

A. C. WILLIAMS & R. Z. LIDDLE.

RANGES.

No. 182,255.

Patented Sept. 12, 1876.

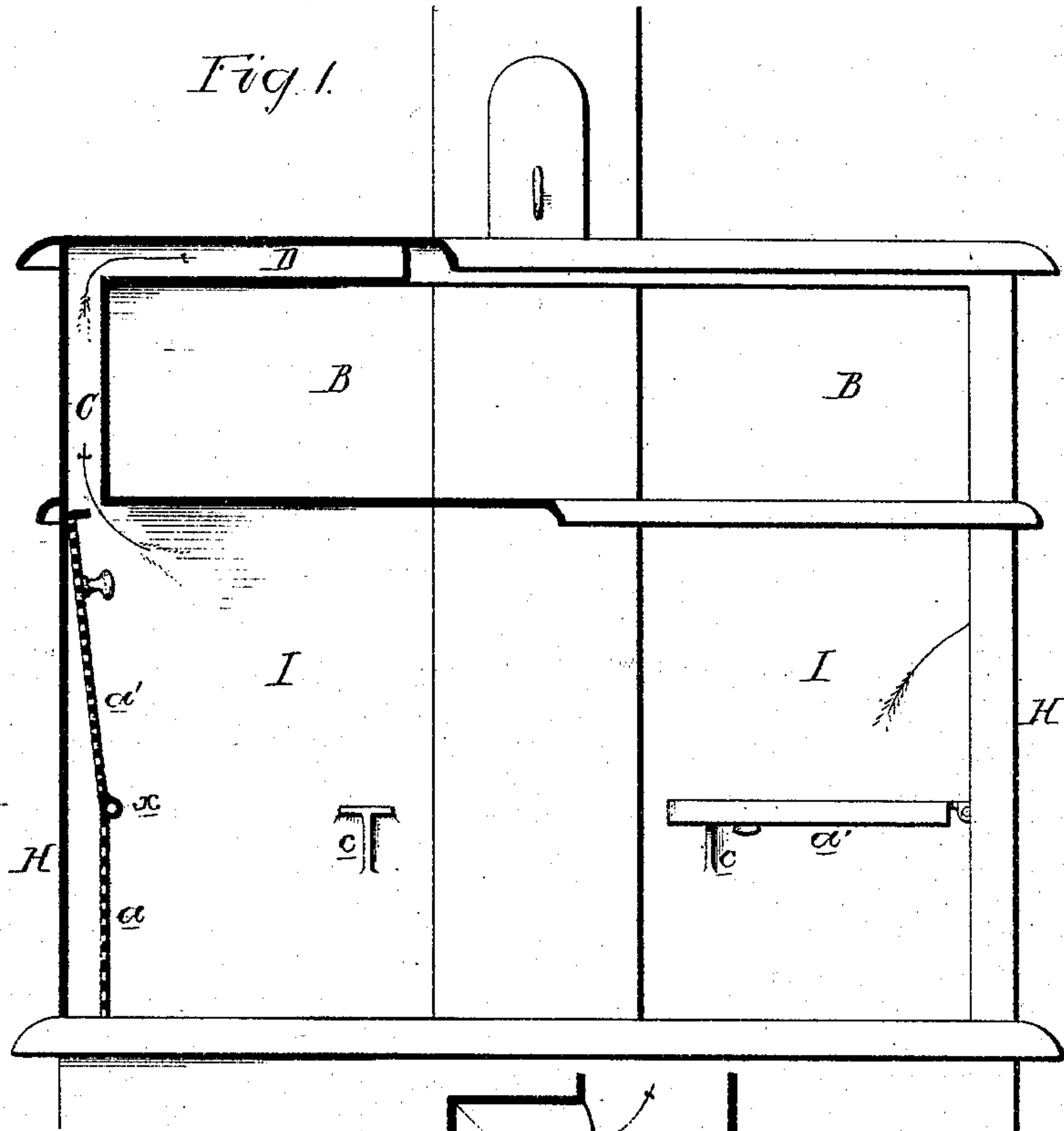
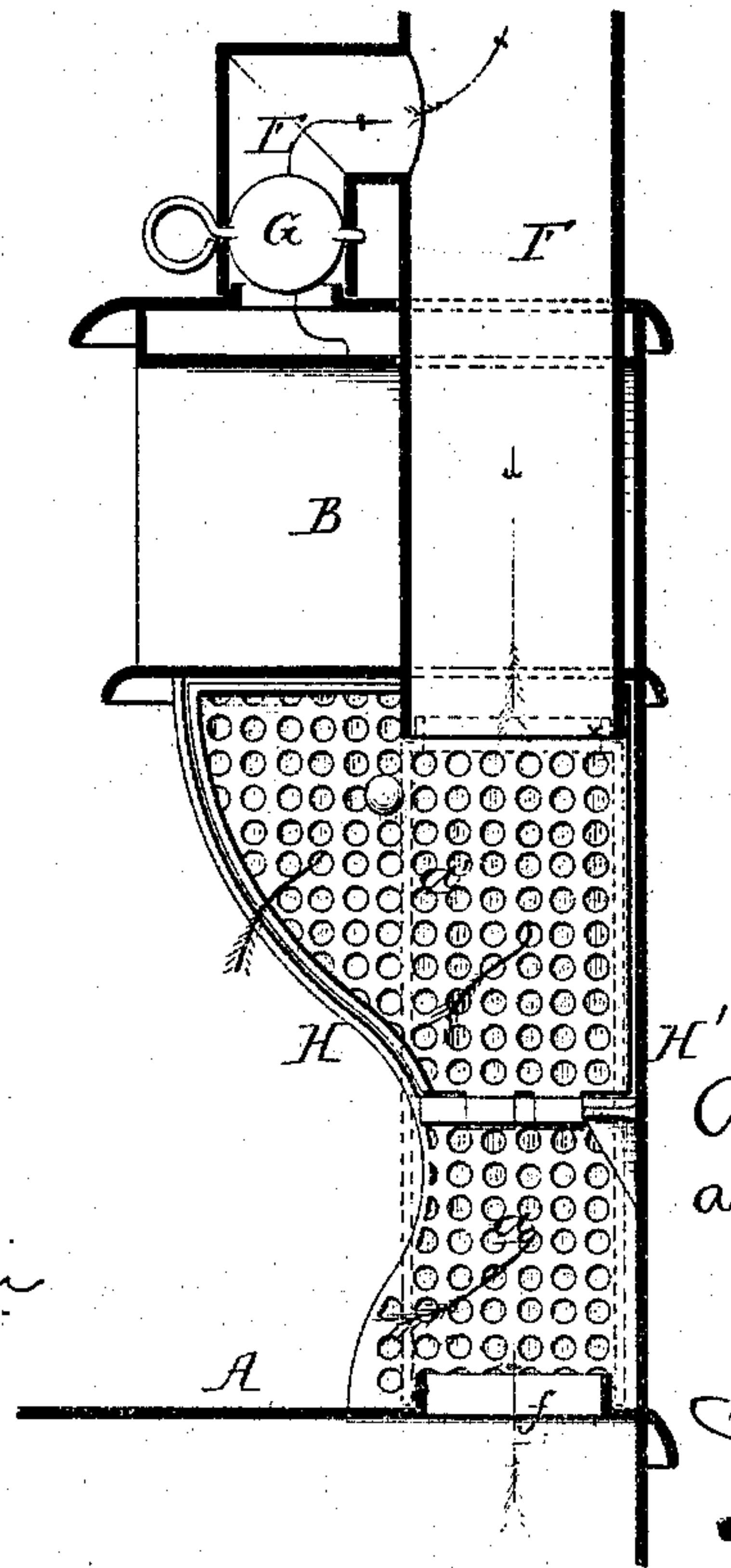


