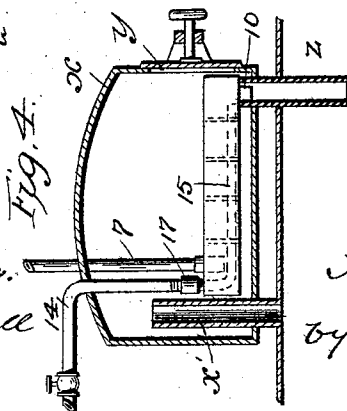
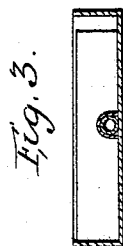
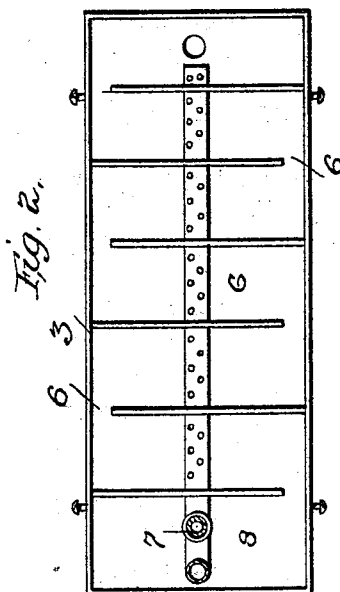
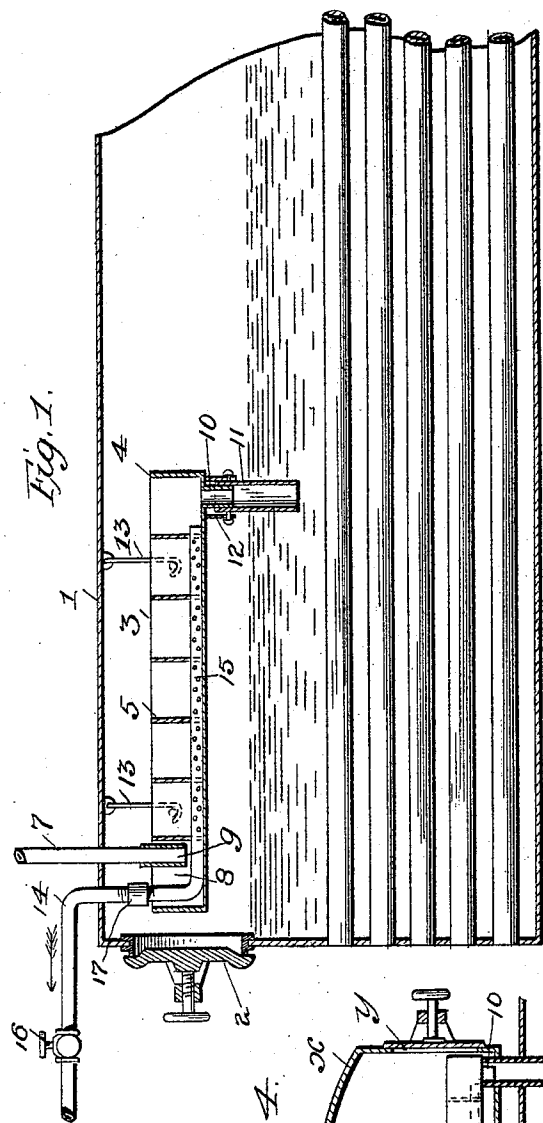


(No Model.)

M. S. CABELL.
FEED WATER PURIFIER.

No. 528,851.

Patented Nov. 6, 1894.



Attest
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UNITED STATES PATENT OFFICE.

MILTON S. CABELL, OF QUINCY, ILLINOIS.

FEED-WATER PURIFIER.

SPECIFICATION forming part of Letters Patent No. 528,851, dated November 6, 1894.

Application filed June 26, 1894. Serial No. 515,716. (No model.)

