

(No Model.)

2 Sheets—Sheet 1.

G. W. SLOANE.
STEAM GENERATOR.

No. 481,069.

Patented Aug. 16, 1892.

Fig. 1.

Fig. 2.

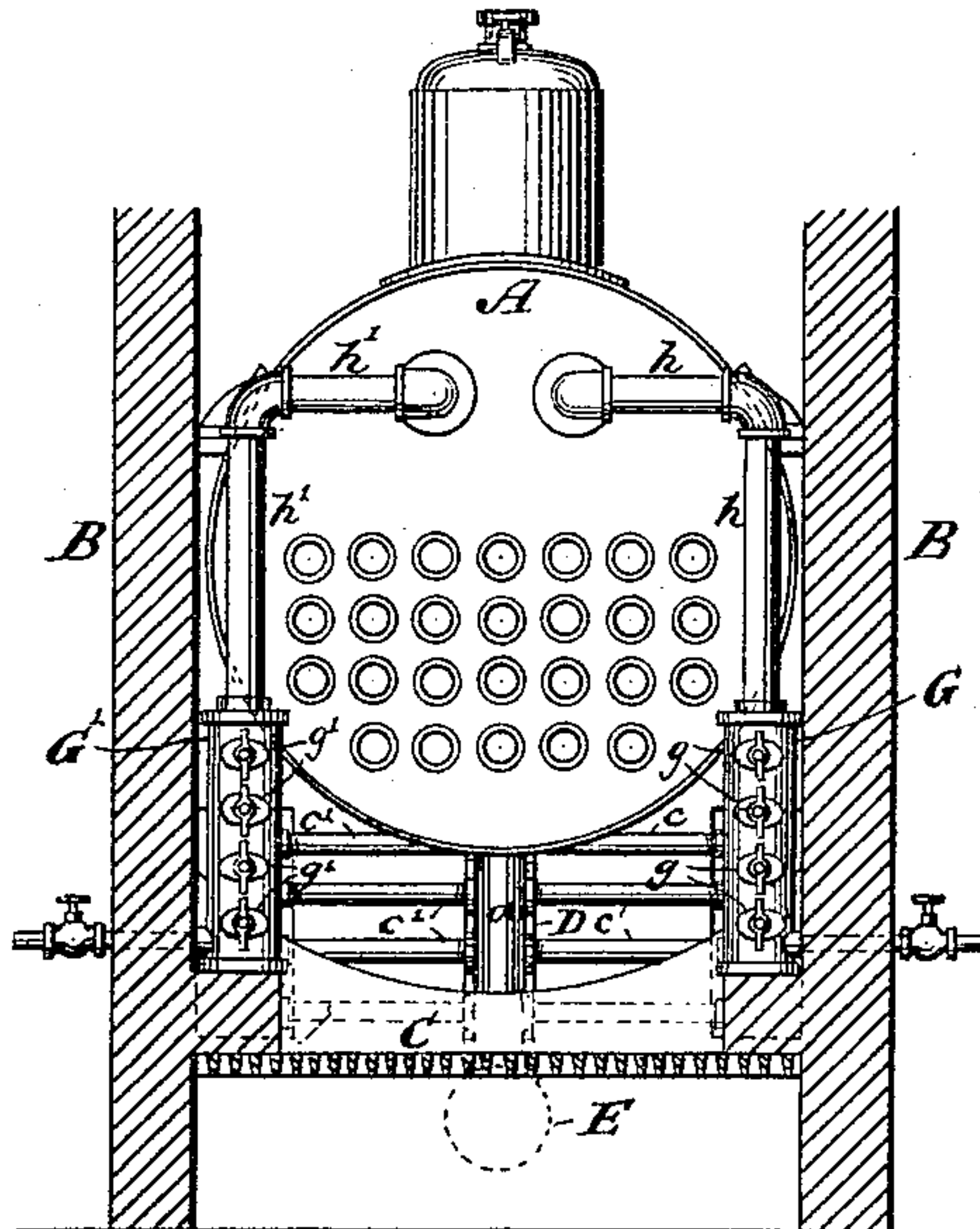
