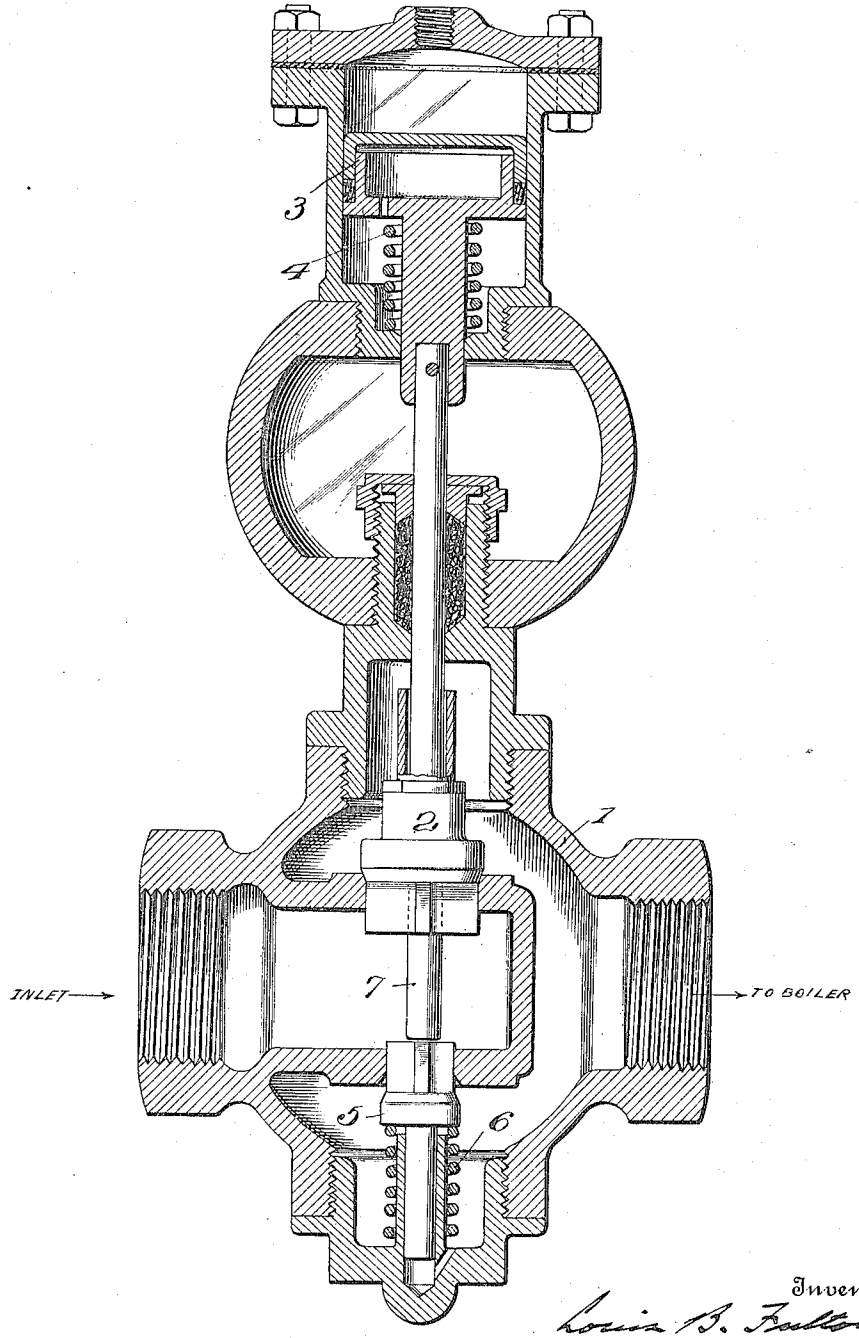
L. B. FULTON.

FEED WATER REGULATOR.

APPLICATION FILED APR. 28, 1913.

1,123,864.

Patented Jan. 5, 1915.



Witnesses

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UNITED STATES PATENT OFFICE.

LOUIS B. FULTON, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO THE CHAPLIN-FULTON MANUFACTURING COMPANY, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

FEED-WATER REGULATOR.

1,123,864. Specification of Letters Patent. Patented Jan. 5, 1915.

Application filed April 28, 1913. Serial No. 764,162.

To all whom it may concern:

Be it known that I, LOUIS B. FULTON, of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Feed-Water Regulators; and I do hereby 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.

The object of this invention is to provide a simple and comparatively inexpensive feed-water regulator for boilers having improved means for allowing a relatively small quantity of water to pass to a boiler between the intervals at which the water is fed under full head, thereby prolonging the intervening periods between such intervals.

In the accompanying drawing, the figure is a vertical sectional view.

Referring to the drawing, 1 designates a valve casing which is designed to be located in the feed-line, the main valve 2 being automatically controlled by the water levels in the boiler. The stem of valve 2 is shown connected to a piston 3 which is slidable in a cylinder of the valve casing and designed to be forced downwardly by boiler pressure acting thereon, such boiler pressure upon being admitted to the piston cylinder effecting the seating of the valve, as against the tension of its unseating spring 4, when the predetermined water level has been obtained. It is not necessary to show or describe any particular means for automatically controlling valve 2, since various means may be employed for this purpose, and as an instance reference is made to my Patent No. 662,488, issued November 27, 1900.

5 designates an auxiliary valve which is shown as located in axial alinement with the main valve 2, but it is of considerably less cross-sectional area than the latter, and is designed to control a relatively small port which is opposite the port controlled by the main valve. This auxiliary valve 5 is normally held to its seat by a spring 6, but is capable of being seated only when the main valve is unseated, and the seating of the latter is intended to effect the unseating of the auxiliary valve. For this purpose the main valve is provided with means for automatically unseating the auxiliary valve when the main valve is seated, such means being shown as consisting of a plug or extension 7 carried by the main valve.

In practice, the main valve is unseated only when the water in the boiler has lowered to a predetermined level, and when the desired level has been restored such valve will be automatically seated by boiler pressure acting on its piston. When the main valve is unseated the auxiliary valve is seated by the spring 6, but when the desired supply of water has been obtained and the main valve is reseated the auxiliary valve will be unseated, thereby allowing a continuous flow of water in a relatively small proportion while the main valve is seated. In this way I am enabled to lessen the intervals when a full head of water is supplied to a boiler. This effects economies in operation. The means shown and described for accomplishing this purpose are exceedingly simple and inexpensive and not liable to readily get out of order.

I claim as my invention:

In a feed water regulator, a casing having a cylinder and two ports in axial alinement with each other, a main valve controlling one of said ports, a piston connected to said main valve and fitted in said cylinder, an auxiliary valve controlling the other of said ports, the main valve being seated by pressure acting against said piston, means acting in the opposite direction against said piston for unseating said main valve, a spring for normally holding the auxiliary valve to its seat, and a plug between the main valve and the auxiliary valve for effecting the unseating of the latter when the main valve is seated and allowing it to seat under the action of its spring when the main valve is unseated.

In testimony whereof, I have signed this specification in the presence of two subscribing witnesses.

LOUIS B. FULTON.

Witnesses:
WM. C. CHAPLIN,
G. HOWARD STEWART.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."