

G. CHILSON.  
Cooking Stove.

2 Sheets—Sheet 1.

No. 55,466.

Patented June 12, 1866.

Fig. 5,

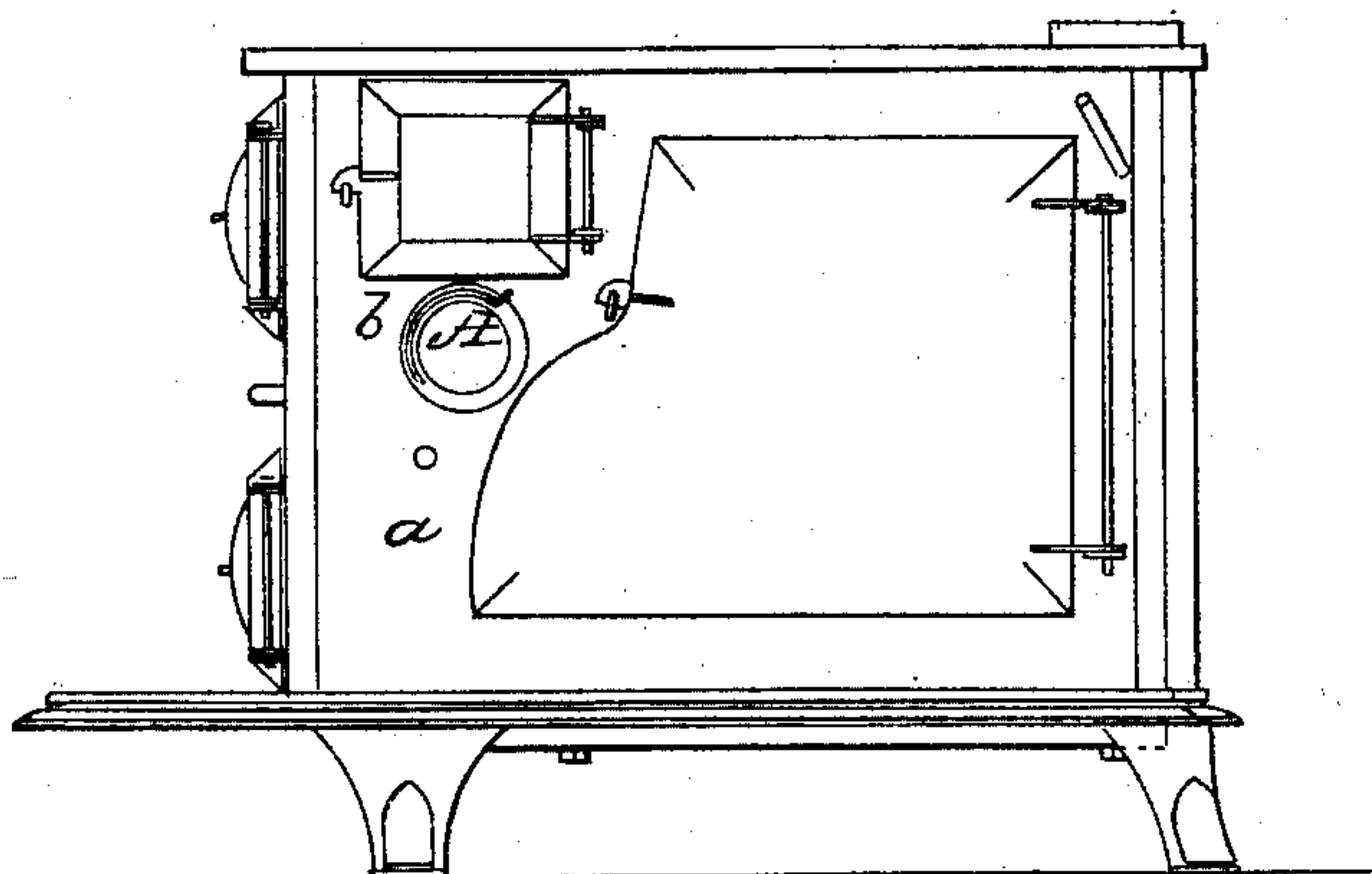


Fig. 1,

