

F. H. TREVITHICK.
 STEAM GENERATOR OF THE LOCOMOTIVE TYPE.
 APPLICATION FILED OCT. 22, 1909.

1,001,712.

Patented Aug. 29, 1911.

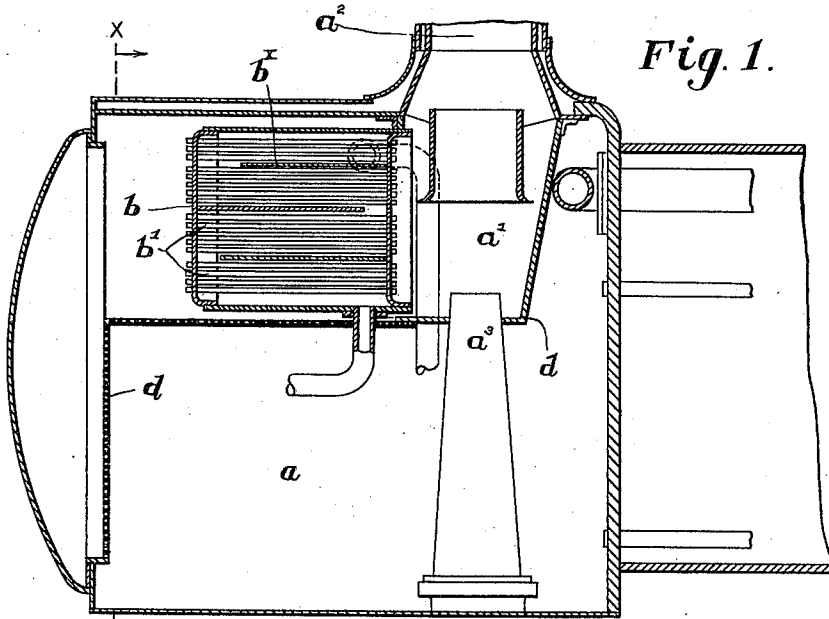


Fig. 1.

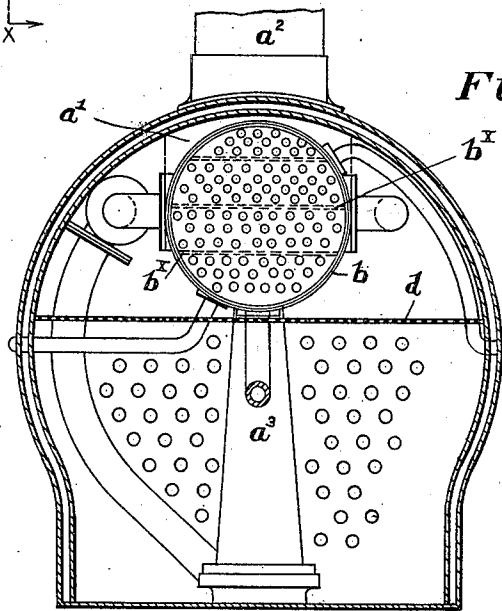


Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK HARVEY TREVITHICK, OF ZEITOUN, CAIRO, EGYPT.

STEAM-GENERATOR OF THE LOCOMOTIVE TYPE.

1,001,712.

Specification of Letters Patent. Patented Aug. 29, 1911.

Application filed October 22, 1909. Serial No. 523,955.

To all whom it may concern:

Be it known that I, FREDERICK HARVEY TREVITHICK, a subject of the King of Great Britain and Ireland, residing at Zeitoun, Cairo, Egypt, have invented new and useful Improvements in or Applicable to Steam Generators of the Locomotive Type, of which the following is a specification.

This invention relates to locomotive, semi-portable and other boilers of like character, and consists in improved means for enabling the furnace gases to be utilized for heating the feed water and for superheating the steam.

The accompanying drawings illustrate a locomotive smoke-box embodying my invention, Figure 1 being a longitudinal section and Fig. 2 a transverse section on the line $x-x$ in Fig. 1.

In carrying out my present invention, I provide the smoke-box a with a chamber a' arranged in the upper part thereof and beneath a rearwardly disposed smoke-stack a^2 . The upper end of the chamber a' is open to the smoke-stack a^2 , while in front of the chamber is mounted a cylindrical vessel b furnished with numerous fire tubes b' and divided into several compartments by means of plates b^x running either horizontally, as shown in Fig. 1, or vertically, as in Fig. 2, these compartments communicating with one another in such a manner as to form a sinuous passage.

A transverse partition d' extending entirely across the smoke-box causes the whole

of the waste furnace gases to first pass through a spark arrester d to the front portion of the smoke-box a and then return through the tubes b' to the rear chamber a' , whence they escape by way of a smoke-stack a^2 . While the furnace gases are passing through the tubes b' , the steam to be superheated or the feed water to be heated is caused to circulate about the tubes b' in the vessel b , as will be readily understood. A blast nozzle a^3 is mounted within the chamber a' to create a draft through the fire tubes b' .

What I claim as my invention and desire to secure by Letters Patent is:—

In a locomotive or other combined engine and boiler, the herein described means for utilizing the waste gases in heating the feed-water, same consisting in a smoke-box divided by means of a horizontal partition into two chambers, a cylindrical vessel located in the upper of said chambers and traversed by tubes, through which the furnace gases pass, and a narrow compartment or pocket disposed beneath the smoke-stack and inclosing the outlet end of said cylindrical vessel, and a blast-nozzle discharging into said narrow compartment.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK HARVEY TREVITHICK.

Witnesses:

H. D. JAMESON,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."