

P. N. BURKE.
Cooking Stove.

No. 125,377.

Patented April 9, 1872.

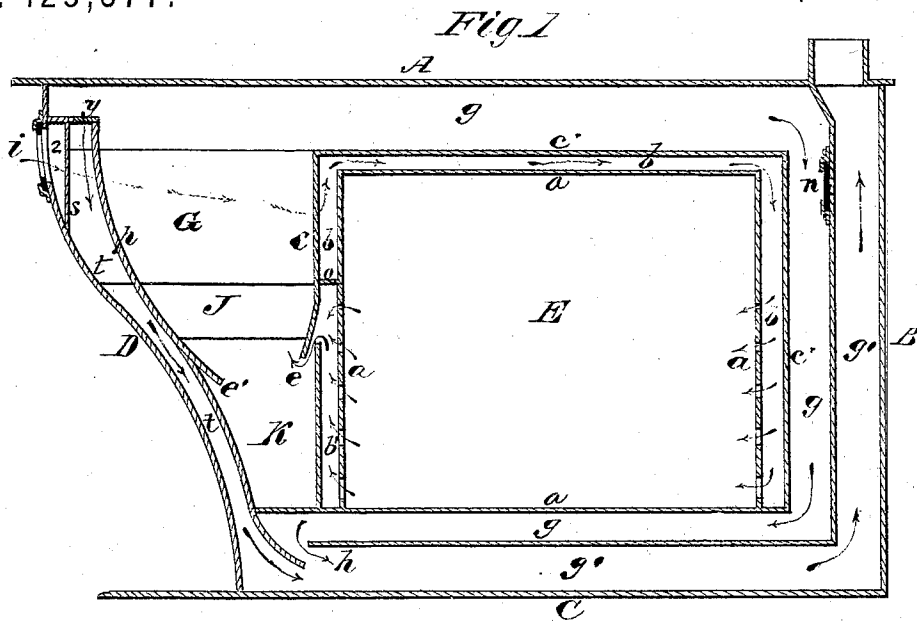
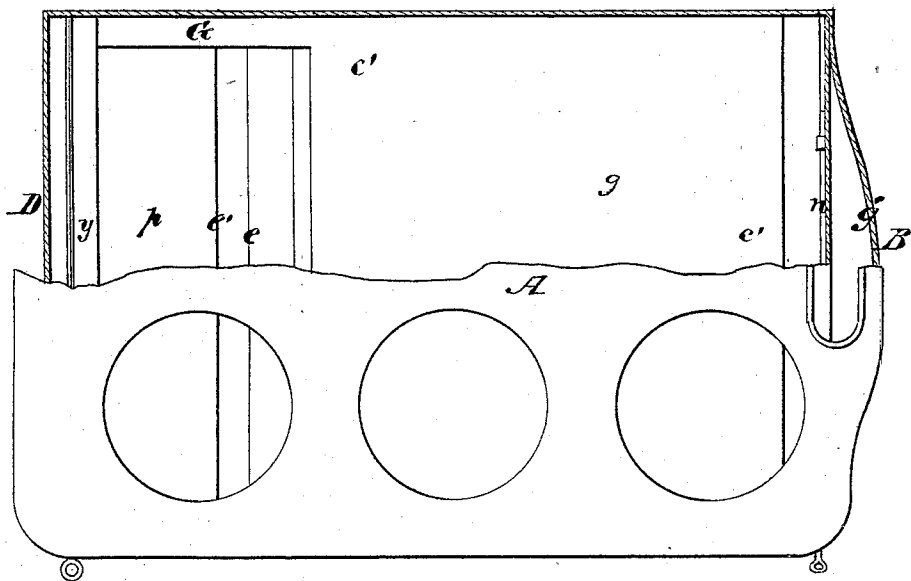


Fig. 2



Witnesses.

R. T. Campbell.
J. N. Campbell.

Inventor

P. N. Burke

by

Marion Knicker Hamma

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Fig. 3.

