

ROBERT DIVEN.

Improvement in Base-Burning Stoves.

No. 114,533.

Fig. 1

Patented May 9, 1871.

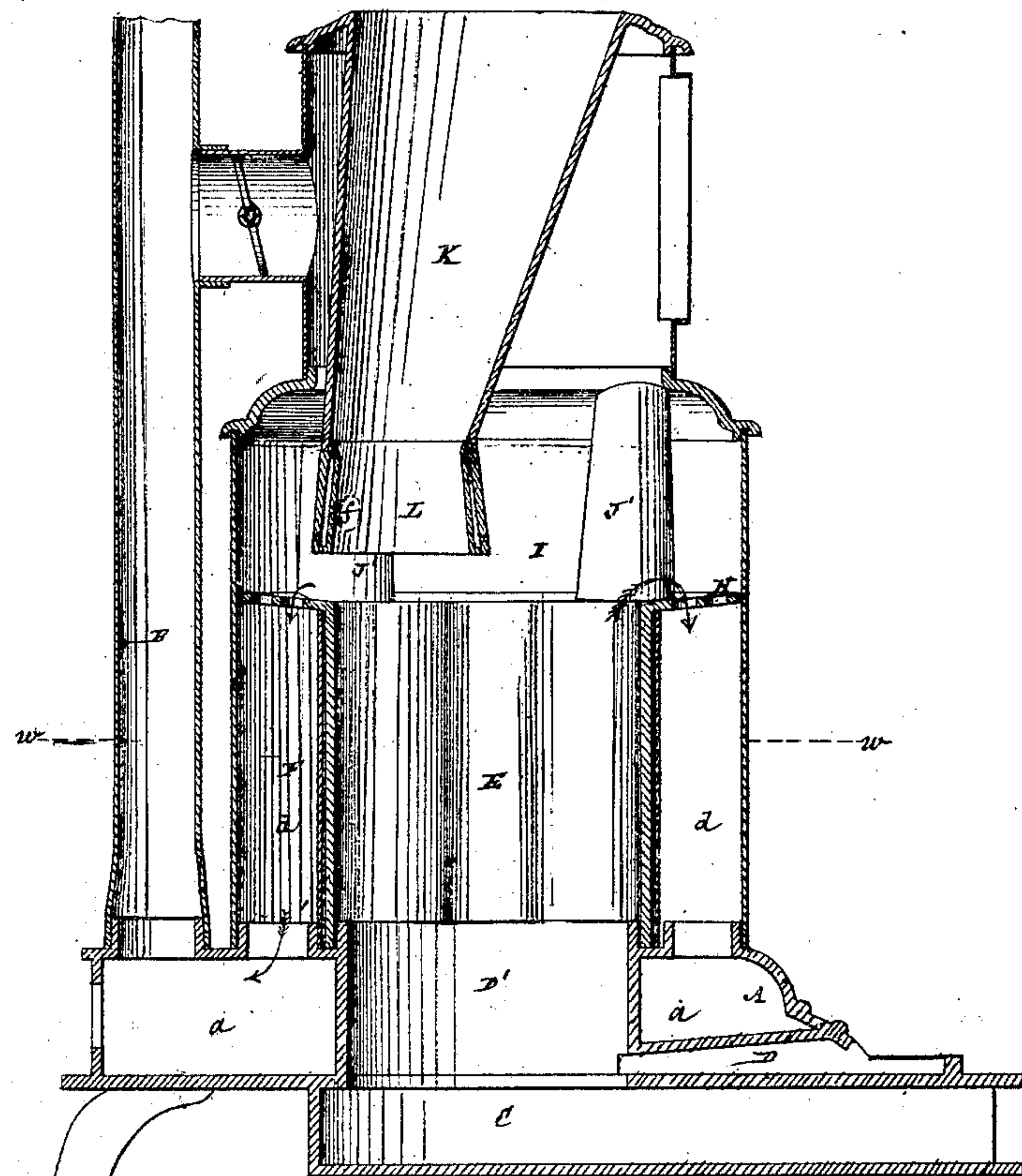
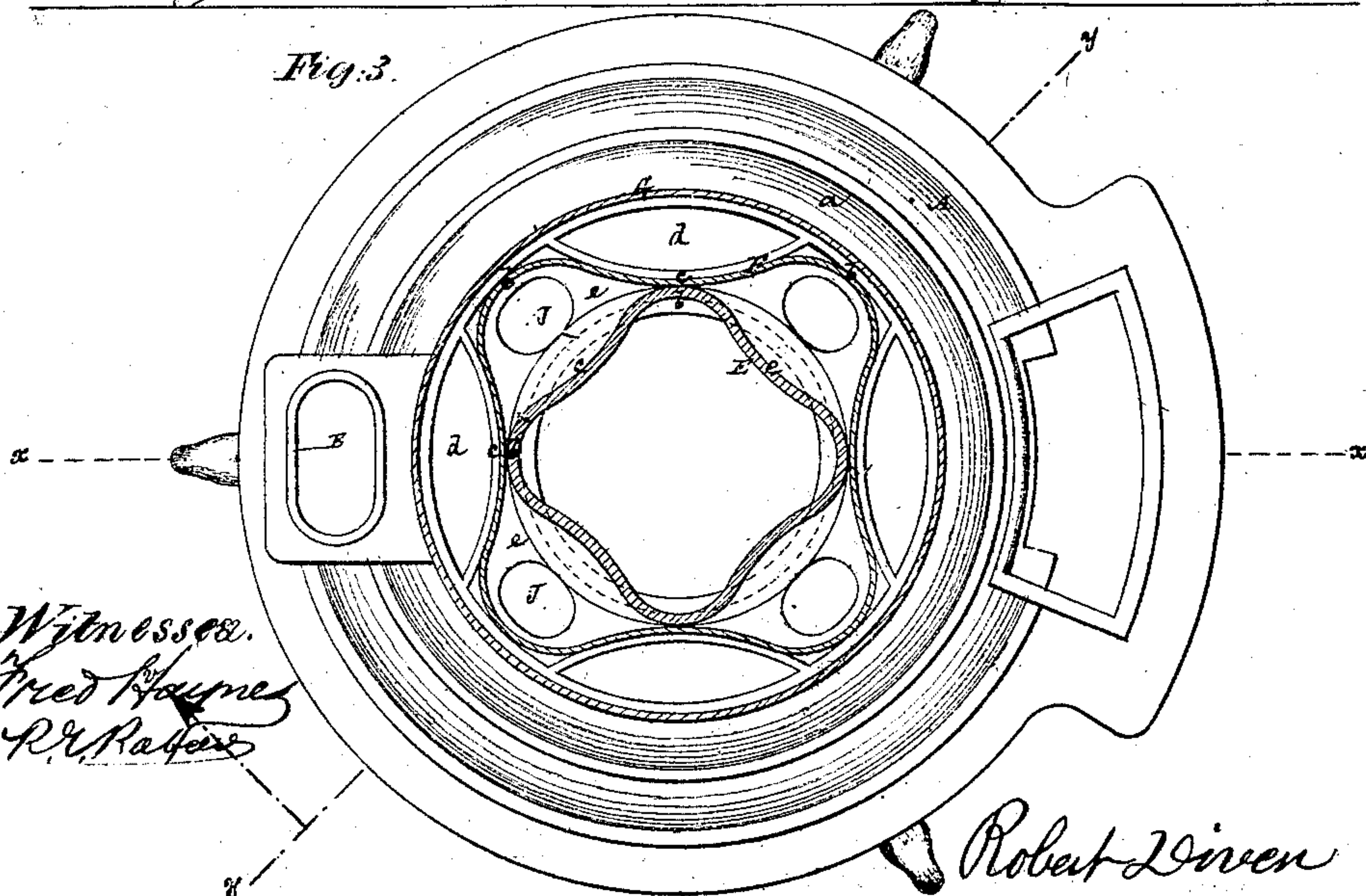


Fig:3.



