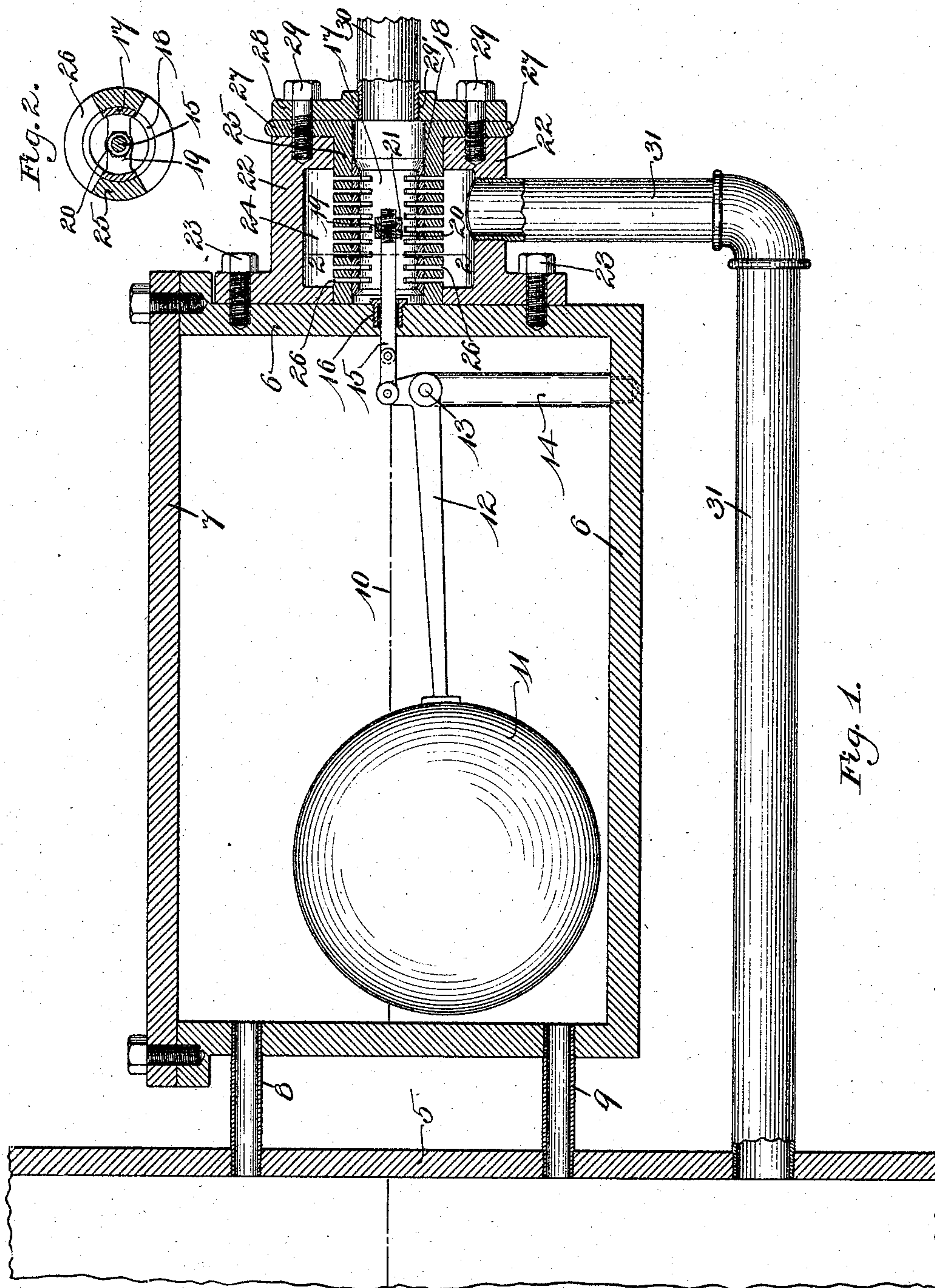


No. 782,315.

PATENTED FEB. 14, 1905.

P. B. BASTARACHE.  
FEED WATER REGULATOR.  
APPLICATION FILED JULY 22, 1904.



Witnesses:  
Sydney B. Taft.  
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Peter B. Bastarache  
by his Attorney, Charles S. Gooding.



# UNITED STATES PATENT OFFICE.

PETER B. BASTARACHE, OF LAWRENCE, MASSACHUSETTS.

## FEED-WATER REGULATOR.

SPECIFICATION forming part of Letters Patent No. 782,315, dated February 14, 1905.

Application filed July 22, 1904. Serial No. 217,606.