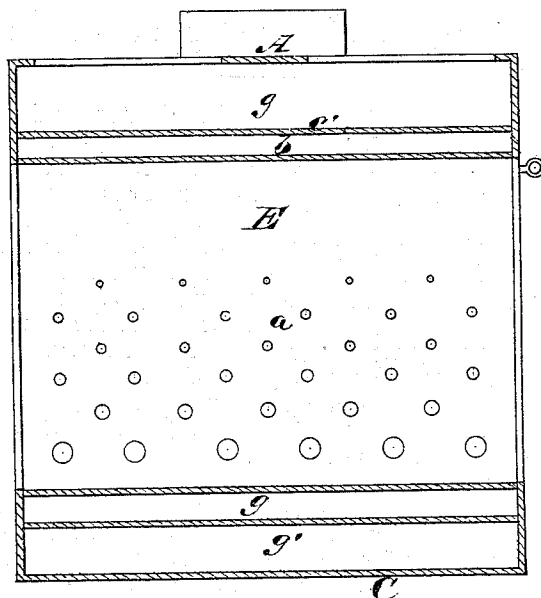
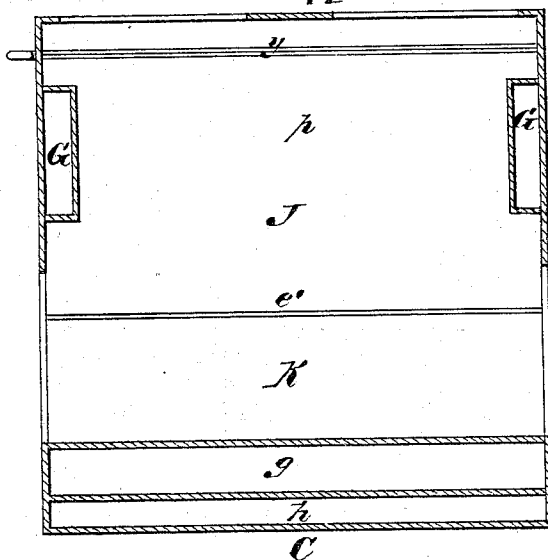


Fig. 4.



Witnesses.
R. T. Campbell.
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UNITED STATES PATENT OFFICE.

PETER N. BURKE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN COOKING-STOVES.

Specification forming part of Letters Patent No. 125,377, dated April 9, 1872.

To all whom it may concern:

Be it known that I, PETER N. BURKE, of the city and county of New York and State of New York, have invented a new and Improved Cooking-Stove; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, Plate 1, is a section taken vertically and longitudinally through the center of my stove. Fig. 2, Plate 1, is a view of the top of the stove, with one-half of the top plate broken away. Fig. 3, Plate 2, is a section taken vertically and transversely through the stove, intersecting the oven. Fig. 4, Plate 2, is a section taken vertically and transversely through the stove, intersecting the fire-chamber and ash-chamber.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements, which are applicable to cooking-stoves, and which are designed for adapting the stoves to the purposes of baking as well as roasting, and also for utilizing the heat to the best advantage for both purposes; also for affording a large rectangular oven without encroachment from either the fire-chamber or ash-pit, or increasing the external capacity of the stove, as will be hereinafter explained.

The following description of my invention will enable others skilled in the art to understand it.

In the accompanying drawing, A represents the top plate of the stove; B, the back plate; C, the bottom plate; and D, the front plate. The top plate has six openings through it for pot-holes, four of which are arranged directly over the oven E, and two over the fire-chamber J. The back plate is curved to form an ascending smoke-flue, *g'*. The bottom plate C is extended in front to form a hearth, and the front plate D is curved and inclined forward so as to allow the fire-chamber to extend forward beyond the ash-pit, as clearly shown in Fig. 1. The two side walls present openings for the oven E, and one or two openings for the ash-chamber *k*. In the drawing the front plate is of the form of a *cyma-reversa*, but it might be straight, provided that it inclined forward so that the fire-chamber J overhangs the hearth,

and the bottom of the stove is shorter in length than the top thereof. This feature I consider very important, as I am enabled by it to form in a stove of a given length on top a quadrangular oven, which is not encroached on either by the fire-chamber or ash-pit, and which allows both the fire-chamber and ash-pit to be made of proper size without increasing the length of the stove or the width thereof.