Witnesses.
Fred Haynes
R. R. Rafter

Robert Wiven

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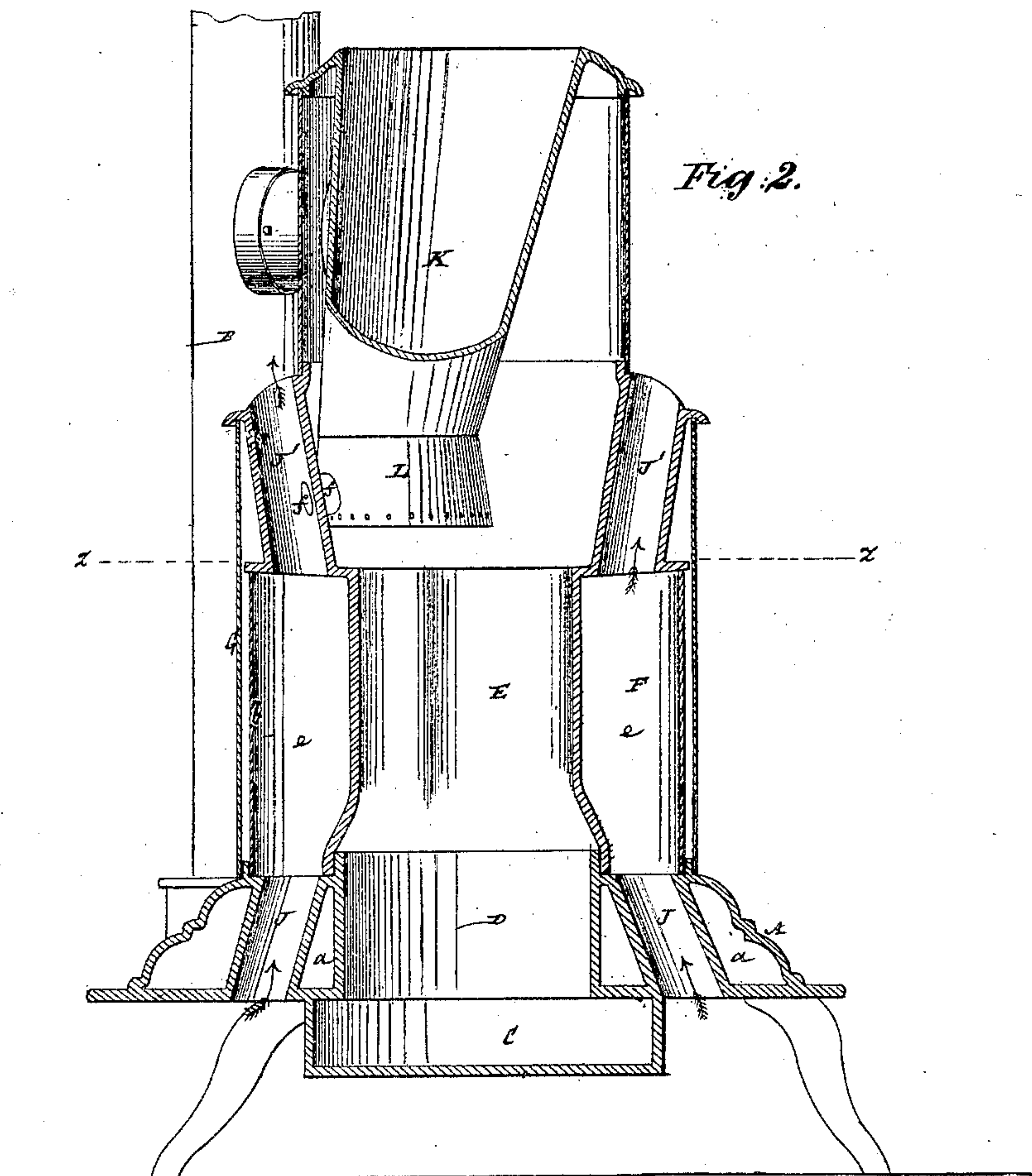


Fig. 2.

