

(No Model.)

J. J. LAWLER.
FEED WATER REGULATOR.

No. 551,333.

Patented Dec. 10, 1895.

Fig. 1.

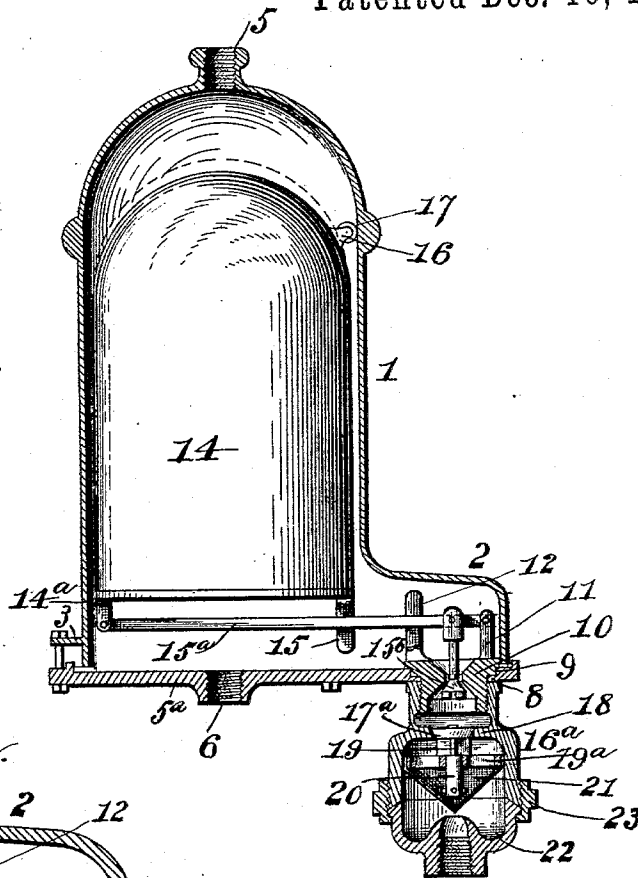


Fig. 2.

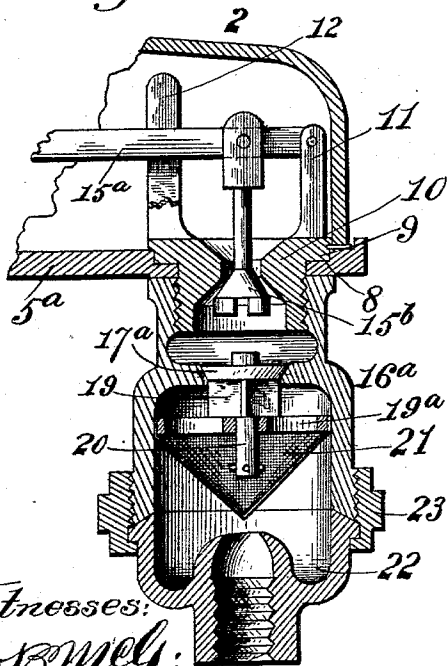
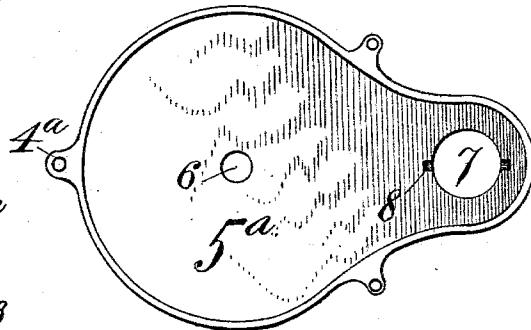


Fig. 3.



Witnesses:

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att'y

UNITED STATES PATENT OFFICE.

JAMES J. LAWLER, OF MOUNT VERNON, NEW YORK.

FEED-WATER REGULATOR.

SPECIFICATION forming part of Letters Patent No. 551,333, dated December 10, 1895.

Application filed April 10, 1895. Serial No. 545,126. (No model.)

To all whom it may concern:

Be it known that I, JAMES J. LAWLER, a citizen of the United States of America, residing at Mount Vernon, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Feed-Water Regulators, of which the following is a specification, reference being had therein to the accompanying drawings.

The object of this invention is the production of an automatic water-feeder for boilers, tanks and the like, wherein the mechanism is compactly arranged without affecting the capacity or efficiency of the same; furthermore, in providing a float especially designed for attachment on the valve-controlling rod in a manner to produce a more positive response of the valve to the action of the float.

