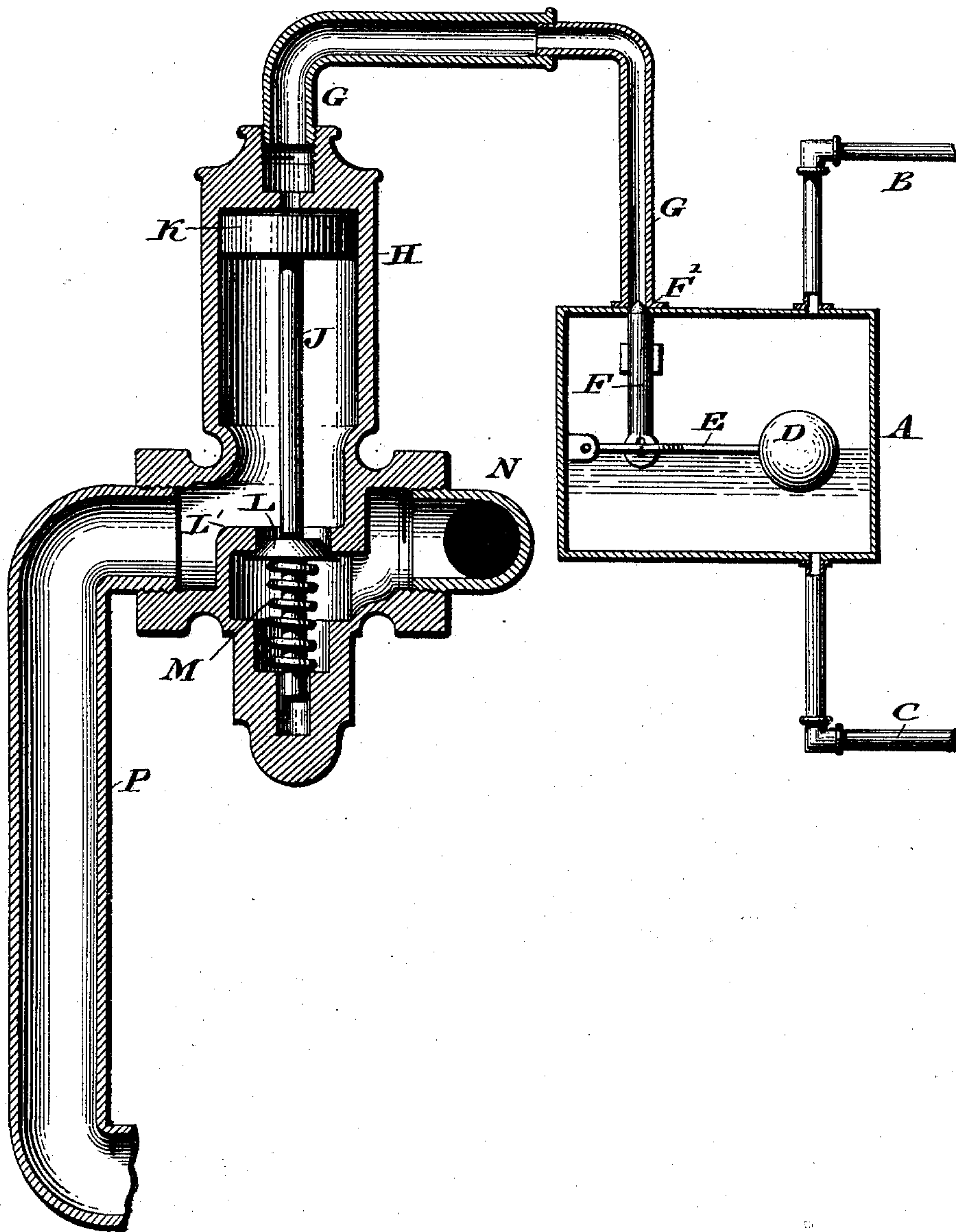


(No Model.)

G. W. SCHILLING.  
BOILER FEED.

No. 482,564.

Patented Sept. 13, 1892.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE W. SCHILLING, OF PHILADELPHIA, PENNSYLVANIA.

## BOILER-FEED.

SPECIFICATION forming part of Letters Patent No. 482,564, dated September 13, 1892.

Application filed January 19, 1892. Serial No. 418,551. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. SCHILLING, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Boiler-Feeders, which improvement is fully set forth in the following specification and accompanying drawing.

My invention consists of means for automatically supplying a boiler with water, as will be hereinafter fully set forth.

The figure represents a vertical section of a boiler-feeder embodying my invention.

Referring to the drawing, A designates a tank forming a water-gage, which is connected with a boiler by means of the steam-pipe B and water-pipe C.

Within the gage is a float D, whose arm E carries a valve F, the seat F' whereof is on the pipe G.

Secured to and communicating with the gage A is a valve H, whose stem J at the upper end thereof carries a follower K, which is within a chamber of the shell of the valve below the discharge end of the pipe G.

The valve-head L has its seat on the under side of the diaphragm L' of the valve-shell. Depending from said head is a stem, which is guided in a recess in the lower chamber of the shell of the valve. The said head is held on its seat by means of the spring M, the same being overcome when the follower K is pressed downwardly by the action of steam, as will be hereinafter more fully described.

Connected with the shell of the valve are the supply and feed pipes N and P, respectively, the pipe P leading to the boiler, said pipes communicating with the chambers on opposite sides of the diaphragm L'.

When the boiler is properly supplied with water, the float D is held in elevated position, whereby the valve F is closed. The lower end of the stem of the valve F is vertically slotted at F<sup>2</sup>, so as to permit a proper play or rise and fall of the float-arm E, connected therewith by a pin or stud E', which is inserted in said slot, without affecting the said valve. When the valve F is closed, the valve L is also closed, so that no water passes there-  
through. Should the boiler require water, the

tank or gage A is of course affected by the same, and thus the float falls, whereby the valve F is opened and steam in the tank passes through the pipe G into the valve H, exerts its pressure on the follower K, and thus causes the head L to leave its seat, so that the valve H is open and water is permitted to flow through the same into the pipe P, from which it may be pumped or injected into the boiler. When the boiler is properly supplied, the float D again rises, thus closing the valve F, when as the follower K is relieved of pressure the valve H closes and the supply of water to the boiler ceases. The stem J is disconnected from the valve-head L and there is a slight space between said parts, whereby the follower K when subjected to hammering may move without imparting motion to said head L, as the latter is held on its seat by the spring M, and it closes, due to the action of said spring. Should there be leakage of steam into the valve H, the follower may move to a slight extent, thus permitting the escape of the steam without necessarily opening the valve-head L.

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

1. In a boiler-feeder, a valve having the self-closing head L, supply and feed pipes N and P, and a chamber above said head L, said chamber containing the follower K, the latter being adapted to bear against said head and is disconnected therefrom, substantially as described.

2. A gage having steam and water pipes connected therewith and containing a float and a valve connected therewith, in combination with the valve H and intermediate pipe G, the supply and feed pipes N and P, connected with said valve H and the valve-head L, and follower K in said valve, said follower being adapted to engage with said head L and is disconnected therefrom, substantially as described.

GEORGE W. SCHILLING.

Witnesses:

JOHN A. WIEDERSHEIM,  
A. P. JENNINGS.