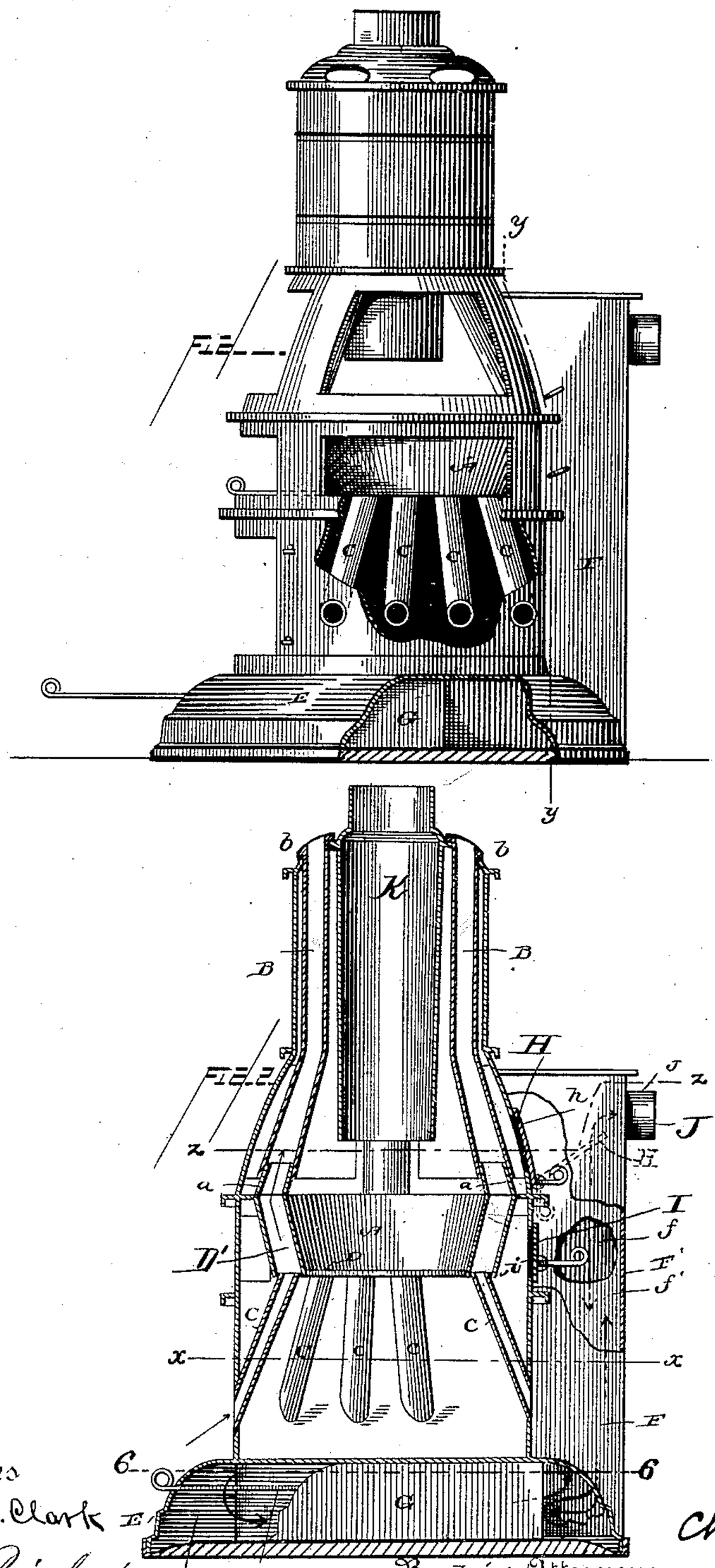
(No Model.)

2 Sheets—Sheet 1

C. PHILBRICK.

HEATING STOVE.

No. 354,220. Patented Dec. 14, 1886.



