

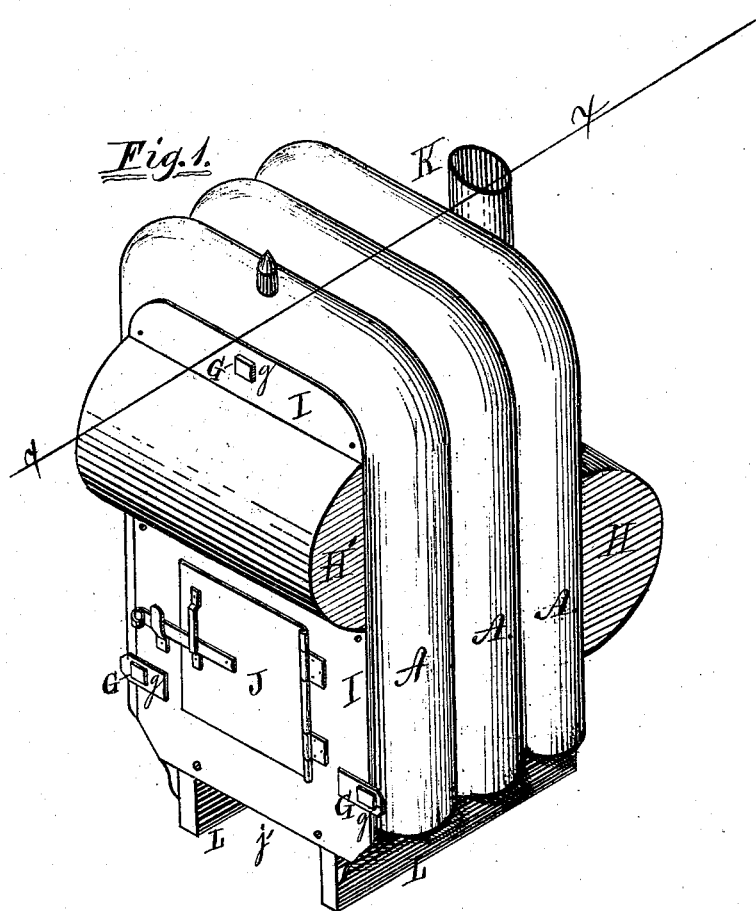
S. West,

2. Sheets. Sheet 1.

Steam Generator.

No. 111,159.

Patented Jan. 24. 1871.



Witnesses:—
Platt R. Richards.
D. H. Clarke

Inventor.
Samuel West,
by W. B. Richards,
his atty.

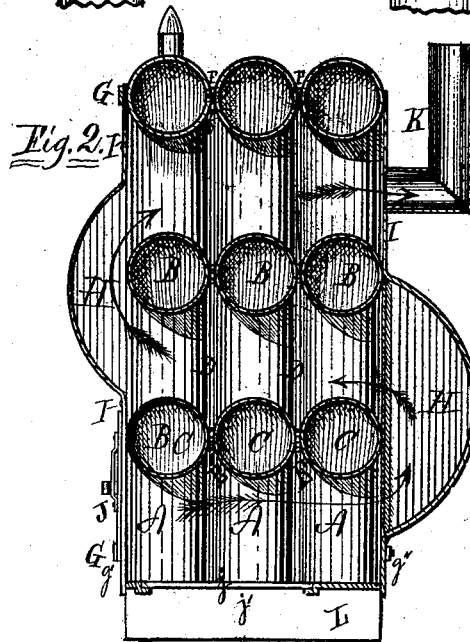
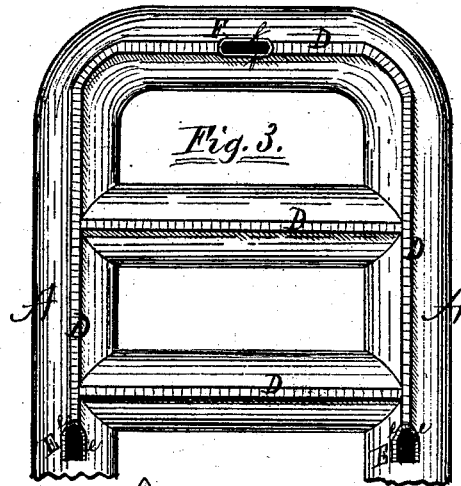
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UNITED STATES PATENT OFFICE.

