

(No Model.)

J. M. MAXWELL.
BOILER CLEANER.

No. 581,484.

Patented Apr. 27, 1897.

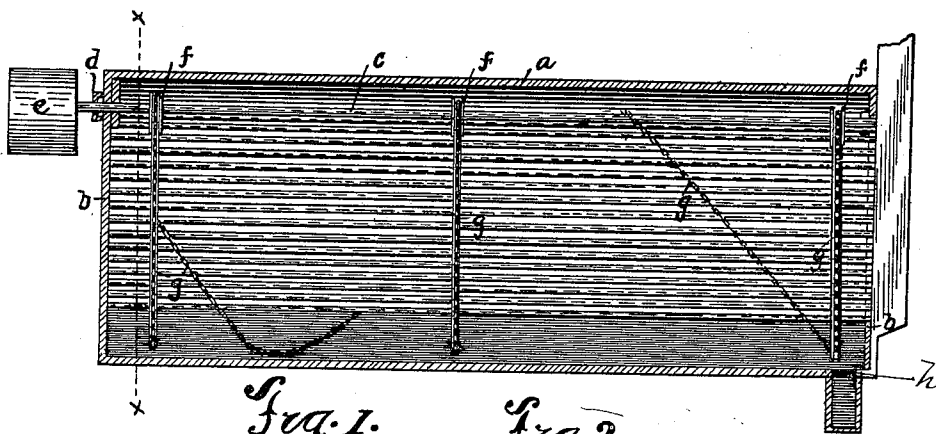


Fig. 1.

Fig. 2.

Fig. 3.

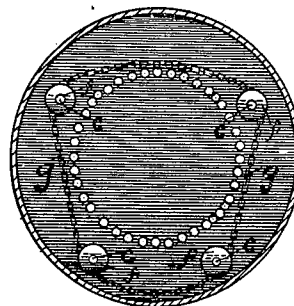
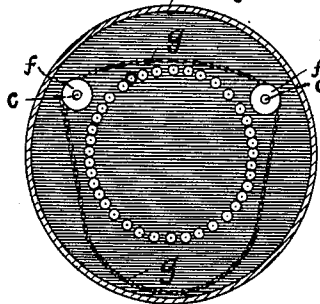
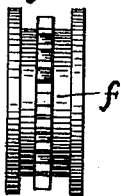


Fig. 5.

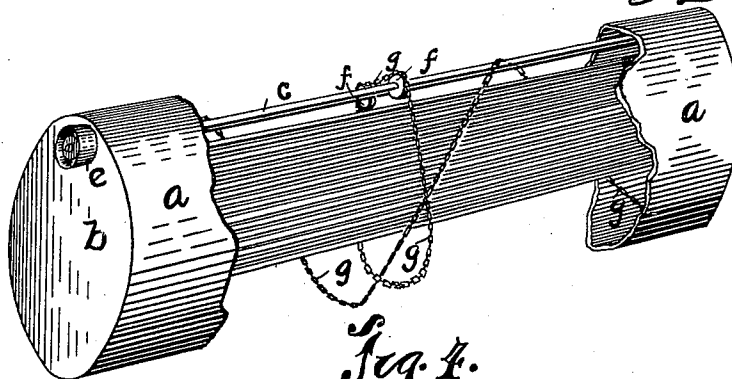


Fig. 4.

Witnesses
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Inventor
J. M. Maxwell,
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UNITED STATES PATENT OFFICE.

JAMES M. MAXWELL, OF PITTSBURG, PENNSYLVANIA.

BOILER-CLEANER.

SPECIFICATION forming part of Letters Patent No. 581,484, dated April 27, 1897.

Application filed February 4, 1897. Serial No. 622,010. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. MAXWELL, a citizen of the United States of America, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Boiler-Cleaners, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in boiler-cleaners, and has for its object to provide novel means whereby the scale and sediment that usually accumulate on the boiler may be kept removed and the boiler perfectly clean at all times. The invention aims to accomplish this result by means of an endless chain or series of chains or brushes driven over a series of sprocket-wheels mounted upon a shaft which is connected by belt or otherwise to the engine to drive the chains; and the invention further consists in the novel construction, combination, and arrangement of parts to be hereinafter more specifically described, and particularly pointed out in the claim.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like letters of reference indicate similar parts throughout the several views, in which—

Figure 1 is a longitudinal sectional view of the boiler, showing chains applied in position. Fig. 2 is a transverse vertical sectional view taken on the line X X of Fig. 1. Fig. 3 is a front elevation of one of the sprockets. Fig. 4 is a perspective view of the boiler, partly broken away to show the chains in position. Fig. 5 is a transverse vertical sectional view of a modified form employing four shafts and sets of sprockets to receive the chain.

Referring now to the drawings by reference-letters, *a* represents the shell of the boiler; *bb*, the heads of the same, in which are mounted shafts *c c*, provided with a packing-box *d* and on one end with a pulley *e* for connection by belt to the engine. These shafts *c c* have arranged thereon at suitable intervals sprocket-wheels *f f*, which are engaged by the endless chain or chains *g g*, and of which four are preferably used. Three of these chains extend around the sprocket-wheels at right angles to the tubes, while the other chain extends spirally around the tubes, as shown in Fig. 1,

and is operated by the movement of the end sprocket-wheels. If so desired, the end sprocket-wheels may be made to operate both the end chains and the one which extends spirally around the tubes.

In Fig. 5 I have shown four of the shafts *c c*, which will serve to hold the chains more firmly in contact with the inner surface of the boiler, and in some constructions of boiler this form may be preferred, although for ordinary purposes the two shafts will be found sufficient.

The operation of the cleaner will be readily apparent from the views of the same that I have shown in the drawings and from the foregoing brief description, and a further detailed description of the same is deemed unnecessary, as it will be observed that as motion is communicated from the shafts *c* to the engine these shafts revolve, causing the sprocket-wheels *f f*, that are mounted thereon, to engage the chains and carry these chains in continuous revolutions in contact with the face of the boiler, and causing the same to remove the scale or sediment therefrom, where it is carried to the outlet-port *h* and deposited in the mud-drum.

It will be noted that various changes may be made in the details of construction, as any number of these chains and shafts for driving same may be employed, and, further, that such changes as this and other minor changes in the details of construction may be made without departing from the general spirit of my invention.

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

In a boiler-cleaner, supporting-shafts which extend longitudinally through the boiler in a line with the boiler-tubes, and driving-wheels secured to the shafts, combined with chains which pass over and are driven by the wheels at an angle to the shafts and tubes, and which chains sag so as to come in contact with the bottom of the boiler, substantially as shown.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES M. MAXWELL.

Witnesses:

A. M. WILSON,
THOS. M. BOYD, Jr.