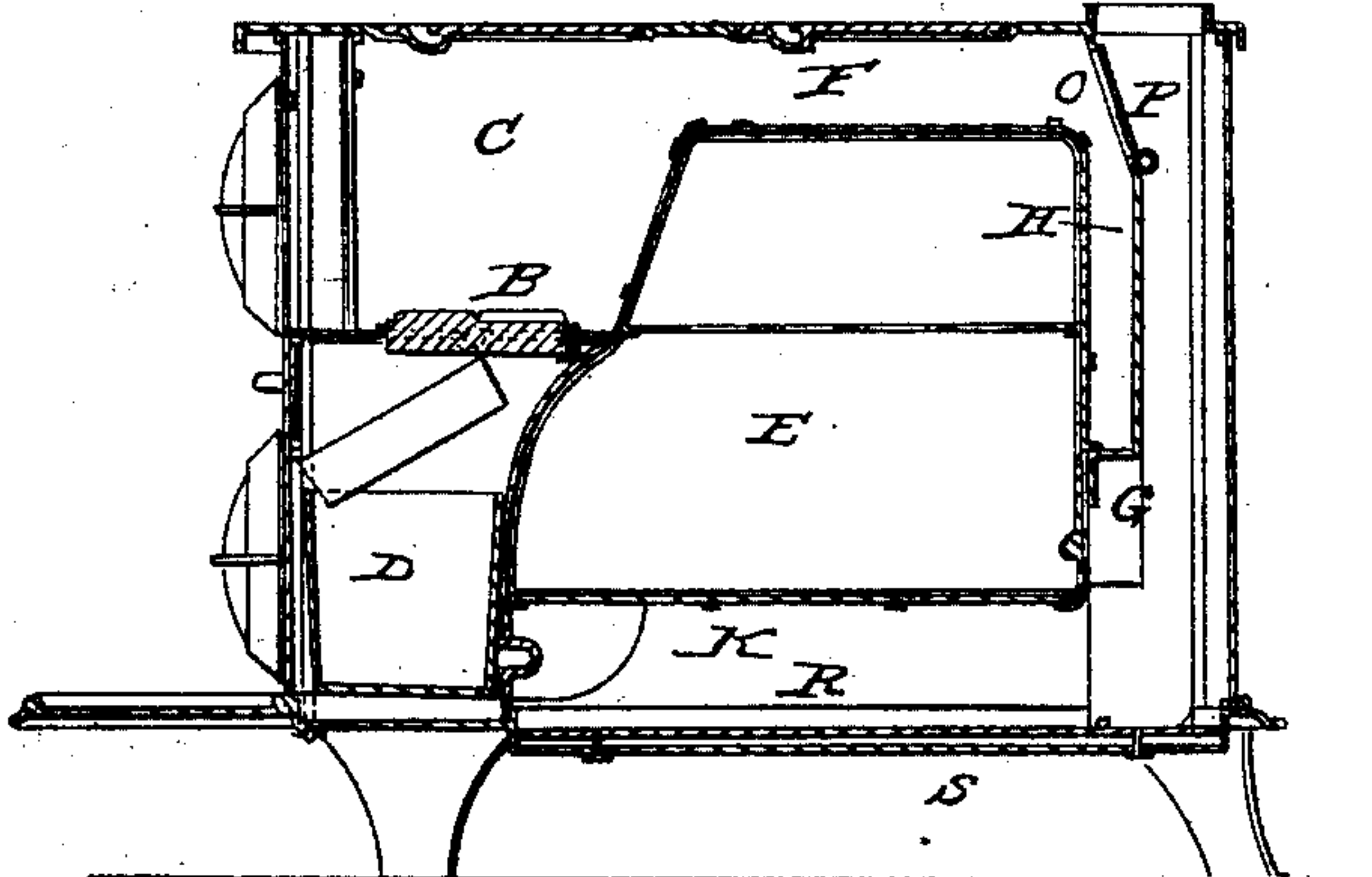
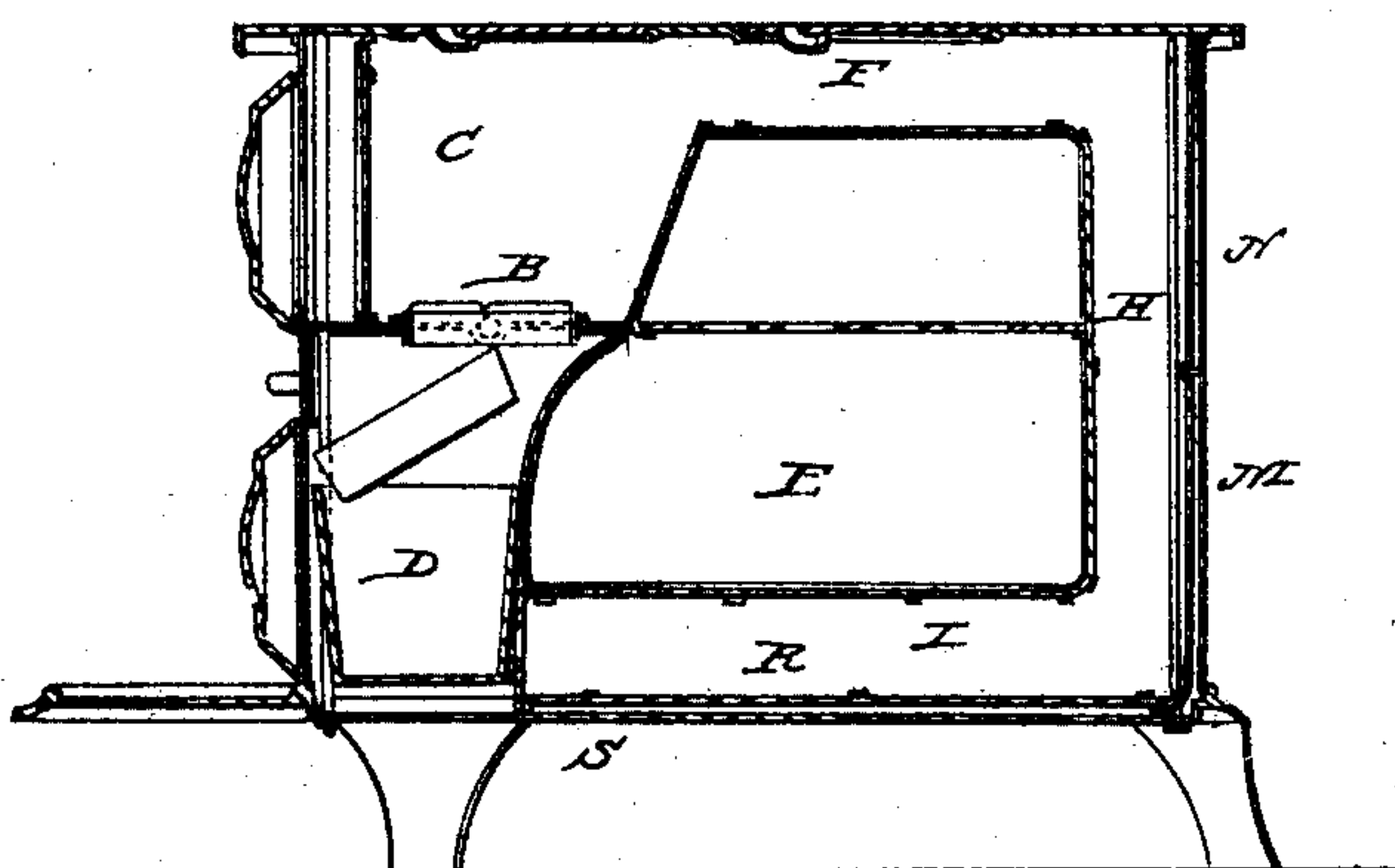


