

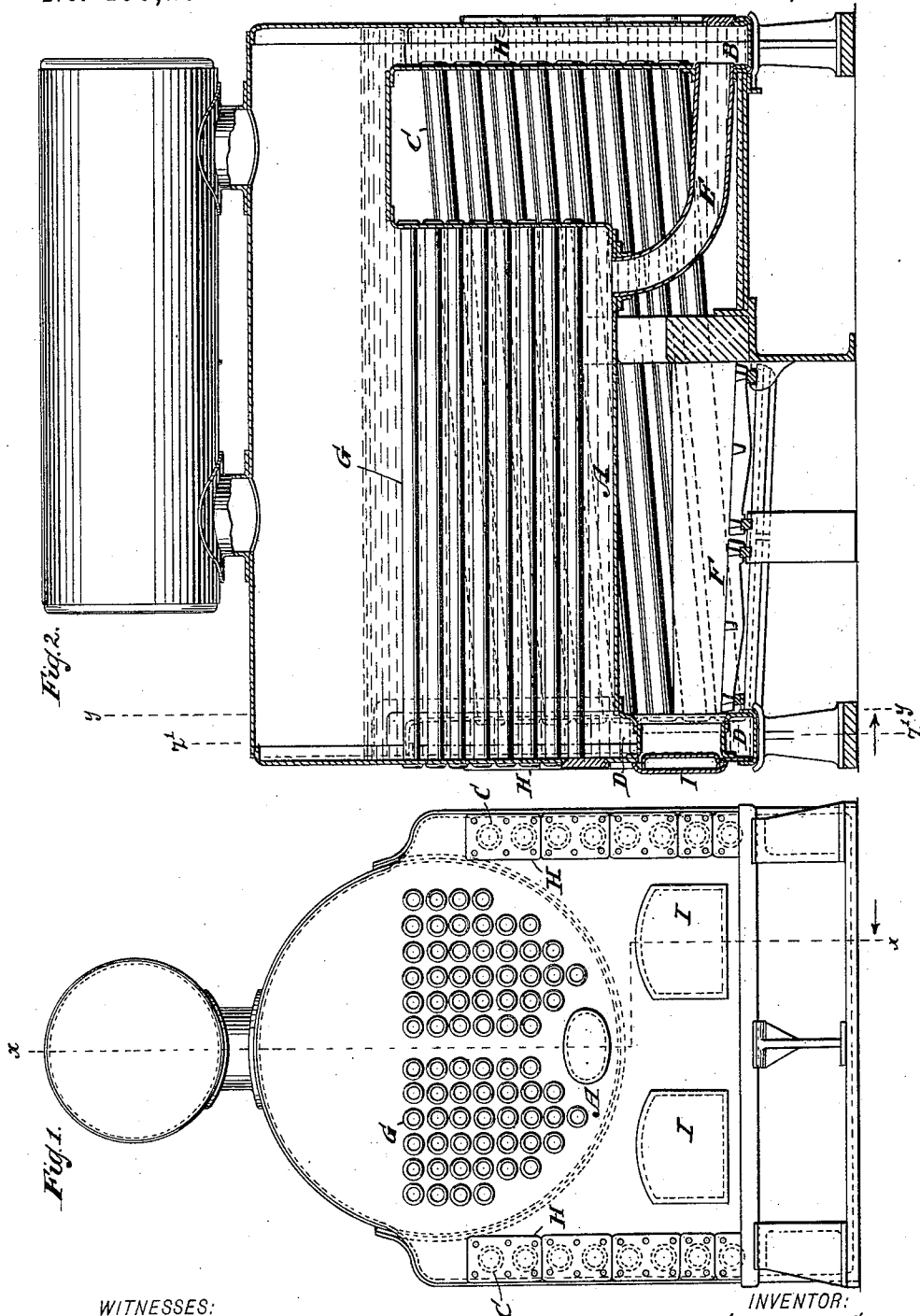
(No Model.)

3 Sheets—Sheet 1.

G. V. SLOAT.
STEAM BOILER.

No. 466,191.

Patented Dec. 29, 1891.



WITNESSES:

Edward Wolff.
William Miller

INVENTOR:

George V. Sloat.