A further object of the invention is the arrangement of the casing, and particularly the attachable base-plate, by which the interior of the said casing may be reached, and access had to the working mechanism, to renew worn or broken parts, or for cleaning the same.

Finally the object of the invention consists in the arrangement of a sediment or dirt arrester or collector in the feed-pipe below the valve of the water-feeder, to prevent the passage of foreign matter, which might collect around the valve, or lodge between the valve and its seat, and impair its action.

With these and other objects in view the invention resides in the novel details of construction, arrangement, and combination of parts, to be hereinafter more fully set forth and specifically claimed.

In describing the invention in detail reference is had to the accompanying drawings, forming part of this specification, wherein like characters of reference denote corresponding parts in the several views, in which—

Figure 1 is a vertical sectional view of the casing, showing, in side elevation, the contained parts. Fig. 2 is an enlarged detail view of the valves and their arrangement with relation to a sediment-arrester. Fig. 3 is a plan view of the base-plate of the casing.

In the drawings, 1 denotes the shell or casing, consisting of a cylindrical main portion, having an extension 2 and lugs 3, apertured to receive the securing-bolt, whereby the

base-plate 4 is secured through its apertured lugs 4^a to the body.

The casing is provided with a screw-threaded central opening 5 in the top, which forms a vent, or connection for a conducting-pipe, and the base-plate 5^a is provided with a screw-threaded opening 6, approximately centrally, to receive the pipes leading to the boiler or water-heater, and near the end another aperture 7 is formed to receive the valve-seat 10, the aperture 7 having radial recesses 8, in which lugs 9 of the valve-seat fit and by which the valve-lever 15^a and valve 15^b are prevented from turning, since the lever is pivoted to a lug 11, integral with the valve-seat, and is guided by a bifurcated arm 12, which is also made a part thereof.

Below the valve-seat, and screw-threaded thereto, is a valve-casing 16^a for a second valve 17^a, which is of ordinary construction and has a suitable seat 18, and the usual guides 19.

Interiorly of the casing is a conical frame 19^a, having a central aperture to receive and form a guide for the valve-stem 20. Arranged on the frame 19^a is a strainer 21, of perforated metal or wire-cloth, which arrests any foreign matter entering the pipe with the water, and being cone-shaped, will deflect the particles, which will fall by gravity and be received in the pocket 22, formed in the lower section of the casing. These upper and lower sections are connected by a universal joint, and the screw-threaded ring 23 has an angular periphery, which is engaged by a wrench.

The float 14 is of somewhat smaller diameter than the casing, and is provided at its lower edge with a lug 14^a, by which the float is pivoted to the end of the valve-lever. Opposite to the lug 14^a is a bifurcated arm 15, secured to the lower edge of the float, and arranged to embrace the lever and prevent lateral movement. Near the top of the float is a bearing 16, for the friction-wheel 17, which rides on the inner wall of the casing, and tends to throw the weight of the float toward the end of the lever, and at the same time prevents abrasion.

The advantages, as well as the construction and operation, will be apparent from the foregoing description, and it is particularly noted that I do not wish to confine myself to

the precise construction shown, as many changes may be made in the proportions and other details of construction without departing from the spirit of my invention.

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

10 1. A feed water regulator consisting of a casing, having suitable connections for the flow of water, and a base provided with an aperture having radial recesses, a valve seat having lugs fitting in the aperture and recesses, a valve arranged in said seat, a casing for a second valve secured to the valve
15 seat, a valve and strainer arranged therein said casing being made in sections connected by a universal joint, a valve lever connecting with the upper valve and pivoted to a lug of the valve seat, and a float secured on the end
20 of the lever to control the valve, as and for the purpose described.

2. In combination with the casing of a feed water regulator, a float having a guide arm working over the lever, and means at its lower
25 outer edge for securing the float to the lever, a friction wheel secured near the top of the

float and working on the wall of the casing, a valve and the lever controlling same, all arranged and operating, substantially as and for the purpose specified.

3. A feed water regulator consisting of a casing, a supply pipe leading thereto, a strainer and valves controlling the inflow of water, a sediment pocket formed in the lower
35 section of the valve casing, a valve lever, lugs integral with the valve seat to which the valve lever is pivoted and means for preventing the seat from turning, a guide in which the valve lever works, a float having a guide working
40 over the lever, by which the position is retained, a lug at the lower outer edge of the float by which it is pivoted to the lever, a friction wheel on the float, working against the inner wall of the casing, and a removable
45 base or bottom arranged on the casing, as and for the purpose described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES J. LAWLER.

Witnesses:

JAMES W. RICH,
HORACE GRANFIELD.