

(No Model.)

J. E. LONERGAN.
TESTING YOKE FOR SAFETY VALVES.

No. 455,001.

Patented June 30, 1891.

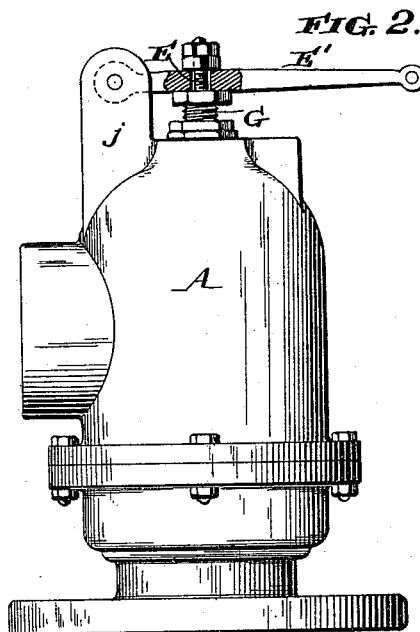
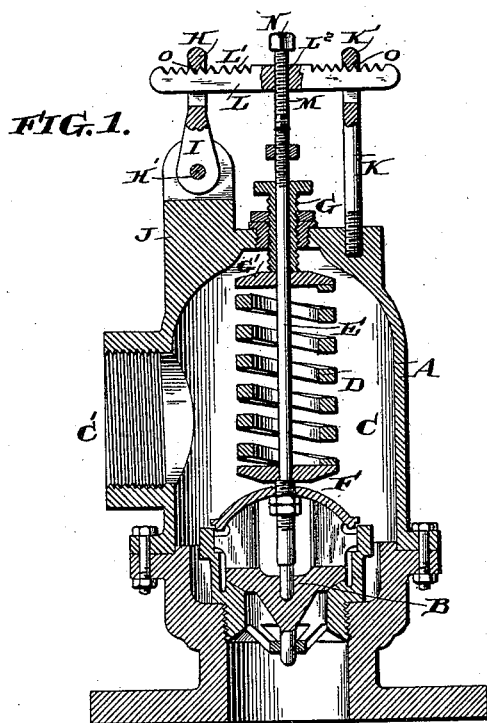


FIG. 3.

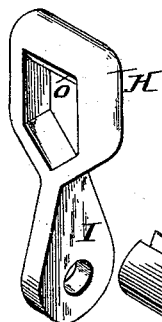


FIG. 4.

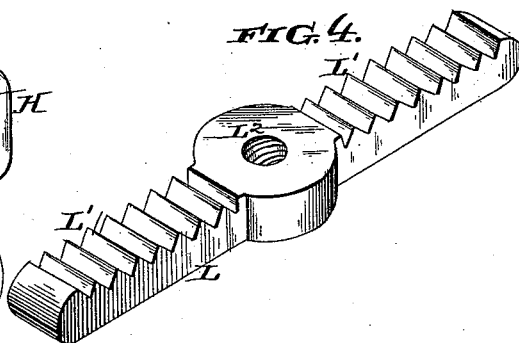
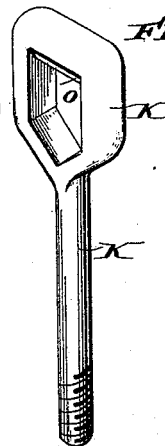


FIG. 5.



Witnesses:

Henry D. Dwyer
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Inventor:

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his Atty.

UNITED STATES PATENT OFFICE.

JOHN E. LONERGAN, OF PHILADELPHIA, PENNSYLVANIA.

TESTING-YOKE FOR SAFETY-VALVES.

SPECIFICATION forming part of Letters Patent No. 455,001, dated June 30, 1891.

Application filed March 24, 1891. Serial No. 386,223. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. LONERGAN, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented a new and Improved Testing-Yoke for Safety-Valves; and I hereby declare the following to be a description thereof, reference being had to the annexed drawings, making part hereof.

My device is designed as a temporary attachment to safety-valves during the operation of testing the boilers upon which the valves are set, and particularly with such valves as are provided with springs of a strength adapted to be compressed to open the valve at a desired pressure. Boilers are generally tested at a pressure about one-third to one-half above their working-pressure. Thus, if the working pressure is eighty pounds, the boiler will be tested at about one hundred and twenty pounds. If the spring in the valve is of a strength adapted to be compressed sufficiently to open the valve at a pressure of eighty pounds, such an excessive pressure as one hundred and twenty pounds would strain it and render it unreliable in future use. I desire to overcome this difficulty, and the nature of my invention will appear from the following specification and claims.