The fire-chamber J is bounded laterally by the lateral walls of the stove, and also by two longitudinal air-chambers, G G, which latter communicates with the external air through a space, 2, and a sliding register, *i*, which space is formed by a division-wall, *s*, and a short horizontal wall, which is just in front of a valve, *y*. In front the fire-chamber is bounded by a curved wall, *p*, which, with the front wall D, forms a descending flue-space, *t*. The wall *c* bounds the rear part of the fire-chamber and ash-pit, and forms, with the front wall *a* of the oven, hot-air spaces *b b'*. The ash-pit is bounded on each side by the side walls of the stove, and the ash-pit doors in front by the inner wall *p* and ash-director *e'*; in rear, by the lower section of the wall *c* and the deflecting section *e* of the upper section of this wall. Below the ash-pit is closed in by a forward extension of the oven-bottom. The oven E is inclosed by top, bottom, front, and rear walls *a*, between which and the top, back, and front walls is an air-space, *b*, into which air is introduced through the register *i*, space 2, and chambers G G. Below this partition O, at the front of the oven, is a space, *b'*, which receives heated air after passing through the oven, and from which this air escapes into the ash-pit through a space between the two front sections of the plate *c*, and thence rises through the grate into the fire-chamber. The air which is admitted into the space *b*, near the upper part of the oven in front thereof, passes over the oven, thence descends toward the bottom thereof and escapes into the oven through perforations which are made through the rear inner wall *a* of the oven. The air passes from the oven into the space *b'* through perforations which are made through the front inner wall of the oven, and thence escapes into the ash-pit and through the grate into the fire-chamber, as above described.

The products of combustion, under direct draught, pass from the fire-chamber J into an

ascending-flue, *g'*, through a damper or valve, *n*, and thence into the escape-flue. When the valve *n* is shut all the products descend behind the oven, thence pass forward beneath the oven to and through a passage, *h*, and thence return through the bottom and back flues *g'*, and escape. When the valve *n* is shut and the valve *y*, at the upper end of the front sheet-flue *t*, is open, the common draught of the stove will divide the products of combustion escaping from the fire-chamber, so that a part will pass down, by way of sheet-flue *t*, into the flue *g'* at the base of the stove, and part will pass through flue *g*, space *h*, and thence into the flue *g'*, whence both currents will pass off together through the rear ascending-flue *g'*.

It will be seen by reference to Fig. 1 that the plate *p* is extended downward and backward beneath the space *h*, so that the products of combustion, after leaving the sheet-flue *t*, will pass off through the flues *g'*, and will not interfere with the current which is induced through space *h* from the flue *g*.

The flue *t* is a sheet-flue—that is to say, it is a flue which is equal in width to the width of the stove. The flues *g g'* are also sheet-flues, (but ordinary triple-flues may be used here,) and, like the flue *t*, allow a free passage through them of the products of combustion, thus transmitting heat equably to the walls inclosing them. The hot-air flues *b b'* are also sheet-flues, and allow the air circulating through them to equably receive heat from the sheet-flues *g* and fire-chamber *J*.

The oven is equably supplied with air through perforations which are made through the front and rear walls of this oven, which perforations gradually increase in size from below upward, so that where the draught through them is strongest the perforations are smallest, and vice versa. By thus supplying the oven with heated air the quality of the cooking is greatly improved; and, by conducting the air and vapors from the oven into the ash-pit be-

neath the ash-deflecting lip, *e*, they will rise through the fire and facilitate combustion, as well as have their odors destroyed.

I am aware that it is not new to ventilate ovens, and I do not claim such feature when broadly considered. I am also aware that stoves have been constructed for cooking having provision for dividing the products of combustion on their way from the fire-chamber to the escape-flue above and below the oven, and this I do not claim broadly. I am also aware that square stoves have been constructed with square ovens, and with the fire-chamber and ash pit on one side thereof, and this I do not claim; but

What I do claim, and desire to secure by Letters Patent, is—

1. The passage *h*, beneath the ash-pit, forming a communication between the flues *g g'*, in combination with the front descending-flue *t*, substantially as described.
2. The side air-passages *G G*, chamber *2*, and register *i*, in combination with a double-wall oven *E*, and air-spaces *b*, substantially as described.
3. The oven-walls *a a*, having perforations through them which increase in size from above downward, in combination with the air-spaces *b b'*, substantially as described.
4. The division *o* in the air-spaces *b b'*, in combination with the perforated oven-plates, and an outlet for air from the oven through an opening in the ash-pit wall *c*, substantially as described.
5. The inclined sheet-flue *t*, in combination with the air-passages *2 G*, a register, *i*, and a double-wall oven, substantially as described.
6. The double-wall oven *E*, air-spaces *b b'*, and flues *g g'*, combined and arranged substantially as described.

PETER N. BURKE.

Witnesses:

E. F. MYERS,
L. P. JUDSON.