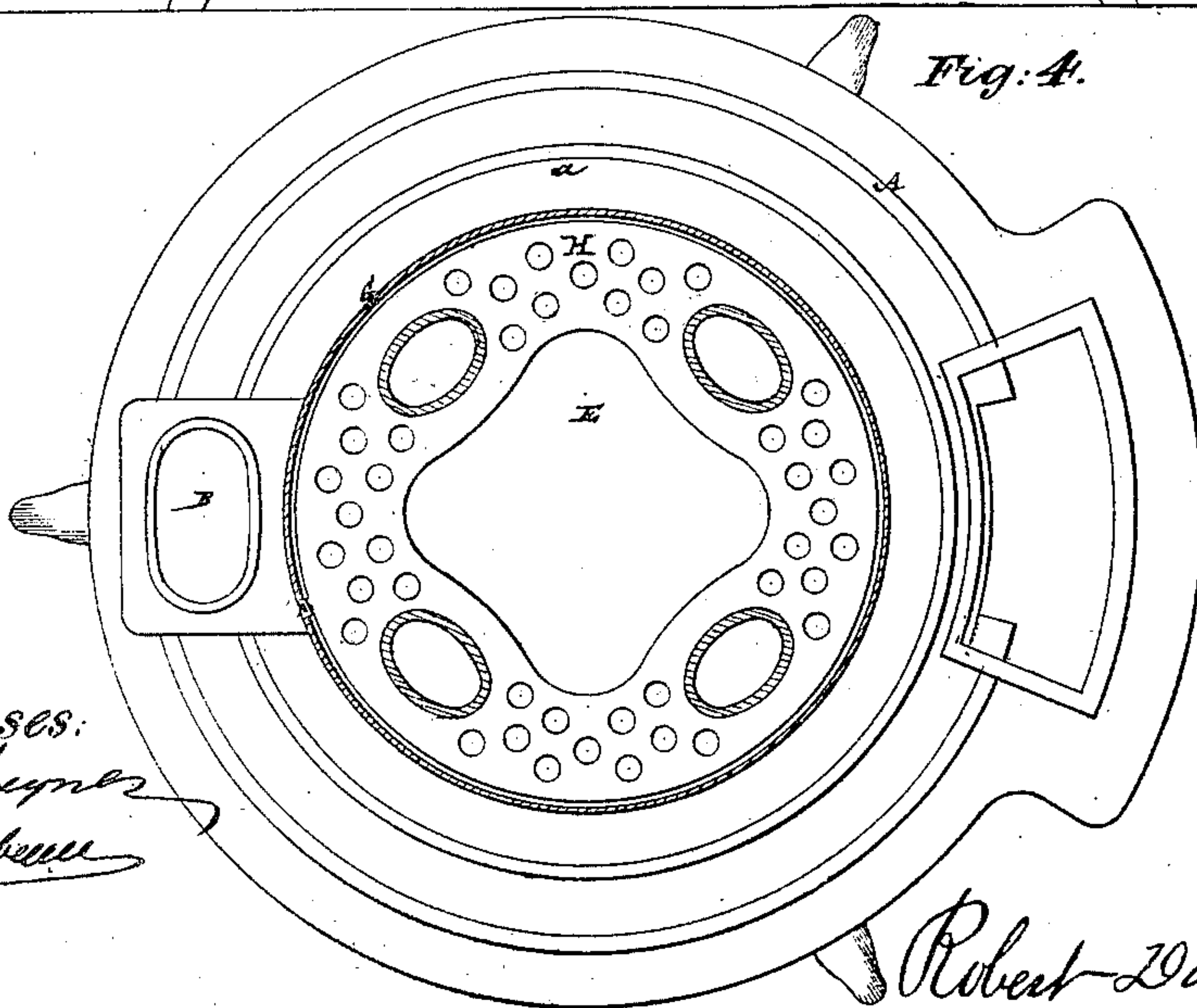


Fig. 4.

