

I. N. Whittlesey,

Pressure Gage.

No. 109086.

Patented Nov. 8, 1870.

Fig. 1.

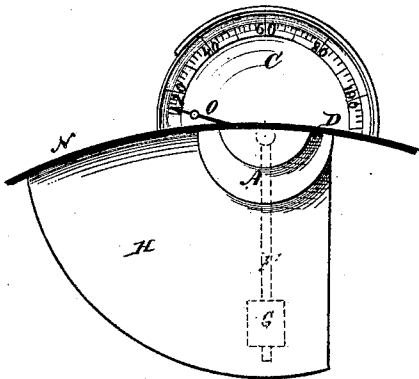


Fig. 4.

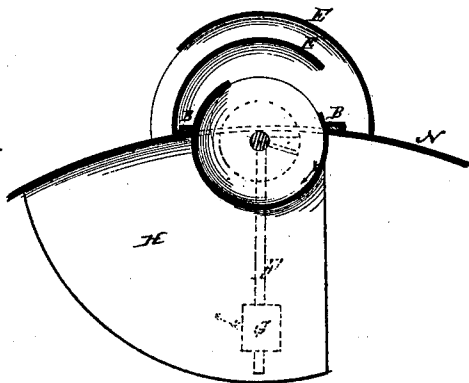


Fig. 2.

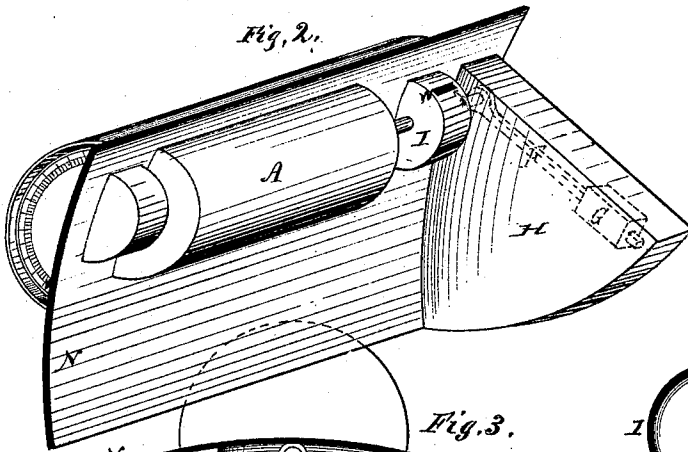


Fig. 3.

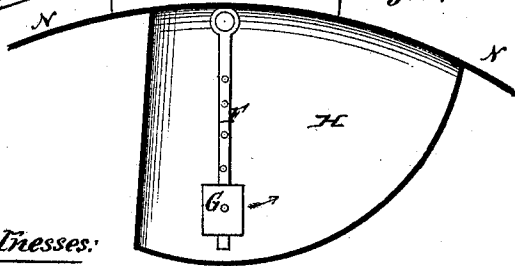
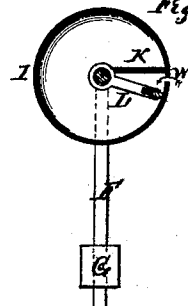


Fig. 5.



Witnesses:

Jackson Beelen.
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ISAAC N. WHITTELSEY, OF MOUNT VERNON, INDIANA.

Letters Patent No. 109,086, dated November 8, 1870.

IMPROVEMENT IN STEAM-GAUGES AND SAFETY-VALVES.

The Schedule referred to in these Letters Patent and making part of the same.

I, ISAAC N. WHITTELSEY, of the city of Mount Vernon, county of Posey and State of Indiana, have invented certain Improvements in Lock-up Steam Safety - Valves and Steam - Gauges, for preventing steam-boilers from exploding, of which the following is the specification.

My invention relates to the combination of a rotary steam-valve and steam-gauge in such a manner that the said rotary steam-valve shall be capable of letting off the surplus steam when it gets above the number of pounds locked at; and, also, of showing by the steam-gauge how many pounds of steam to the square inch is in the boiler.

Figure 1 is the front view of the dial and hand of the steam-gauge, and the end of the rotary steam-valve, to which the hand is attached.

Figure 2 shows the rotary steam-valve closed in its casing, as it is when attached to the boiler; also, the rod, and its weight attached to it on the right-hand end.

Figure 3 shows the weight-box, with one side off, and attached to the boiler with the weight in it.

Figure 4 shows the steam-valve as it is when attached to the boiler, with its double lock-covers.

Figure 5 shows a small rotary diaphragm or piston, which operates the safety-valve and index of the steam-gauge, with one side off.

A is a hollow rotary steam-valve, which lets off the surplus steam.

D is the frame to which the valve A is attached, and in which it should work steam-tight.

C is the dial of the steam-gauge, which is fastened on the left-hand end of the casing of the valve A.

O is the index of the steam-gauge.

E E are the double lock-covers to the valve A.

F is the rod to which the weight G is attached, and must be firmly fastened on the right-hand end of the valve A.

H is the box that the rod F and weight G work in, and is shown in fig. 3 with one side off, which should be firmly attached to the inside of the boiler.

I is the casing of the rotary steam-gauge.

K is the abutment attached to the casing.

L is the revolving diaphragm or piston.

W is a small opening in the side of the steam-gauge K, to let in the steam.

N N show the boiler, to which the weight-box H is attached, in fig. 3, and also the lock-caps E E and the steam-valve A and its casing B B, in fig. 4, all of which should be strong and substantially made, so that the force of the steam will not cause them to spring.

When the steam gets above what the valve is locked at, the valve A opens and lets the surplus steam escape, then immediately closes again, steam-tight, and the steam in the boiler cannot get a pound higher than what the valve is locked at, thereby effectually preventing the explosion of the boiler by the steam getting too high.

I claim as my invention—

The combination of the rotary steam-valve A, casing B, dial C, lock-caps E E, rod F, weight G, box H, casing I, abutment K, valve L, substantially as and for the purposes herein set forth.

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Witnesses:

JACKSON BEELER,
HENRY V. FULTON.