In the drawings, Figure 1 is a vertical sectional view of a safety-valve with my yoke attached; Fig. 2, an elevation of a similar valve with its ordinary lever to be weighted; Fig. 3, a perspective view of the pivoted link; Fig. 4, the serrated or notched bar. Fig. 5 is a ring-ended rod.

A is the shell of the valve; B, an inner-contained valve by the raising of which steam escapes to space C and through exit C'; D, the spring; E, the stem, which is attached in the usual way to weighted lever E', the weight not being shown; F, a collar or rest for spring D near the lower end of said stem. A fixed plug G is provided with a collar G', surrounding stem E, against the lower face of which collar the spring D sets. Stem E sets down into valve B, holding the latter to its seat until the pressure in the boiler is sufficient to compress spring D and raise lever E'.

H is a link pivoted at H', through its lug I, to the standard J, which latter projects up-

ward from the valve-shell A; K, a rod screw-threaded at its lower end to engage in a female screw-thread in a block in the top of the valve-shell and provided with an open collar K' at its upper end.

L is a bar or rack provided with serrations or notches L'. It is enlarged at its middle and pierced with a screw-threaded hole L''.

M is a screw-threaded rod or bolt adapted to engage in hole L'' and provided with a polygonal head N. The upper inner faces of link H and collar K' are each beveled to an edge O, so as readily to engage in notches L'. The lower end of rod M is slightly concave, and the upper end of stem E correspondingly convex, so that they will engage one with the other.

The operation is as follows: Suppose the spring D to be of a strength adapted to be compressed only when a pressure exceeding eighty pounds is reached in the boiler, and that it is to be tested at a pressure of say one hundred and twenty pounds. The lever E', with the nut on the top of the stem, is first removed, and the rod K is screwed into the block or thickened portion on the shell A, (see Fig. 1,) and the link H is pivoted at H' by a pin. The bar L is then passed through the openings in link H and collar K', with its serrated edge uppermost, its engagement with collar K' being such or so adjusted as to bring hole L'' directly over the top of stem E. The rod M is then inserted and screwed down upon the top of stem E. The bar L being thus set up against the beveled edges O, the rod N is screwed down upon the stem until the valve B is driven tightly against and held rigidly to its seat, thus throwing the safety-valve apparatus out of service. The boiler-test can then be made, using the steam-pressure gage as the indicator, and when it is over the operation above described can be reversed and the safety-valve apparatus again thrown into action.

It will be seen that bar L can be used to lock valves of various sizes, and the bar being constructed for use with the largest-sized valves can be used for smaller ones. The link H, being pivoted, will act at various slanted positions out of the perpendicular as a bearing for bar L in adjusting the latter in

collar K' to bring hole L'' over the top of stem E. Practically both parts H and K' are collars.

What I claim as new is—

5 1. A yoke for safety-valves, consisting of rigid rod K, provided with a collar K', link H, pivoted to the safety-valve, transverse serrated bar L, provided with screw-threaded opening L'', and screw-threaded rod M,
10 adapted to engage with said bar L through its opening L'' and to set below against the top of the stem of the safety-valve, substantially as and for the purposes described.

2. A yoke for safety-valves, consisting of
15 rigid rod K, links H, secured to a stationary object and adapted to permit lateral motion of bar L as it is adjusted in collar K', bar L, provided with a screw-threaded opening L'' and adapted to engage rigidly with
20 said rod K, and screw-threaded rod M, adapted

to engage with said bar L through its opening L'' and to set below against the top of the stem of the safety-valve.

3. A yoke for safety-valves, consisting of rigid rod K, secured or set in the shell of the
25 valve and provided with a collar K', link H, pivoted to the safety-valve, transverse serrated bar L, provided with screw-threaded opening L'', and screw-threaded rod M,
30 adapted to engage with said bar L through its opening L'' and to set below against the top of the stem of the safety-valve, substantially as described.

In witness that the above is my invention I have hereunto set my hand.

JOHN E. LONERGAN.

Witnesses:

GEORGE E. BUCKLEY,
HENRY V. BUCKLEY.