Witnesses:

Fred. H. H. H.
W. H. H.

Robert Diven

United States Patent Office.

ROBERT DIVEN, OF WILLIAMSBURG, NEW YORK.

Letters Patent No. 114,533, dated May 9, 1871.

IMPROVEMENT IN BASE-BURNING STOVES.

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, ROBERT DIVEN, of Williamsburg, in the county of Kings and State of New York, have invented a new and useful Improvement in Heating and Ventilating-Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a sectional elevation taken, as indicated by the line *xx* in fig. 3, of a stove constructed in accordance with my invention;

Figure 2, a further sectional elevation of the same through the line *yy*, looking in direction of the arrow *u*;

Figure 3, a horizontal section through the line *ww* in fig. 1; and

Figure 4, a horizontal section through the line *zz* in fig. 2.

Similar letters of reference indicate corresponding parts.

My invention consists in a novel construction of the fire-pot and its inclosing-chamber or chambers, whereby an effective heating surface is obtained for the air passing up through the ventilating-ducts or passages, and the heat as produced by a downward draught is distributed over the front and sides of the stove.

The invention also comprises a novel arrangement of an annular base-flue extending wholly around the base of the stove, and between the fire-pot and ash-pan.

Referring to the accompanying drawing—

A represents the base of the stove, which is constructed with an annular flue, *a*, extending all around the stove, and communicating with a chimney, B, in the rear.

C is the ash-pan or pit, and

D a passage under control of a register in front for the introduction of air to keep up combustion, and that is heated by said passage in its way to the fire or to a chamber, D', arranged below the grate, and where said air becomes more highly heated.

E is the fire-pot, made with three or more sides, but which is here shown as having four sides, rounded at their junctions as at *b*, and bellied inward intermediately, as at *c*.

This fire-pot is disposed within a chamber, F, of corresponding configuration—that is, with rounded side junctions *b*, and intermediately inner bellied portions

c; but the corresponding portions of these two structures are arranged intermediately of each other, so that the portions *b* of the fire-pot touch or approximate the bellied portions *c* of the structure F, and the portions *b* of the latter are opposite the portions *c* of the fire-pot.

A cylinder, G, encircles the outer structure F, and the two structures E and F are so disposed therein that they form vertical passages *d* up the sides and front, or sides, front, and rear of the stove, which passages communicate with the annular flue *a* below and through a perforated plate, H, or other suitable openings, with the combustion-chamber I, above the fire-pot, said passages thus constituting downward flues for the draught.

The construction of the fire-pot E and its inclosing structure F, as described, also serves to establish passages *e*, with which the ventilating-tubes J and J' connect, to produce a circulation of air in the room upward from the floor through said tubes and passages, and to effect a better distribution of the heat.

The extension of the annular flue *d* all around the base, and the passage of the downward draught over the front as well as at other places, enlarges the utility of the heated base both as regards its heating of the passage D and chamber D', and in other respects.

K is the feeder in the upper portion of the stove, and connecting with an annular perforated gas-burner L, in the combustion-chamber I, which is supplied with partially-heated atmospheric air by connecting it, as by branches or openings *f*, with one or more of the upper sets of ventilating-tubes J'.

What is here claimed, and desired to be secured by Letters Patent, is—

1. The combination, with the cylinder G, of the fire-pot E and inclosing structure F, constructed and arranged to form downward flues *d* at the front and sides of the stove, and intermediate hot-air passages *e*, substantially as specified.

2. The base flue *a*, extending entirely around the stove, and arranged in relation to the ash-pan as described, in combination and in communication with the flues *d*, extending down the front, back, and sides of the latter, substantially as shown.

ROBERT DIVEN.

Witnesses:

FRED. HAYNES,
R. E. RABEAU.