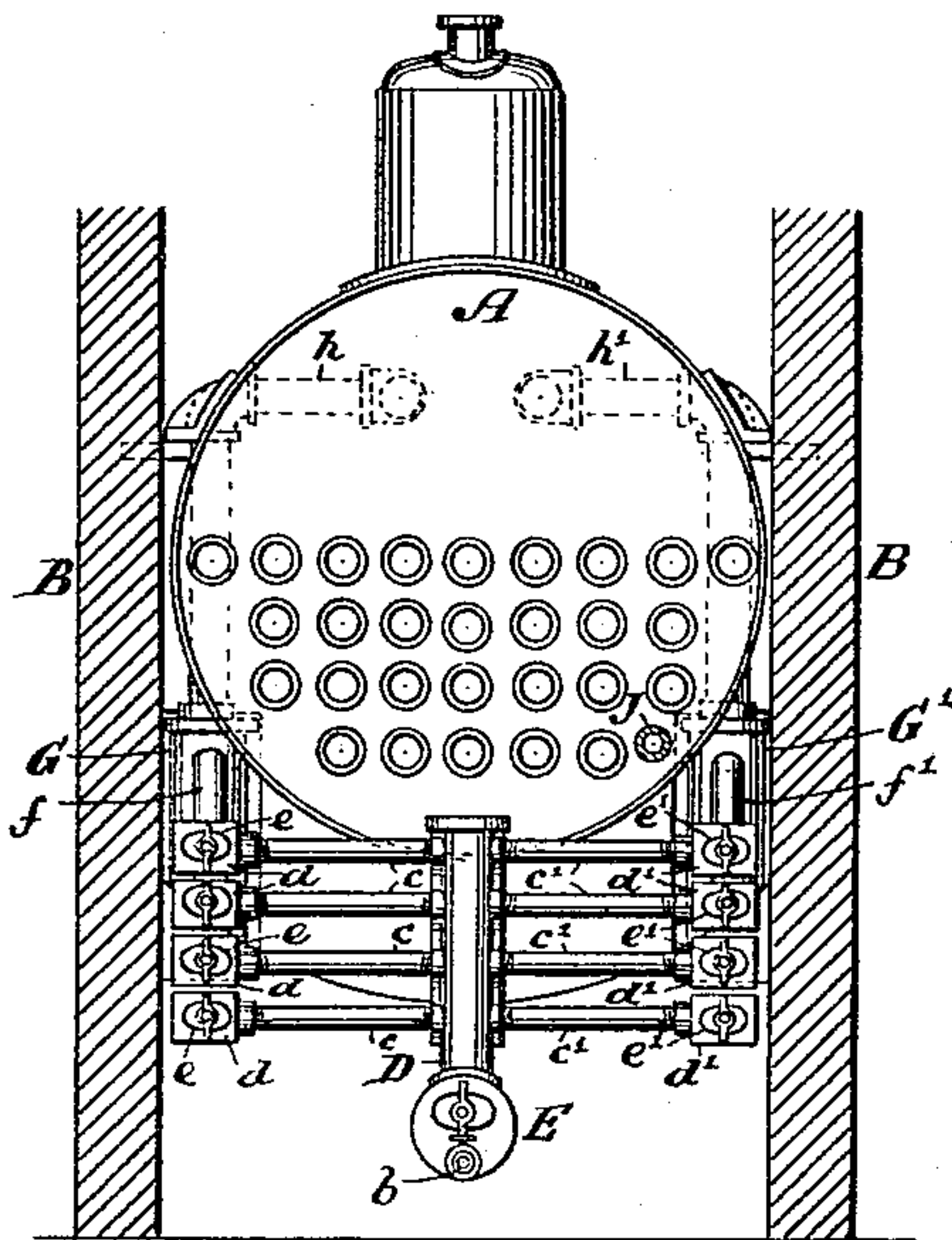
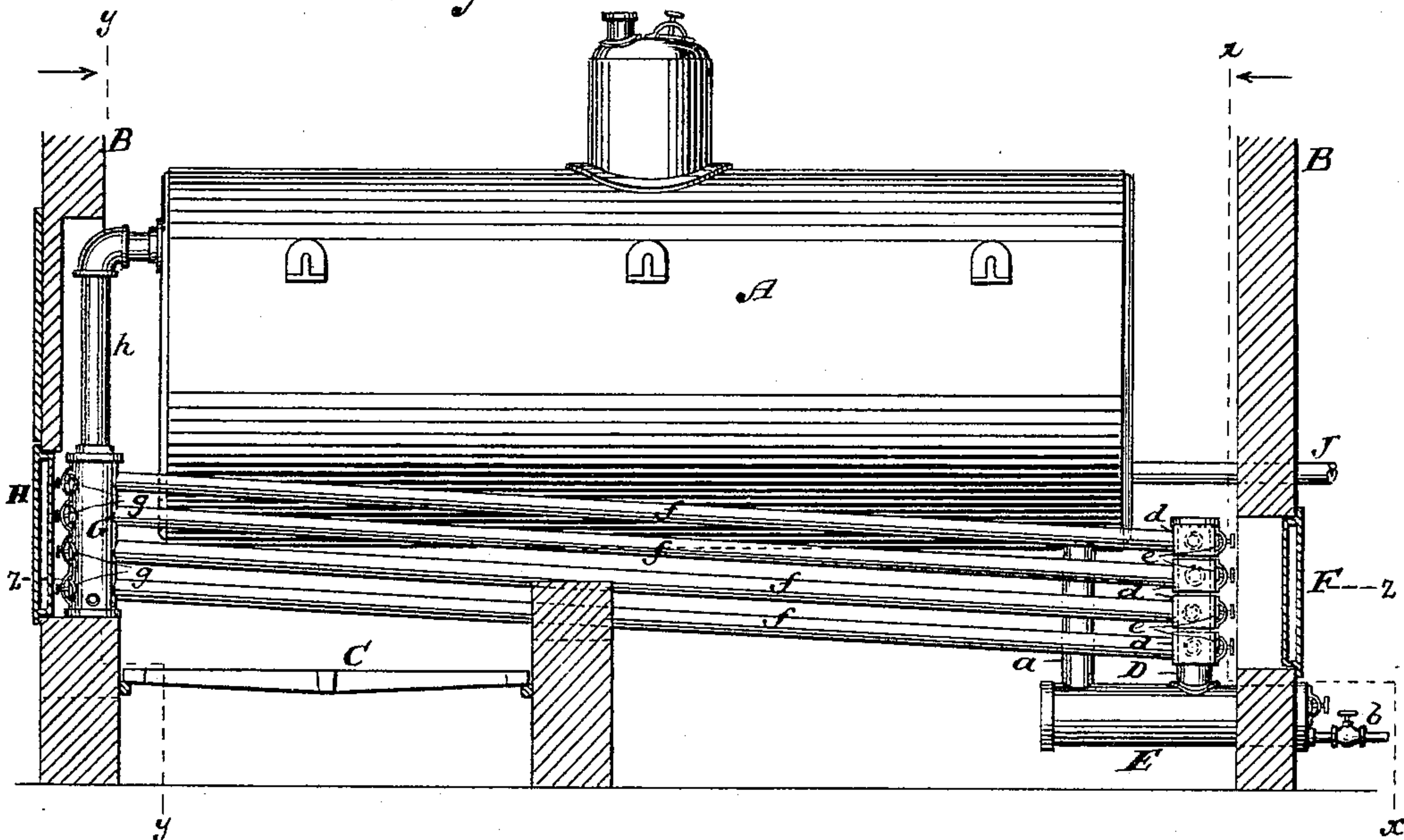