Fig. 2,



WITNESSES:

J. P. Hale Jr.  
G. H. Washburn

INVENTOR,  
Gardner Chilson.  
by his Attorney  
R. H. Loh

G. CHILSON.  
Cooking Stove.

2 Sheets--Sheet 2.

No. 55,466.

Patented June 12, 1866.

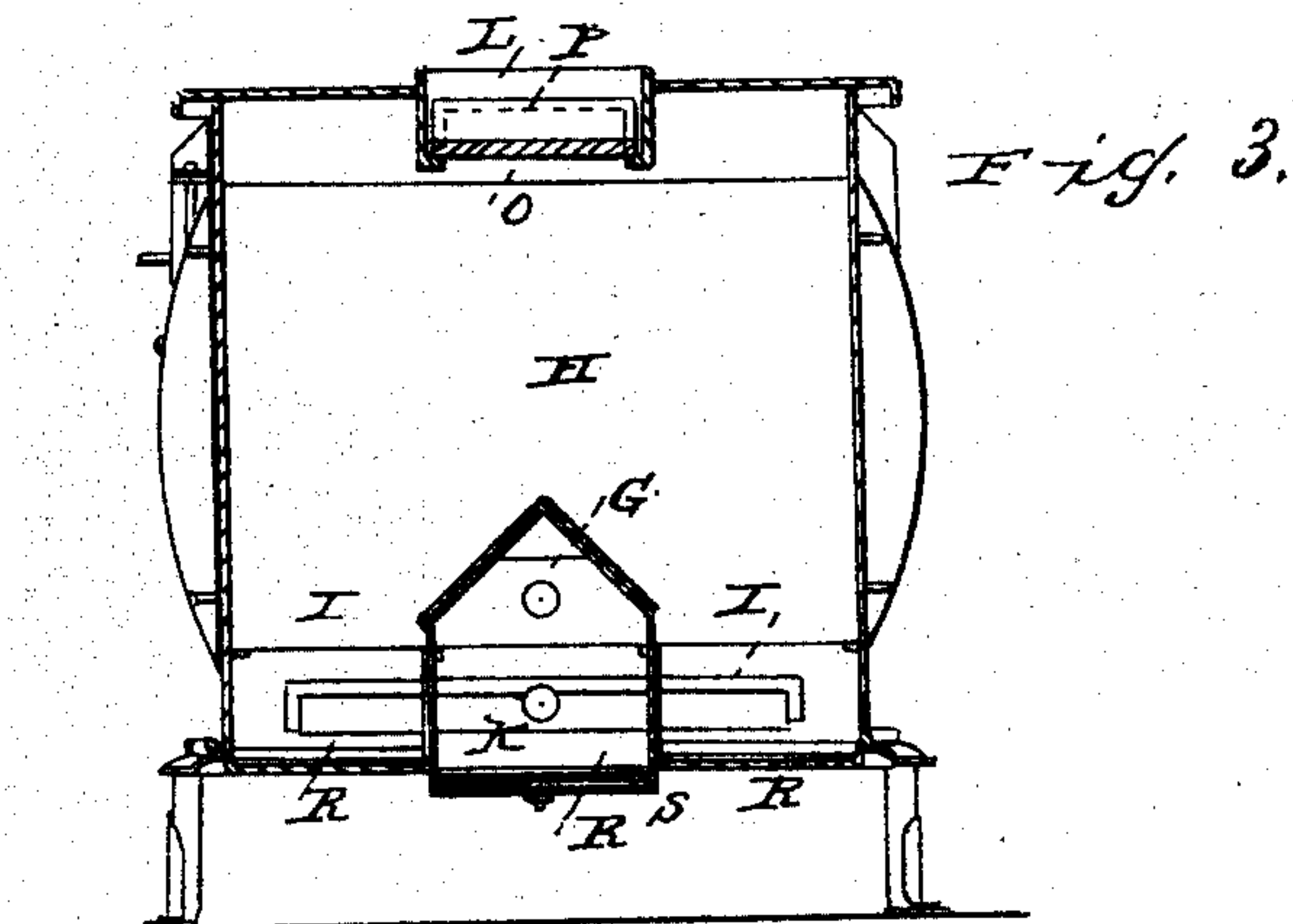


Fig. 3.

