

H. G. ASHTON.

Improvement in Lock Safety Valves for Steam Boilers.

No 123,546.

Patented Feb. 13, 1872.

Fig. 1.

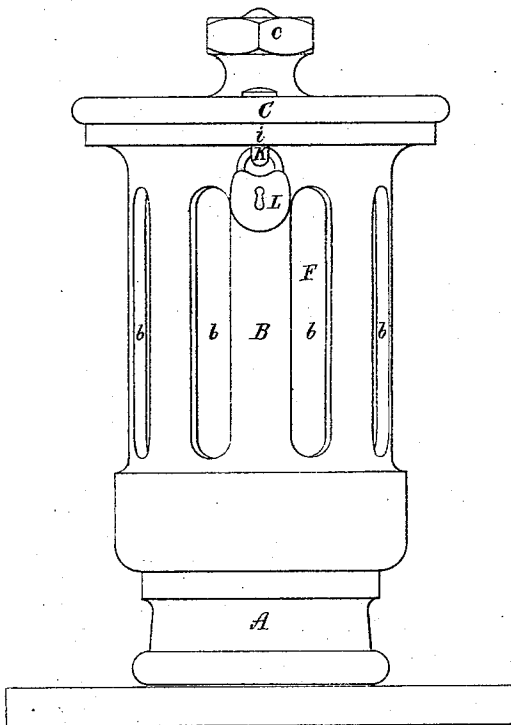
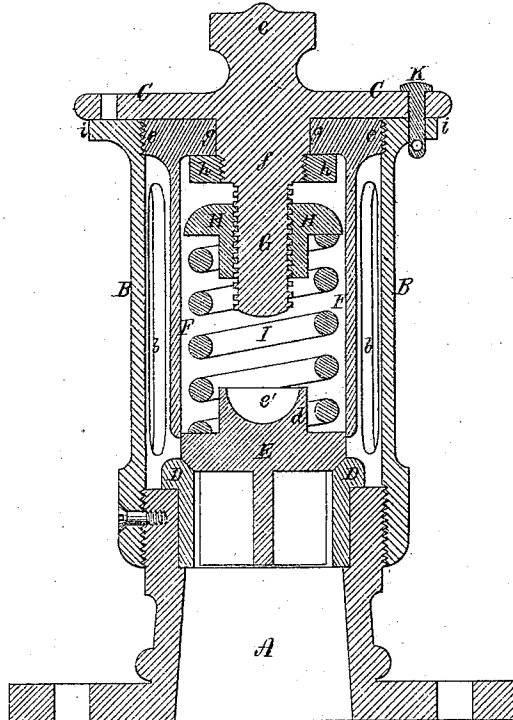


Fig. 2.



Witnesses
S. H. Piper
L. N. Moller

Henry Ashton
by his attorney
R. H. Eddy

UNITED STATES PATENT OFFICE.

HENRY G. ASHTON, OF EAST CAMBRIDGE, MASSACHUSETTS.

IMPROVEMENT IN LOCK SAFETY-VALVES FOR STEAM-BOILERS.

Specification forming part of Letters Patent No. 123,546, dated February 13, 1872.

To all persons to whom these presents may come:

Be it known that I, HENRY G. ASHTON, of East Cambridge, of the county of Middlesex and State of Massachusetts, have invented an Improved Lock Safety-Valve for Steam-Boilers; 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 front elevation, and Fig. 2 a vertical section of it, it being shown as applied to a hollow standard or educt, A, to be fixed to the top of a boiler.

The case B is cylindrical; is screwed upon the standard, as shown at *a a*; has a series of long slots or openings, *b b*, made vertically through it; and is surmounted by a circular cap, C, provided with a knob or handle, *c*. Furthermore, there is arranged concentrically within the standard A and at its upper part, or applied thereto, in manner as shown in Fig. 2, a tubular valve-seat, D, having a cylindrical valve, E, which has a cylindrical extension, *d*, provided with a semi-spherical open chamber, *e'*. A guide-cylinder, F, closed at top and formed as shown, is screwed at its top, as represented at *e e*, into the upper part of the case B, and extends downward nearly to the valve-seat, and encompasses and fits to the cylindrical part of the valve, all being as shown. From and concentrically with the cap C a cylindrical journal, *f*, is projected downward through a corresponding hole, *g*, made in the head of the guide-cylinder F, and is connected with the said head by a nut, *h*, screwed upon the journal. Furthermore, there extends down from such journal a male screw, G, which is screwed into and through a nut or cap, H, between and against which and the valve, and within the cylinder F, there is arranged a helical spring, I. By taking hold of the knob *c* and revolving the cap C the nut or cap H may be depressed or raised within the cylinder F so as to vary the pressure of the spring upon the valve. A bolt, K, goes through the cap C and the flange *i* of the case B, such bolt being provided with an eye or hole going transversely through its lower part to receive

the hasp of a padlock, L. The said cap C may or should be provided with a series of holes made down through it at or about at equal distances apart, so as to admit of the cap C being fixed or locked after it may have been adjusted, to cause the spring to operate with any desired degree of pressure on the valve. If desirable, such holes may be marked or stamped, or provided with marks or numbers, to indicate the pressure in pounds per square inch of the spring on the safety-valve, when the bolt may be in either of such holes of the flange. The space between the bottom of the insulator and guide F and the valve-seat D will admit of the escape of steam into the case B and out of its openings *b* when the valve is forced off its seat. The purpose of said part F is not only to guide the valve vertically, but to insulate the spring and its contractile mechanism from the steam, as well as to prevent any person from gaining access to the spring and its cap-nut when the cap C is locked down.

I am aware of the safety-valves shown and described in the United States patents 81,320, 86,346, and 97,472, and make no claim thereto or anything contained therein. Neither of such valves has to its case a rotary cover with a screw projected from it, as in my safety-valve; nor has either of the said patented valves a guard, F, screwed into the outer case and separate from the valve, and serving as a bearing for the screw-journal and its rotary cover; nor is there in said patented valves the arrangement of the guard as a guide for the valve, and at a short distance off its seat, as is shown in my lock-up safety-valve. Therefore my said valve differs in essential particulars from the others, as stated.

I claim—

The case B, the rotary cap C, the valve E, its seat D, the insulator F, the spring I, the screw G, and the cap-nut H, all constructed, arranged, and applied together substantially in manner as explained.

HENRY G. ASHTON.

Witnesses:

R. H. EDDY,
J. R. SNOW.