

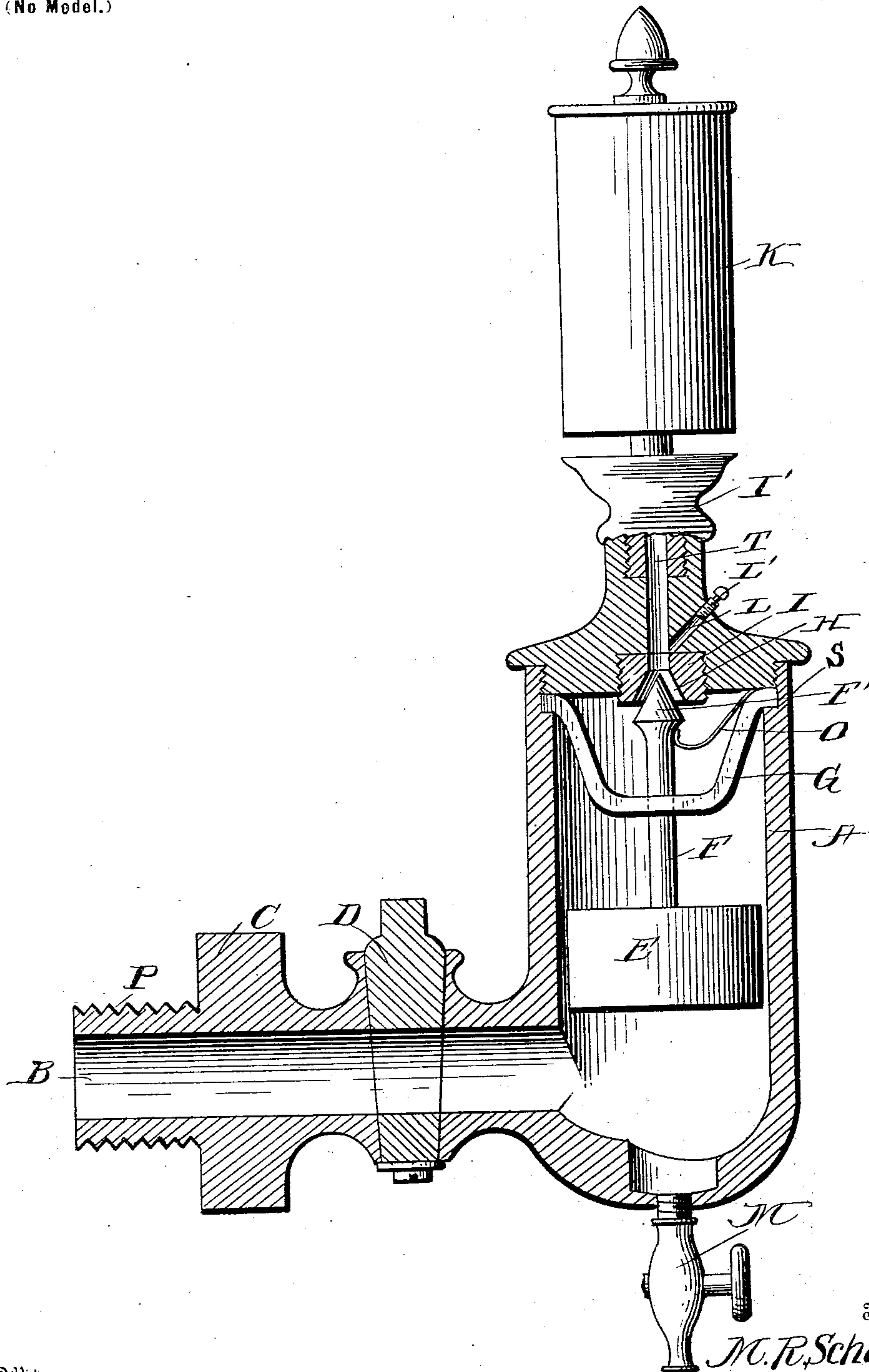
No. 664,785.

Patented Dec. 25, 1900.

M. R. SCHAFFER.  
LOW WATER ALARM.

(Application filed Mar. 31, 1900.)

(No Model.)



Inventor

M. R. Schaffer

Witnesses

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# UNITED STATES PATENT OFFICE.