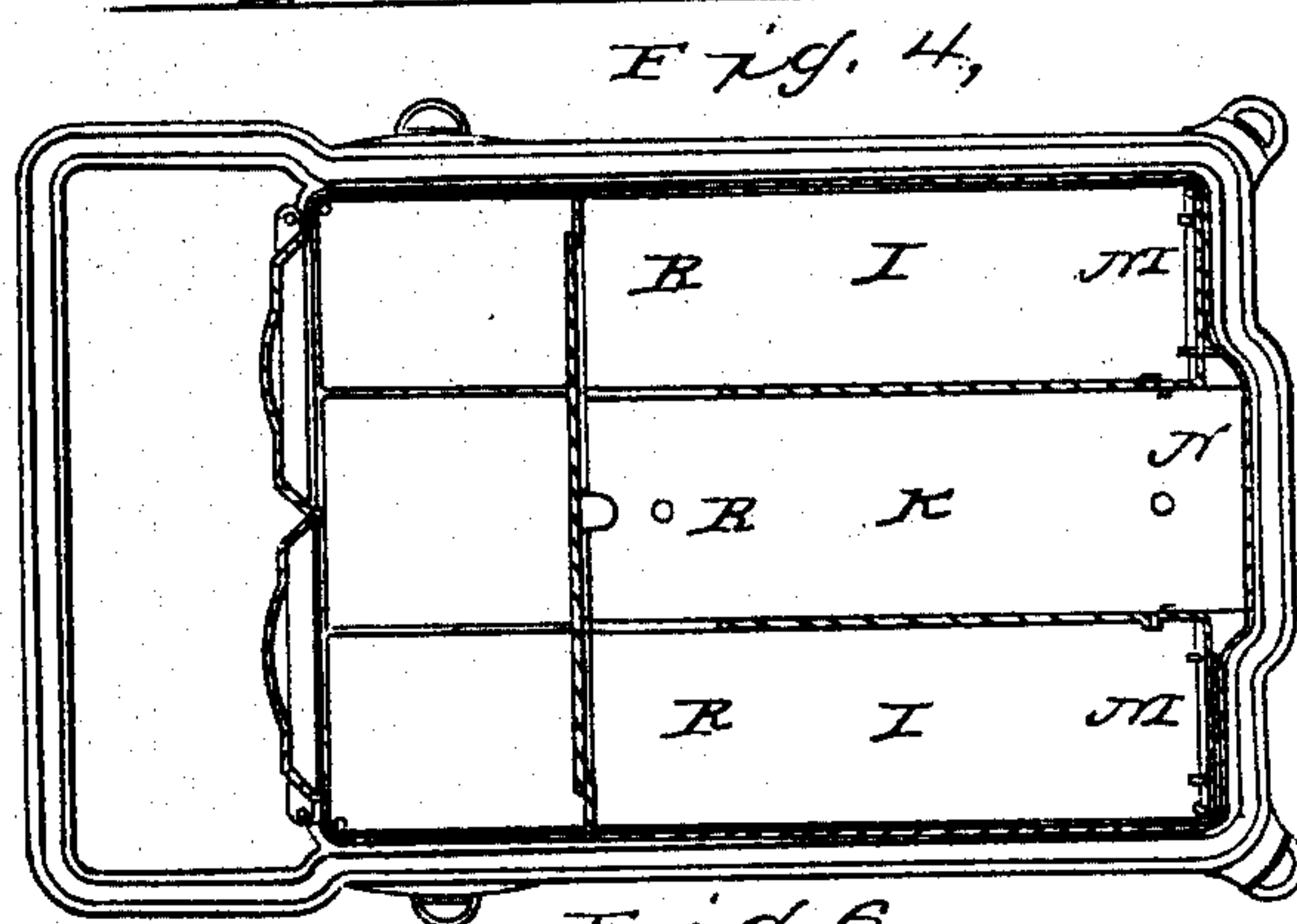


Fig. 4.

