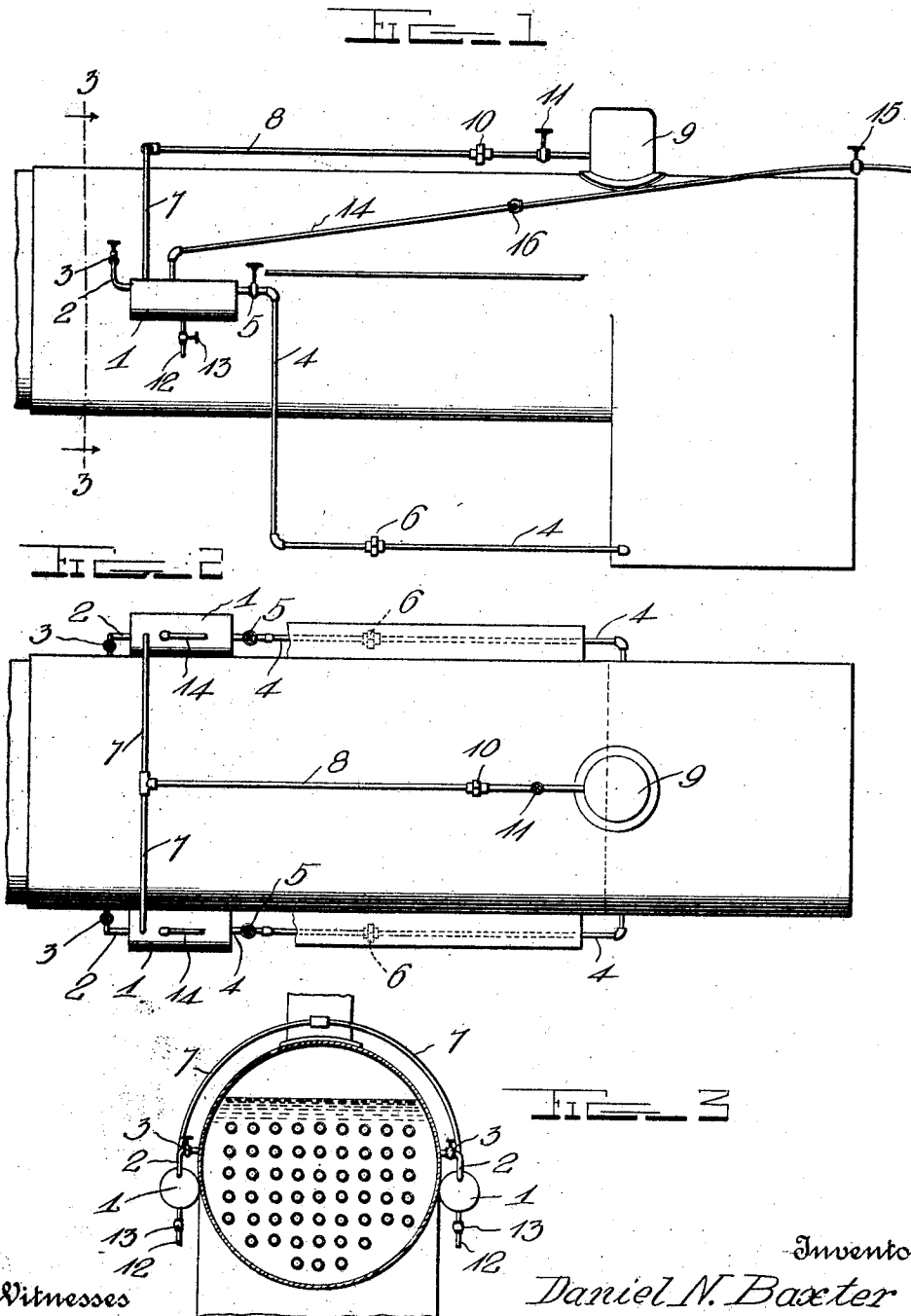


D. N. BAXTER.
BOILER CLEANER.
APPLICATION FILED OCT. 13, 1910.

1,002,361.

Patented Sept. 5, 1911.



Witnesses

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UNITED STATES PATENT OFFICE.

