

J. C. KILGORE.
Sectional Steam-Boilers.

No. 153,833.

Patented Aug. 4, 1874.

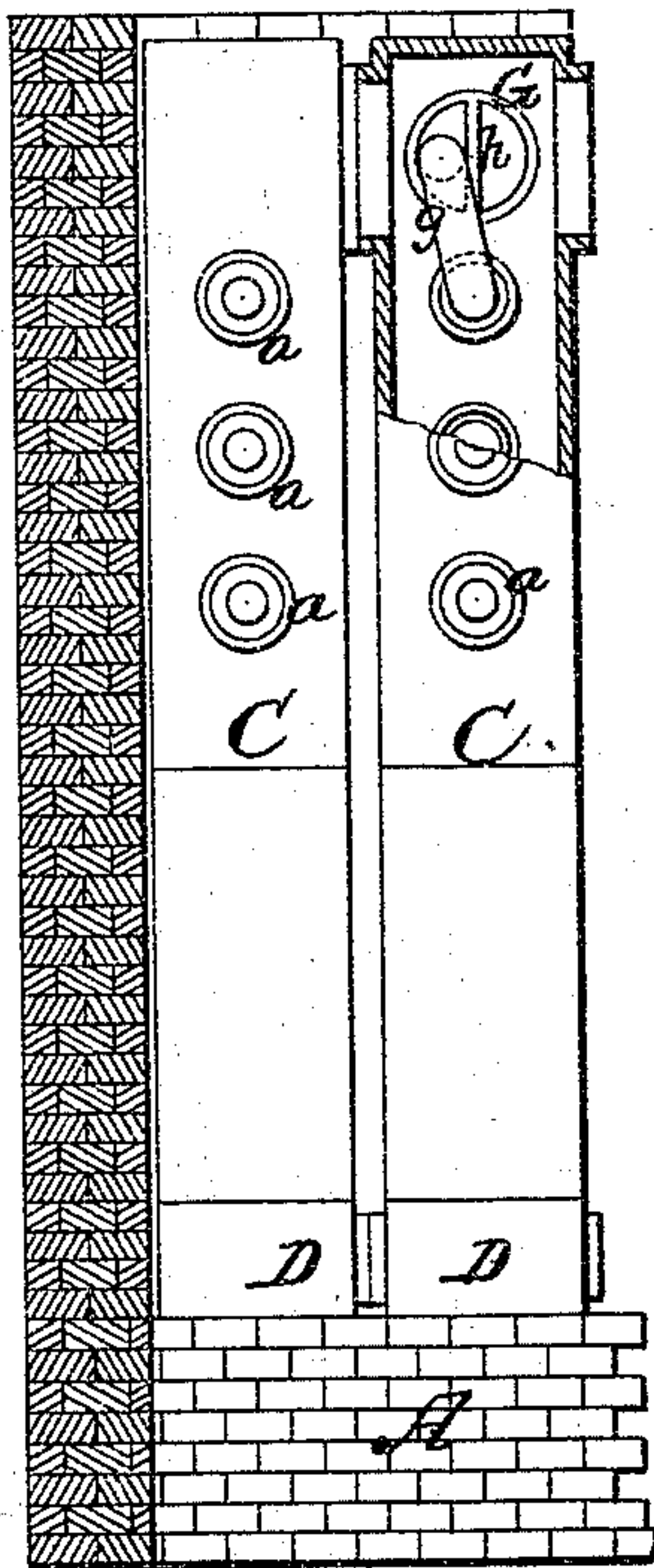
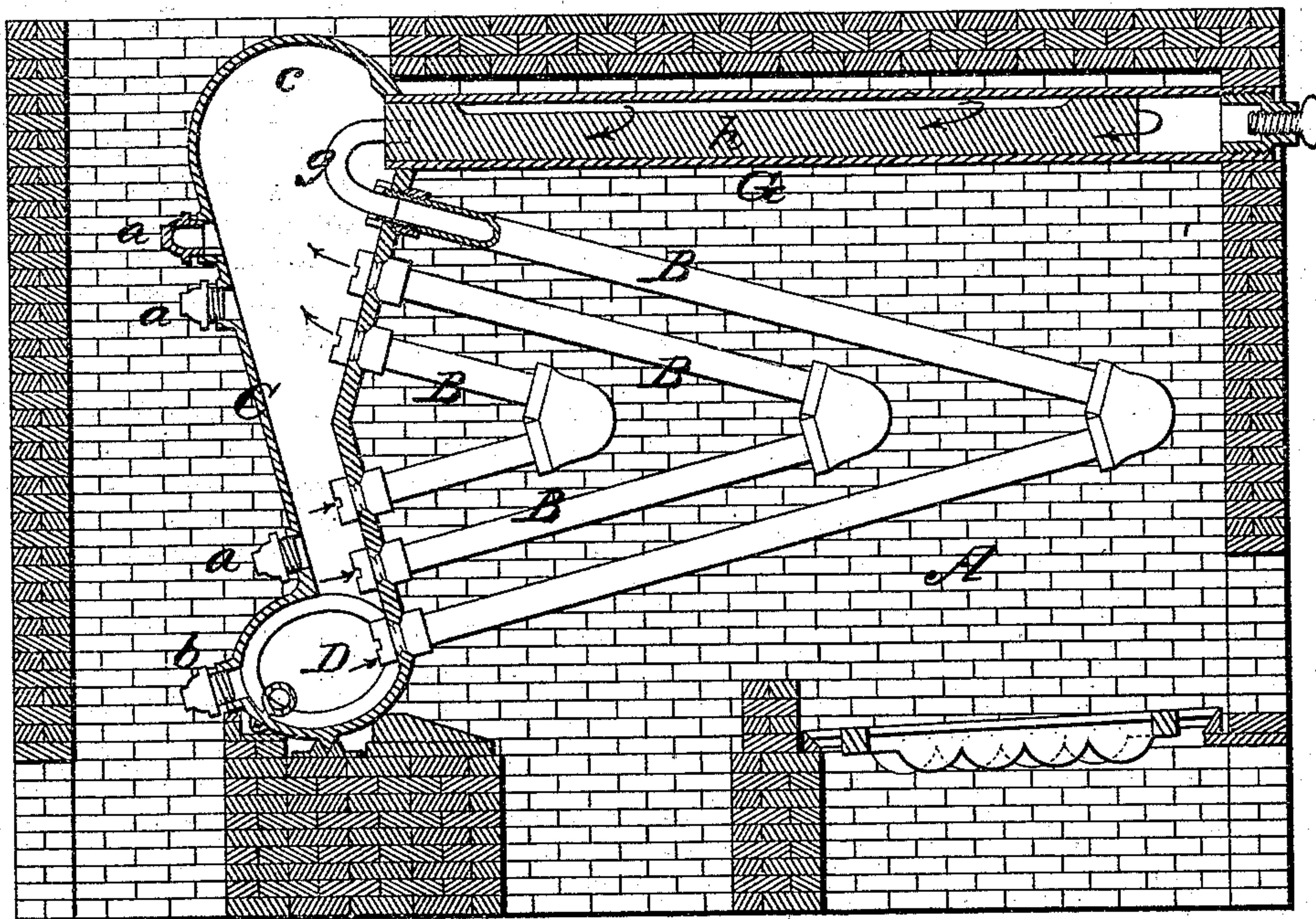