*To all whom it may concern:*

Be it known that I, PETER B. BASTARACHE, a citizen of the United States, residing at Lawrence, in the county of Essex and State of Massachusetts, have invented new and useful Improvements in Feed-Water Regulators, of which the following is a specification.

This invention relates to feed-water regulators for steam-boilers, the object of the invention being to provide a cheap, convenient, and simple device whereby the normal level of the water in the steam-boiler may be automatically regulated so as to always stand at substantially the same height in said boiler.

The invention consists in the combination and arrangement of parts set forth in the following specification, and particularly pointed out in the claims thereof.

Referring to the drawings, Figure 1 is a central longitudinal section of my feed-water regulator, together with a portion of a boiler, also shown in section. Fig. 2 is a detail transverse section taken on line 2 2 of Fig. 1.

Like numerals refer to like parts throughout the several views of the drawings.

In the drawings, 5 is a boiler of any desirable style and construction.

6 is a closed tank provided with a detachable cover 7, a steam-pipe 8, and a water-pipe 9, connecting the tank 6 to the boiler 5 above and below, respectively, the normal water-level of said boiler, said normal water-level being indicated by a broken and dotted line 10. In the interior of the tank 6 is a hollow ball-float 11, fast to one arm of a bell-crank lever 12, pivoted at 13 to a post 14, fast to the bottom of said tank 6. The short arm of said bell-crank lever 12 is pivotally connected to a valve-stem 15, which projects through a stuffing-box 16 in the right-hand end of the tank 6, Fig. 1, and into the interior of a hollow cylindrical valve 17. The valve is provided upon its periphery with slots constituting ports 18 and is connected to the valve-stem 15 by a partition 19, which extends transversely across the interior of said valve. The valve-stem 15 is screw-threaded and is provided with two adjusting-nuts 20 and 21, which serve to

adjustably lock said valve to said valve-stem for the purpose hereinafter set forth.

A valve-casing 22 is fastened by bolts 23 to the right-hand end, Fig. 1, of the tank 6. Said casing is provided with a cylindrical chamber 24. A hollow cylindrical sleeve 25, provided upon its periphery with ports 26, extends into the casing 22 and is concentric with the valve 17. The valve-sleeve 25 is provided with a flange 27 and is fastened, together with an end cover 28, to said valve-casing by bolts 29. The cover 28 is provided with an inlet-orifice 29', concentric with the valve 17 and sleeve 25 and connected by a pipe 30 to a water-supply. The chamber 24 is connected by a pipe 31 with the boiler 5.

The operation of my improved device hereinbefore specifically described is as follows: Assuming the parts to be in the position indicated in Fig. 1 and the water in the boiler to be below the normal level, (indicated by the broken and dotted line 10 in said figure,) water will enter through the inlet-pipe 30, pass through the ports 18 in the valves 17 and through the ports 26 in the valve-sleeve 25 into the chamber 24, and thence through the feed-pipe 31 to the interior of the boiler 5. When sufficient water has entered the boiler, so that said water stands at its normal level, the float 11 rising tips the bell-crank lever 12 and moving the valve-stem 15 and valve 17 toward the right, bringing the ports 18 and 26 out of alinement and shutting off the supply of water until such time as said water shall descend in the boiler below its normal level, when the operation hereinbefore described will be automatically repeated.

If it is desired to change the normal level of the water in the boiler, it may be done by adjusting the valve-stem 15 relatively to the valve 17 by means of the adjusting-nuts 20 and 21, as it will readily be seen and understood that if the valve-stem is moved toward the right or toward the left while the valve 17 is held stationary the float and bell-crank lever will change their relative position to said valve and will therefore change the level at which it is necessary for the water to stand in

the tank and boiler in order to open or close the ports 26.

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

5 is—

A feed-water regulator comprising a boiler, a tank, a steam-pipe and a water-pipe connecting said tank to said boiler above and below, respectively, the normal water-level in  
10 said boiler, a valve-casing fast to said tank provided with an inlet-orifice and with an outlet-orifice, a hollow cylindrical valve in said casing provided with ports in its periphery extending therethrough, a sleeve in said casing  
15 surrounding said valve and provided with ports in its periphery extending therethrough, a chamber in said valve-casing surrounding

said sleeve, said inlet-orifice opening into the interior of said hollow valve, said outlet-orifice opening into said chamber, a valve-stem 20 adjustably fastened to said valve and projecting therefrom into the interior of said tank, a bell-crank lever pivotally supported in the interior of said tank, a float fast to one arm of said lever, the other arm of said lever con- 25 nected to said valve-stem, and a pipe connecting said outlet-orifice to said boiler.

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

PETER B. BASTARACHE.

Witnesses:

CHARLES S. GOODING,  
ANNIE J. DAILEY.