(No Model.)

J. DIMELOW.

STEAM TRAP.

No. 310,885. Patented Jan. 20, 1885.

Fig. 1.

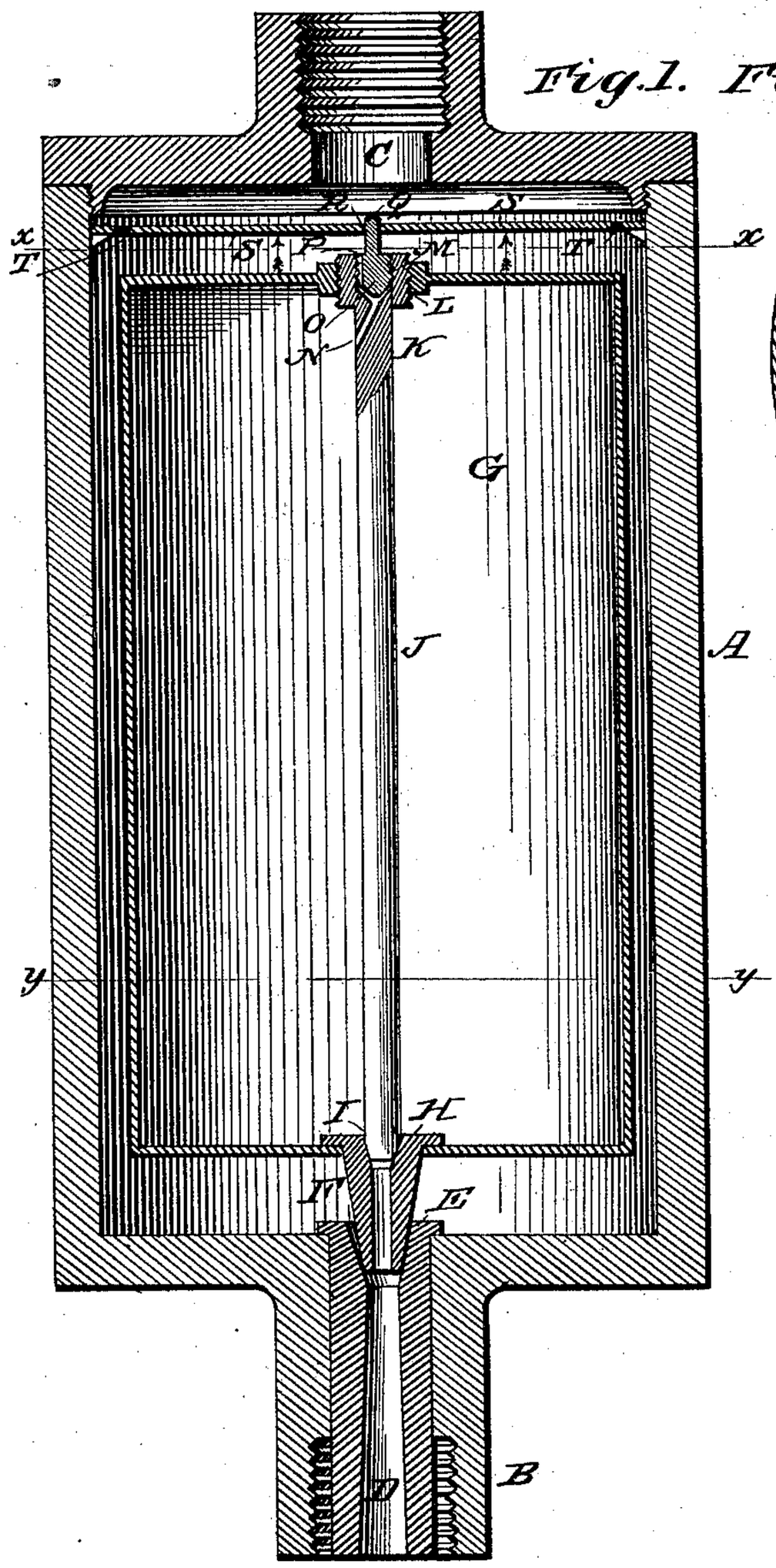


Fig. 2.

