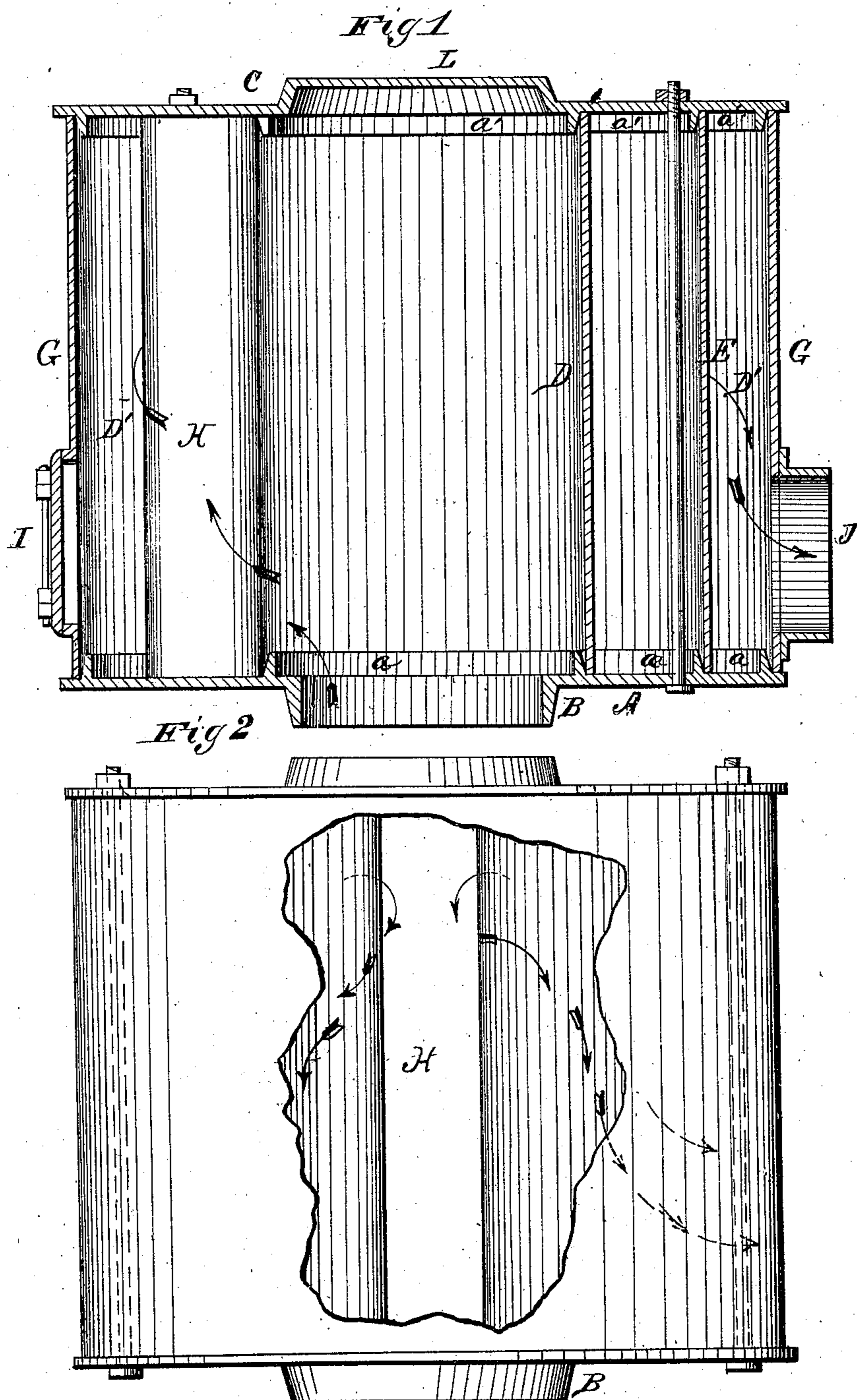


N. A. BOYNTON.
HEATING-DRUM.

No. 173,581.

Patented Feb. 15, 1876.



