J. M. Reeder,

Steam Safety Valve.

No. 13,583. Patented Sep. 18, 1855.

Fig. 2.

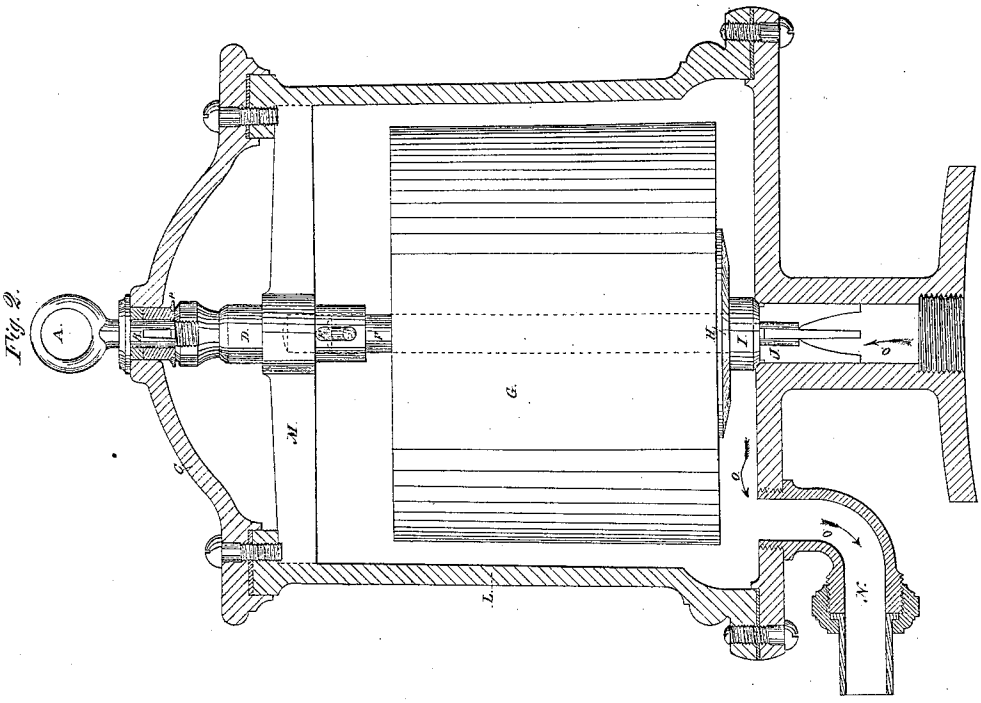
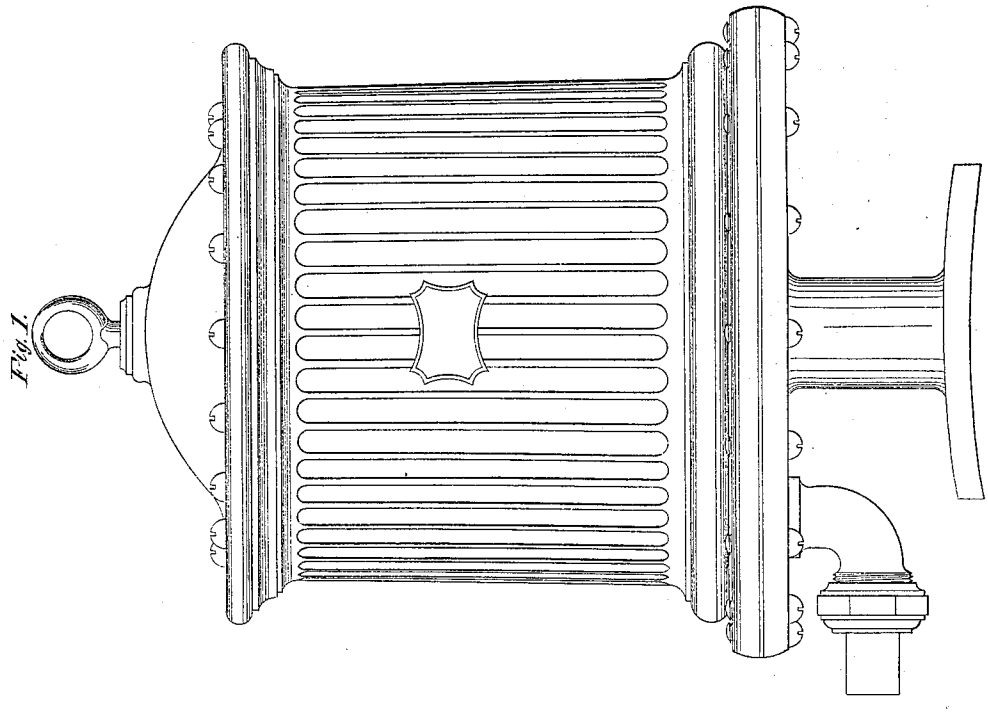


