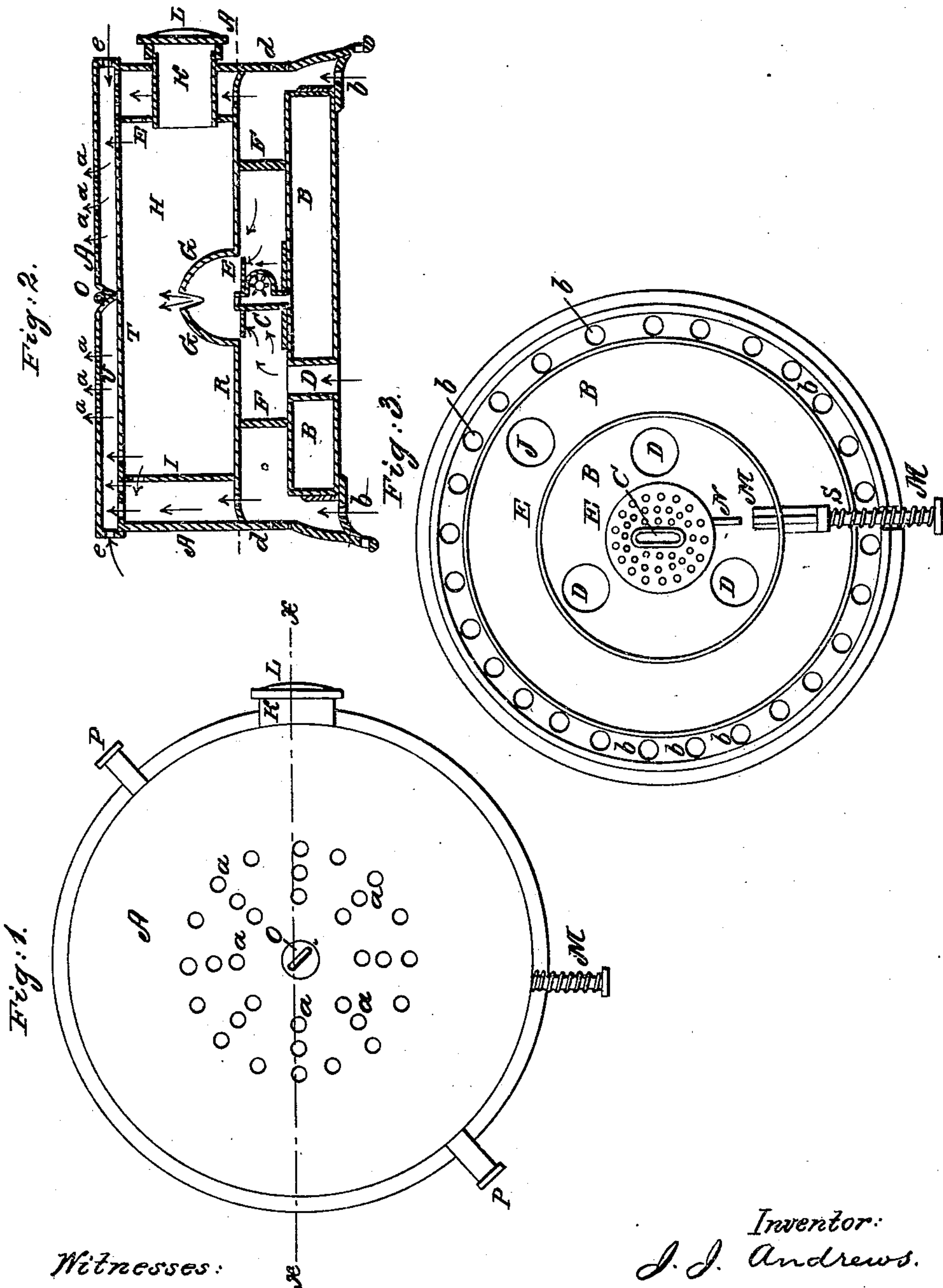


J. J. ANDREWS.

Foot Warmer.

No. 51,534.

Patented Dec. 19, 1865.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOSIAS J. ANDREWS, OF CLYDE, ILLINOIS.

FOOT-WARMER.

Specification forming part of Letters Patent No. 51,534, dated December 19, 1865.