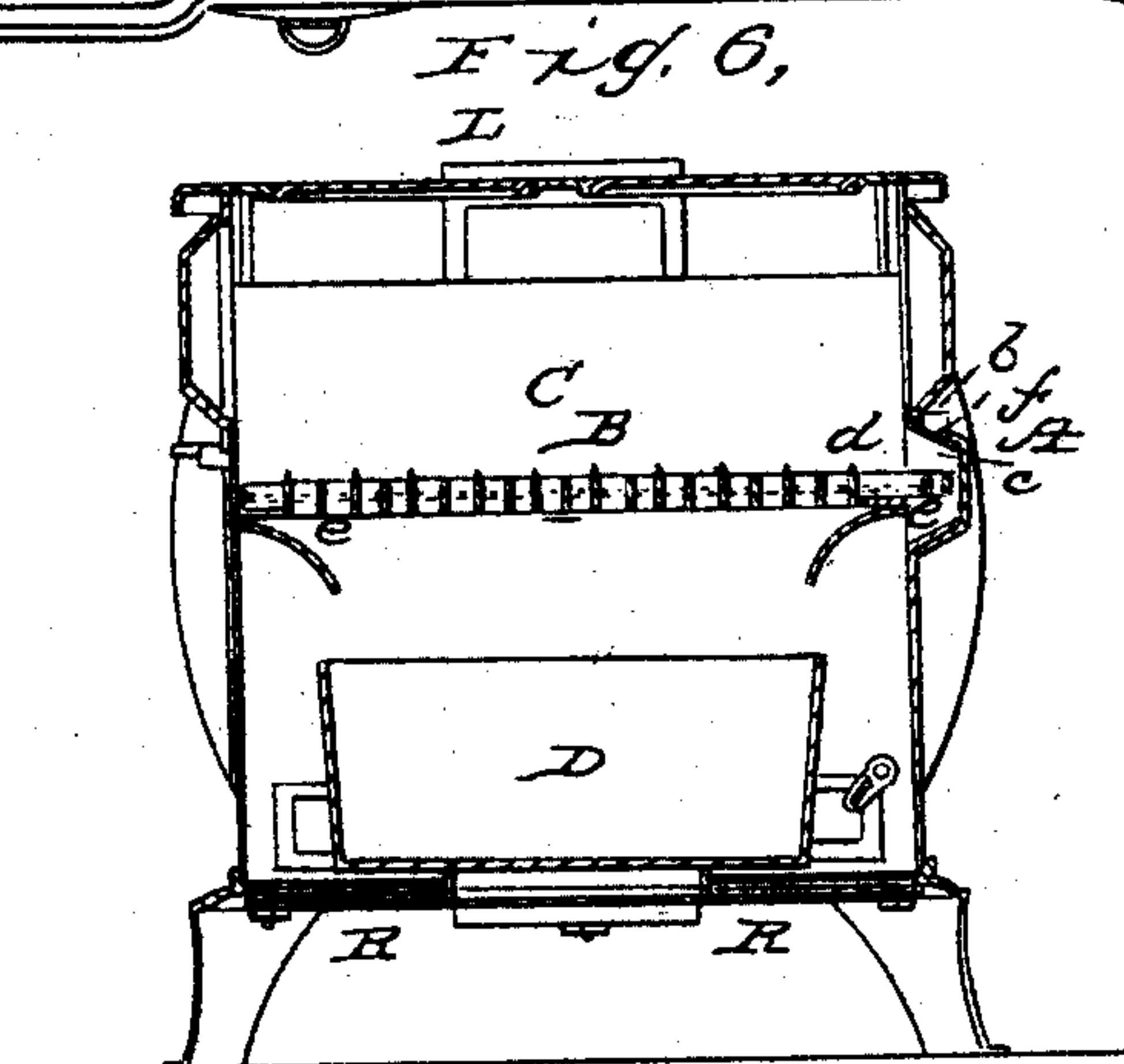


Fig. 5.

WITNESSES:

J. P. Hale Jr  
H. Washburn

INVENTOR

Garner Chilson  
by his attorney  
R. H. Ledy



# UNITED STATES PATENT OFFICE.

GARDNER CHILSON, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 55,466, dated June 12, 1866.

*To all whom it may concern:*

Be it known that I, GARDNER CHILSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Cooking-Stove; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a longitudinal and vertical section taken through the middle of the stove. Fig. 2 is another longitudinal and vertical section, taken through one of the outer flues which run underneath the oven. Fig. 3 is a transverse and vertical section taken through the vertical diving-flue against the back of the oven. Fig. 4 is a horizontal section taken through the flues beneath the oven. Fig. 5 is a side elevation of the stove. Fig. 6 is a transverse section of it, such section being taken through the grate, and so as to exhibit the bay surrounding one of the ends of one of the journals of the grate. Fig. 7 is an edge view of such bay.