MARTIN R. SCHAFFER, OF WEISSPORT, PENNSYLVANIA, ASSIGNOR OF  
ONE-HALF TO HIRAM A. GREENSWERIG, OF SAME PLACE.

## LOW-WATER ALARM.

SPECIFICATION forming part of Letters Patent No. 664,785, dated December 25, 1900.

Application filed March 31, 1900. Serial No. 10,916. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN R. SCHAFFER, a citizen of the United States, residing at Weissport, in the county of Carbon and State of Pennsylvania, have invented certain new and useful Improvements in Low-Water Alarms; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to low-water alarms for steam-boilers; and it consists in the construction and novel combination of the parts of said low-water alarm, as will be herein-  
after described and claimed.

The figure of the drawing is a vertical sectional view of my improved low-water alarm, the whistle proper being shown in elevation.

Referring by letter to the accompanying drawing, A designates the shell of the improved low-water alarm, and B the integral horizontal pipe which connects with the steam-boiler, said horizontal pipe B being provided with an externally-threaded end P and an integral nut C for receiving the jaws of a wrench by which to turn it into and also from its seat in the steam-boiler.

D is a valve or stop-cock seated in the pipe B, and this stop-cock is provided with a projecting head, rectangular in cross-section, for the reception of a wrench by which to open and close said valve or stop-cock D.

E is a float which is fitted within the shell A sufficiently loosely to permit it to have slight lateral play therein. Said float E is made either of copper, brass, or aluminium. The valve-stem F is provided at its upper end with a cone-valve F'.

G is a pendent yoke-shaped guide for the valve-stem F, which guide has its arms bent laterally at their ends to rest upon shoulders S at the top of the shell A. Immediately below the valve F' a small spring O, secured at its outer end to the guide G, engages with the valve-stem and tends to normally force it downward, so that should the valve F' not recede or fall with the float E said spring O will force it down out of the valve-seat H in the screw-cap I, which screws into the top of the shell A and bears upon the upper faces of the arms of the guide G and bears them down

against the shoulders S of the shell A. The screw-cap I is provided with a vertically-disposed centrally-located steam-outlet T, having seated at its lower end a soft-metal bushing, which forms the valve-seat H for the valve F' of said stem F.

I' is a threaded removable steam connection with the lower end of the whistle-tube of the steam-whistle K, which is of the ordinary construction.

L is a diagonal passage extending to the exterior through the screw-cap I from the steam-outlet T and closed at its outer end by a screw-plug L'. The purpose of this passage is to permit of the introduction of a wire or suitable tool to bear upon the point of the cone-valve F', so that said valve may be loosened and forced open in case it should stick to its seat, which is liable to occur when the alarm is used upon stationary boilers which are allowed to lie idle and are used only at intervals. This obviates the necessity of removing the cap I each time ticking of the valve occurs.

In its lower end the shell A is provided with a small blow-off cock M, so that mud or other settlings in the bottom of the low-water alarm can be blown off or out whenever it may be desirable or necessary.

When it is desired to inspect or repair the improved low-water alarm, the stop-cock D can be turned to cut off the steam from said alarm, so that it can be inspected and repaired without having to remove it from the boiler or having to shut down steam for such purpose.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a low-water alarm for steam-boilers, the combination with the inclosing shell adapted to be connected to a steam-boiler, of a whistle having a screw-threaded hollow stem, a cap having a screw-threaded engagement with the shell and a screw-threaded connection with the whistle-stem and formed with

a vertical passage intersected by a diagonal aperture closed by a screw-plug, a suitably-guided valve controlling the outlet of steam through said passage, and a float attached to  
5 said valve, substantially as set forth.

2. A low-water alarm comprising, in combination, a shell, provided with screw-threads adjacent its mouth and shoulders below said threads, a pendent yoke-shaped guide hav-  
10 ing its arms resting on said shoulders, a whistle having a screw-threaded hollow stem to engage the threaded mouth of the shell and formed with a vertically-disposed outlet in-

intersected by a diagonal passage, a valve movable in said guide and adapted to be reached 15 through said passage and controlling the outlet of steam through said passage, a float attached to the valve, and a spring tending to open the valve, substantially as set forth.

In testimony whereof I have hereunto set 20 my hand in presence of two subscribing witnesses.

MARTIN R. SCHAFFER.

Witnesses:

T. A. SNYDER,

CHAS. H. HAUKE.