To all whom it may concern:

Be it known that I, JOSIAS J. ANDREWS, of Clyde, in the county of Whiteside and State of Illinois, have invented a new and useful Improved Foot-Warmer; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and the letters and figures marked thereon, which form part of this specification.

The nature of my invention consists in a novel arrangement and construction of a foot-warmer whereby kerosene-oil, and similar hydrocarbon oil, may be used for heating the same; and also in the combination, with the apparatus, of a lens or other medium through which light may be transmitted, whereby the apparatus may also be used for illuminating purposes when desired.

To enable those skilled in the art to understand how to construct and use my invention, I will proceed to describe the same with particularity, making reference in so doing to the aforesaid drawings, in which—

Figure 1 represents a plan or top view of my invention; Fig. 2, a vertical section at the line *xx* in Fig. 1; and Fig. 3, a horizontal view, with the top or air-chamber H removed.

Similar letters of reference in the different figures denote the same parts of my invention.

A represents a cylindrical box whose sides are constructed in two parts, the joint being shown at *d* in Fig. 2, whereby the upper part of the apparatus may be removed and replaced, as desired.

B represents the oil-reservoir, and O the wick-tube, D D D representing a series of holes through the oil-cups, for admitting air into the space above and supporting combustion.

E represents a circular-perforated plate attached to the upper end of the wick-tube, as shown.

F represents an annular partition extending up from the top of the oil-cups, to which it is attached, to the plate R, which forms the bottom of the removable part of the apparatus.

The said removable part of the apparatus is secured to the bottom by means of the pins P, which pass through the two parts at their joint or connection at *d*, being held in place by the action of a spring, or otherwise, so that by drawing out said pins the top may be removed,

and by drawing out the same and adjusting the two parts together properly and releasing said pins the springs aforesaid will throw in the pins and secure the two parts together.

At the center of the plate R, and directly over the wick-tube, is the cone G, provided with a slot, as shown, through which the flame rises into the chamber H.

The space included between the walls A and the plates R T is divided into two chambers by an annular partition, I, connected at the top by apertures through said partition, while both chambers are connected with the space between the top and the plate T by perforations, as seen in Fig. 2.

Through the bottom of the apparatus, and outside the oil-reservoir, are a series of holes (marked 6) through which the air enters the space included between the outer wall and the partitions F and I, where the hot air from the chamber H mingles with it before passing into the space beneath the perforated top upon which the feet are placed. By this arrangement it will be seen that all the air which passes in at the apertures D passes through the perforated plate E to feed the flame where it passes into the heating-chamber H, while the air which enters at the holes *b* passes up in the space outside of the heating-chamber to the top thereof, where the hot air (represented by red arrows) is mingled with it, as indicated.

By the arrangement of the close chamber F and perforated plate E a strong draft is produced, causing the flame to burn with great brilliancy and produce a large amount of heat.

The apertures *e e* into the space *v* is for the purpose of admitting cold air, so as to temper the heat passing up from the chamber H, which result is partially accomplished by the apertures *b b*, hereinbefore described.

To obviate the danger of disturbing the wick by contact of the feet with the regulator M, said regulator is made detachable, being held away from the shaft N by a spring, as shown. When the wick is required to be moved up or down the regulator M is pressed inward until the shaft N enters a suitable socket in the end thereof, when the wick may be adjusted as required; and when the pressure is removed the spring detaches the shaft M, so that any accidental movement of the said shaft M will have no effect upon the wick.

K represents a tube passing through the

wall of the apparatus and also through the partition I, having a lens or glass, L, arranged in its outer end, so that the light of the flame may shine through for the purpose of affording a light when desired.

O represents a loop attached, as shown, to the top of the apparatus, so that a suitable handle may be attached thereto for carrying it from place to place.

Having described the construction and operation of my invention, I will now specify what I claim and desire to secure by Letters Patent—

1. The combination and arrangement of the exterior casing, A, the plates R and T, the partitions F and I, and the apertures D b and e,

substantially as and for the purposes shown and set forth.

2. In combination with the above, the employment of the oil-cup B and wick-tube, C, arranged and operating as and for the purposes specified.

3. The combination of the casing A, the plates R and T, the partitions F I, apertures D, lamp B C, perforated plate E, and cone G, all arranged and operating in the manner and for the purposes herein specified and shown.

JOSIAS J. ANDREWS.

Witnesses:

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