

H.T. Fenton—Improvements in Steam Boilers.

75141

PATENTED

MAR 3 1868

FIG. 1.

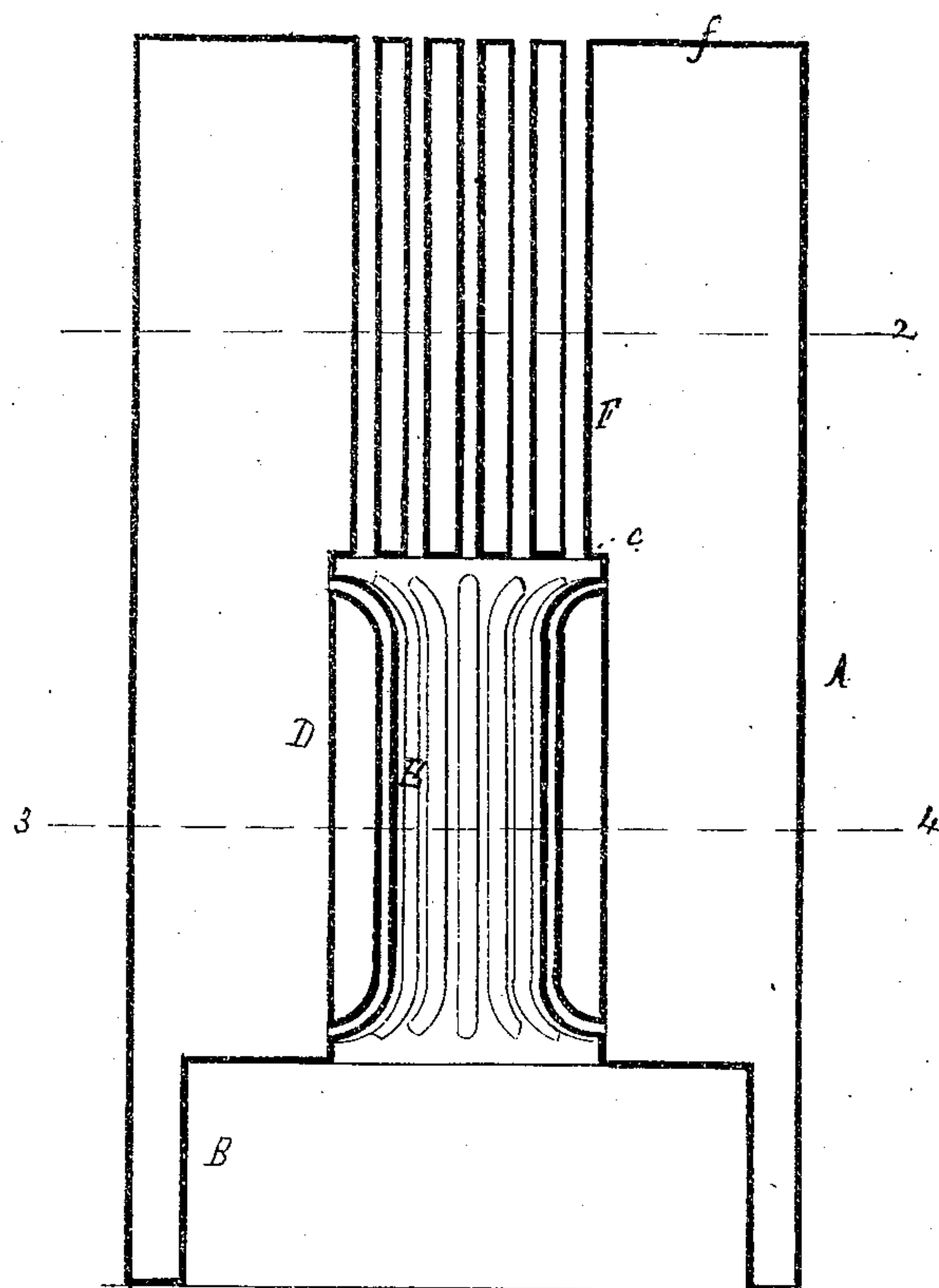


FIG. 2.

