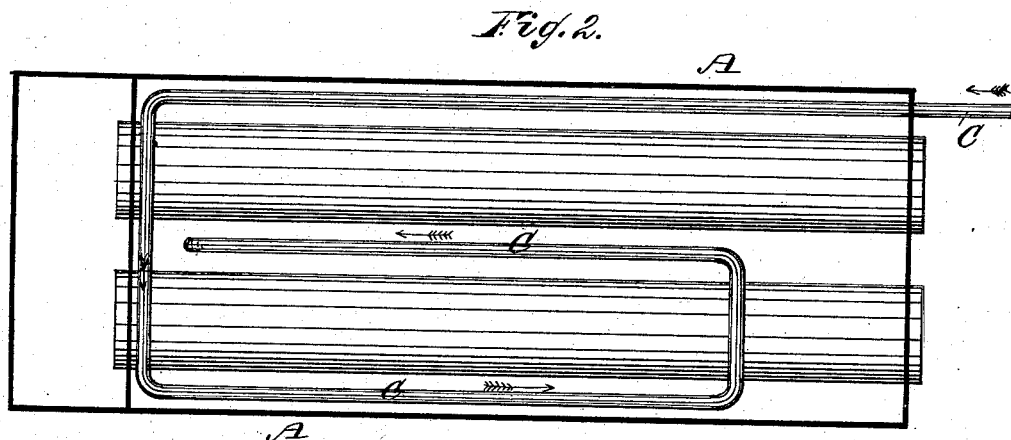
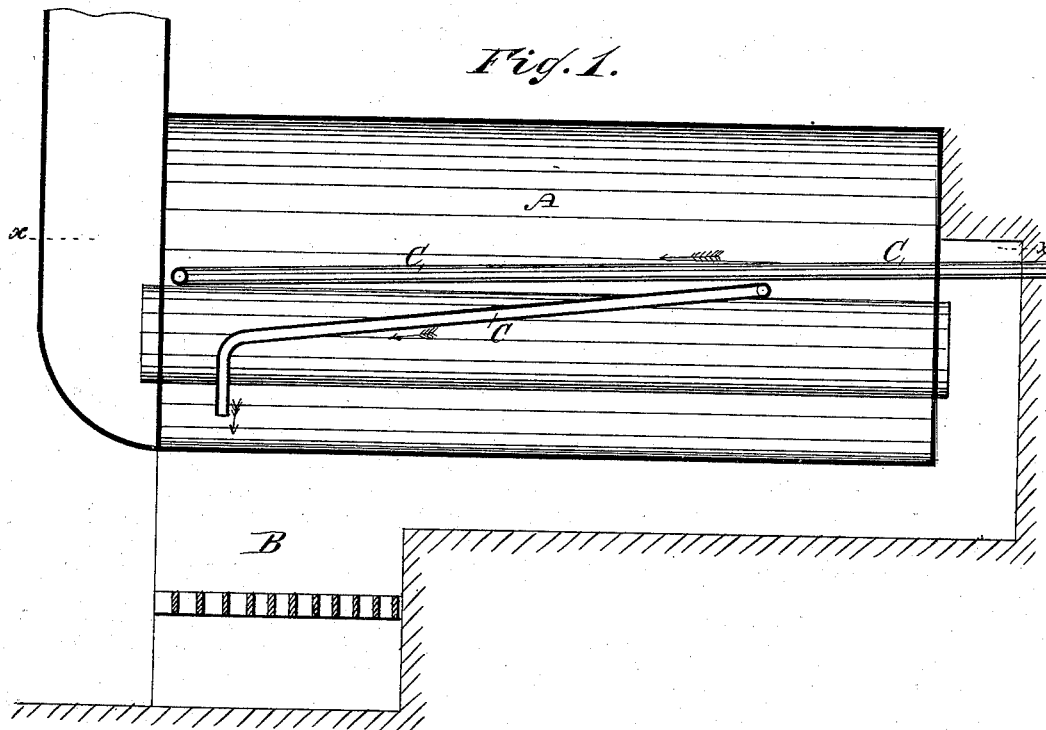


(No Model.)

H. WEBSTER.
FEEDING WATER TO BOILERS.

No. 262,868.

Patented Aug. 15, 1882.



WITNESSES:

Theo. G. Norton
C. Sedgwick

INVENTOR:

H. Webster

BY

Munn & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HENRY WEBSTER, OF CASSVILLE, WISCONSIN, ASSIGNOR TO HIMSELF AND
JOHN H. COLE, OF KEOKUK, IOWA.

FEEDING WATER TO BOILERS.

SPECIFICATION forming part of Letters Patent No. 262,868, dated August 15, 1882.

Application filed April 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY WEBSTER, of Cassville, Grant county, Wisconsin, have invented a new and useful Improvement in Feeding Water to Boilers, of which the following is a full, clear, and exact description.

The object of my invention is to obtain circulation in boilers to carry the sediment back to the mud-drum, and also to discharge feed-water highly heated at the hottest place in the boiler; and it consists in a coiled feed-water pipe entering on one side of the rear end of the boiler, passing thence forward to the front of the boiler, then across it, thence backward partly across said boiler, thence forward near the front, and thence vertically downward, and terminating just above the bottom of the boiler at the portion over the furnace most highly heated, as hereinafter more fully set forth.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a vertical longitudinal section of a boiler with my improved feed arrangements, and Fig. 2 is a horizontal section on line *x x* of Fig. 1.

A is the boiler, and B the furnace, of usual construction.

C is the feed-water pipe entering the rear of the boiler at one side, extending to the front head, and from thence across backward and forward at the middle, terminating at the front by a downward-extending bend, so as to discharge the water on the bottom or shell above the furnace. By this arrangement the feed-water necessarily becomes highly heated in passing through the pipe before it is discharged therefrom, and it is discharged at the place of greatest heat in the boiler. The results are, first, a circulation from front to rear is caused

in the boiler, which has the effect to carry sediment to the rear and prevent it from settling on the shell over the furnace; second, the water being highly heated when discharged, and also being discharged at the hottest point, the impurities become finely granulated, so that they readily pass off and do not form scale.

This device saves the frequent labor of clearing the boiler, and is especially useful on boats that use river-water.

The device may be applied to any boiler of usual construction used with stationary locomotive and marine engines.

I am aware of the patent of E. Pierce for steam-boiler water-feeder, dated June 12, 1860, No. 28,685, and therefore lay no claim to such invention, my invention being confined to the precise construction and arrangement of parts, as pointed out in the claim, whereby the water is more thoroughly heated, and is discharged with greater force on the bottom of the boiler, creating a current carrying off the sediment to the mud-drum.

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

The combination, with the boiler A and the furnace B, of the feed-water pipe C, entering at one side of the rear of said boiler, extending to the front head, thence across, then rearwardly and across to the center of the boiler, thence forward nearly to the front head, and vertically downward nearly to the bottom of the boiler over the furnace, substantially as herein shown and described, whereby the full volume of the water in the feed-pipe is discharged on the bottom of the boiler, and a circulation is imparted to the water therein, removing the sediment, as set forth.

HENRY WEBSTER.

Witnesses:

HENRY L. TOLBERT,
JOHN H. C. SNECLOD.