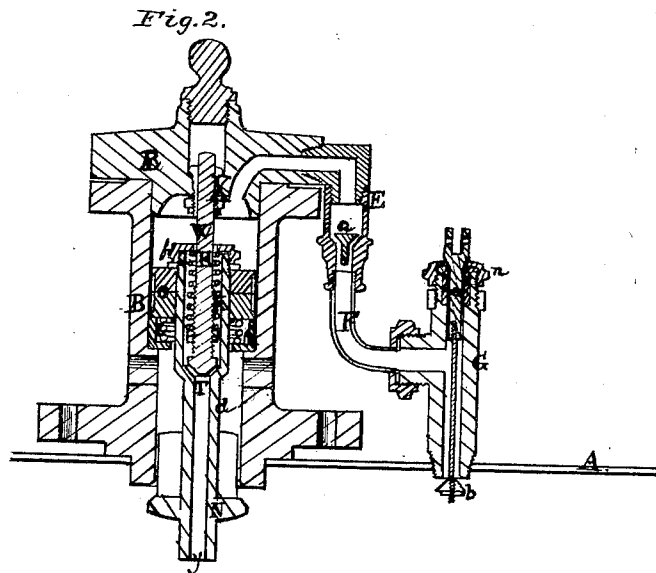
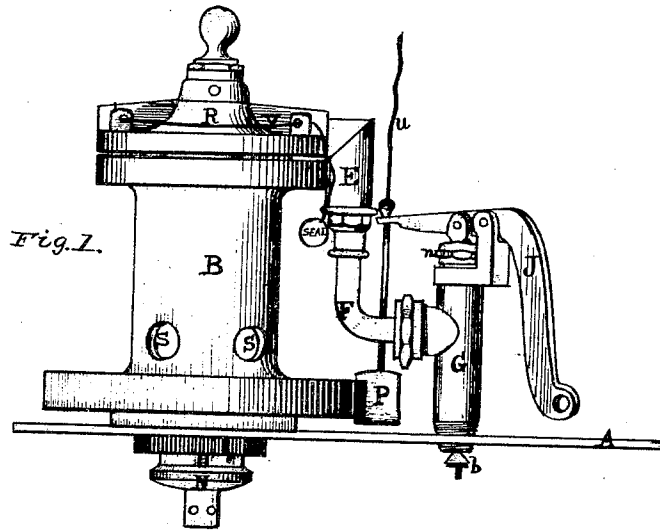


*H. A. Goll,*  
*Safety Valve.*  
*No. 108345* *Patented Oct. 18. 1870.*



*Witnesses.*  
*Thomas H. Webster*  
*Sam Houston*

*Inventor.*  
*Henry A. Goll.*

# United States Patent Office.

HENRY A. GOLL, OF CHICAGO, ILLINOIS.

Letters Patent No. 108,345, dated October 18, 1870; antedated October 15, 1870.

## IMPROVEMENT IN 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, HENRY A. GOLL, of Chicago, in the county of Cook, in the State of Illinois, have made new and useful Improvements in "Locked Pressure Safety-Valves;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is an elevation of my invention.

Figure 2 is a sectional elevation of my invention.

My invention relates to the combination of valves, in such a manner that a smaller valve is placed inside of a larger one, and to be adjusted by means of a spring, so as to hold a desired pressure of steam, water, or other substances; further, in the use of a cock to relieve an under pressure when desired, or in case of fire, to operate the larger valves as soon as a weight drops on the lever communicating with said cock.

The object of having the smaller valve and spring inside of the larger valve is that said spring and valve may be carried along with the larger valve when opened or closed, so as to keep an equal tension against the valve-seat in the larger valve, by means of said smaller valve and spring.

In order to give a correct understanding of my invention, I have marked corresponding parts with similar letters, and will now give a detailed description.

A represents the ground plate, or the part of the boiler or tank to which the device is attached.

B is the cylinder, in which the larger valves O N are fitted; the latter receives the pressure directly from the boiler, or where the pressure is supposed to exist. The piston valve O is larger than the valve N, by which means an equal pressure against both valves will result in keeping the valve N open, and allow the steam to pass out of the openings S.

The pressure on O is controlled by means of the valve H.

The valve H has a screw-thread, on which two nuts are fitted, and the spiral spring K is around said valve, and adjusted to hold a desired pressure, by means of said nuts against the cap-nut *f*. This is clearly shown on drawing, fig. 2.

The opening Y, in the larger valve, should be made the same size as the shank W of the valve H, and the atmosphere must circulate above said shank, for which purpose I place openings in the cap R, drawing fig. 1, and the chamber above the valve-seat T, in said larger valve, to allow the valve H and spring K to work freely, and to give a valve-seat to the valve H, against the opening Y.

Should the valve H be raised by an over pressure

of steam, the steam will pass around said valve and spring, and out of the cap-nut into a larger chamber above where the larger valve O is fitted, and forced down the valves O N, and let out of the openings S an over pressure of steam or other force.

The cock G has the valve *b* communicating with the boiler, and when opened, by means of the lever J, will allow the steam to pass up through said cock and pipe F, and operate the valves O N, in the same manner as if the valve H had been raised.

This cock is also opened by means of the weight P, which is suspended in the air by means of the string *u*, and in case of accidents, as fire, the string will get destroyed, and operate the valves in the same manner as above described.

The spring L is for the purpose of keeping the valve N closed, when the device is used for steam, in order to prevent the escape of the latter when being generated.

### *Operation.*

In order to use my invention, it is required that the cylinder B and cock G be placed upon the boiler or tank, in such a position as to receive an equal pressure, and that the valve H should be adjusted by means of the spring K, so as to be held down by the required pressure.

Should the steam-pressure increase, the valve H will rise, and permit the steam to pass around said valve and spring, and up into the larger chamber, force down the valves O N, as seen at fig. 2, and allow a suitable space between said valve N and cylinder B, for steam to escape up said cylinder and out of holes S.

When it is required to operate the large valves O N before the required pressure is obtained, the cock G can be opened, which will produce the result, in consequence of the pipe F and elbow E communicating with said cock and chamber, above the valve O.

Having thus fully described my invention,

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

1. The small valve, arranged to operate in the chamber of the larger valve, in combination with said valve, cap-nut, steam-ways, and spiral spring, to open or close the communication between the plate A and the chamber above said valves, substantially as and for the purpose set forth.

2. The combination of cock G, cylinder B, lever J, valve *b*, and weight P, for the purpose as set forth.

HENRY A. GOLL.

Witnesses:

THOMAS H. WEBSTER,  
SAM. THORNTON.