Witnesses
J. L. O'Rand
Philip M. Nickle

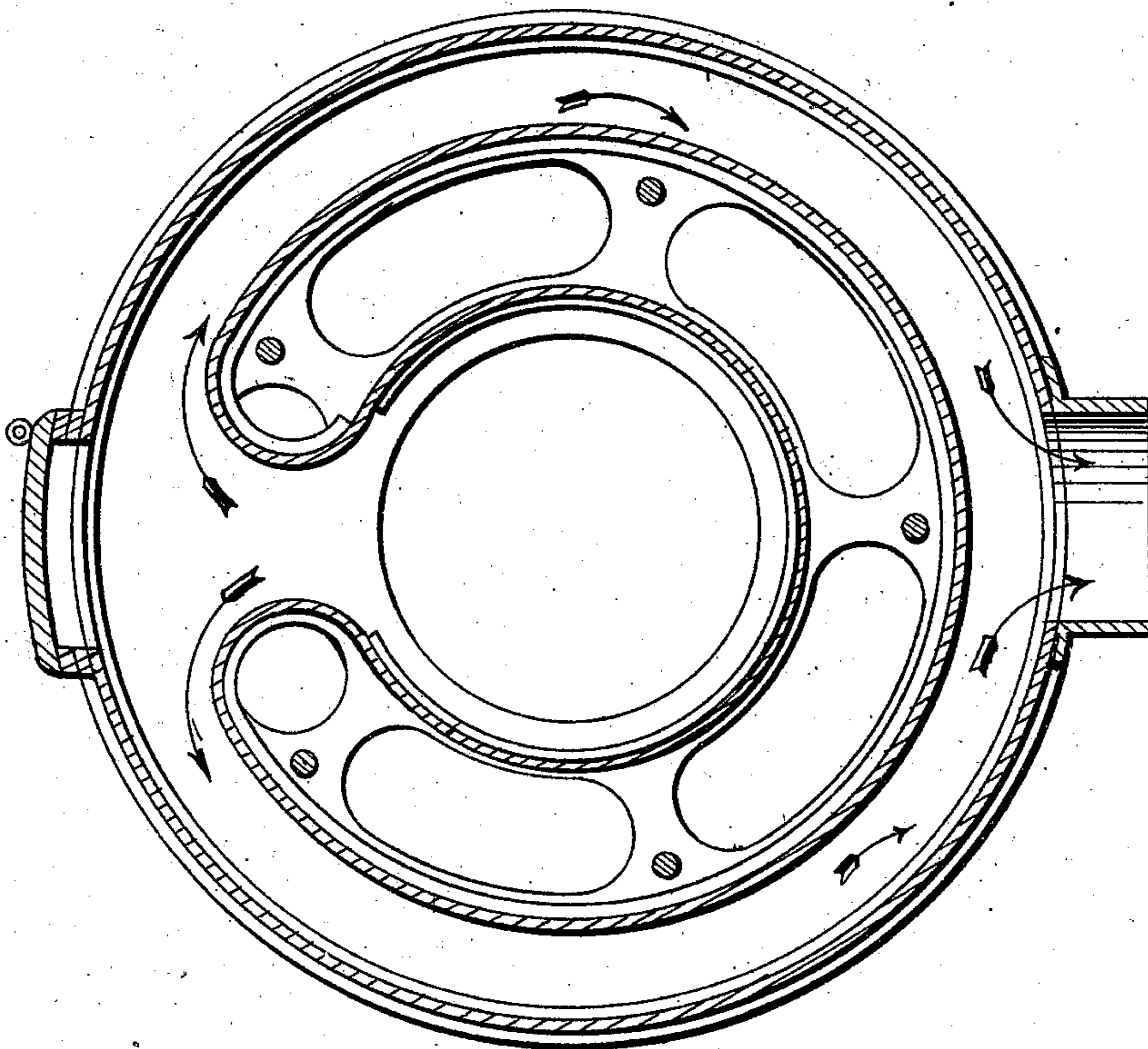
Inventor
Nathaniel A. Boynton
per L. Deane.
Attorney

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Fig 3



Witnesses

F. L. Curran
Philip M. Nickle

Inventor.

Nathaniel A. Boynton
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Attorney

UNITED STATES PATENT OFFICE.

NATHANIEL A. BOYNTON, OF NEW YORK, N. Y.

IMPROVEMENT IN HEATING-DRUMS.

Specification forming part of Letters Patent No. **173,581**, dated February 15, 1876; application filed November 8, 1875.

To all whom it may concern:

Be it known that I, NATHANIEL A. BOYNTON, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Attachment for Heating Stoves and Furnaces, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a heating-drum for stoves, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a longitudinal vertical section of my heating-drum. Fig. 2 is a front view of the same with a part of the outer shell broken open. Fig. 3 is a horizontal section.

A represents the bottom plate of the drum, provided with a central aperture and collar, B, and on the upper side with three circular concentric flanges, *a a*, at suitable distances apart. C is the top plate, provided on its under side with three similar and corresponding flanges, *a'*. Around these flanges are placed three sheet-metal cylinders, D, E, and G, and the parts are held firmly together by means of bolts *b b*, as shown. The plates A and C are formed with a series of openings between the cylinders D and E, for the free passage of air between them. Communication is made between the interior of the inner or central cylinder D and the annular chamber D', formed by the two outer cylinders E G, by means of a throat, H, extending the entire distance from top to bottom of the drum. Opposite this throat, in the lower part of the cylinder G, is an aperture, with door I, for feeding fuel, cleaning the throat, and any like or usual or ordinary purposes; and on the opposite side of the drum, at the bottom, is a stove-pipe collar, J. In the center of the top plate C is a raised dome, L, as shown.

The heating-drum thus constructed may be used on top of any stove or heater, or elevated above it, with pipe connecting them; or the drum may form the top part of the stove-body, if desired, it being then placed upon or around the top of the fire-pot of the stove.

The products of combustion pass up into the cylinder D and through the throat H into the annular chamber D', filling the same, and out through the exit-pipe J.

By the throat H extending the entire distance from top to bottom of the drum, the heat, in passing from the cylinder D to the chamber D', is diffused the entire length of the drum, and not concentrated in a small space, as is usually the case, and hence the door I may be made of any ordinary material.

I do not confine myself to the exact location of the door I and exit-pipe J, as that may be changed to any distance from the bottom without departing from the spirit of my invention.

It will also be noticed that the annular chamber or space D', in which the products of combustion circulate, is entirely unobstructed, having no interior divisions, partitions, &c., which materially adds to the effectiveness of my invention as a heater.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the interior cylinder D, the unobstructed annular chamber D', extended throat H, and door I, substantially as and for the purposes set forth.

2. In the heating-drum herein described, the combination of chamber D D', throat H, door I, and exit-pipe J, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

NATHANIEL A. BOYNTON.

Witnesses:

GEO. W. COLVER,
JAMES B. TAYLOR.