

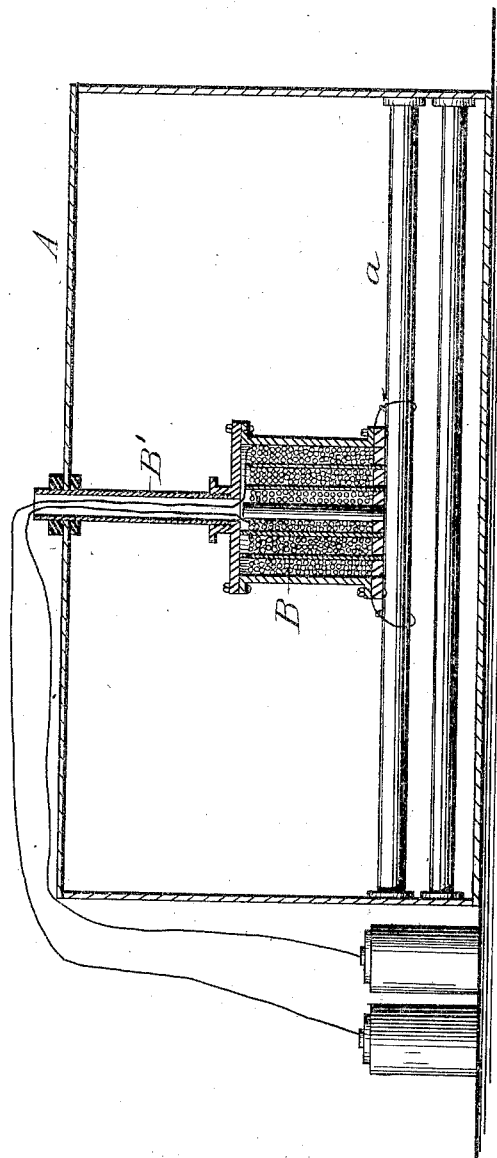
(No Model.)

S. G. CABELL.

ANTI INCRUSTATOR FOR STEAM BOILERS.

No. 304,989.

Patented Sept. 9, 1884.



Witnesses:

Wm. A. Rosenbaum
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Inventor
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Atty

UNITED STATES PATENT OFFICE.

SAMUEL G. CABELL, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR
TO MILTON S. CABELL, OF QUINCY, ILLINOIS, AND FLORA B. CABELL.

ANTI-INCRUSTATOR FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 304,989, dated September 9, 1884.

Application filed May 1, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL G. CABELL, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Electro-Magnetic Anti-Incrustators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

The object of my invention is to prevent the formation and adhesion of scale or incrustation in steam-boilers; and it consists in the combination, with the flues of a tubular boiler or other part of a boiler normally below the water-line, of an electro-magnet.

The present invention is an improvement upon my previous patents for magnetic anti-incrustators, and its distinguishing characteristic is that the magnet is carried bodily within the boiler down to and in contact with the flues or some other permanent fixture within the boiler, below the water-line.

In the drawings, Figure 1 represents a longitudinal section through a tubular boiler, showing within it, also in section, an electro-magnet of the construction described in Letters Patent granted to me June 25, 1867, No. 66,001.

A is a boiler of the tubular pattern; *a*, the flues, upon which is anchored by means of wires *b* an electro-magnet, B. A water-tight tube or duct, B', conducts the wires from the battery through the steam-chamber of the boiler to the magnet.

In use it has been ascertained that boilers provided with a magnet arranged as herein described and shown have to be cleaned or

"blown off" at intervals less frequent than if the magnet were not in direct contact with the flue or flues of the boiler or beneath the surface of the water.

My experience with a particular set of boilers shows, with Mississippi water, at Criterian Mills, Quincy, Illinois, that without the use of my anti-incrustator a scale of a full one-fourth of an inch in thickness had formed in the boilers, which required a scraping and washing out once a week. Since applying my invention the scale has been entirely removed from the boilers, they require no scraping, and require to be flushed or washed out only once in two weeks.

Having thus described my invention, what I claim is—

1. The combination of a steam-boiler and an electro-magnet, one pole of the magnet being applied to the flues or other part of the boiler below the water-line, and the other to the shell of the boiler, substantially as described.

2. The combination of a steam-boiler and a compound electro-magnet, one pole of the magnet being applied to the flues or other part of the boiler below the water-line, and the other to the shell of the boiler, substantially as described.

In testimony that I claim the foregoing I hereunto affix my signature in the presence of two witnesses.

SAMUEL G. CABELL.

Witnesses:

WM. A. ROSENBAUM,
MILTON S. CABELL.