The said bay is exhibited at A as consisting of a projection in the form of a hollow box or conic frustum extended from one of the side plates, *a*, of the stove, and having an elongated opening, *b*, made through its side and in the same plane with a hole, *c*, formed through or in one of the journals *d* of the grate B, such journal being projected beyond its bearing *e* and into the interior of the bay. The long slot or hole in the bay should be provided with a closing-slide, *f*, (see Fig. 8,) which is a cross-section of the bay.

By moving the slide so as to uncover the hole leading into the bay a person will be able to insert a lever in such hole and into the recess or hole of the grate-journal, and with such lever he can so move or vibrate the grate as to discharge ashes or coals therefrom.

In the said drawings the grate is exhibited as at the lower part of the fire-place C, which, with the ash-chamber D, is disposed in front of the oven E, and has a smoke-flue, F, leading directly over the oven.

Against the lower part of the back of the oven is an arched chamber, G, which runs from the bottom plate of the stove and opens at its rear into the discharge-flue L, and at its front into the middle flue, K, which goes underneath the oven.

There is in rear of the oven, and over the said chamber G, and on opposite sides of the latter, a descending flue, H, which opens into the two outer flues, I I, which go underneath the oven, and at their fronts connect with the flue K, arranged between them.

In each of the flues I I and K there is a heat-saving plate, R, which is not only arranged a short distance above the bottom of the flue, or so that there may be an air-space, S, between it and such bottom, but it has an inclination from the receiving end to the discharging end of the flue, whereby the flue becomes gradually contracted from end to end.

The object of the plate R and air-space S between it and the stove-bottom below it is to save heat or prevent the smoke from coming into direct contact with the said bottom plate and having its heat abstracted thereby. The heat thus saved from being lost through the bottom plate will be, as it were, so much gain to the oven. The inclination of the heat-saving plate R, by producing a gradual contraction of the smoke-flue, more or less arrests the heat, and thus adds to the efficiency of the flue in producing an equal or approximately equal distribution of the heat against the part of the oven which is exposed to the flue.

I also arrange on opposite sides of the chamber G, and within the descending flue H, other heat-saving plates, M, which are disposed near to the back plate, N, of the stove, and so as to prevent it from abstracting heat from a column of smoke while flowing through the flue E.

A direct-draft opening, O, provided with a damper, P, leads from the top flue of the oven into the discharge-flue L.

The stove in other respects is to be made like others in common use.

The chamber G, with its arched top, is an important part of my stove, as it not only constitutes a receiving-mouth for the discharge-flue, but its top serves to divide the smoke and deflect it into the two branches of the descending flue, in order that the smoke may be received in equal quantities by the outer flues going under the oven.

I make no claim to the simple addition to the side or the bottom plate of a flue of a stove of a casing arranged with a space between it and the outer side of the flue, as my invention consists in an arrangement of a plate within

and throughout a flue, and so that there may be an insulated air-space between the plate and the bottom of the flue, and such plate be nearer at one end to the said bottom than it is at the other, so as to incline, as and for the purpose specified; nor do I claim the arrangement of flues as shown in Patent No. 25,451, in which there is but one flue going underneath the entire oven, from back to front thereof, and communicating with a return-flue placed in and below the first flue, but not in contact with the oven, so as to impart heat thereto. In my improvement there are two separate flues and a return-flue, each of which is underneath and against the oven, and operates to heat it; and, besides, the receiving-chamber G extends up in rear of and against the back plate of the oven. Therefore, my arrangement of the oven, the chamber G, and the flues underneath and in rear of the oven differs very materially from the arrangement exhibited in the said patent.

I claim—

1. The arrangement of the separate heat-saving plate within each of the oven-flues and case of the stove, so as not only to perform its function of saving heat, as described, but to gradually diminish the smoke-passage through the flue, in manner as specified.

2. The combination and arrangement of the arched chamber G with the oven, the vertical flues at the back of the oven, and with the three flues arranged beneath and against the oven, in manner as explained.

3. The combination and arrangement of the bay A and its side opening and its closing-slide with the stove-body and with the grate-journal, as described.

GARDNER CHILSON.

Witnesses:

R. H. EDDY,  
L. HULL.