W. R. Reece,

Safety Valve.

No. 107,540. Patented Sept. 20. 1870.

Fig. 1.

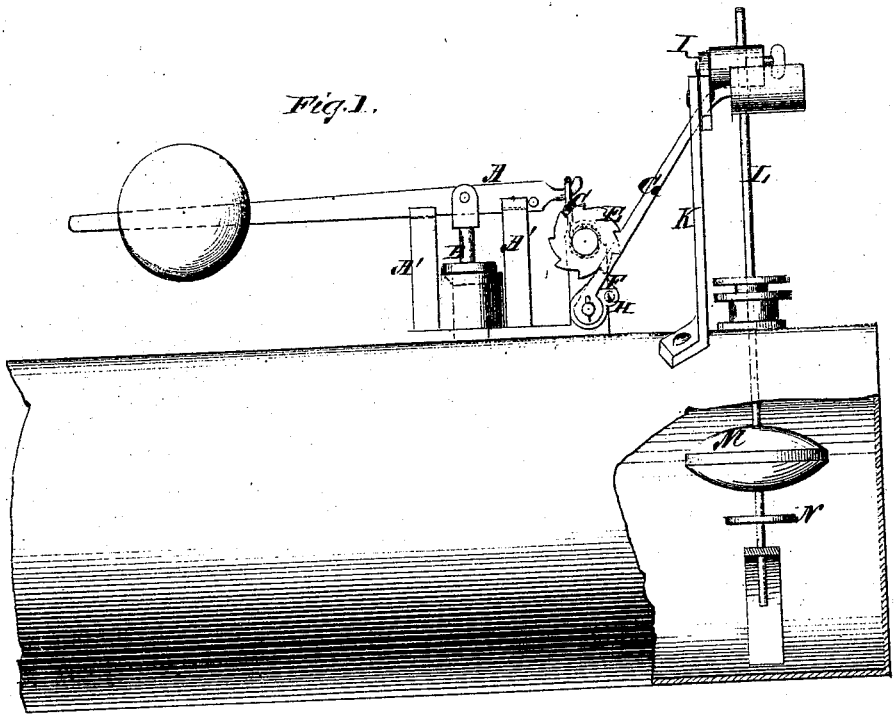
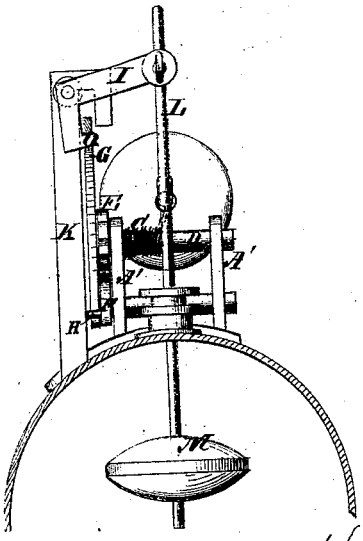


Fig. 2.



Witnesses:
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WILLIAM R. REECE, OF TREMONT, PENNSYLVANIA, ASSIGNOR TO HIMSELF, WILLIAM GARRETT, AND MICHAEL MOLL, OF SAME PLACE.

Letters Patent No. 107,540, *dated September* 20, 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, WILLIAM R. REECE, of Tremont, in the county of Schuylkill and State of Pennsylvania, have invented a new and useful Improvement in Safety-Valves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to improvement in that class of safety-valve alarm apparatus, for attachment to steam-boilers, in which a float, resting on the surface of the water within the boiler, is employed; and

The invention consists in the combination and arrangement of parts as hereinafter described, and as particularly specified in the claim.

Figure 1 is a side elevation of a boiler having my improved apparatus applied, a part of the shell of the boiler being broken out, to show the arrangement of the float.

Figure 2 is a transverse section of so much of the boiler as is necessary to show the arrangement.

Similar letters of reference indicate corresponding parts.

A is the safety-valve lever, and

B, the stem of the valve.

These are arranged the same as in the ordinary way, except that it rests in the top of the two posts, A', and the short arm of the lever is connected to a chain, C, which is wound around a roller, D, which is held by a ratchet-wheel, E, and pawl F, against the action of the weight of the valve-lever, when holding the valve down to close it.

It is designed to disengage this ratchet-wheel by the action of a float in the boiler falling with the water when it becomes low, and withdrawing a bell-crank catch, I, which sustains a weighted lever, G. By this movement, the lever G falls and strikes the pin H in the pawl F, and disengages it from the ratchet-wheel.

This weighted lever is held up in the position from which it is to be let fall by a bell-crank, I, which is pivoted to a suitable support, K, and so connected to rod L, rising up through the shell of the boiler, that the said bell-crank will be lowered by the movement of the rod downward.

M is a float, arranged on the rod to rise and fall with the water, and when the water falls too low, to rest on the rod by means of the disk N, or any other stop which will hold it, so that the weight of the float will draw the bell-crank down, and thereby cause the weighted lever G to be disengaged from the stud O of the short arm of the bell-crank, and let fall to strike the pin H, and let the lever A free to allow the steam to escape and relieve the boiler.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

1. The safety-valve lever, attached to a shaft, D, which is tripped by a weighted lever, let fall by the descent of a float in the boiler, whereby the safety-valve is set free, all substantially as specified.

2. The combination, with the safety-valve lever, of the chain-roller, ratchet-wheel, pawl, and the weighted drop-roller, all substantially as specified.

3. The combination, with the weighted drop-lever, of the bell-crank I, rod L, and float M, all substantially as specified.

WILLIAM R. REECE.

Witnesses:

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AARON ECKEL.