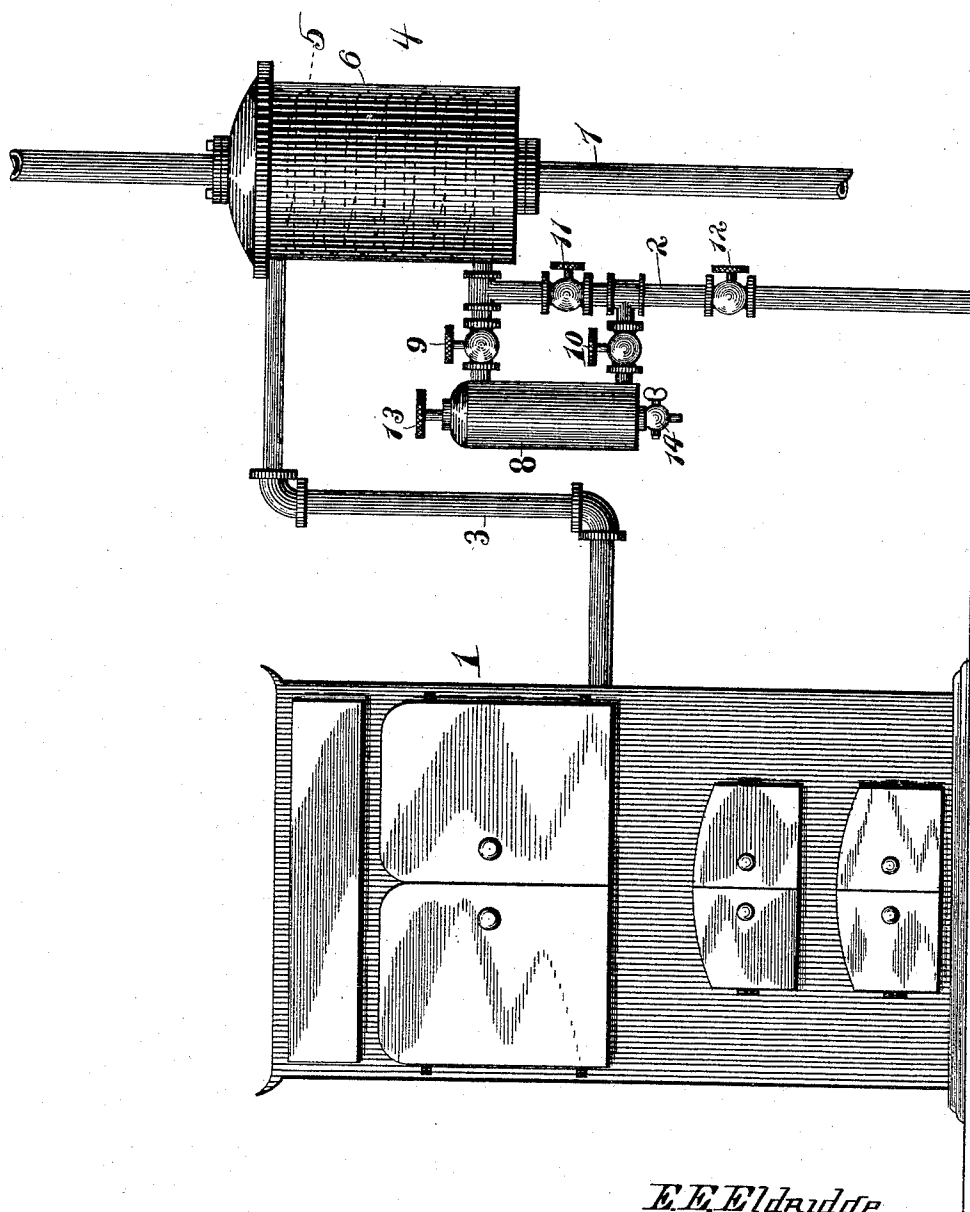


(No Model.)

E. E. ELDRIDGE.
BOILER CLEANING APPARATUS.

No. 495,457.

Patented Apr. 11, 1893.



Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD E. ELDRIDGE, OF NORTH EAST, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO O. D. STANCLIFF AND J. B. CAMPBELL, OF SAME PLACE.

BOILER-CLEANING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 495,457, dated April 11, 1893.

Application filed November 10, 1892. Serial No. 451,530. (No model.)

To all whom it may concern:

Be it known that I, EDWARD E. ELDRIDGE, of North East, county of Erie, and State of Pennsylvania, have invented certain new and
5 useful Improvements in Boiler-Cleaning Apparatus, of which the following is a specification, reference being had to the accompanying drawing.

The object of my invention is to produce an
10 improved apparatus for impregnating feed water with boiler cleaning material, such for example as crude petroleum.

In the accompanying drawing is illustrated
15 in side elevation my improved apparatus as applied to a boiler.

Referring to the figures on the drawing, 1 indicates a boiler; 2 a water supply-pipe; and 3 a continuation thereof. These pipes are adapted to supply water to the boiler under
20 a force applied in any usual way, as by an ordinary injector, not necessary to illustrate. The pipe 2 may communicate with the pipe 3 through a feed water heater 4, which may for example consist of a coil 5 inclosed within a
25 drum or cylinder 6. 7 indicates an exhaust steam-pipe adapted to communicate with the interior of the drum and heat the water as it passes through the coil therein. These parts, above described, are not necessarily
30 different in point of construction and arrangement from those ordinarily in use.

My invention comprehends a receptacle for oil, or the like, which may be preferably connected with or disconnected from the water
35 supply-pipe. 8 indicates such a receptacle which is connected with the pipe 2 by valves 9 and 10 at the top and bottom respectively of the receptacle, suitable unions and joints being provided for the purpose.

40 11 indicates a main valve, and 12 indicates an auxiliary valve in the pipe 2, the former being located below the receptacle, and the latter being located above the lower valve thereof.

45 13 indicates a screw-plug for filling the receptacle. It may be made in any ordinary and suitable manner.

14 indicates a drip-cock in the bottom of the receptacle.

The operation of my device is as follows: 50 Suppose the feed water to be passing from pipe 2 to pipe 3 through the coil in the heating drum, as it always does except when the operator wishes to introduce the cleaning compound into the boiler. To do so, having
55 first filled the receptacle through the screw-plug in the top thereof with the cleaning compound, and having closed the drip-cock 14, he closes the auxiliary valve 12 and opens the valves 9 and 10. Thereupon the current
60 of the feed-water is diverted from its direct course, and passing through the receptacle carries with it the cleaning compound into the drum to be heated, and thence into the boiler. When this operation is completed the
65 valves 9 and 10 being closed and the auxiliary valve 12 being open, the feed water is restored to its former course, as in the first place.

The arrangement shown in the drawing is 70 in practice very convenient, because by simply closing the main valve 11 the cleaning apparatus may be unscrewed from the drum and from the main valve casing and may be readily cleansed or repaired. 75

What I claim is—

An apparatus for feeding boiler cleaning compound to a boiler, consisting of a receptacle, valves communicating with the interior of the receptacle upon its sides in the upper
80 and lower parts thereof, respectively, a feed water pipe connected with the valve, a valve in the feed water pipe between the receptacle valve with means for filling the receptacle with a cleaning compound, and a cock in the
85 lower end of the receptacle, substantially as and for the purpose specified.

In testimony of all which I have hereunto subscribed my name.

EDWARD E. ELDRIDGE.

Witnesses:

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