No. 729,425. PATENTED MAY 26, 1903.

D. F. SCHULER.

BOILER CLEANER.

APPLICATION FILED FEB. 14, 1903.

NO MODEL.

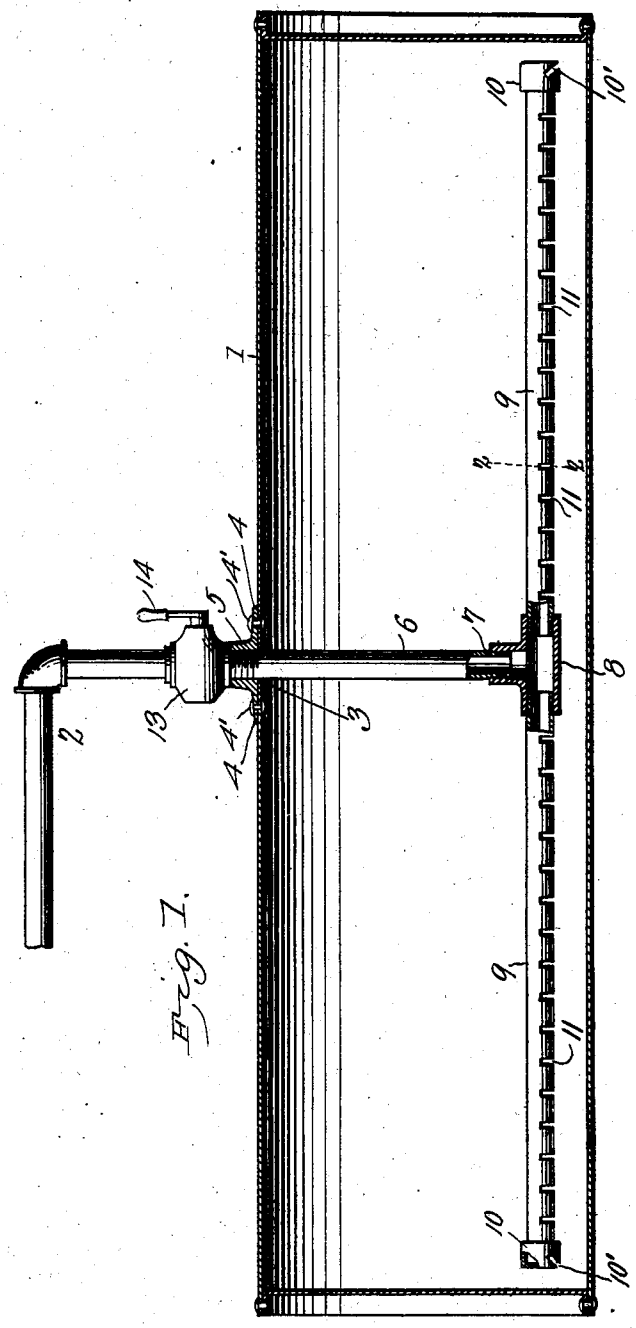


Fig. 1.



Fig. 2.

Witnesses
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No. 729,425. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

DOMINIC F. SCHULER, OF LOUISVILLE, KENTUCKY.

BOILER-CLEANER.

SPECIFICATION forming part of Letters Patent No. 729,425, dated May 26, 1903.

Application filed February 14, 1903. Serial No. 143,431. (No model.)

To all whom it may concern:

Be it known that I, DOMINIC F. SCHULER, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Boiler-Cleaner, of which the following is a specification.

This invention relates to a blow-off or cleaner for liquid-containing vessels especially designed for use in connection with steam-boilers, and has for its object to provide a simple, inexpensive, and efficient device of this character for removing dirt, scales, and other sedimentary deposits which usually accumulate in steam-boilers after being in use for any length of time, causing incrustation and otherwise seriously impairing the strength of the same.

A further object is to provide a cleaner the relative disposition of the several parts being such as to permit its being easily introduced into and removed from the boiler, the cleaning-openings being arranged on the under side of the washout-pipe and disposed transversely thereto, thereby preventing the sedimentary deposits from clogging said openings and also causing the sediment when the blow-off valve is opened to be sucked downwardly from the sides of the boiler and upwardly from the bottom thereof, effectively cleaning the same throughout its entire length.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a longitudinal section of a boiler, showing my improved blow-off or cleaner applied thereto; and Fig. 2 is a transverse section on the line 2 2 of Fig. 1.