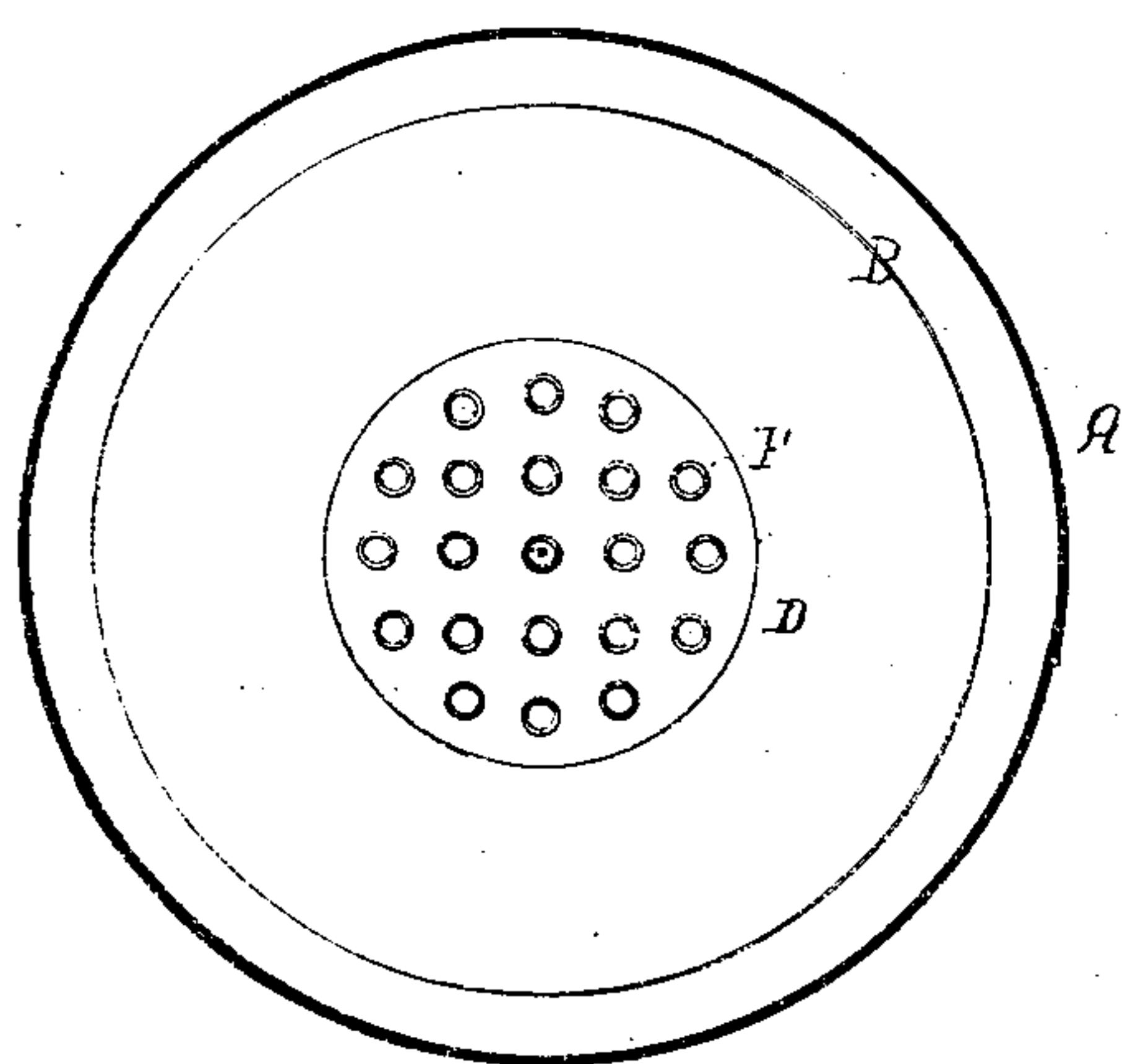
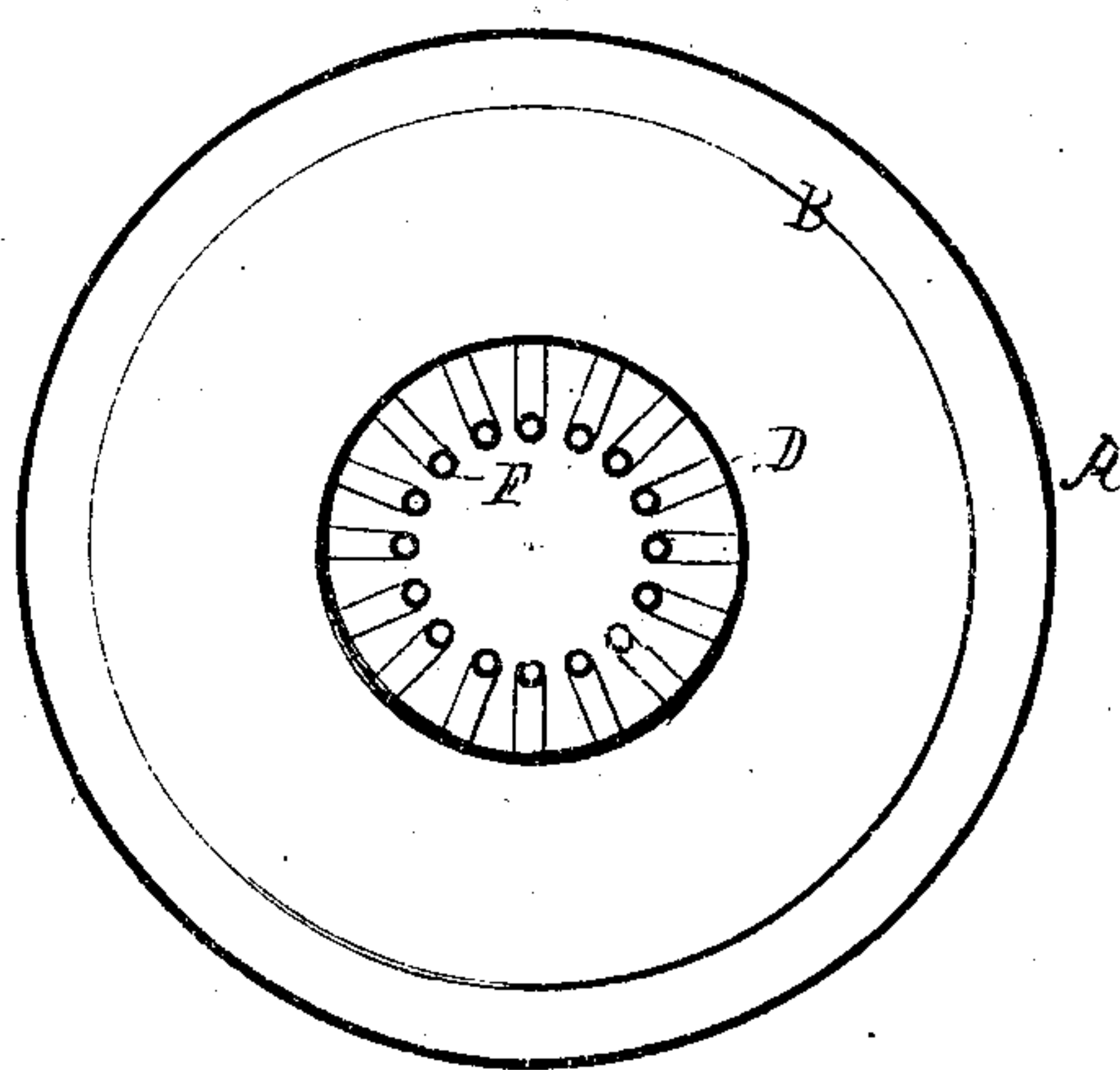


