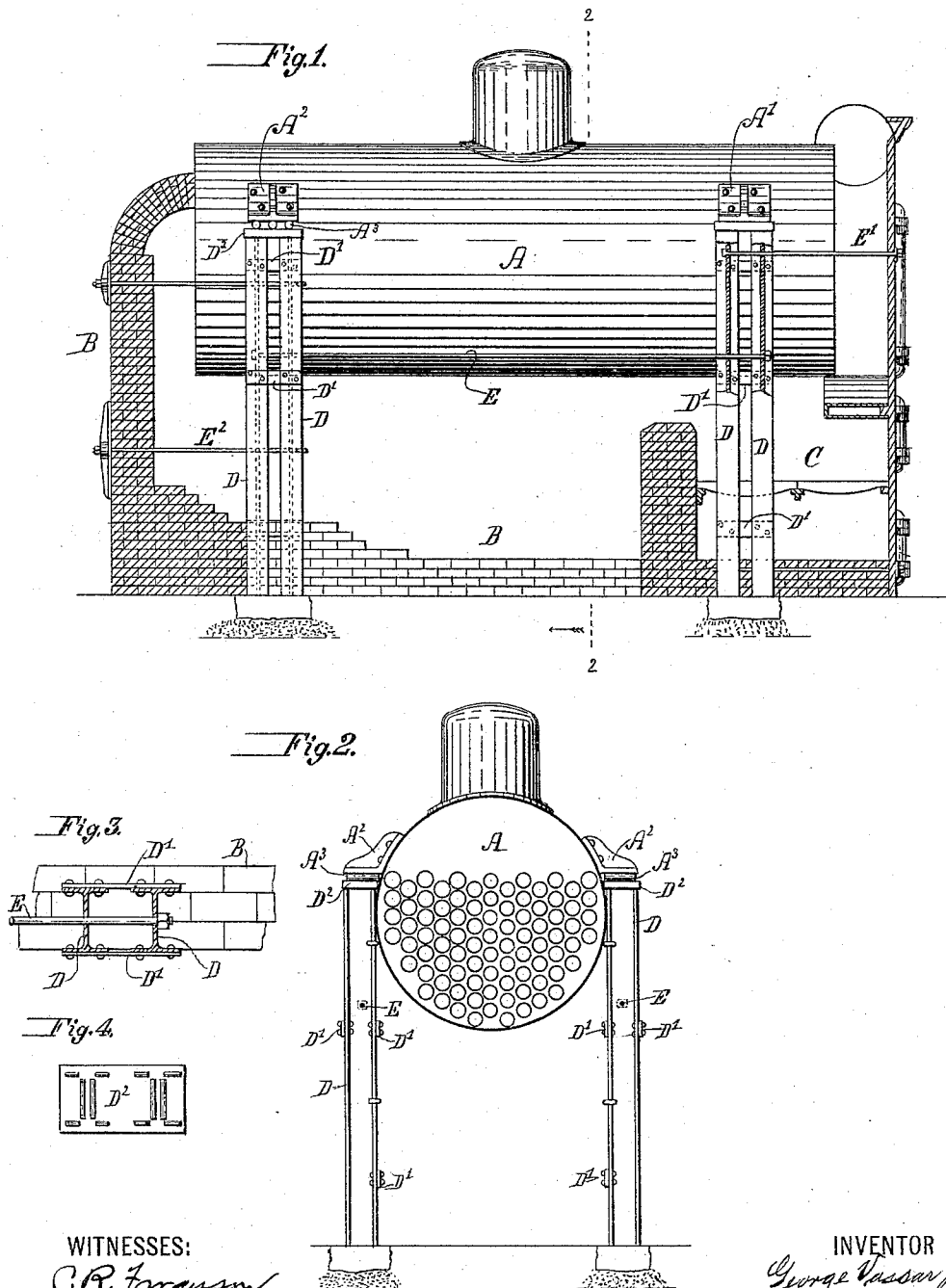


(No Model.)

G. VASSAR, Jr.  
STEAM GENERATOR.

No. 487,382.

Patented Dec. 6, 1892.



WITNESSES:

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HIS ATTORNEY

# UNITED STATES PATENT OFFICE.

GEORGE VASSAR, JR., OF NEW YORK, N. Y.

