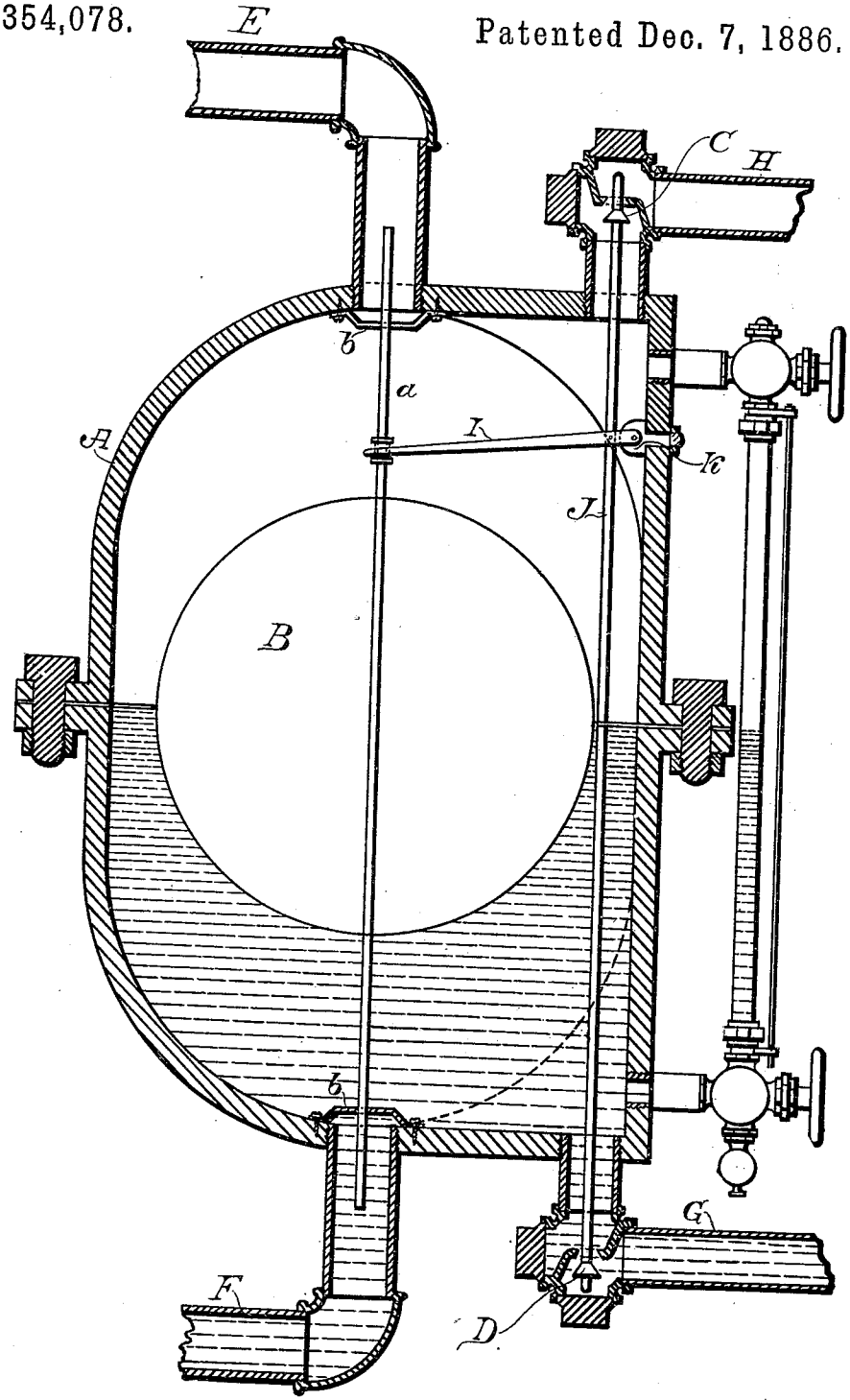
(No Model.)

C. O. WYMAN.

BOILER FEED REGULATOR.

No. 354,078. Patented Dec. 7, 1886.



Witnesses:
Louis A. Reed.
Marshall C. Stoomer.

Inventor.
Charles O. Wyman

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UNITED STATES PATENT OFFICE.

CHARLES O. WYMAN, OF ANOKA, MINNESOTA.

BOILER-FEED REGULATOR.

SPECIFICATION forming part of Letters Patent No. 354,078, dated December 7, 1886.

Application filed March 29, 1886. Serial No. 197,083. (No model.)

To all whom it may concern:

Be it known that I, CHARLES O. WYMAN, of Anoka, in the county of Anoka and State of Minnesota, have invented a new and useful Improvement in Automatic Boiler-Feed Regulators; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, in which the figure shows a sectional view of my invention attached to and connected with a steam-boiler, where it is to be operated.

The object of my invention is to keep the water in a steam-boiler at the proper height at all times while in use, thus avoiding the damage which often results from high water, and also the danger of explosion occasioned by low water.

My invention consists of tank A, connected with steam-boiler below water-line by pipe F, and above water-line by pipe E. This causes water in tank and boiler to be of the same height.

B represents float which rests on water in tank; C, valve which regulates the supply of steam to pump; D, valve which regulates the flow of water to boiler; E, pipe which forms steam-connection with boiler and tank; F, pipe which forms water-connection with boiler and tank; G, pipe which conducts water from pump to tank; H, pipe which conducts steam from tank to pump; I, lever attached to float B by rod *a*, and to valves C and D by rod J; J, rod used to connect valves C and D; K, hinge for lever; *a*, rod which passes through float B and connects it with lever I, keeping it in its proper place by passing through holes in guides *b b*; *b b*, guides for rod *a*.

As the water lowers in boiler and tank, float B lowers with it, and by means of lever I opens valves C and D. Valve C allows steam to pass through pipe H to pump, causing it to be set in motion, which forces the water through pipe G to valve D, which regulates its passage to boiler. As water rises, float B rises, and by means of lever I closes valves C and D. Thus, the pump being shut off, the water falls, and as it falls float B falls, opening valves and setting pump in motion. Thus the pump is kept in motion sufficiently to supply boiler, the water never rising too high or falling too low.

It will be noticed that the valve-rod J is independent of that rod supporting the float; also, that the valve-rod (as well as the valves) is arranged out of line with the direction of movement of the float, so that the lever may act to increase the force of the float's action on the valves.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the tank having pipes for connecting it with the boiler above and below the water-line of the latter and provided with pipes leading to the pump, the valve-supporting rod J, the float-support *a*, arranged out of line with rod J, the float, and the lever I, pivotally supported and connected with supports *a* and J, all being constructed and arranged substantially as described, and for the purposes specified.

2. The combination of the tank, the pipes E F, for connecting the tank with the boiler, the guides *b*, the float provided with a rod movable through guides *b* and into the pipes E F, the valve C, and the lever I, connected with the float and the valve, substantially as set forth.

CHARLES O. WYMAN.

Witnesses:

LOUIS A. REED,

MARSHALL A. SPOONER.