To all whom it may concern:

Be it known that I, MILTON S. CABELL, a citizen of the United States, residing at Quincy, in the county of Adams and State of Illinois, have invented certain new and useful Improvements in Feed-Water Purifiers, of which the following is a specification, reference being had therein to the accompanying drawings.

It is the object of my invention to provide a simple, effective and inexpensive device for purifying feed water as it is introduced into the boiler and adapted to be suspended in the steam space and to be readily removed therefrom when it is desired to thoroughly clean the same.

The invention consists of a pan divided into transverse compartments by partitions extending partially across the pan and forming a circuitous passage from the inlet end to the outlet through which the feed water passes and is subjected to the galvanic action between the partitions which are alternately of electro negative and positive material. It includes also a blow off pipe extending longitudinally of the pan, an outlet pipe, and an inlet pipe, all of which are provided with suitable joints by which the pan may be removed from a boiler.

In the accompanying drawings Figure 1, is a longitudinal section of the device in place in the steam space of the boiler. Fig. 2, is a plan view, and Fig. 3, a transverse section of the pan. Fig. 4, is a view of the device in a steam dome.

In the drawings the boiler 1 is representative of any ordinary form and is provided with the usual form of manhole and closing plate 2.

The purifying pan 3 is preferably of oblong form having upwardly extending sides 4 forming a shallow receptacle which is divided transversely by partitions 5 which are arranged alternately at opposite sides of the pan so as to leave passages 6 to form a circuitous passage.

The feed water pipe 7 extends down through the boiler shell to the inlet compartment 8 and is provided with a sliding nozzle piece 9 adapted to be raised on the pipe when it is desired to remove the pan.

At the outlet end a nipple 10 is formed and

upon this is held a discharge pipe 11 by means of suitable catches 12 which upon being detached permits the pipe to be removed for the withdrawal of the pan through the manhole. The pan is suspended from the top of the boiler by the hooks 13 and thus it is adapted to be readily removed for cleaning by detaching the hooks and the discharge pipe and slipping back the inlet nozzle upon the main portion of the feed water pipe. I have provided also means by which the pan may be cleared of sediment without removing it from the boiler and this consists simply of a blow off pipe 14 extending into the boiler and connected with the perforated pipe 15 extending longitudinally of the pan along the bottom thereof and through the several partitions.

The blow off pipe is provided with a valve 16 and by opening this the sediment in the several compartments between the partitions will pass through the perforations of the pipe 15 and be blown from the boiler. This pipe 15 is fixed permanently in the pan and in order that the device may be removed a union 17 is provided between the lower pipe 14 and the pipe 15 so that these may be uncovered.

In Fig. 4, I have shown the device as applied in a steam dome *x* connected with the steam space of the boiler by a pipe *x'* which extends to near the top of the dome and equalizes the pressure therein. The pan and the attached parts are identical with those formerly described and all the parts may be removed through the head opening *y*. The discharge nipple in this instance fits into the upper end of a discharge pipe *z* permanently secured in the boiler and dome.

It will be understood that the transverse partitions of the pan are alternately of copper or zinc and the pan of iron or the pan can be of copper while the partitions are of zinc or this order may be reversed.

I claim as my invention—

1. A feed water purifier consisting of a pan adapted to be suspended in the steam space of a boiler and having partitions forming a circuitous passage from end to end, said partitions being alternately of an electro positive and an electro negative metal, substantially as described.

2. A feed water purifier consisting of a pan

divided into a series of transverse compartments by transverse partitions alternately of electro positive and electro negative metal and a blow off pipe permanently secured in
5 said pan and extending longitudinally thereof across the transverse compartments said permanent blow off pipe being adapted to be detachably connected with a continuation

thereof extending from the steam space through the shell, substantially as described. 10
In testimony whereof I affix my signature in presence of two witnesses.

MILTON S. CABELL.

Witnesses:

HENRY E. COOPER,
WALTER DONALDSON.