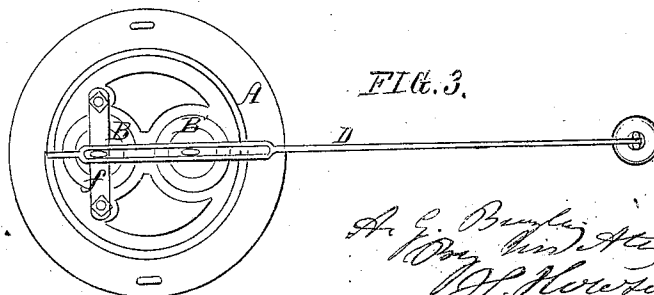
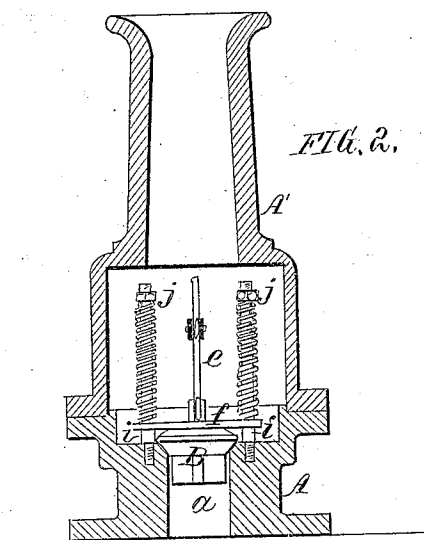
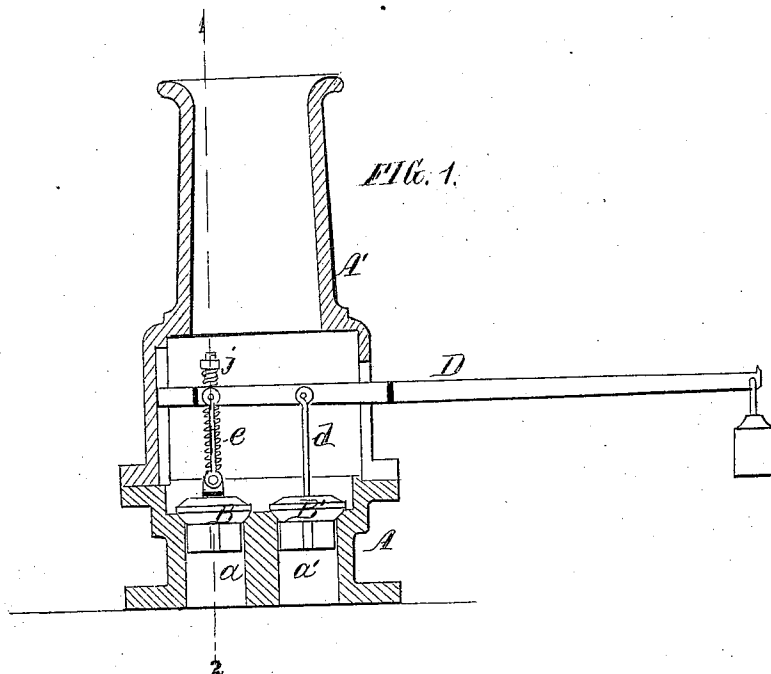


A. G. Buzby,

Safety Valve.

No. 76,992.

Patented Apr. 21 1868



*Witnesses Wm. A. Stark.
H. W. B. Adams*

*A. G. Buzby
Wm. B. Adams
H. W. B. Adams*

United States Patent Office.

ALBERT G. BUZBY, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 76,992, dated April 21, 1868.

IMPROVEMENT IN STEAM SAFETY-VALVES.

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, ALBERT G. BUZBY, of Philadelphia, county of Philadelphia, State of Pennsylvania, have invented a Duplex Safety-Valve for Boilers; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of two valves, one being connected to but loaded independently of the other valve, the two valves being contained within a casing, so that if the lever of one valve should be tampered with, or fail to perform its functions, the other valve remains in an inaccessible position, to relieve the boiler from surplus steam.

In order to enable others skilled in the art to make and apply my invention, I will now proceed to describe its construction, and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a vertical section of my improved safety-valve.

Figure 2, a section on the line 1-2, fig. 1.

Figure 3, a plan view, with a portion of the case removed.

Similar letters refer to similar parts throughout the several views.

A is the lower, and A' the upper portion of a valve-chest or case, the lower portion being secured to a steam-boiler, and having two openings, *a* and *a'*, communicating with the interior of the boiler. At the upper edge of the opening *a* is formed a seat for the valve B, and at the upper edge of the opening *a'*, a seat for the valve B'.

To a graduated and weighted lever, D, is jointed a link or rod, *d*, the lower end of which is connected to or rests on the valve B', and a link, *e*, serves to connect the same lever to the valve B, on which is a cross-bar, *f*, the latter being arranged to slide vertically on rods *i i*, secured below the valve-chest, and provided at the top with nuts, *j j*, between which and the said cross-bar *f*, intervene spiral springs coiled around the rods *i i*.

The lever D is loaded as usual, so that the valve B' will not be elevated until the steam within the boiler exceeds a given pressure, when the lever will be raised, its fulcrum being the pin to which the link *e* of the valve B is connected.

The springs, or the appliances for loading the valve B, are such that the latter is depressed with a force slightly in excess of that exerted on the valve B', so that under ordinary circumstances the valve B will remain stationary, while the valve B' will perform its duty of permitting an excess of steam to escape. Should a dangerous excess of steam be suddenly generated, however, both valves will be elevated, and the boiler will be quickly relieved. The main object of the invention, however, is to prevent any tampering with the valves, which are covered by a casing, A', so constructed as to permit the free escape of the steam, but so as to prevent access to the valve B, the upper portion of the casing being suitably locked to the lower casing.

Should the lever D, which projects through a slot in the upper portion of the casing, be over-weighted or held down, the valve B, to which ready access cannot be had, remains to perform its duty, which it will do independently of the lever, as it has an independent load.

I claim as my invention, and desire to secure by Letters Patent—

The two valves, B and B', the former being connected to but loaded independently of the valve B', when the said valves are contained within a casing, substantially as and for the purpose herein set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

A. G. BUZBY.

Witnesses:

JOHN WHITE,

W. J. R. DELANY.