Fig. 1.



AM. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

UNITED STATES PATENT OFFICE.

JOHN M. REEDER, OF NASHVILLE, TENNESSEE.

SAFETY APPARATUS FOR STEAM-BOILERS.

Specification of Letters Patent No. 13,583, dated September 18, 1855.

To all whom it may concern:

Be it known that I, JOHN M. REEDER, of the city of Nashville and State of Tennessee, have invented a new and Improved Mode of Preventing Steam-Boilers from Bursting; and I do hereby declare that the following is a full and exact description.

To enable others skilled in the art to make and use my invention, which I style Reeder's Safety Guard, I will proceed to describe its construction and operation.

I construct my steam boilers in any of the known forms, and apply them to gage cocks, a safety valve, and the other appendages of such boilers; but in order to obviate the danger arising from the adhesion of the safety valve and from other causes, I make a second opening in the top of the boiler similar to that made for the safety valve, and over this opening I place my safety guard, which is constructed as follows, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, represents an outside view and Fig. 2, represents an inside view.

Ring A forms a part of stem B, which passes through cap C and has on it two collars P P, one above and one below cap C, and attaches by screw to socket D, in which is formed slot E. Stem F passes up into socket D and is attached thereto by a pin or key through slot E and passes down through weight G and collar H and forms valve E, which closes aperture J in seat K, which seat is confined to top of boiler by bolts. Aperture J extends through top of boiler, and connects with a copper pipe which extends down into the water. Chamber L forms a covering and perfectly incloses all between cap C and seat K and is attached to each by screws. Guide M is placed across chamber L, either above or below slot E. When valve E is raised, the water from the boilers passes up copper pipe through aperture P into chamber L, from which it is forced through nozzle N into pipes and is conducted on to the fires under the boilers by different ways.

The construction and operation of my invention are such that the inspectors may limit the engineer to any given quantity of steam, and it is impossible for him to carry more, as it will be observed that slot E, in socket D permits stem F to rise with weight G, which is the exact weight of steam given by the inspectors, while the upper collar P on stem B prevents weight on ring A having any effect, and the collar P below cap C prevents stem B from being taken out, thereby leaving the guard free to act at all times. When the steam exceeds the limit of the inspectors and the water flows freely as indicated by arrows *o*, *o*, *o*; and dampens the fires, when valve E immediately seats itself. The engineer may, by attaching a line or wire to ring A and let it pass back through pulleys, dampen his fires at will, or by attaching weight to the line or wire can gage steam at any point below the limit of the inspectors, but cannot by weight or otherwise increase it.

A float may be placed in the boiler which by a lever will raise valve E when water gets below the point of safety, thereby making it impossible for flues to collapse.

This safety guard may be attached to locomotives or boilers of any shape and will act with equal certainty.

Having thus fully described the nature of my invention, what I claim therein as new and desire to secure by Letters Patent, is—

Connecting the valve stems D and F, by a slip joint, and combining therewith the washers P, P, so that the valve, I, may be raised by hand from the outside to flood the fires, but cannot be weighted from the outside to increase the steam over a given quantity as set forth.

JOHN M. REEDER.

Test:
NICHOLAS SPURGIN,
W. W. WALDRON.