BY

Van Santvoord & Hauff
ATTORNEYS

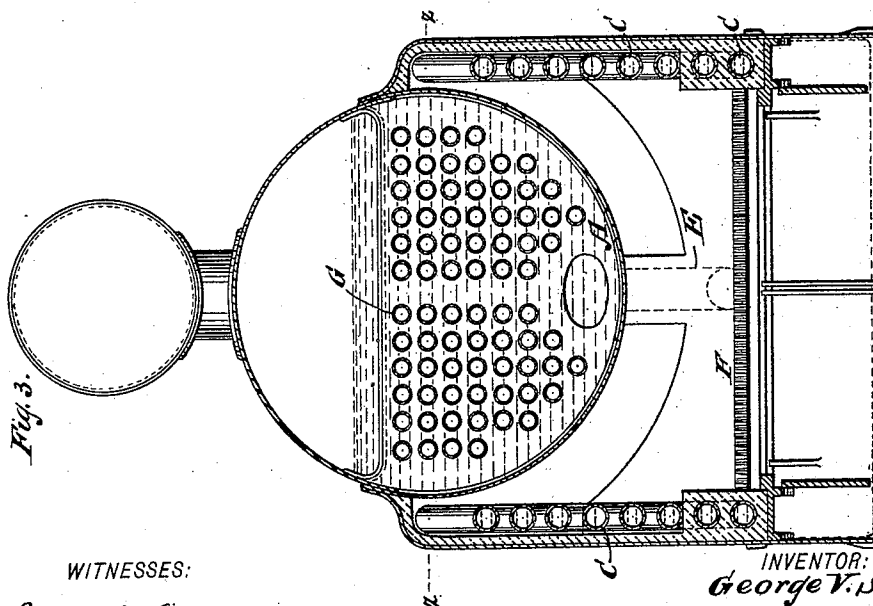
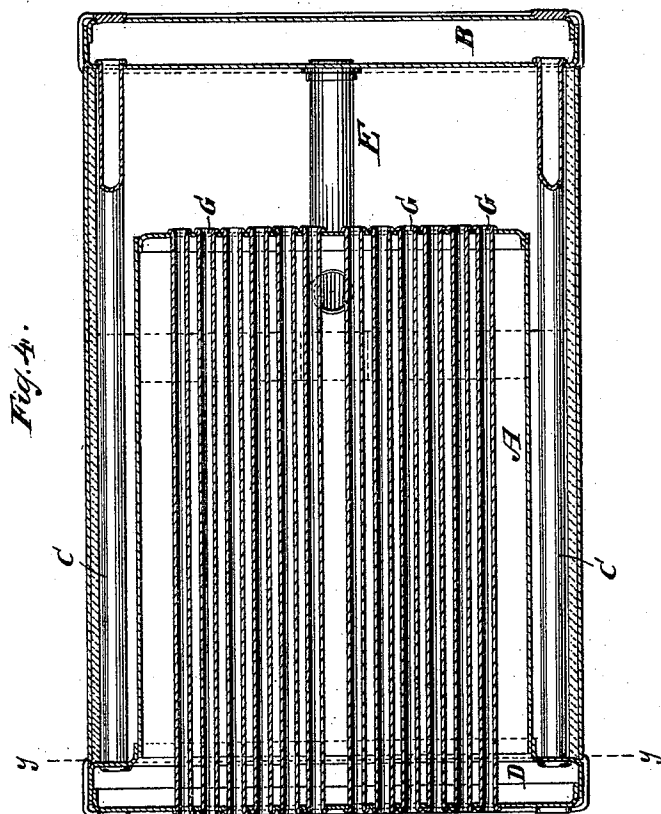
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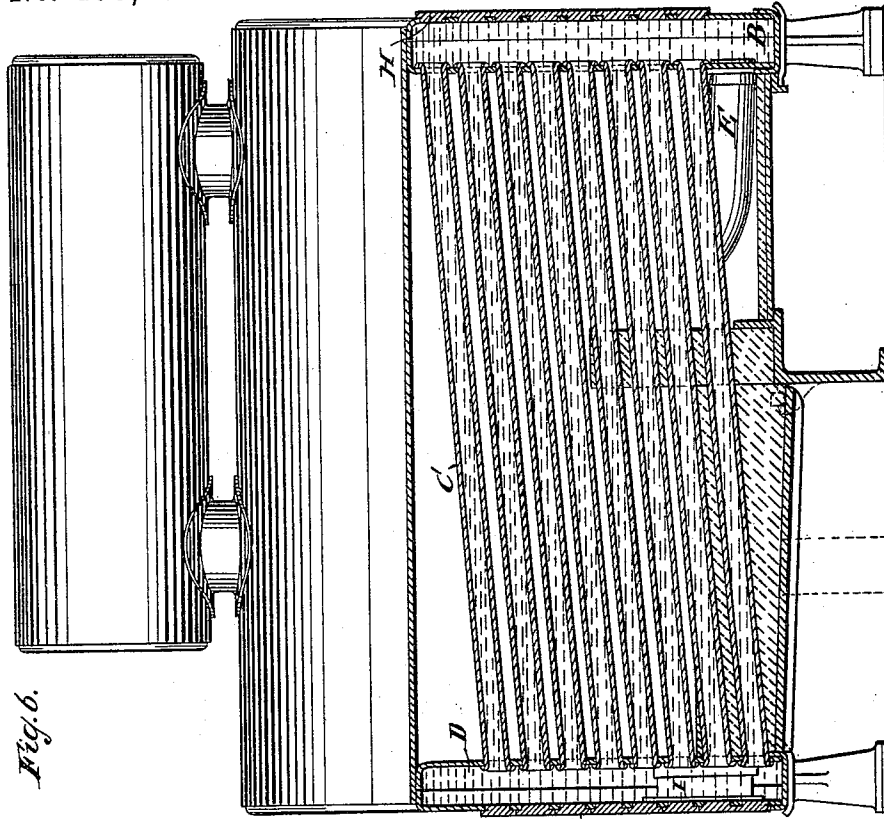


Fig. 6.

