

Robert Berryman's Imp't. in Steam Traps.

117372

PATENTED JUL 25 1871

Fig. 1.

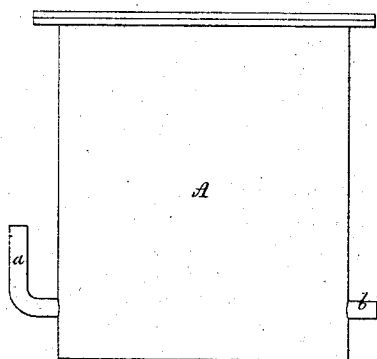


Fig. 2.

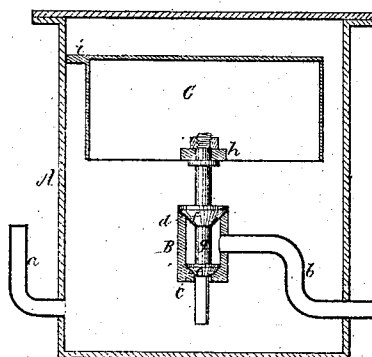


Fig. 3.

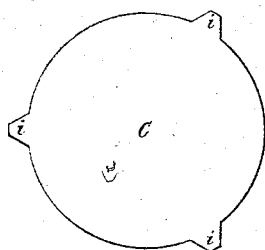
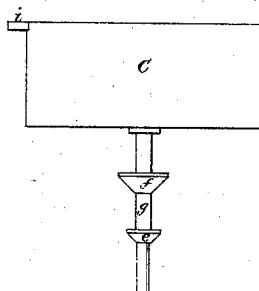


Fig. 4.



Witnesses
S. N. Piper
L. N. Moller

Robert Berryman,
by his attorney,
R. W. Eddy

UNITED STATES PATENT OFFICE.

ROBERT BERRYMAN, OF HARTFORD, CONNECTICUT.

IMPROVEMENT IN STEAM-TRAPS.

Specification forming part of Letters Patent No. 117,372, dated July 25, 1871.

To all whom it may concern:

Be it known that I, ROBERT BERRYMAN, of the city and county of Hartford and State of Connecticut, have invented an Improved Steam-Trap; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, of which—

Figure 1 is a side elevation, and Fig. 2 a vertical section of it.

In such drawing, A denotes a closed vessel or case, provided at or near its bottom with an induct, *a*, and an educt, *b*; the latter being extended up within the case and made to open into a hollow cylinder, B, arranged in the axis of the case A. The cylinder B is open both at top and bottom, and is there provided with two valve-seats, *c d*, to operate with two valves, *e f*, arranged as represented on a stem or rod, *g*, projecting down from a bar, *h*, at its middle. The said bar *h* is extended diametrically across the open end of a bell-float or bucket, C, which, closed at top and open at bottom, is provided with ears or guides *i i i* projecting from it, as shown in Figs. 3 and 4, one of such figures being a top view and the other a side elevation of the bell-float, its valve-stem, and valves.

If, now, we suppose the apparatus to be connected with a steam-heater or coil so that the water of condensation thereof may flow through the induct *a* into the case A, such water as may be produced will rise within the case until it may

meet, and so raise the bell-float as to draw the valves off their seats. As soon as the said valves are so raised water will flow through their seat-openings into the cylinder B and then discharge through the educt *b*. Thus the apparatus may be used to remove from the heater or coil the water of condensation. By having the two valves arranged with seats and the cylinder B as described, the pressure on the stem will be counter-balanced—that is, the pressure tending to force the upper valve down upon its seat will be balanced by that tending to elevate the lower valve from its seat; consequently the apparatus will be very sensitive and cause the water to be discharged to good advantage without there being any unnecessary waste of steam.

I do not claim, broadly, the use of a puppet-valve or inverted float, as I am well aware that they are old and well-known devices; but

What I claim as new, and desire to secure by Letters Patent, is—

In a steam-trap, the combination of the closed case A, the bell-float or bucket C open at bottom, induct *a*, and educt *b*, provided with stem *g* and double puppet-valves *e f*, arranged in the cylinder B, substantially as set forth and described.

ROBERT BERRYMAN.

Witnesses:

R. H. EDDY,
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