Witnesses
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

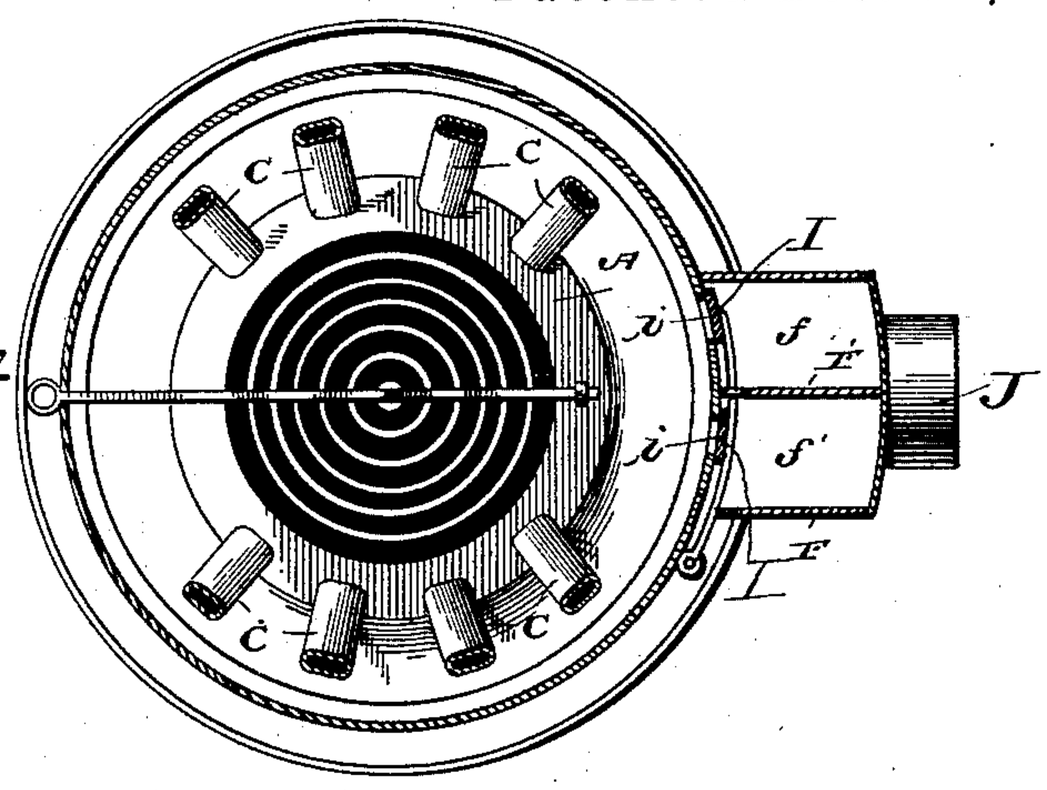


Fig. 6.