Similar numerals of reference indicate corresponding parts in both figures of the drawings.

1 designates the boiler, which may be of the usual form and construction, and 2 the blow-off or cleaner.

The boiler 1 is provided with an opening or orifice 3, having a reinforcing-flange 4, secured in any suitable manner to the walls of the boiler, as by means of rivets or bolts 4′ or similar fastening devices, and this flange is provided with an upwardly-projecting internally-threaded collar 5, adapted to receive the correspondingly-threaded end of a pipe 6, which passes through the orifice 3 and extends within the boiler. The lower threaded end 7 of the pipe 6 engages a T-shaped coupling 8, having a pair of longitudinally-disposed washout-pipes 9 threaded in the opposite ends thereof and which supports said pipes a slight distance above the bottom of the boiler, as clearly shown in Fig. 1 of the drawings. The pipes 9 lie parallel with the bottom of the boiler and extend, respectively, in opposite directions to a point adjacent the heads of the boiler, the ends of the pipes being provided with caps 10, having one or more angularly-disposed openings 10′. The pipes 9 are provided on the under side thereof with a series of segmental slots or openings 11, arranged in longitudinal alinement and extending transversely across the bottom of the pipes and approximately half-way up the side thereof and through which the dirt and other sedimentary deposits are removed when the boiler is cleaned. A blow-off valve 13, provided with a handle 14, is threaded on the upper end of the pipe 6, and connected to the valve 13 is a discharge-pipe 2, which communicates with a sewer or other suitable discharge.

From the foregoing description the operation of my device will be readily understood and is as follows: In placing the cleaner in position the T-shaped coupling carrying the washout-pipes is inserted in the boiler through the usual end manhole. The pipe 6, having the valve 13 secured thereto, is then introduced through the orifice 3 and the parts assembled by screwing the pipe 6 into the T-coupling, thus securing the sections together. Any sedimentary deposits accumulated in the boiler may now be removed by turning the

valve 13, the pressure of steam within the boiler causing the sediment to be sucked through the openings in the pipes 9 and through the pipe 6 and valve 13 to any suitable discharge—as, for instance, a sewer-main.

The washout-pipes are of approximately equal length and normally lie parallel with and supported slightly above the bottom of the boiler, so that when the blow-off valve is opened the suction caused by the inrushing steam and sediment will have a tendency to draw the ends of the washout-pipes downwardly, facilitating the removal of any accumulated deposits at the juncture of the head and side walls of the boiler, the washout-pipes assuming their normal position as soon as the valve is closed.

By having the cleaner made in several sections, as described, it not only permits the same to be inserted in and removed from the boiler with ease and despatch, but also permits any one of the sections being removed and replaced when corroded or otherwise worn by the action of the water.

By having the openings arranged in the under side of the pipe the sediment is prevented from obstructing the same, and when the valve is opened the pressure of the steam will cause a direct suction on the sides as well as the bottom of the boiler, thereby effectively removing all sedimentary deposits.

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

1. A blow-off or cleaner for boilers, comprising a discharge-pipe, a longitudinally-disposed tube secured to the discharge-pipe and supported above the bottom of the boiler, said tube being provided with a series of transversely-disposed segmental inlet-openings, a cap provided with angularly-disposed openings secured to the opposite ends of the tube, and a valve for regulating the discharge from the boiler.

2. A blow-off or cleaner for boilers, comprising a discharge-pipe, a T-shaped coupling connected to the discharge-pipe, a pair of oppositely-extending longitudinally-disposed tubes supported above the bottom of the boiler and detachably connected to the T-coupling, said tubes extending the entire length of the boiler and being provided with a plurality of transversely-disposed segmental inlet-openings, caps secured to the free ends of the tubes and provided with angularly-disposed openings, and a valve for regulating the discharge from the boiler.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

DOMINIC F. SCHULER.

Witnesses:
JOHN W. HAMMOND,
HENRY SILBERNAGEL.