

J. M. SIMPSON.  
Steam-Boilers.

No. 211,350.

Patented Jan. 14, 1879.

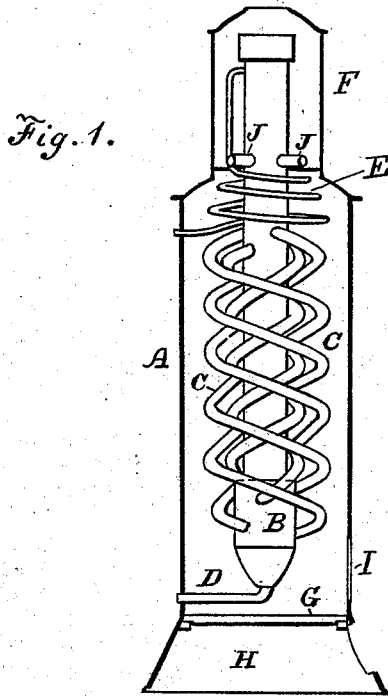


Fig. 2.

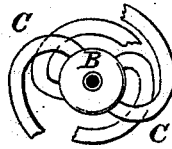
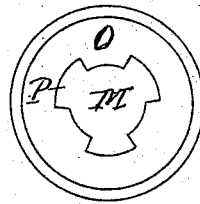


Fig. 3.



Witnesses :  
W. Burris  
H. A. Daniels.

Inventor :  
Josiah M. Simpson.  
By Theodore Mungen.  
Attorney

# UNITED STATES PATENT OFFICE.

JOSIAH M. SIMPSON, OF OSEKOSH, WISCONSIN.

## IMPROVEMENT IN STEAM-BOILERS.

Specification forming part of Letters Patent No. **211,350**, dated January 14, 1879; application filed August 13, 1878.

*To all whom it may concern:*

Be it known that I, JOSIAH M. SIMPSON, of Oshkosh, in the county of Winnebago and State of Wisconsin, have invented certain new and useful Improvements in Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 represents a vertical view, partly sectional, of a boiler embodying the improvements of my invention. Fig. 2 is a plan view of stand-pipe and interlacing water-tubes; and Fig. 3 is a plan of the diaphragm from which the stand-pipe and interlacing water-tubes are suspended.

This invention relates to an improvement in steam-boilers; and consists in the improvements in the construction of the same, hereinafter fully described, and particularly pointed out in the claim.

In the accompanying drawing, similar letters of reference indicate like parts in the figures.

The case or shell A has the base H, the grate G, fire-door I, and smoke-stack F. The stand-pipe B has a conical bottom, from which a flow-off pipe, D, leads to the outside of the shell, as shown. Coils C connect at their lower ends with the bottom of the stand-pipe B, and are interlaced to present the greatest amount of heating-surface to the fire, and have their upper ends connected with the stand-pipe B on a level with the water-line.

Lugs J J support the coils C and stand-pipe B in the shell A, by being first inserted up through an opening, M, in the diaphragm O, through recesses P in the edge of said opening, and then turned to permit the lugs J to rest upon the diaphragm.

Superheating steam-coils E are placed in the dome of the shell, as shown, and one end thereof passes out through the shell at any convenient point. The coils C pass around the stand-pipe B in opposite directions, interlacing in order that the greatest amount of heating-surface may be presented to the fire, which necessarily passes up between the coils, thus saving a large amount of fuel, and obviating, in a great measure, the danger of explosion.

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

In a steam-boiler, the stand-pipe B, provided with the interlacing coils C supported within the shell A by the lugs J resting upon the diaphragm O M, the blow-off D, and superheating steam-coils E, combined and operating substantially as and for the purposes set forth.

In testimony that I claim the foregoing improvements as above described I have hereunto set my hand and seal this 26th day of June, 1878.

JOSIAH M. SIMPSON. [L. S.]

Witnesses:

O. H. HARRIS,  
J. B. McLERAN.