DANIEL N. BAXTER, OF WICHITA, KANSAS.

BOILER-CLEANER.

1,002,361.

Specification of Letters Patent.

Patented Sept. 5, 1911.

Application filed October 13, 1910. Serial No. 586,944.

To all whom it may concern:

Be it known that I, DANIEL N. BAXTER, a citizen of the United States, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Boiler-Cleaners; and I do 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.

This invention relates to improvements in boiler cleaners.

The object of the invention is to provide an improved construction of boiler cleaner which may be used in connection with any form of boiler whereby the mud and other impurities may be removed from the water and steam and the latter applied to the cylinders in a dry clean condition.

With the foregoing and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claim.

In the accompanying drawings, Figure 1 is a side view of a boiler showing the application of the invention thereto. Fig. 2 is a plan view of the same. Fig. 3 is a vertical cross section through the boiler on the line 3—3 of Fig. 1.

My improved boiler cleaner is herein shown as applied to a locomotive boiler and consists of two settling drums or tanks 1, which may be of any suitable size according to the size of the boiler to which they are applied. The cylinders or tanks 1 may be arranged at any suitable point on the boiler, below the water line, and when used in connection with locomotive boilers are preferably arranged on each side thereof immediately below the running boards as shown. The drums or tanks 1 are connected at one end and near their upper sides with the boiler at about the water line therein by water circulating pipes 2 in which are arranged valves 3. The drums 1 are connected at their opposite ends and near their upper sides by return pipes 4 to the mud ring of the boiler. The return pipes 4 have arranged therein cut off valves 5 and unions 6 as shown. The drums 1 are connected at their upper sides and preferably near one end with the branched ends 7 of a steam conducting pipe 3 the opposite end of which is

connected to the steam dome 9 of the boiler. The pipe 8 has arranged therein a cut off valve 11 and a union 10. In the lower side of each of the drums 2 is arranged a blow off pipe 12 said pipes having valves 13 arranged therein as shown. By opening the valves in the steam pipe 8 and in the blow off pipes 12 the mud and sediment is blown out of the drums by the steam passing there-through. The drums 2 are connected by injecting pipes 14 to the water tank in the engine tender or to any other source of water supply whereby feed water is supplied through the drums to the boiler. In the pipes 14 are arranged cut off valves 15 whereby the flow of water through the pipes is controlled. The pipes 14 are also provided with check valves 16 whereby the water in the drums is prevented from being forced back into the supply tank.

While the invention is herein shown and described as being applied to a locomotive boiler it is obvious that the same may be readily applied to any form of steam boiler for the purpose of cleaning or removing therefrom mud scale, and all other form of sediment or impurities.

In the operation of the device the cold feed water enters the drums by pipes 14 and mingles with the hot water coming from the boiler by pipes 2; the feed water becomes heated and the sediment of the hot water is deposited in the drums and blown off. The heated feed water then passes by the return pipes 4, to the coolest part of the boiler, thus promoting circulation. The heated water in the boiler largely rises along the sides of the boiler, carrying scum and sediment with it, and by having symmetrically disposed drums on each side of the boiler the feed water is more uniformly heated and the scum and deposits are more uniformly removed from the boiler and deposited in the drums, than if only a single drum were used, and if one drum should get out of order the other would be effective.

Various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of the invention as defined in the appended claim.

What is claimed is:

The improved boiler cleaner for locomotive boilers herein described and shown consisting of a pair of drums arranged on op-

posite sides of the boiler below the water line thereof, a forked pipe leading from the steam space of the boiler into the tops of said drums and provided with a cut-off valve
5 adjacent the boiler, valved blow-off pipes leading from the bottoms of the drums, circulating pipes leading from the front ends of the drums to the boilers and provided with cut-off valves, return pipes leading
10 from the rear ends of the drums to the mud ring of the boiler and provided with cut-off

valves, and water supply pipes leading into the tops of the drums and provided with cut-off valves.

In testimony whereof I have hereunto set 15 my hand in presence of two subscribing witnesses.

DANIEL N. BAXTER.

Witnesses:

EDNA CAIRNS,
A. F. BUSHNELL.