Fig. 3.



WITNESSES:

Edward Wolff.
William Miller

INVENTOR:

George W. Sloane.

BY

Van Santvoord & Hanft
ATTORNEYS.

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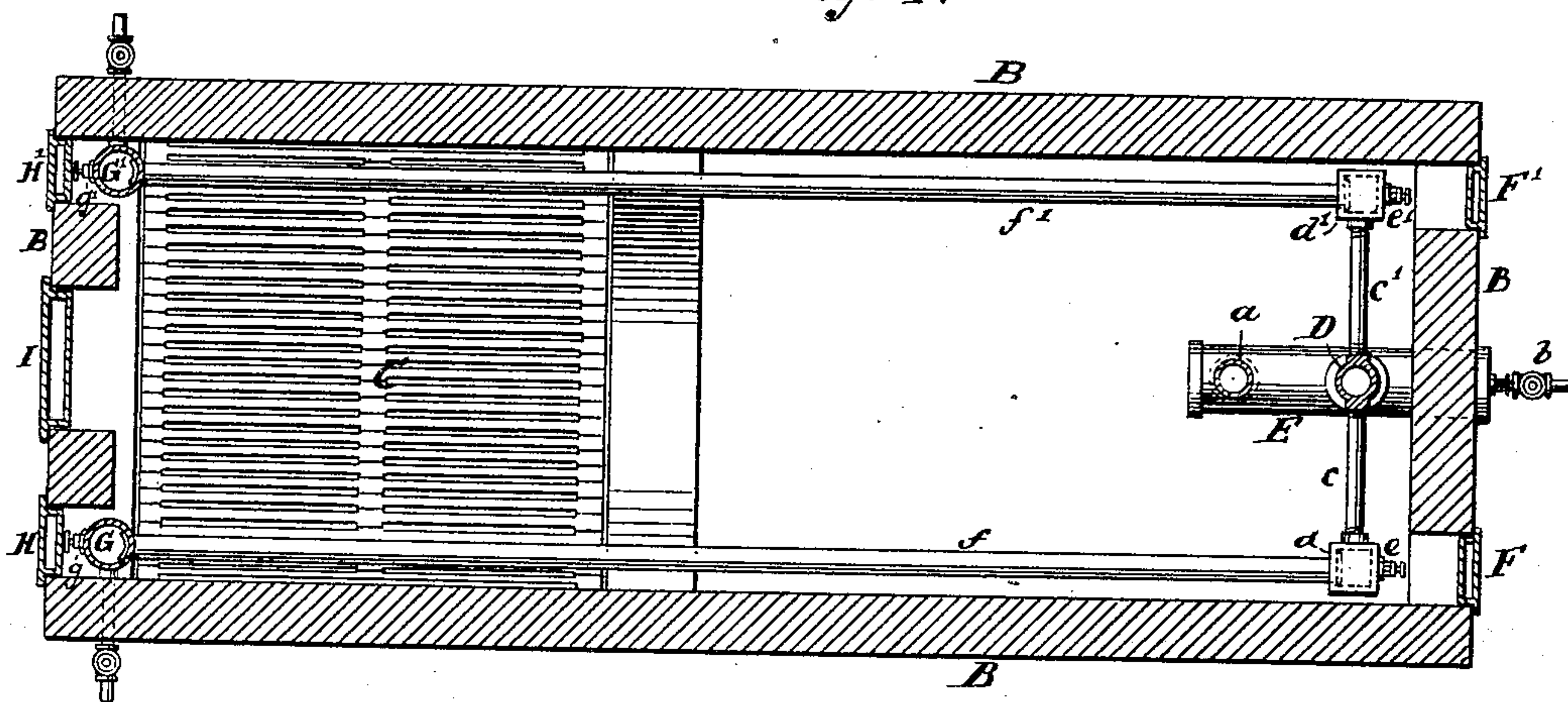
2 Sheets—Sheet 2.

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Fig. 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE W. SLOANE, OF BROOKLYN, NEW YORK.

