading from the bottom of the vessel A and entering at the lower end the hollow stud E.

The top of this pipe is fitted for the seat of a valve, I, the stem K of which is slightly longer than the pipe H, and projects through the bottom of the same into the space in the hollow stud E.

When the water of condensation fills the vessel A, the gravity of the latter and the water will be greater than that of the weight, and the vessel will go down so that the stem K, striking the bottom of the space on the stud E, will prevent the valve from going down as far as the pipe does, consequently, opening the valve and allowing the water to escape, after which, the vessel being relieved of the weight of the water, will be raised again, and the valve will be restored to its seat, closing the escape-passage against the loss of the steam.

Those familiar with the operation of steam-valves will readily perceive that there are three advantages obtained by this construction:

My steam-trap is suspended from a weighted lever which will never vary in its action, while a spring would become relaxed by heat, open the valve when not covered by water, and sometimes allow the steam itself to escape.

The valve I, having its seat located some distance above the bottom of water-chamber, allows room for the settlement by gravity of the scale and sediment, and thus obviates any liability on the part of the valve to choke.

The hollow sleeve H, in whose upper end is formed the valve-seat, having its lower part in the hollow stud E, is thus guided with unerring certainty in its vertical movement, and is thus also made to convey the water with perfect accuracy to the narrow channel F.

I am aware that the principle involved in opening and closing a valve to regulate the level of water in a vessel by means of the water itself and a balance-weight or spring is not new. Boilers have been constructed to exhibit the former, and steam-traps the latter.

What I do esteem to be my invention, and desire to protect by Letters Patent, is—

1. An improved steam-trap, consisting of a weighted lever, B, fulcrumed on post C, a vessel, A, having valve and valve-seat H I K attached thereto, and a vertical hollow guide, E, having outlet F therein, all supported upon the same stand D, as shown and described.

2. The spherical water-vessel A, and the sleeve H, having valve-seat located above the bottom thereof, combined and arranged as and for the purpose specified.

3. The combination of the valve-seat tube H with the vertical hollow stud E, having outlet F therein, when applied to a steam-trap, as and for the purpose specified.

S. D. TRIPP.

Witnesses:
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