## STEAM-GENERATOR.

SPECIFICATION forming part of Letters Patent No. 487,382, dated December 6, 1892.

Application filed June 17, 1892. Serial No. 437,041. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE VASSAR, Jr., of New York, in the county and State of New York, have invented a certain new and useful Improvement in Steam-Generators, of which the following is a specification.

The object of my improvement is to provide a more desirable way of supporting boilers within the walls which inclose them.

I will describe a steam-boiler embodying my improvement and then point out the novel features in the claim.

In the accompanying drawings, Figure 1 is a sectional side elevation of a steam-generator embodying my improvement. Fig. 2 is a transverse section taken at the plane of the dotted line 2 2, Fig. 1, looking in the direction of the arrow, which is adjacent to such line. Fig. 3 is a horizontal section of one of a number of upright beams or girders and a portion of one of the walls of the steam-generator. Fig. 4 is an inverted plan of a cap for such beam or girder.

Similar letters of reference designate corresponding parts in all the figures.

A designates a boiler, which may be of ordinary or any other suitable construction. B designates walls inclosing such boiler or the main portion thereof. Within these walls B is a furnace C of any suitable construction is arranged.

At the front of the steam-generator there may be a wall of iron, and this may be provided with doors in the usual manner.

D designates a number of upright beams or girders. As here shown, they are made in the form generally known as "I beams" or "girders," and are arranged in pairs connected by cross-pieces D', riveted or otherwise fastened to them. Caps D<sup>2</sup> surmount each pair of beams or girders D and are provided on the under side with lugs for engaging with the tops of the beams or girders.

The configuration of the under side of the caps may be understood by reference to Fig. 4, and by considering this figure in connection with the beam or girder represented in Fig. 3 it will be readily seen that by turning the cap over its transverse lugs will embrace the webs of the beams or girders and its longitudinal lugs will fit against the opposite surfaces of the flanges of the beams or girders.

The beams or girders may be made of iron or steel. This is also true of their caps. The lower extremities of the beams or girders may be supported on any suitable foundation of masonry or concrete. A pair of these beams or girders is shown as arranged on diametrically-opposite sides of the boiler near its front end, and other pairs are similarly arranged near the rear end of the boiler.

Above the beams or girders D the boiler A is provided with longitudinally-extending lugs A' A<sup>2</sup>, which may be riveted or otherwise fastened in place. These are intended to cooperate with the caps of the beams or girders for the purpose of sustaining the boiler independently of the walls. The lugs A' rest directly upon the caps of the adjacent beams or girders.

Between the lugs A<sup>2</sup> and the caps of the beams or girders adjacent thereto rollers A<sup>3</sup> are arranged. These may simply be placed between these lugs and the opposite caps, or they may be otherwise applied to provide for a longitudinal motion of the boiler relatively to the beams or girders which are beneath the lugs A<sup>2</sup>, and therefore prevent the boiler when contracting or expanding longitudinally from exerting any force tending to tilt the beams or girders.

It will be seen that the pairs of beams or girders near the front end of the boiler are connected with the pairs of beams or girders near the rear end of the boiler by means of tie-rods E. It will also be seen that tie-rods E' extend from the front beams or girders D to the front wall of the steam-generator, and that tie-rods E<sup>2</sup> extend from the rear beams or girders to the rear wall of the steam-generator.

The tie-rods are shown as extending through the beams or girders. Those which connect the front and rear beams or girders have heads at one end and nuts at the other end beyond the beams or girders. Those which connect the beams or girders with the end walls are similar, in that they have heads at one end and nuts at the other. To afford an extensive bearing over the walls, they may also have plates interposed between the walls and the nuts.

It will be seen that by my improvement I provide for constructing a steam-generator in such a way that this boiler will be supported

independently of the walls, and hence it will be apparent that the walls may be removed and reconstructed without disturbing the boiler.

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

10 In a steam-generator, the combination, with a boiler and walls inclosing the same, of beams or girders supported independently of the walls and each consisting of I-beams arranged in pairs and secured together, a cap having lugs to engage the top of each pair of

beams or girders, lugs extending from the boiler near the front and rear ends and sustained on the tops of said beams or girders, 15 and rollers intermediate of said lugs and the caps, substantially as specified.

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

GEORGE VASSAR, JR.

Witnesses:

CLARENCE R. FERGUSON,  
ANTHONY GREF.