STEAM-GENERATOR.

SPECIFICATION forming part of Letters Patent No. 481,069, dated August 16, 1892.

Application filed March 26, 1892. Serial No. 426,593. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SLOANE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Steam-Generators, of which the following is a specification.

This invention relates to certain improvements in that class of steam-generators which I have described in Letters Patent No. 257,396, granted to me May 2, 1882, the improvements which constitute my present invention being pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 is a transverse vertical section in the plane $x x$, Fig. 3. Fig. 2 is a similar section in the plane $y y$, Fig. 3. Fig. 3 is a longitudinal vertical section. Fig. 4 is a horizontal section in the plane $z z$, Fig. 3.

In the drawings the letter A designates a steam-boiler, B B are the furnace-walls, and C is the fireplace. At a slight distance from the rear end of the boiler is situated a drum D, which rises in a vertical direction from the mud-drum E, and this mud-drum connects with the boiler A by a pipe a , and it is provided with a blow-off cock b . Its rear end extends through the furnace-wall, and its position is at such a level that it is not in the course of the flame and that it remains comparatively cool. From the drum D extend pipes $c c'$ in opposite directions, and the outer ends connect with heads $d d'$, respectively. (Best seen in Fig. 1.) Each of these heads is provided with a hand-hole $e e'$, respectively, and in the rear end of the furnace are two doors F F', Fig. 4, through which convenient access can be had to the hand-holes $e e'$. From the heads $d d'$ extend pipes $f f'$, which connect with drums G G', situated near the front wall of the furnace, and these drums are provided with hand-holes $g g'$, respectively, one opposite to the front end of each of the pipes $f f'$.

In the front wall of the furnace are two doors H H' opposite to the hand-holes $g g'$, so that when the doors F F' and H H' are opened convenient access can be had for cleaning the pipes $f f'$.

I is the fire-door, which gives access to the fireplace C. The drums G G' connect by pipes $h h'$, respectively, with the steam-space of the boiler A. The feed-water is introduced

by a pipe J directly into the boiler, and it descends through the pipe a into the mud-drum E, in which the largest portion of the impurities contained therein is deposited and can be blown off through cock b , and from the mud-drum the comparatively pure water passes up through the drum D into the pipes $c c'$, and thence through the heads $d d'$ and pipes $f f'$ into the drums G G', and through the pipes $h h'$ back into the boiler A. During its passage through the pipes $c c'$ and $f f'$ the water becomes highly heated, so that it enters the boiler A in the form of a mixture of water and steam, and whenever it is found that a sediment has been formed in the pipes $f f'$ such sediment can be readily removed by opening the doors F F' and H H' and the hand-holes $e e'$ and $g g'$, through which easy access can be obtained to the interior of the pipes $f f'$.

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

1. The combination, with a boiler and a feed-pipe leading directly thereinto, of a mud-drum E, having a pipe a extending into the boiler, a drum D, rising from the mud-drum, and pipe connections between the drum and the steam-space of the boiler, substantially as described.

2. A steam-generator consisting of a furnace structure, a boiler A, a mud-drum E, situated beneath the boiler and connected to the same by a pipe a , a drum D, connected to the mud-drum and extending up between the boiler and the rear wall of the furnace structure, pipes $c c'$, extending from the drum D in opposite directions, heads $d d'$, connected to the ends of the pipes $c c'$ and provided with hand-holes $e e'$, doors F F' opposite said hand-holes, drums G G' between the front end of the boiler and the front wall of the furnace structure, pipes $f f'$, extending from the heads $d d'$ into the drums G G', hand-holes $g g'$ in the drums G G', doors H H' opposite said hand-holes, and pipes $h h'$, leading from the drums G G' into the boiler, substantially as described.

In testimony whereof I have hereunto set hand in presence of two subscribing witnesses.

GEORGE W. SLOANE.

Witnesses:

WM. C. HAUFF,

E. F. KASTENHUBER.