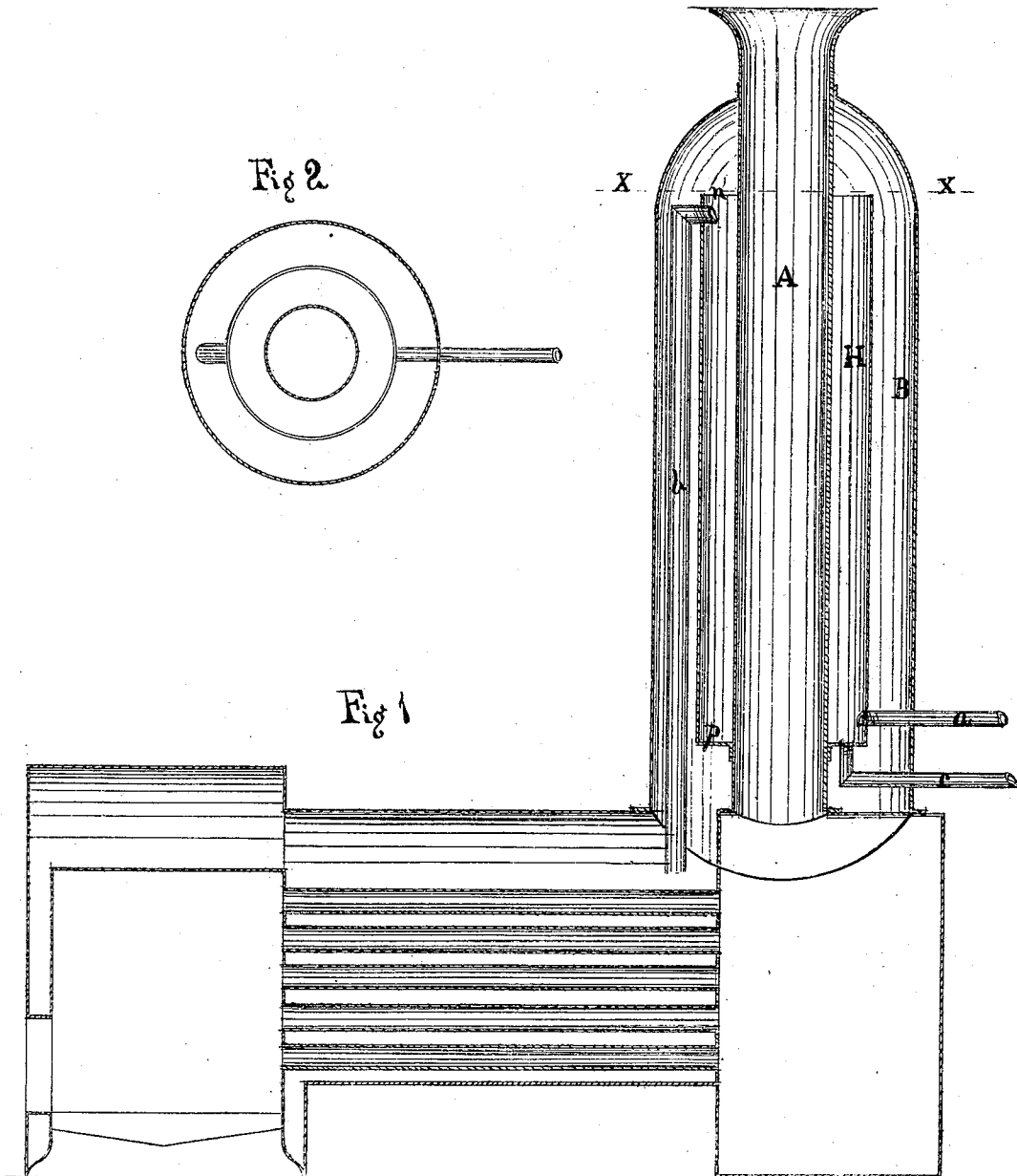


E. NEUMANN.

Improvement in Steam-Boilers.

No. 132,484.

Patented Oct. 22, 1872.



Witnesses
Thomas Dyson
C. H. Harris

Inventor
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UNITED STATES PATENT OFFICE.

EUGEN NEUMANN, OF NEW YORK, N. Y., ASSIGNOR TO HENRY GERNER AND CHARLES D. TYLER, OF SAME PLACE; ASSIGNORS, BY MESNE ASSIGNMENT, TO W. C. WOOD; ASSIGNOR TO E. R. AND H. S. COLE, OF PAWTUCKET, R. I.

IMPROVEMENT IN STEAM-BOILERS.

Specification forming part of Letters Patent No. **132,484**, dated October 22, 1872.

To all whom it may concern:

Be it known that I, EUGEN NEUMANN, of New York city, State of New York, have invented certain Improvements in Steam-Boilers, of which the following is a specification:

The object of my invention is to utilize the heat in the uptake or chimney, increase the steam-generating power of a steam-boiler, and to deposit the impurities of the feed-water in a separate chamber inside the boiler, where the feed-water becomes heated.

Figure 1 is a longitudinal section of my invention applied to a locomotive-boiler. Fig. 2 is a ground plan of my invention through *x*, Fig. 1.

Similar letters indicate corresponding parts.

Around the chimney or uptake A, and inside the steam-dome B, is placed a casing, H, closed at the bottom *p* and open at the top *n*, leaving thus a space between the chimney or uptake A and the casing H, into which the feed-water is introduced through pipe *a*. The feed-water gradually pumped in, or otherwise introduced into this receptacle, will become heated by being in contact with the heated iron in the uptake or chimney A, and the hottest part of this water will naturally rise to the surface, where it overflows through the

pipe *b* into the water in the boiler. Pipe *c* is a blow-out pipe for the purpose of getting rid of the scales and sediment contained in the feed-water, which are deposited at or near the bottom of the receptacle.

By this arrangement a large additional heating-surface is gained or obtained, the burning out or injuring the chimney or uptake prevented, and the sediment or impurities of the feed-water removed before it reaches the parts of the boiler where the direct heat from the furnace makes sediment and scales injurious and dangerous.

Claim.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of a casing, H, with the chimney or uptake A located inside the steam-dome B, forming a water-receptacle, and provided with the feed-pipe *a* and the overflow-pipe *b*, substantially for the purpose shown and described.

EUGEN NEUMANN.

Witnesses:

THOMAS DYSON,
C. HAWKINS.