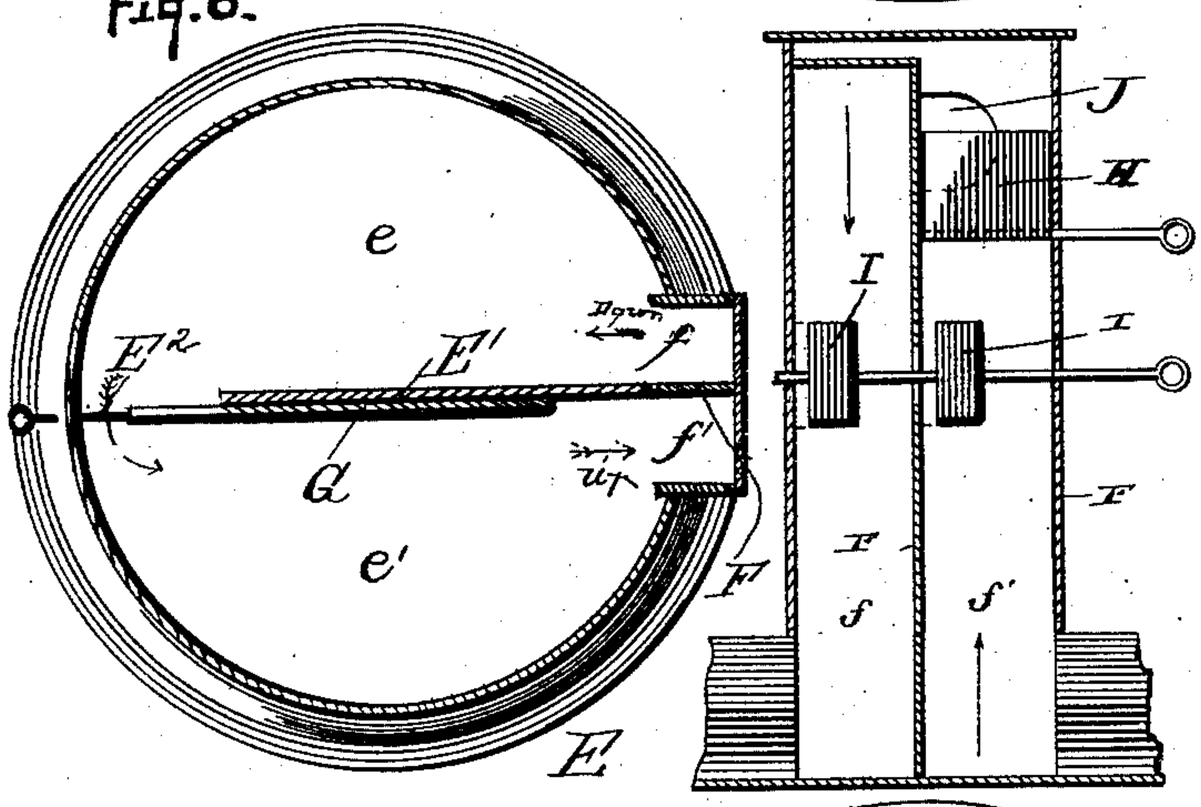
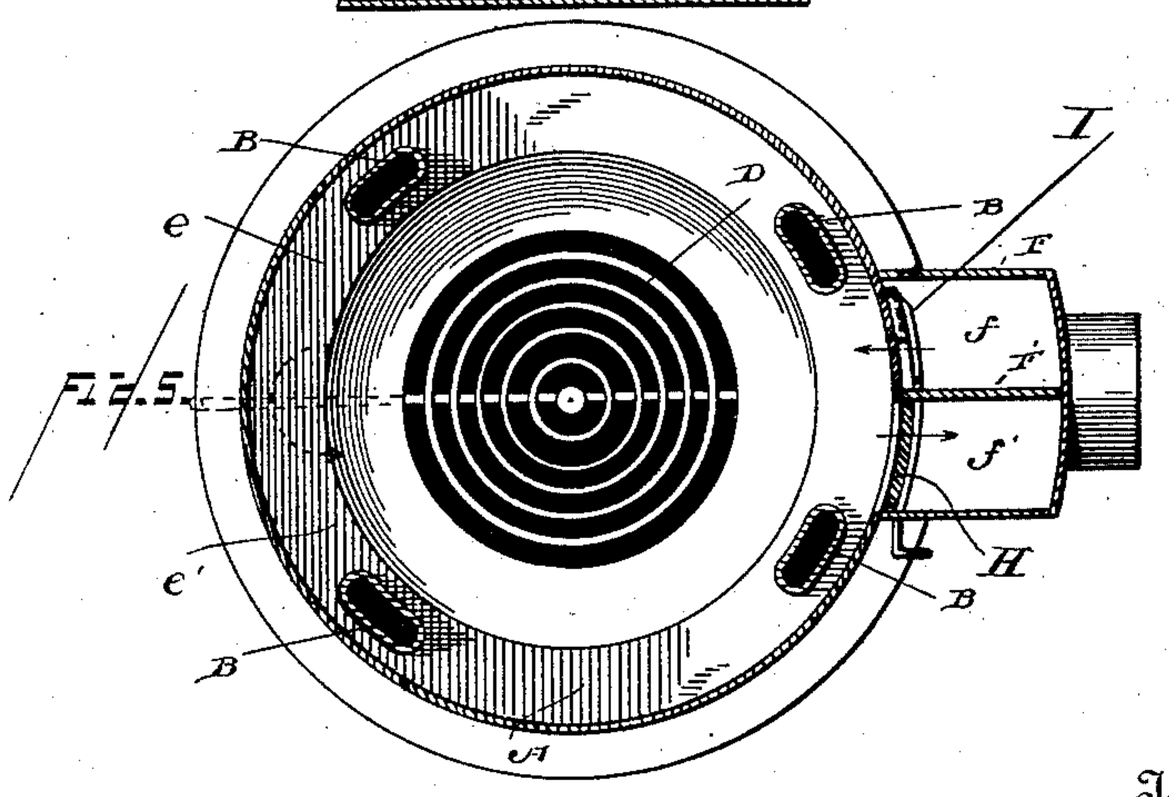


Fig. 4.

Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES PHILBRICK, OF GRUNDY CENTRE, IOWA.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 354,220, dated December 14, 1886.

Application filed April 20, 1886. Serial No. 199,531. (No model.)

To all whom it may concern:

Be it known that I, CHARLES PHILBRICK, a citizen of the United States, residing at Grundy Centre, in the county of Grundy and State of Iowa, have invented certain new and useful Improvements in Heating-Stoves; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to heating stoves; and it consists in the novel features of construction and combination of parts, as more fully hereinafter set forth and claimed.