Fig. 1

Fig. 2



WITNESSES

Villette Anderson.
George E. Upham.

By

INVENTOR

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Chipman, Holman & Co.

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UNITED STATES PATENT OFFICE.

JOHN C. KILGORE, OF SHARPSBURG, PENNSYLVANIA, ASSIGNOR TO THE
ECLIPSE STEAM MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN SECTIONAL STEAM-BOILERS.

Specification forming part of Letters Patent No. **153,833**, dated August 4, 1874; application filed
April 18, 1874.

To all whom it may concern:

Be it known that I, JOHN C. KILGORE, of Sharpsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and valuable Improvement in Sectional Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a representation of a cross-section of my boiler, and Fig. 2 is a longitudinal sectional view of the same.

This invention has relation to steam-generators of the tubular kind; and it consists in the application of a partition in a pipe or drum, which is arranged in the fire-chamber and over the inclined circulating-pipes, which partition is extended from a point near the front end to the rear extremity of the said pipe or drum, in combination with a pipe leading from the discharging-end of the highest one of the inclined circulating-pipes, whereby a rapid circulation of water is produced in the drum, and the steam-generating capacity of the boiler is greatly augmented.

In the annexed drawings, A designates the furnace-chamber, in which the steam-generator is suitably arranged. B B are the steam and water circulating-pipes, which I prefer to construct of the V shape shown in Fig. 2, and secure their ends into the front wall or side of a return-chamber, C, in any suitable manner which will give me steam-tight joints. This return-chamber is enlarged above, and contracted below, and its lower end opens into a mud-drum, D, which is provided with an outlet, *b*, suitably closed. The back wall of the return-chamber C has a number of man-holes through it, which are closed by suitable caps or covers *a*, made steam and water tight. G designates a horizontal pipe or drum, which is arranged over the circulating-pipes B, and which communicates at its rear end with the upper enlarged portion of the return-chamber C. The front end of the drum G passes through

the front furnace wall, and is suitably capped. Inside of the drum G is a partition, *h*, which is arranged longitudinally, vertically, and centrally, so as to divide the drum into two longitudinal circulating passages, which communicate with each other at the front end of the drum, and also above the said partition *h*. The discharging-end of the highest branch of the circulating pipe or tube B has a curved pipe or "goose-neck," *g*, applied to it, which extends upward and forward, and enters for a short distance the rear end of the drum G on one side of the partition *h*.

When the generator is in operation water will be forcibly injected from the pipe *g* into the passage on one side of the partition *h*, and pass forward to the front end of the drum, thence back again on the opposite side of the partition *h* and into the return-chamber C. This circulation of the water forward and backward through the drum G will be very rapid, and it will not be obstructed in its course, owing to the vertical arrangement of the partition *h*, and the space left above this partition, which will allow a free transit of the steam.

The man-holes, or, more properly speaking, arm-holes, through the return-chamber C will allow any tube to be easily removed, replaced, and entire sections to be detached or added without interfering with other parts of the boiler.

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

The combination of the injection-pipe *g* with the pipe or drum G, arranged over the circulating-pipes B, and divided into communicating circulating-passages by the partition *h*, and communicating with a return-chamber, C, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOHN C. KILGORE.

Witnesses:

GEORGE E. UPHAM,
ROBERT EVERETT.