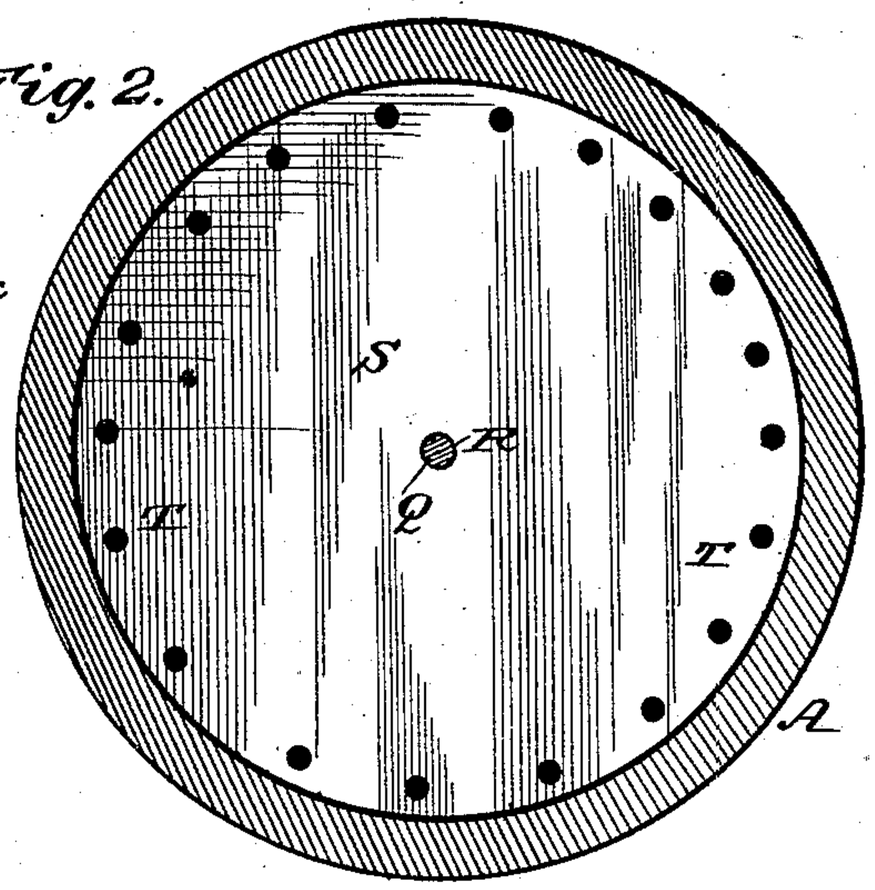
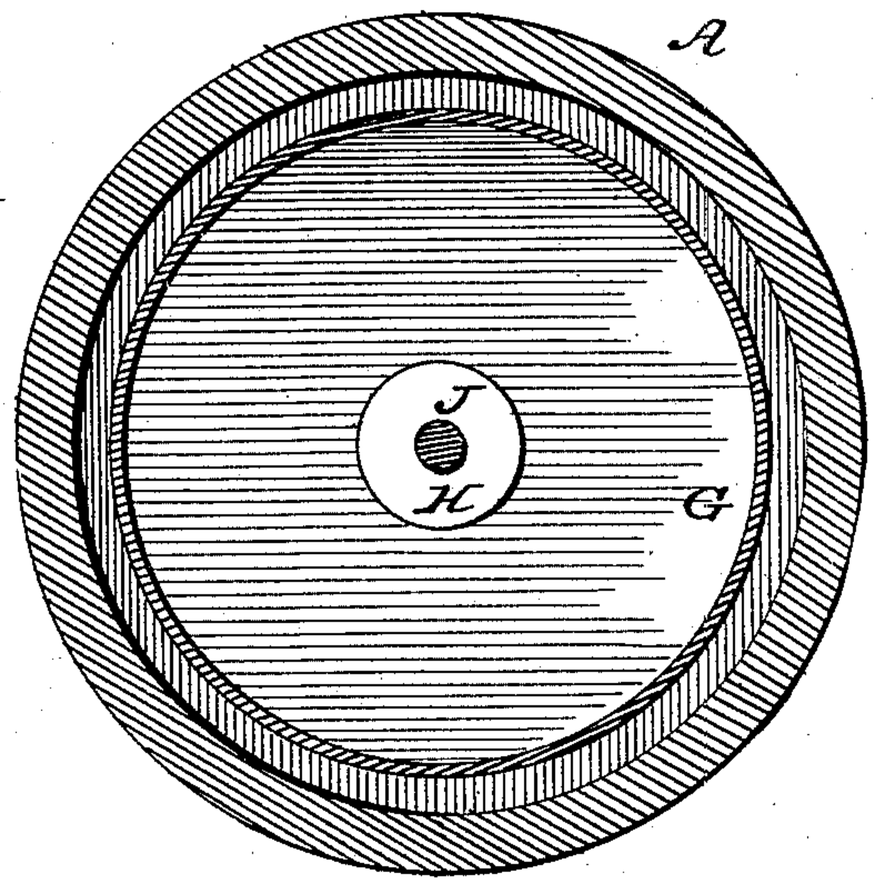


Fig. 3



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES DIMELOW, OF WILMINGTON, DELAWARE.