In the drawings, Figure 1 is a side elevation, parts broken away, of a stove of my construction embodying my invention. Fig. 2 is a vertical central section, with the flues partly in elevation and parts broken away. Fig. 3 is a sectional plan view on the line X X, looking up, Fig. 2. Fig. 4 is a vertical sectional view on the line Y Y, Fig. 1, looking toward the escape-flue. Fig. 5 is a sectional plan view on the line Z Z, Fig. 2. Fig. 6 is a sectional plan view on the line 6 6, Fig. 2, on a slightly-reduced scale.

The fire-pot A is hollow, and its upper edge or top is provided with a series of tubular extensions, *a*, to receive the lower ends of the stove pipes or tubes B, which are extended through the top of the stove. The upper ends of said tubes are turned outward, forming flanges *b*, which overlap the top of the stove, thereby making a close joint, and also serving as a support in case the tube is a little short. Tubes extending from the side of the stove at a distance below the grate D and at a point above the base E, and opening into the bottom of the annular chamber D′, surrounding the fire-pot, serve to supply air thereto, which becoming heated escapes by way of the pipes B into the room, thus more thoroughly utilizing the heat of the fuel. The air in its passage through said chamber D′ cools the same and prevents its burning, and at the same time creates a circulation of air within the room. Rooms located at a distance may be heated by communicating them by pipes with the upper ends of the tubes B.

The base E is hollow and is in communication with a square upright casing, F, on the rear side of the stove, which is divided by a vertical partition, F′, into a downflue, *f*, and an upflue, *f′*. A partition, E′, divides the base into two compartments, *e e′*, which communicate with the flues *f f′*, respectively. Its front edge comes to within a short distance of the front of the base, leaving a passage-way, E^2, and is closed by the damper G when desired.

Openings *h* and *i*, formed at different levels through the body of the stove, communicate with the flues in the extension F. Valves H and I cover these openings, respectively. There is only one of the openings, *h*, controlled by the valve H, and it communicates with flues *f′*, and when disclosed and the valve in the position shown by dotted lines, Fig. 2, a direct communication is had for the escape of the products of combustion through the exit J. The other opening is at all times disclosed, and communicates solely with compartment *f*.

In practice the fire in the pot is supplied with fuel from the magazine K in the usual way. Air admitted into the space between the inner and outer shells becoming heated ascends and escapes through the flues B. By this construction the pot is prevented from burning out and a circulation of air maintained in the room, thereby heating and ventilating it to the best advantage. To secure additional heat the damper may be made to close the opening communicating with flue *f′*, when the products of combustion will escape by way of flue *f*, through the compartment *e* in the base, around the partition into the compartment *e′*, thence out exit J, by means of flues *f′*, as indicated by the arrows, Figs. 2 and 5.

The openings *i* are located a slight distance below the top of the fire-pot and communicate with the space of the ash-pit, so that the dust occasioned by the raking of the fire can escape without finding its way into the room. By this construction the heat confined in said space may escape, and circulating through the flues *f* and *f′* and the compartments *e* and *e′*,

will assist in heating the apartment in which the stove is located.

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

1. The combination of the stove-body, the fire-pot, the surrounding annular chamber, a series of tubes opening inward from the side of the stove and communicating with the bottom of the annular chamber, and a second series of tubes extending from the top of the annular chamber and leading through the top of the stove, substantially as and for the purpose set forth.

2. The combination of the stove-body, the fire-pot, the surrounding annular chamber, a series of tubular extensions opening from the top thereof, the stove-top having a corresponding set of openings, and tubes or pipes flanged at their upper ends to overlap the openings in the stove-top, and having their lower ends fitted in the tubular extensions, substantially as shown and described.

3. The combination, with the stove-body having a hollow base, of a casing on one side of the stove, a partition dividing the extension into flues *f* and *f'*, a second partition, E', dividing the base into two compartments, *e* and *e'*, except a passage-way left between its forward end and the front of the base, a damper for opening and closing the passage-way, an exit leading from one of the vertical flues, as *f*, and a valve for controlling a direct passage-way through said flue *f* to the exit and closing off said passage, whereby the products of combustion are caused to pass down through the other flue, *f*, through the compartments in the base, and up through the flue *f'*, having the damper, substantially as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES PHILBRICK.

Witnesses:

CHARLES F. BAILEY,

A. W. WOOD.