

(No Model.)

B. DAVIS.

STEAM GENERATOR ATTACHMENT TO STEAM BOILERS.

No. 305,803.

Patented Sept. 30, 1884.

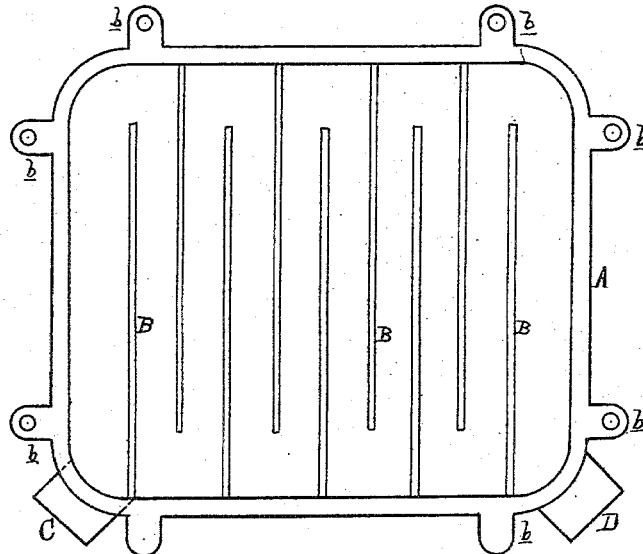


Fig. 1.

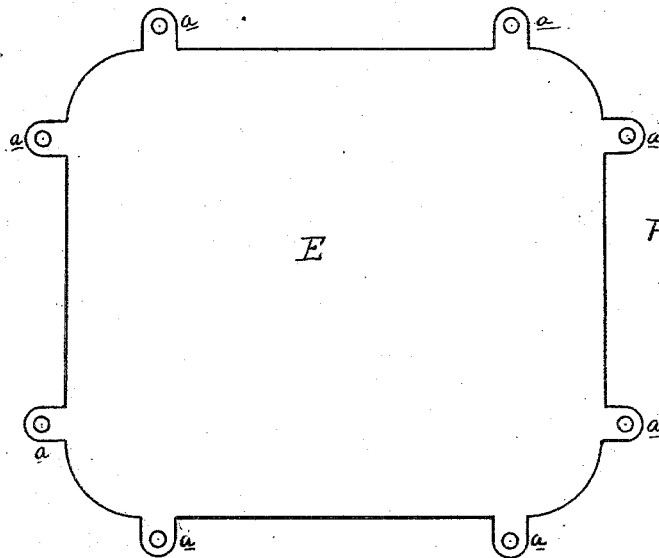


Fig. 2.

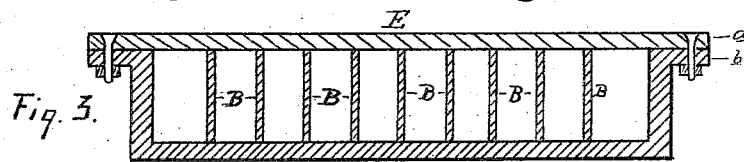


Fig. 3.

Attest:  
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By his Atty.  
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# UNITED STATES PATENT OFFICE.

BAXTER DAVIS, OF DEFIANCE, OHIO.

## STEAM-GENERATOR ATTACHMENT TO STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 305,803, dated September 30, 1884.

Application filed January 16, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, BAXTER DAVIS, of Defiance, in the county of Defiance and State of Ohio, have invented new and useful Improvements in Steam-Generator Attachments; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

10 This invention relates to certain new and useful improvements in steam-generators designed to be used either as an attachment to a steam-boiler or detached therefrom.

The object of the invention is to provide a small steam-generator by means of which the water entering at one point is compelled to travel by a very circuitous route to the point of exit, so that a large surface of such water is brought into contact with heated surfaces, 20 which will rapidly convert such water into steam.

The device is especially adapted to be attached to steam-boilers used for providing steam for engines, and when so attached 25 heat of a single lamp applied to the under surface of this attachment will tend to keep the water in the boiler very hot, even when the fires are withdrawn from the furnace, as is usually done at night, so that upon kindling 30 the fires in the morning it will take but a few moments and a small expenditure of fuel to get up steam for operating purposes.

The invention consists in the peculiar construction and operation of the generator, as 35 more fully hereinafter described.

Figure 1 is a plan view with the cover removed. Fig. 2 is a plan of the cover. Fig. 3 is a vertical central horizontal section showing the operation under a lamp-flame or gaso- 40 line-burner.

In the accompanying drawings, which form a part of this specification, A represents a shallow case with the top removed and the bottom cast integral with the body, the depth 45 of the latter being but one and a quarter inch, or thereabout. This body is divided by means of partitions B, cast, preferably, integral with the bottom and sides, and alternately extending from one side nearly to the 50 other, so that water entering at C must travel a long distance around the ends of these partitions to find an outlet at D, the inlet and outlet, for instance, being both connected with

a steam-boiler. The cap or top plate, E, is provided with lugs a, and similar lugs, b, 55 upon the body, provide means, with suitable bolts passing through said lugs, of securing the cover or cap in place, a gasket not being necessary if the parts are properly fitted together. 60

This device will be found peculiarly applicable to steam fire-engines for the purpose of keeping up steam in the boilers when off duty; or the generator may be placed on a stove and suitably connected for the purpose of heating 65 the water circulating through the same for bath-room or culinary purposes. In the use of this generator the principle of the buoyancy of heated water is utilized, the generator when in use as attached to boilers being placed 70 at the lower extremities thereof, when the cold water, entering its inlet from the boiler, will be heated in its passage through the device, and returned to the boiler by the increased buoyancy given to the water by the heat 75 through the outlet-pipe.

I am aware that various devices, most of them being of an expensive character, are used for a like purpose, employing the same principle of operation; but I am not aware of any 80 device for this purpose constructed like mine, and which can be furnished to the public at so small an expense, and requiring so small an amount of fuel and labor, and giving such efficiency of service. 85

What I claim as my invention is—

1. A steam-boiler attachment consisting of a shallow chamber within which is provided a circuitous passage from the water-inlet to the water-outlet, and which is also provided 90 with a removable cover or top plate, substantially as and for the purposes described.

2. The steam-generator attachment herein described, consisting of the shallow chamber A, having partitions B cast integral with 95 the bottom and sides, and alternately extending from one side nearly to the other, said chamber being provided with inlet C, and outlet D, and lugs b, and removable cover E, having lugs a, substantially as and for the pur- 100 poses specified.

BAXTER DAVIS.

Witnesses:

WILLIAM CARTER,  
W. T. HARRIS.