No. 689,176. Patented Dec. 17, 1901.

G. R. FORD.

VALVE FOR BOILER FEEDERS.

(Application filed May 24, 1901.)

(No Model.)

Fig. I.

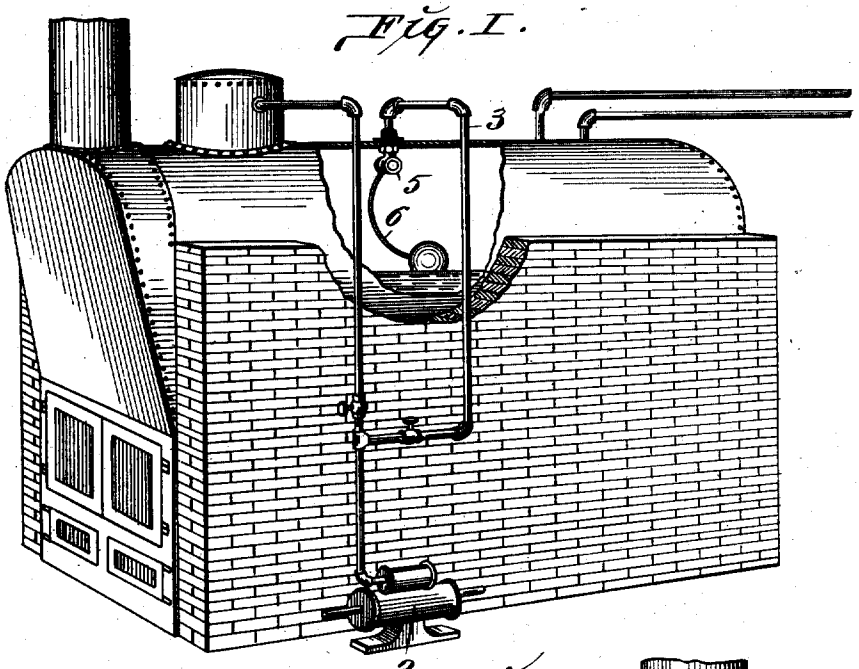


Fig. II.

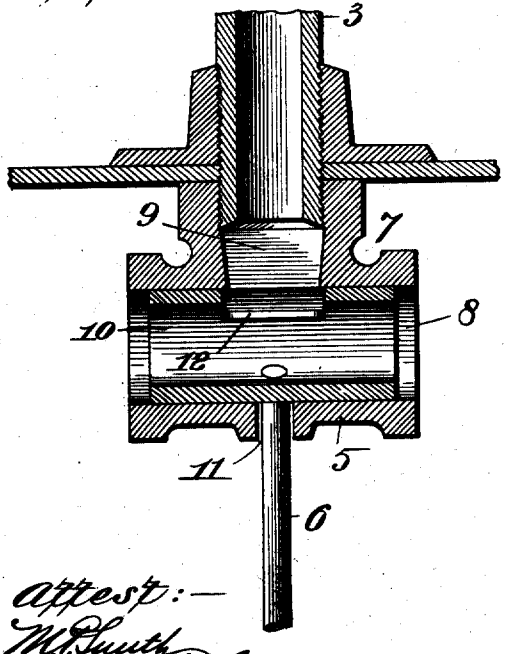
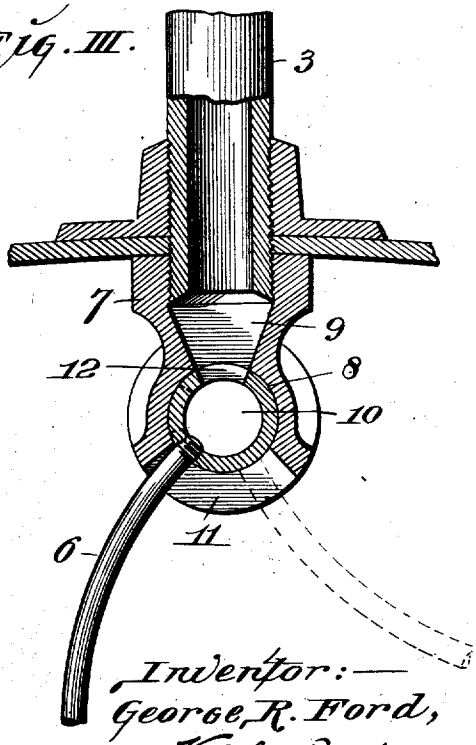


Fig. III.



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UNITED STATES PATENT OFFICE.

GEORGE RUFFUS FORD, OF ST. LOUIS, MISSOURI.

VALVE FOR BOILER-FEEDERS.

SPECIFICATION forming part of Letters Patent No. 689,176, dated December 17, 1901.

Application filed May 24, 1901. Serial No. 61,701. (No model.)

To all whom it may concern:

Be it known that I, GEORGE RUFFUS FORD, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Valves for Boiler-Feeders, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improvement in valves particularly well adapted for use (although they may be used for other purposes) in connection with steam-boilers for regulating the passage of steam from the boiler to the feed-water pump, the valve being located within the boiler, so that it may be operated by a float, and therefore subjected to the action of lime and other elements which would cause it to stick and become inoperative were it not for the manner in which it is constructed and allowed to operate.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claim.

Figure I is a perspective view illustrative of my invention and showing the valve applied to a steam-boiler. Fig. II is a vertical longitudinal section of the device. Fig. III is a vertical transverse section.

Referring to the drawings, 1 represents a steam-boiler, 2 a feed-water pump, and 3 a steam-pipe leading from the boiler to the pump to effect the operation of the latter.

5 is the valve to which my invention relates and which is opened and closed automatically through means of a float 6 as the water falls and rises. The valve consists of a housing 7, having a cylindrical bore 8 and a passage 9, leading from the bore 8 to the pipe 3. Closely fitting within the bore 8 is a hollow barrel 10, to which the stem of the float is connected, the stem fitting in a slot 11, formed in the housing. The barrel is open at both ends, and on one side of its central portion is a slot 12, so that when the barrel is turned to cause the slot to register with the opening 9 steam will pass through the open-ended barrel into the pipe 3 to the pump 2. As the water enters the boiler it raises the float 6, which causes the barrel 10 to be turned to move the slot 12 away from the opening 9, thus shutting off the passage of steam to the pump.

By making the barrel 10 with open ends, so that steam can pass in both directions into the barrel, the latter is evenly balanced, and experience has demonstrated that when thus formed it is not liable to stick, but works freely at all times.

I claim as my invention—

In a valve, the combination with a housing having a cylindrical bore extending entirely therethrough and open at both ends and a passage leading from said bore, the lower wall of the housing having a slot extending through the same and communicating with the bore, of a hollow barrel open at both ends and snugly seated revolubly in the bore of the housing and provided with an opening adapted to register with the passage in the housing, a stem secured to the hollow barrel and extending through the slot in the housing and a float connected to the outer end of said stem.

GEORGE RUFFUS FORD.

In presence of—
E. S. KNIGHT,
N. V. ALEXANDER.