Fig. 2.



Witnesses,
Harry Howson
Harry Smith

Absalom C. Williams
and Robert Z. Liddle
by their Attorneys
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UNITED STATES PATENT OFFICE.

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

IMPROVEMENT IN RANGES.

Specification forming part of Letters Patent No. 182,255, dated September 12, 1876; application filed
May 2, 1876.

To all whom it may concern:

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

Our invention relates to certain improvements in stoves or ranges which are furnished with elevated warming closets or ovens; and the objects of our invention are, first, to prevent the dissemination of offensive heated air and steam into the room in which the stove or range is situated; second, to utilize this heat or steam for more thoroughly heating the elevated closet or oven; third, to so combine the flue surrounding the warming-oven with the exit-pipe of the stove or range, and with a damper, that the draft may be regulated; and, fourth, to provide the stove or range with movable shelves, which shall not interfere with access to the boiler-holes. These objects we attain in the manner which we will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a front view, partly in section, of our improvements; and Fig. 2, a transverse section of the same.

The top plate A of the stove or range has the usual openings for receiving culinary vessels, and on this plate, at the rear of the same, is erected the structure which forms the subject of our invention, and which consists of a warming-oven, B, supported partly by end standards H H and rear plate H', the said oven being open in front, closed at the rear by the plate H', and having at each end a vertical flue, C, communicating with a top flue, D, which communicates through a flue, E, with the smoke-pipe F, the lower end of the latter being attached to the usual pipe-collar *f* on the top plate A of the stove or range, and the branch being furnished with a suitable damper, G. The standards, rear plate, and oven, partially inclose a space, I, which is open in front for receiving offensive heated air and steam, and for aiding in disposing of the same in the manner described hereafter.

The end standards H of the structure consist, in the present instance, of plates recessed

on the inside, for the reception of a lining, the lower portion *a* of which is fixed, and the upper portion *a'* hinged at *x* to the lower portion, so that it can be either adjusted to the position shown at the left of Fig. 1, or can be depressed so as to bear on a ledge, *c*, as shown at the right of said figure, in which case it becomes a shelf, appropriately situated for receiving vessels containing articles of diet which it is desirable to keep warm.

The plates constituting the lining may be plain or perforated, and it is immaterial how the shelf *a'* is connected to the structure, provided it can be moved out of the way or converted into a shelf, as circumstances may demand.

When a fire is started in the stove or range, the damper G in the branch pipe E should be closed, so that the draft in the exit-flue F may not be impaired by the admission thereto of air through the said branch. After the fire has been fully kindled, and the stove or range is being used for culinary purposes, the damper G should be opened, when a current will be established through the flues C, C, and D, and the current in the flues will induce the deleterious heated air, offensive fumes, and steam, in the neighborhood of the stove or range, to rush first into the space I of the structure, and thence through the said flues into the escape-flue, the structure itself serving to direct the vapors to the entrance of the said flues. This is not only accomplished without detracting from the proper and effective operation of the stove or range, but the waste heat and steam passing through the flues add to the heat of the warming-oven.

When it is desired to retard combustion for the purpose of retaining the fire over night, or when the use of the stove or range is not required for a length of time, the damper G may be left more or less open, so as to check the draft.

It has been found to be a great convenience, in culinary operations, when a variety of vessels are used, to have some place on the stove or range for placing the said vessels on, and shelves or supports have been heretofore arranged in a variety of ways for this purpose,

but were frequently so placed as to interfere with easy access to the boiler-holes—an objection which we have overcome in the structure described.

When the plates *a'* are required for use as shelves, they are simply moved outward from the recesses of the standards and permitted to fall onto the ledges *c*, when they are in a position to receive culinary vessels, the fumes from which must pass off through the pipe *F*.

We claim as our invention—

1. In a stove or range, an elevated warming-oven, inclosing with its supporting-plates the open space above the top plate of the stove, in combination with flues by which the heated air and steam are carried off to the exit-flue, and at the same time caused to impart their heat to the warming-oven, all substantially as described.

2. In a cooking stove or range, an elevated warming-oven, supported above the top plate of the stove, with flues for carrying off the of-

fensive heated air and steam, in combination with a structure supporting or forming part of the said oven, and serving to direct the said air and steam to the entrance of the flues, all substantially as specified.

3. The combination of the warming-oven *B*, its flues *C C*, flues *E* and *F*, and damper *G*.

4. The combination of the adjustable shelf or shelves *a' a'* with the supports *H H'*, extending above the top plate of a cooking stove or range, and with a pipe, *F*, through which fumes from the cooking-vessels placed on the said shelves may be carried off to the chimney, all substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ABSALOM C. WILLIAMS.

ROBERT Z. LIDDLE.

Witnesses:

FRANK A. TREADWELL,
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