STEAM-TRAP.

SPECIFICATION forming part of Letters Patent No. 310,885, dated January 20, 1885.

Application filed April 10, 1884. (No model).

To all whom it may concern:

Be it known that I, JAMES DIMELOW, a subject of the Queen of Great Britain, and a resident of Wilmington, in the county of New Castle and State of Delaware, have invented certain new and useful Improvements in Steam-Traps; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a vertical sectional view of my improved steam-trap. Fig. 2 is a cross-section on line *x x*, Fig. 1, looking in the direction of the arrow, and Fig. 3 is a similar view on line *y y* in the same figure.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to steam-traps; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the outer casing of the trap, which has an inlet-opening, B, and an outlet-aperture, C, one in each end of the casing, and a tube, D, is secured in the outlet-opening, and forms at the upper end of its bore a conical valve-seat, E, in which a conical perforated plug, F, secured in the center of the bottom of a cylindrical float, G, fits. The upper end of the perforated plug forms a valve-seat, H, likewise conical and inside the bottom of the float, upon which seat the lower conical end, I, of a rod, J, passing axially through the float, fits. The upper end, K, of this rod is screw-threaded, and fits in a central female threaded perforation, L, in the top plate of the float, and the said upper end of the rod has a female threaded perforation or recess, M, forming a seat at its lower end, and having an oblique bore, N, passing out through its bottom into the interior of the float, and a screw-threaded plug, O, having a longitudinal groove or recess, P, in one side, fits and turns in the said perforation, having an upright rod, Q, at its upper end, which passes through a central perforation, R, in a plate, S, secured in the upper end of the casing of the trap under the inlet-aperture, having a number of perforations, T, in its edge, the said upright rod sliding in the perforation in the plate and being guided by the same. It will be seen that as the mixed steam and water enters the casing of the trap it will pass through the perforated plate, and the water will gather in the bottom of the casing, where it will raise the float when sufficient water is collected in the bottom of the casing, and the float in rising will open the valve in the bottom of the casing, allowing the water to pass out through the outlet-aperture. The pressure of the incoming steam will strike the top plate of the float, which plate is flexible, and will force it inward, thereby forcing the axial rod down, with its conical valve-plug against the conical valve-seat in the bottom of the float, but the steam will force its way through the groove in the threaded plug in the recess of the axial rod, and through the bore in the upper end of the said rod, entering the interior of the float, and when the pressure of the steam inside the float becomes greater than the pressure in the casing the flexible top plate of the float will be forced outward, raising the axial rod and its valve-plug, thus allowing the contents of the float to be blown out into the outlet-aperture through the perforated valve-plug of the float.

It will be seen that the amount of steam allowed to enter into the interior of the float may be regulated by adjusting the grooved plug in the upper recess of the axial rod to bear closer or less close upon the seat in the bottom of the recess in the rod, and that in this manner the frequency of the discharges of the contents of the float may be regulated.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a steam-trap, the combination of an outer casing provided with a valve-seat at the outlet-aperture, a float having a perforated plug at its lower end fitting upon the said valve-seat, and a rod fitting with its lower end in the upper end of the perforated plug of the float, secured to the flexible top plate of the float, and having means for connecting the interior of the float with the space around the same, as and for the purpose shown and set forth.

2. In a steam-trap, the combination of the casing having the outlet-pipe at its bottom,

forming a valve-seat, having the inlet-pipe at its top, and having a plate perforated at its edge and perforated at its center, secured below the inlet, the cylindrical float having a perforated plug at its bottom, forming a valve-seat at its inner side, the valve-rod fitting with its lower end upon the valve-seat in the perforated plug secured in the top plate of the float, and having a threaded recess and bent perforation at its upper end, and the threaded plug having a longitudinal groove and an upwardly-projecting rod, as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JAMES DIMELOW.

Witnesses:

HARVEY B. VANDEGRIFT,

THOMAS E. WEER.