FIG. 3.



Witnesses { Charles Howson
 { Howbotham

H. T. Fenton
By his Attorney
Henry Howson

United States Patent Office.

H. T. FENTON, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 75,141, dated March 3, 1868.

IMPROVEMENT IN STEAM-GENERATORS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, H. T. FENTON, of Philadelphia, Pennsylvania, have invented certain new and useful Improvements in Steam-Boilers; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention consists of the improvements, fully described hereinafter, in the steam-boiler for which Letters Patent were granted to me on the seventh day of May, 1867.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a vertical section of my improved steam-boiler.

Figure 2, a sectional plan on the line 1-2, fig. 1; and

Figure 3, a sectional plan on the line 3-4, fig. 1.

Similar letters refer to similar parts throughout the several views.

A is the cylindrical shell of the boiler, B the fire-box, which communicates with a central flue-chamber formed by the casing D. Within this chamber are arranged radially a number of vertical tubes, E, the upper and lower bent ends of which are so connected to the casing D, that the tubes may have a free communication both above and below with the water space of the boiler, the number of tubes depending upon the size of the flue-chamber.

In the boiler for which Letters Patent were granted to me on the seventh of May, 1867, the inner cylindrical casing D extended from the top of the fire-box to the top of the boiler, but in my present improvements the casing D terminates at a point below the water-line, a series of tubes, F, extending from the top of the casing D, to the top of the boiler, so that the products of combustion, after being concentrated in the central chamber, will pass upwards through the tubes E to the chimney.

For portable purposes, such as steam fire-engines and steam-carriages, the fire-box may be made square, and the rest, or the part above the fire-box, cylindrical, to allow of a more extended fire-surface, and a larger concentration of heat, but the form may be varied, and adapted as required to suit any peculiarities of circumstances or position, whether for land or marine purposes.

While my improved boiler possesses all the advantages of that for which the aforesaid patent was granted to me, it has the further advantage of preventing the too rapid escape of the products of combustion from the central chamber, within which they circulate prior to passing off through the tubes F to the chimney.

Additional heating-surface is also imparted by these tubes, the upper portions of which tend to superheat the steam.

I claim as my invention, and desire to secure by Letters Patent—

The vertical boiler, its fire-box B, central chamber D, pipes E, and tubes F, the whole being arranged substantially as and for the purpose herein set forth.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

Witnesses:

JOHN WHITE,

W. J. R. DELANY.

H. T. FENTON.