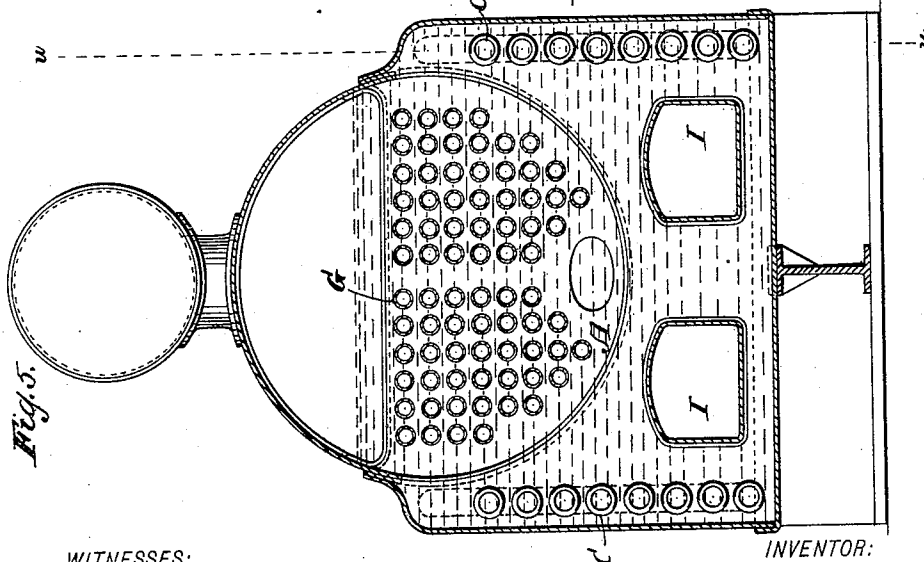


Fig. 5.

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UNITED STATES PATENT OFFICE.

GEORGE V. SLOAT, OF RUTHERFORD, NEW JERSEY.

STEAM-BOILER.

SPECIFICATION forming part of Letters Patent No. 466,191, dated December 29, 1891.

Application filed July 16, 1891. Serial No. 399,720. (No model.)

To all whom it may concern:

Be it known that I, GEORGE V. SLOAT, a citizen of the United States, residing at Rutherford, in the county of Bergen and State of New Jersey, have invented new and useful Improvements in Steam-Boilers, of which the following is a specification.

This invention relates to an improvement in steam-boilers; and it consists in the details of construction set forth in the following specification and claim and illustrated in the annexed drawings, in which—

Figure 1 is a front elevation of the steam-boiler. Fig. 2 is a section along $x x$, Fig. 1. Fig. 3 is a section along $y y$, Fig. 2. Fig. 4 is a section along $z z$, Fig. 3. Fig. 5 is a section along $z' z'$, Fig. 2. Fig. 6 is a section along $u u$, Fig. 5.

In the drawings, the letter A indicates the main shell or body of the boiler, and B is the rear water-space. Tubes C extend from the rear water-space to the front water-space D. These tubes are inclined, as shown, to facilitate circulation. A connecting tube or pipe E leads from the lower part of the main shell to the lower part of the rear water-space B. When the grate F is provided with fuel and the latter is lighted, the flame passes to the rear of the shell A and thence through the flues G to the chimney. In its passage rearward the flame strikes the connecting-tube E and heats the water in the same, thus causing the heated water in the tube to rise directly into the main body of the boiler, while the colder water flows from the base of the rear water-space D into the tube, thereby maintaining a continuous circulation. In this respect my invention differs substantially from a prior construction, in which horizontal tubes connect the vertical portion of a water-containing shell with a hollow box ar-

ranged beneath and near the forward portion of the main boiler-shell. In my invention the water circulation is direct from the base of the rear water-space D into the base of the main boiler-shell at the rear end thereof, and, furthermore, by so constructing the connecting-tube with a portion extending vertically I materially facilitate the heating of the water in such connecting-tube. The tubes C have their ends placed opposite the hand-hole covers H, so that by removing said covers the tubes can be cleaned. In Fig. 1 the hand-hole covers are seen in face view, and by having one cover for two tubes the number of covers is diminished, so that less labor is involved in securing the covers than there would be in case there were a separate cover for each tube. Through the furnace-doors I enable the grate to be supplied with fuel.

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

In a steam-boiler, the combination, with the main boiler-shell A, having a front water-space D and a rear water-space B, of the connecting-tubes C, arranged in a gang one above the other at each side of the main boiler-shell and inclining from the front to the rear water-space, and the tube E, leading downward direct from the base of the main boiler-shell at the rear end thereof to the base of the rear water-space for the circulation of water direct from the tube into the rear end of the main boiler-shell, substantially as described.

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

GEO. V. SLOAT.

Witnesses:

WM. C. HAUFF,
E. F. KASTENHUBER.