A. C. WILLIAMS.

COOKING STOVE, OR RANGE.

No. 185,997. Patented Jan. 2, 1877.

Fig. 3

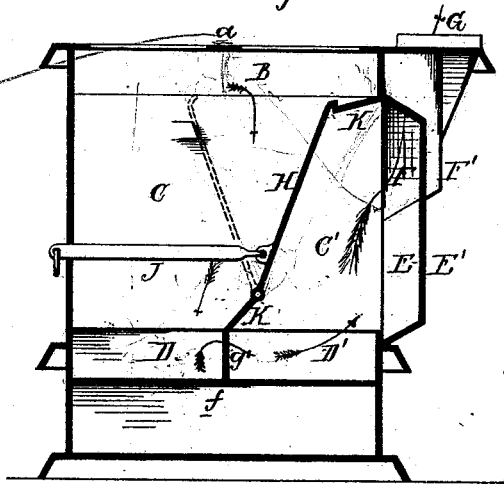


Fig. 1

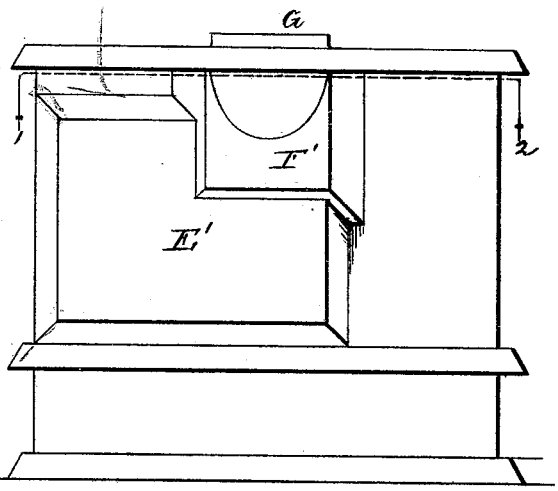
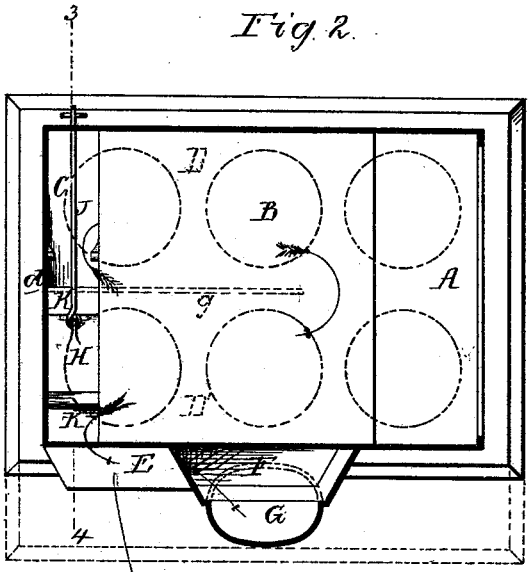


Fig. 2.



Witnesses,
Harry Howson Jr.
Harry Smith

Absalom C. Williams
by his Attorneys
Howson and Son

UNITED STATES PATENT OFFICE.

ABSALOM C. WILLIAMS, OF ALBANY, NEW YORK, ASSIGNOR TO JOHN S. PERRY, TRUSTEE AND EXECUTOR, NATHAN B. PERRY, AND ANDREW DICKEY, OF SAME PLACE.

IMPROVEMENT IN COOKING STOVES OR RANGES.

Specification forming part of Letters Patent No. **185,997**, dated January 2, 1877; application filed April 29, 1876.

To all whom it may concern:

Be it known that I, ABSALOM C. WILLIAMS, of Albany, New York, have invented certain Improvements in Cooking Stoves or Ranges, of which the following is a specification:

The main object of my invention is to so arrange the flues of a cooking stove or range that the products of combustion shall pass under all the openings in the top plate, whether their course be direct to the exit-flue, or indirect beneath the oven before passing to the exit-flue, thus, in either case, imparting a uniform heat to all the culinary vessels—a further object being to provide an increased heating-surface for the oven.

These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figure 1 is a plan view of my improved cooking stove or range; Fig. 2, a sectional plan on the line 1 2; and Fig. 3, a vertical section on the line 3 4, Fig. 2.

A is the fire-place of the stove or range; *a*, the top plate of the same, furnished with the usual openings (shown by dotted lines in Fig. 2) for the reception of culinary vessels. Between the top plate *a* of the stove or range and the top plate of the oven is a flue, B, and between the side plate *d* of the stove or range and the side plate of the oven two flues, C and C′, separated by a diagonal partition, K, so arranged that the top of the flue C, where it communicates with the rear of the flue B, shall be as long, or nearly so, as the latter flue is wide. Between the bottom plate of the oven and the bottom plate *f* of the stove or range are formed two flues, D and D′, partially separated by a partition, *g*, (see dotted lines, Fig. 2,) but communicating with each other at the end of the said partition. The flue D communicates with the bottom of the flue C, and the flue D′ with the bottom of the flue C′, and the latter communicates with a flue, E, formed between the rear plate of the oven and a projecting portion, E′, of the rear plate of the stove or range. The flue E communicates with a flue, F, formed between the rear plate of the oven and a projection, F′, on the rear plate of the stove or range, and this flue communicates directly with the exit-pipe G. The partition K has an opening, to which is adapted a damper, H, the latter admitting of being adjusted from the outside of the stove or range, by a rod, J, to either of the two positions shown by plain and dotted lines.

When a fire is first started in the stove or range the damper H should be adjusted to the position shown by dotted lines in Fig. 3, in which case the flue C′ is enlarged vertically, and made to communicate directly with the flue B, so that the products of combustion can pass directly from the flue B, through flue C′, and thence through the flues E and F to the outlet.

After the fire has become kindled the damper H should be adjusted against the partition K, when the products of combustion will pass along the top flue B, descend through the flue C, traverse the flues D and D′ beneath the oven, ascending the flue C′ to flue E, and pass thence through the flues E and F to the exit-pipe.

It will be observed that, owing to the inclined partition K, the top of the flue C, when the damper H is closed, is as long, or nearly so, as the flue B is wide, and, hence, the products of combustion are thoroughly disseminated throughout the top flue B in passing through the same to the flue C, instead of being deflected to one side, so that all the culinary vessels on the top plate will be subjected to a uniform heat.

By extending the flues E and F vertically along the rear wall of the oven to the base of the flue C′, and compelling the products of combustion to enter at the bottom of the same before passing through them to the outlet, the rear surface of the oven is protected from the exterior cold air, and a large amount of additional heat imparted to the same.

I claim as my invention—

1. The combination of the flue B, dampered opening and damper H, and flue C′.

2. The combination of the flues C and C′

with the inclined partition K and its damper H.

3. The combination of the flue C′ with the flues E and F, inclosing the rear plate of the oven, as and for the purpose described.

4. The combination of the flue C, dampered opening and damper H, and flues E and F.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ABSALOM C. WILLIAMS.

Witnesses:

G. W. HOBBS,

R. Z. LIDDLE.