SAMUEL WEST, OF ELMWOOD, ILLINOIS, ASSIGNOR TO ELMWOOD MINING AND MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN STEAM-GENERATORS.

Specification forming part of Letters Patent No. **111,159**, dated January 24, 1871.

I, SAMUEL WEST, of Elmwood, in the county of Peoria and State of Illinois, have invented certain Improvements in Steam-Generators, of which the following is a specification:

Nature and Objects of the Invention.

The nature of my invention relates to improvements in the construction of steam generators or boilers; and the invention consists in forming the generator in sections, each section consisting of a cylinder, the ends of which are vertical and the central portion arched. Two horizontal cylinders also extend across, connecting the one the steam-spaces, and the other the water-spaces, of the vertical parts of each section.

Any desired number of these sections are arranged together and bolted securely, water and steam connections being provided, and when placed together, with the addition of bonnets, the arrangement is such as to afford convenient space for the fire-box and to produce an arrangement of flues which may utilize all the heat and superheat the steam, all as hereinafter fully described.

Description of the Accompanying Drawing.

Figure 1 is a perspective view of my improved steam-generator. Fig. 2 is a vertical sectional view on the plane of the line *x x*, Fig. 1. Fig. 3 is an elevation of one of the sections.

General Description.

A A A represent the sections arched, as plainly shown. B B B and C C C represent two series of horizontal cylinders, connecting the vertical parts of each section. D D D D are flanges on each section, milled off to form tight and close connections between the sections. E E are openings in each section, coinciding or communicating with those in the adjacent section. These openings are surrounded by flanges *e e*. F F are also openings in each section, coinciding and communicating with those in the adjacent section and surrounded by flanges *f f f*.

The sections A A A are brought together and secured by bolts G G G passing through each of the apertures E, E, and F, upon which is placed a cap, *g'*, and nut *g''*.

H is a bonnet, connecting the flues at their return ends. H' is also a bonnet, connecting the flues at their return ends. I I are plates,

covering the elevation of the end sections. J is the furnace-door; *j*, the grate, and *j'* the ash-pit. K is the chimney. L L are supports.

Any desired number of the sections A A may be brought together and secured by the bolts G G G, provision being made by suitable packing and simple appliances for insuring a perfect joint between the sections and the avoidance of any leakage from the opening through which they communicate with each other.

The sections A A A being connected at their bases by the apertures E E, and at their tops by the apertures F, the desired circulation is provided for within the sections.

The water-line should be kept within the horizontal pipes B B B, leaving ample steam-room above.

When the sections are placed in position the spaces between their different pipes will form the flues, as shown plainly by Fig. 2, in which the direction of the arrows shows the course of the flame and heat from the fire-box to the chimney.

This generator is adapted more particularly to producing steam for cooking purposes, especially for cooking feed for animals. It may, however, be used to advantage for producing power by simply making the parts strong.

The heat passing around the steam-room, in the upper part of the sections, will superheat the steam and deliver it dry for culinary purposes.

Claims.

I claim as my invention—

1. A steam-generator composed of sections A A A, when constructed substantially as described, with cross-pipes B B B and C C C and arched top, and provided with steam-connections F and water-connections E E, and secured by bolts G G G, substantially in the manner and for the purpose specified.

2. The sections A A A, constructed as described, and secured by the bolts G G G, when combined with the plates I I, bonnets H H, grate *j*, door J, chimney K, and supports L L, substantially as described, and for the purpose specified.

SAMUEL WEST.

Witnesses:

W. R. PEIRCE,
T. H. TRACY.