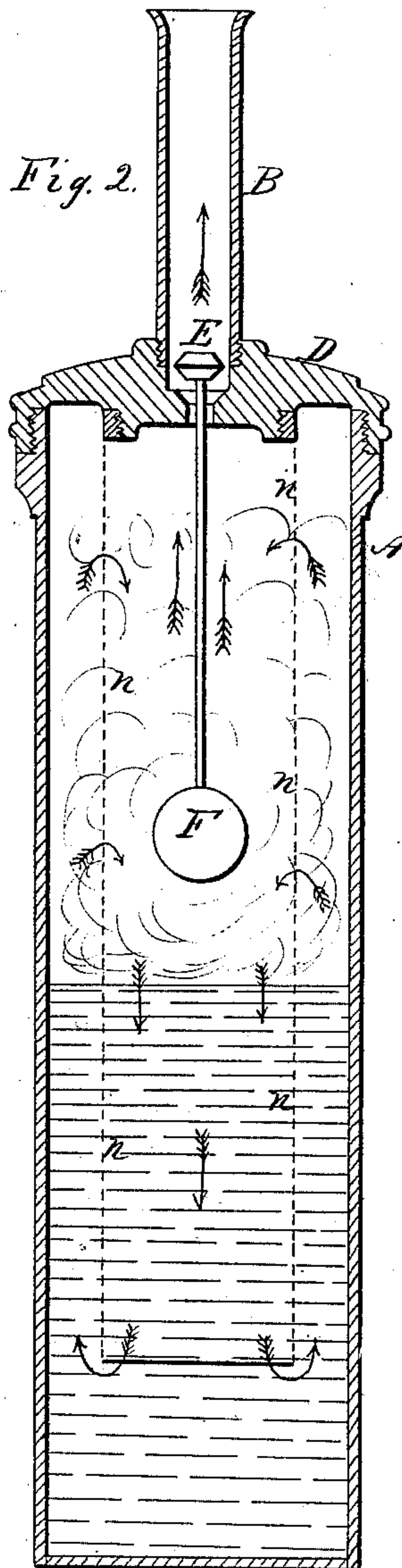
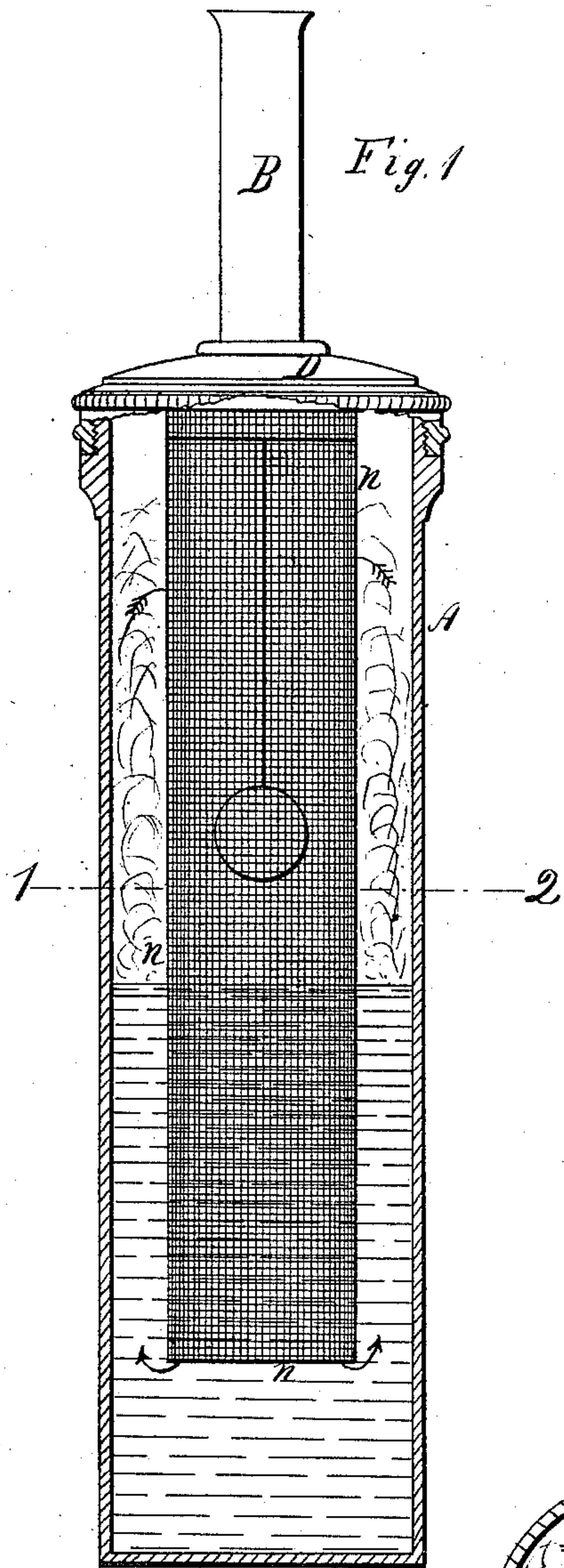


T. Shaw,
Steam Separator for Boilers.
N^o 42,448. Patented Apr. 19, 1864.



Witnesses;
Chas Shaw
Charles Snyder.

Inventor;
Thomas Shaw

UNITED STATES PATENT OFFICE.

THOMAS SHAW, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN STEAM-BOILERS.

Specification forming part of Letters Patent No. 42,448, dated April 19, 1864.

To all whom it may concern:

Be it known that I, THOMAS SHAW, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and Improved Mode of Preventing Steam-Boilers from Foaming; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of the construction or forming a wire-gauze cylinder, or its equivalent, around the opening for the passage of the steam, as described hereinafter.

In order to enable others to practice my invention, I will now proceed to describe the manner in which I carry it into effect.

On reference to the accompanying drawings, which form a part of the specification, Figure 1 is a vertical section through the cylinder A; Fig. 2, a vertical section through the center of cylinder A and wire-gauze cylinder *n n*; Fig. 3, a horizontal section on the line 1 and 2, Fig. 1.

Similar letters refer to similar parts throughout the several views.

A is a section of an ordinary cylinder-boiler in a vertical position, arranged with safety-valve E and weight F and steam-pipe B. The head D of the cylinder A is allowed to unscrew to expose the wire-gauze cylinder *n*, which is attached to the same. When in the boiling of the water the ebulliency of the wa-

ter will follow the sides of the cylinder A until arrested by their own gravity, when they fall toward the center and would meet each other and cause great foaming were it not for gauze cylinder *n*, which arrests the greater force of the ebullition, allowing it to pass through and trickle down the inner side of gauze cylinder *n* constant and steady, aiding in producing that current described by the red arrows, which is necessary for the rapid generation of steam, but injurious because of its foaming, except when arranged with a gauze cylinder, as described, it will be evident that when in the described ebullition of the water, and in the arresting and turning the current of the same in the manner described, that there will be a clear passage for steam through the center of gauze-cylinder *n*, and that it has a large water-surface from which to procure its steam, which is as necessary as a large fire-surface to generate steam.

I do not claim the sole use of gauze for the prevention of foaming, as it has been applied before; but

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

A gauze cylinder when constructed so as to surround the opening for the passage of the steam.

THOMAS SHAW. [L. S.]

Witnesses:

ELIAS SHAW,

CHARLES SNYDER.