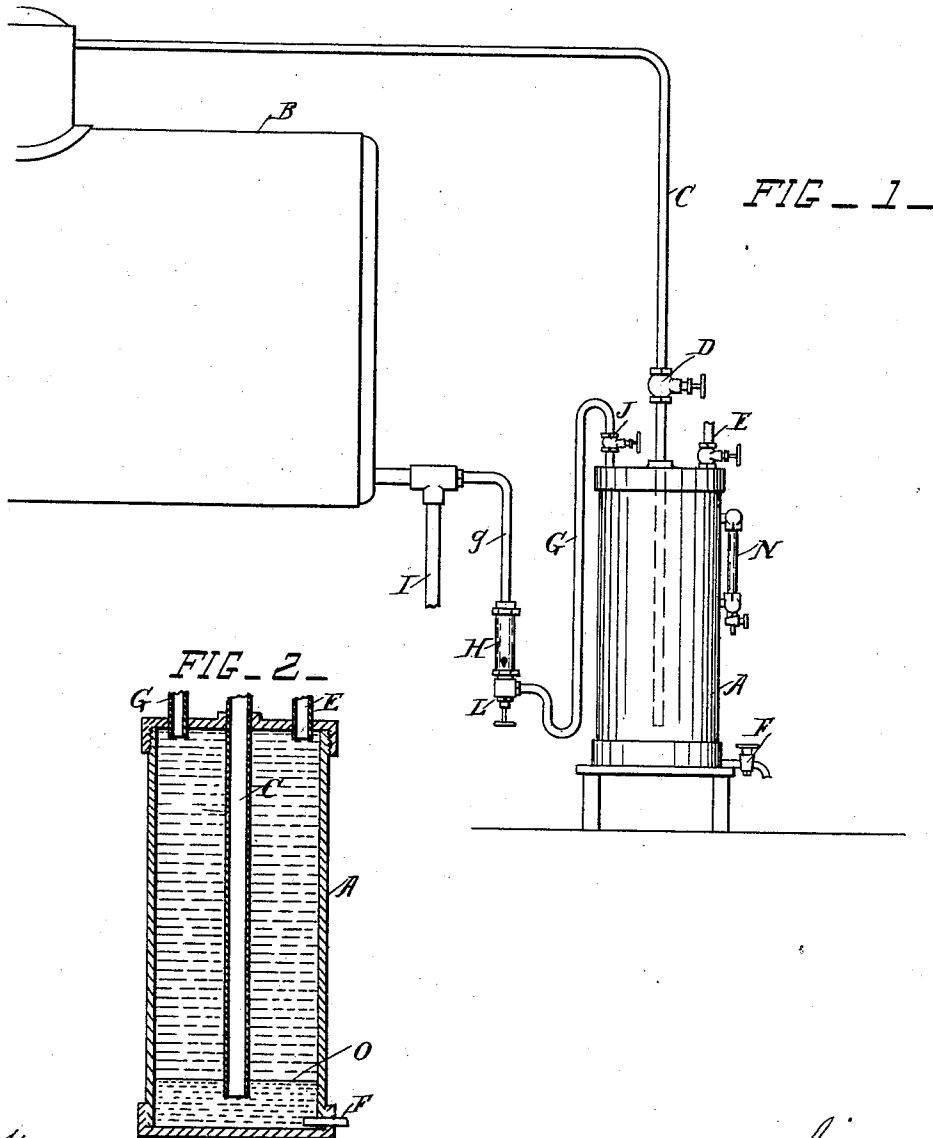


(No Model.)

W. H. WILSON.
INCRUSTATION PREVENTER.

No. 484,837.

Patented Oct. 25, 1892.



Witnesses:
John Keullen
[Signature]

Inventor.
William H. Wilson.
by Herbert W. Jenner.
Attorney.

UNITED STATES PATENT OFFICE.

WILLIAM H. WILSON, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF TWO-THIRDS
TO ALEXANDER P. SPRUANCE & CHARLES H. McCORMICK, OF SAME PLACE.

INCRUSTATION-PREVENTER.

SPECIFICATION forming part of Letters Patent No. 484,837, dated October 25, 1892.

Application filed November 9, 1891. Serial No. 411,417. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WILSON, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Incrustation-Preventers, of which the following is a specification.

My invention relates to an improved method and apparatus for feeding petroleum and other liquid scale preventives to steam-boilers.

The object of my improvement is to furnish to the boiler a continuous regulated supply of petroleum or other like scale preventive.

The accompanying drawings illustrate my invention.

Figure 1 represents an elevation showing the apparatus connected to the boiler. Fig. 2 represents a vertical section of the oil-reservoir on a larger scale.

In the drawings, A represents a closed reservoir, which is connected with the steam-space of the boiler B by means of the pipe C, which is provided with a stop-valve D. Pipe C enters the top of reservoir A and extends to within a few inches of its bottom. Reservoir A is also provided with an inlet-pipe E for the purpose of filling it with oil, and with a drain-pipe F, both of said pipes being provided with suitable stop-valves. The upper part of reservoir A is connected with the water-space of the boiler by means of a pipe G, in which is arranged a "sight-feed" apparatus H, of the usual well-known construction, and a stop-valve J. Pipe G is preferably connected with the water-space of the boiler through the feed-water pipe I, or it may be connected therewith by any suitable means, by which pipe G discharges into the water which is fed to the boiler.

In operation a quantity of cold water is first poured into the reservoir A, through pipe E, in a sufficient quantity to fill the reservoir to a point above the lower end of pipe C, as at O, Fig. 2. The remainder of the space in the reservoir is then filled with petroleum or other like scale-preventing material. The valve in pipe E is now closed and the valve J in pipe G is opened. Steam having been

raised in the boiler, valve D in pipe C is opened, thus subjecting the water and oil in the reservoir A to the same pressure to that carried in the boiler. The steam condensing in pipe C forms a column of water higher than the surface of the oil in the reservoir, and needle-valve L being open the oil escapes from the reservoir through pipe G and valve L into the sight-feed glass and, being of less specific gravity than the water with which said glass and the pipe leading therefrom is filled, the oil rises drop by drop through said glass and pipe into the feed-water pipe I, where, mingling with the feed-water, it passes therewith into the boiler. As the oil passes out of the reservoir A, its place is taken by the water formed from the condensed steam in pipes C, the relative amounts of water and oil being readily observed in a gage-glass N, connected to the reservoir. By this means the scale preventive is supplied to the boiler in the most economical and effective manner. The reservoir A is preferably placed below the level of the boiler, so that the oil is floated up into the sight-feed apparatus by the condensed-water in the bottom of the reservoir. The rush of the feed-water through the pipe I into the boiler relieves the pressure in the pipe G and permits the steam to force the oil upward through the sight-feed apparatus as long as the feed pump or ejector is at work. At other times the feed of oil is reduced automatically to a very small amount, which is fed forward by the weight of the water of condensation which accumulates in the pipe C.

What I claim is—

The combination, with a boiler and a feed-water pipe connected thereto, of a reservoir for oil, a steam-pipe connecting the upper part of the boiler with the lower part of the reservoir, oil-pipes connecting the upper part of the reservoir with the said feed-water pipe, and a sight-feed device arranged in the said oil-pipes, substantially as and for the purpose set forth.

WILLIAM H. WILSON.

Witnesses:

H. P. HOOD,
V. M. HOOD.