

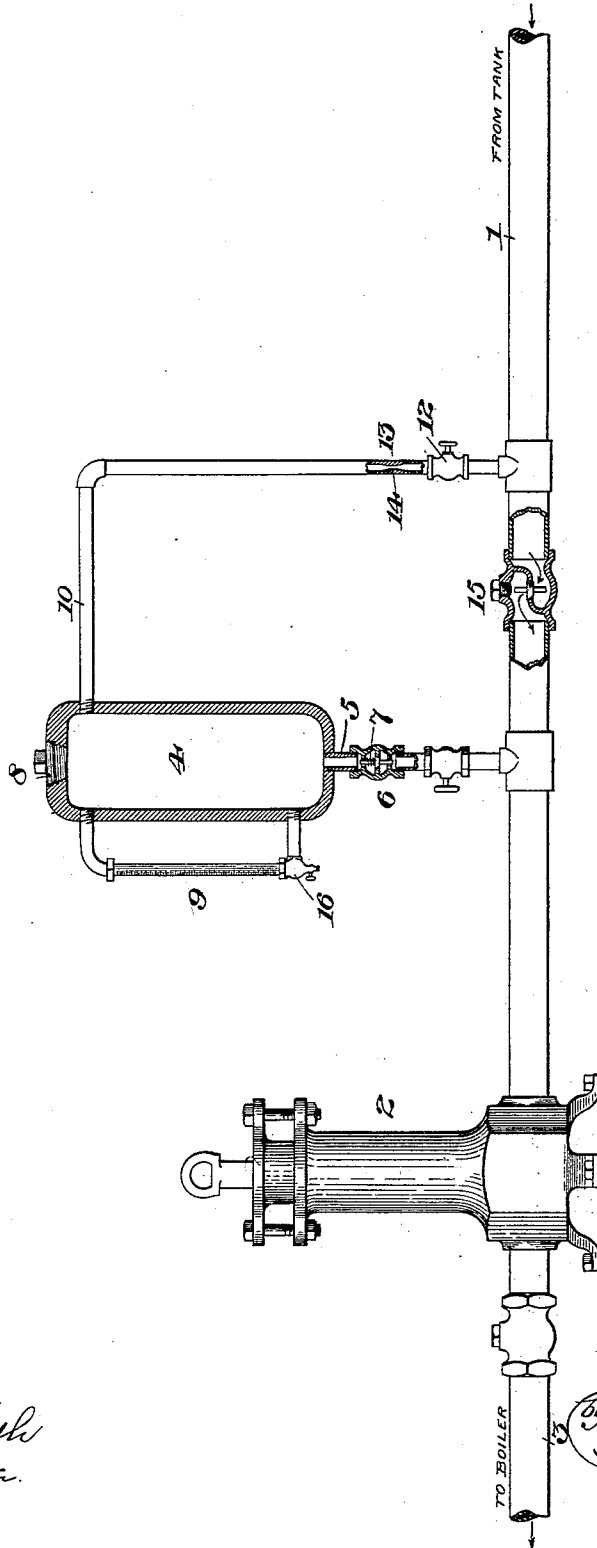
(No Model.)

W. A. WEST.

DEVICE FOR FEEDING ANTI-INCORUSTATION COMPOUNDS TO BOILERS.

No. 569,440.

Patented Oct. 13, 1896.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. WEST, OF BOONE, IOWA, ASSIGNOR OF ONE-HALF TO ALBERT L. MARTIN, OF SAME PLACE.

DEVICE FOR FEEDING ANTI-INCRUSTATION COMPOUNDS TO BOILERS.

SPECIFICATION forming part of Letters Patent No. 569,440, dated October 13, 1896.

Application filed June 12, 1896. Serial No. 595,304. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. WEST, a citizen of the United States, residing at Boone, in the county of Boone and State of Iowa, have invented certain new and useful Improvements in Devices for Feeding Anti-Incrustation Compounds to Boilers; 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.

My invention relates to devices for feeding anti-incrustation compounds to steam-boilers, which devices are either connected with the pipe leading to the feed-water tank, between the latter and the pump, or to a live-steam pipe and the tank-pipe, or used with an injector and attached between check-valve and injector or to a live-steam pipe for pressure and to the suction-pipe, so that as the feed-water is pumped into the boiler a certain regulated quantity of the anti-incrustation compound is carried therewith into the same.

The object of the invention is to provide an improved construction of such devices whereby I secure important advantages with respect to efficiency and reliability in operation.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawing the figure represents a central longitudinal section of a liquid anti-incrustation feeding device or apparatus constructed in accordance with my invention.

In the said drawing the reference-numeral 1 designates a feed-water pipe connected with a feed-water tank (not shown) and provided with a feed-pump 2, of any ordinary or suitable construction.

The numeral 3 designates a pipe connected with the pump and leading to the boiler. (Not shown.)

The numeral 4 designates a receptacle for containing the anti-incrustation compound provided at its lower end with a vertical pipe 5, connected with pipe 1 and having a check-valve 6, provided with a coiled spring 7. At the upper end of this receptacle is a screw-

plug 8, which can be removed for filling or other purposes.

The numeral 9 designates a sight gage-glass for showing the level of the liquid compound in the receptacle. 16 represents a water-cock for the purpose of drawing off the water accumulating in receptacle 4 previous to refilling receptacle. Connected with said receptacle near the upper end is a pipe 10, which extends downwardly and is connected with the pipe 1. Near its lower end it is provided with a stop cock or valve 12, and above the same, at 13, said pipe 10 is contracted, forming a small passage 14. 15 is a check-valve playing in pipe 1, between tank and pump.

The operation is as follows: The leading feature is the utilization of the difference between the tank-pressure on the tank side of check-valve 15 and pipe 1 and the pump-pressure on the pump side of check-valve 15. As the plunger of the pump descends the check-valve 15 is closed and the pump-pressure opens the valve 6 in pipe 5 and allows the water to enter the lower part of receptacle 4 and forces the liquid compound through the opening 14 and through the pipe 10 and valve 12 to pipe 1 and thus mixed with the water flowing from the tank to the boiler. As the plunger descends the valve 6 is closed and the check-valve 15 opened, as in a common pump. The valve 12 can be used to shut off the device or to assist in gaging the amount of compound going into pipe 1. The receptacle can also be supplied with wire screens over the upper and lower openings, thus protecting the valves. The principle is the same when attached to an injector, only reversed in action.

Having thus fully described my invention, what I claim is—

1. In a device for feeding anti-incrustation compounds to steam-boilers, the combination with a pump, of a feed-water pipe having the valve therein, the pipe leading therefrom and having a spring-actuated check-valve, the oil-receptacle communicating with the latter pipe, and the pipe leading from the top of the oil-receptacle to the feed-pipe.

2. In a device for feeding anti-incrustation

compounds to steam-boilers, the combination
of the feed-pipe having the valve therein,
the pump communicating with said pipe, the
short pipe leading from the feed-pipe and
5 having a spring-actuated check-valve, the
oil-receptacle communicating with the short
pipe and having the screw-plug, the pipe
leading from the top of the oil-receptacle to

the feed-pipe and having the reduced passage
and the cock or valve below the same. 10

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

WILLIAM A. WEST.

Witnesses:

A. L. MARTIN,

GEO. S. MARTIN.