

W. E. HAXTUN.  
STEAM GENERATOR.

No. 180,127.

Patented July 25, 1876.

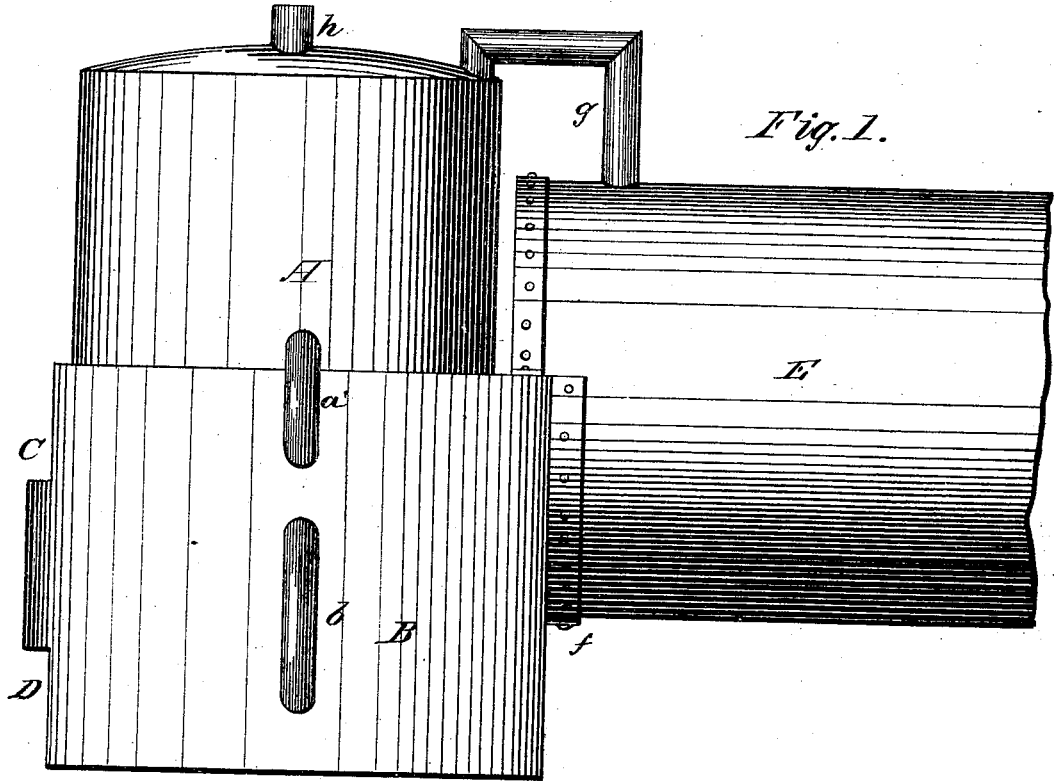


Fig. 1.

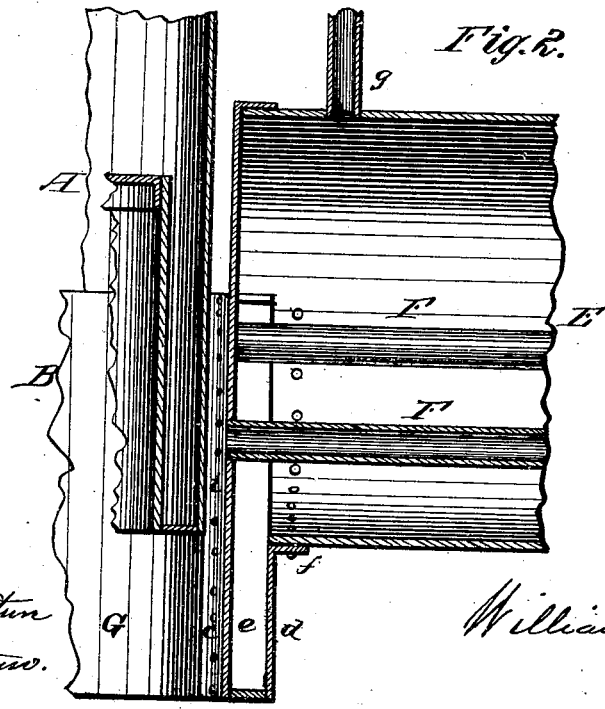


Fig. 2.

Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN STEAM-GENERATORS.

Specification forming part of Letters Patent No. **180,127**, dated July 25, 1876; application filed February 21, 1876.

*To all whom it may concern:*

Be it known that I, WILLIAM E. HAXTUN, of Kewanee, Henry county, State of Illinois, have invented a new and useful Improvement in Steam-Generators, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a vertical longitudinal section of the parts shown.

This invention is an improvement on the steam-generator shown and described in Letters Patent granted to me January 26, 1875, reissued June 22, 1875; and it consists in connecting the horizontal boiler with the water-jacket, which surrounds the fire-chamber, directly, as herein described, instead of by means of pipes, as shown in said patent, and in so constructing the supports for the upright boiler that they also form a water-communication between such boiler and said water-jacket.

When the generator is constructed as shown in my said patent, there is a space between the water-jacket and the horizontal boiler, and, in consequence, a loss of heat, the parts are liable to settle unequally, and the tendency is to open the joints in the connecting water and steam pipes, and the water-communication between the jacket and boiler, being through pipes, may become obstructed.

To overcome these objections is the chief object of this invention.

In the drawings, A represents a single upright boiler. The lower part has double walls, with a water-space between them. Each wall is provided with a head. The greater part of the space between the two heads is a steam-chamber. Within the inner wall is a magazine for fuel, which is introduced through a chute, which may be located at C.

B is a water-jacket, having double walls, but no heads; but the space between the walls at the bottom is closed by suitable means, and the space at the top, which does not communicate with the horizontal boiler, is also closed, so as to form a water-space, *e*, between the two walls of the jacket. This part B forms both a boiler and fire pot or chamber, G, and access may be had to this fire-chamber through a door, which may be located at D. B rests on a ring, which also supports the grate.

The boiler A is supported on the water-

jacket B by means of supports *a*, which are tubes, furnishing also a water-communication between these two boilers A B. I also connect A and B together by means of a tube, *b*, located near the bottom of A, so that the water can be drawn from both boilers by means of a cock located near the bottom of B.

E is a horizontal boiler, provided with flues F. This boiler is connected directly with the water-jacket or boiler B, so that the communication between the water-space *e* and the boiler E is perfectly free, and not liable to be obstructed.

As represented, these two boilers B and E are connected as follows: The back side *d* of the boiler B is cut away, and provided with a flange, *f*, and this flange is riveted to E, the front end of which is cut away, as shown in Fig. 2.

The sheet *c* forms both the head of E and a portion of the inner wall of B, and is properly riveted to the parts which form the remaining portion of such inner wall.

For convenience, I make the back side of B square, instead of circular, as in my former patent.

*h* is a steam-pipe, with which heating-coils can be connected; and *g* is a pipe furnishing steam-communication between the two boilers A E.

The generator can be used for mechanical purposes.

All of the parts A B E are to be incased in brick work, in the usual manner, and so that the smoke and heat will pass from the chamber G up and around A, and thence into the flues F.

There is a space, *i*, between the boilers A and B, for the passage of heat and smoke, the size of which is to depend on circumstances.

The generator, constructed as described, is a base-burner.

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

The combination of the single upright boiler A; water-jacket or boiler B, and horizontal boiler E, connected directly with the boiler B, so as to provide a free water-communication between them, all constructed and operating substantially as and for the purposes set forth.

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