S. PIERCE.

Cooking Stove.

No. 4,299. Patented Dec. 6, 1845.

Fig. 1

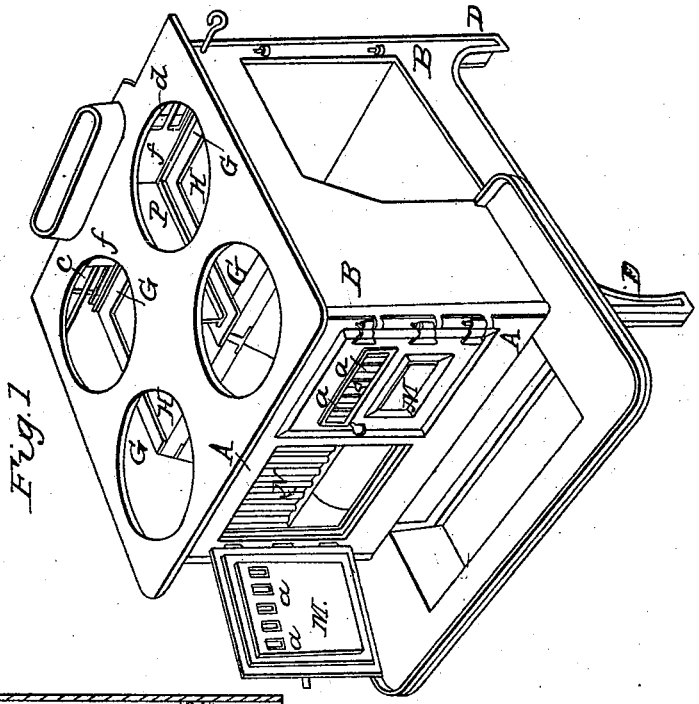


Fig. 2

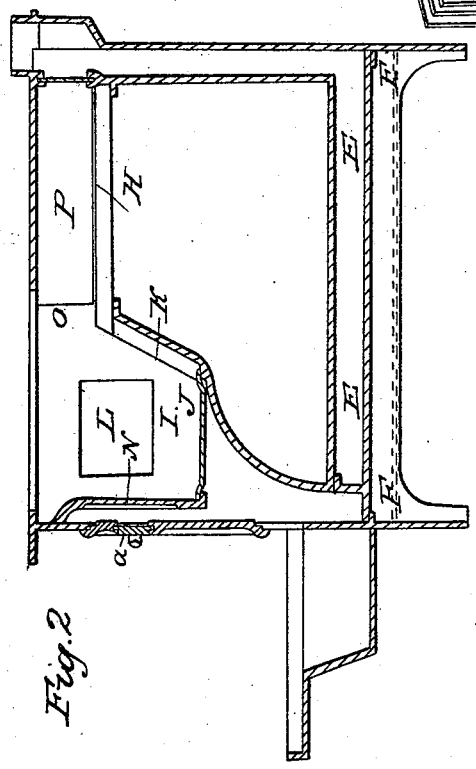
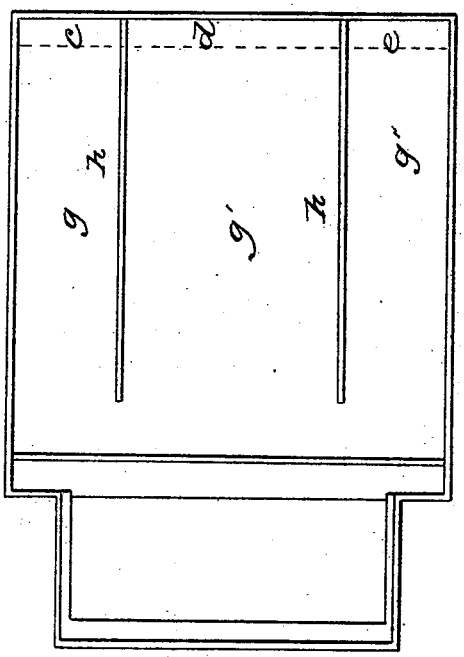


Fig. 3



N. PETERS, Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

SAML. PIERCE, OF PEEKSKILL, NEW YORK.

COOKING-STOVE.

Specification forming part of Letters Patent No. 4,299, dated December 6, 1845; Reissued March 24, 1847, No. 91.

To all whom it may concern:

Be it known that I, SAMUEL PIERCE, of Peekskill, in the county of Westchester and State of New York, have made certain new and useful Improvements in the Manner of Constructing Cooking-Stoves; and I do hereby declare that the following is a full and exact description thereof.

In the accompanying drawing Figure 1 is a perspective view of my stove; Fig. 2 is a vertical section from front to back in the line *x x* of Fig. 1 and Fig. 3 is a plan of the parts immediately below the oven.

The same letters of reference are used to designate the same parts in each of the figures.

A A is the front plate and B B one of the side plates, each of these I prefer to cast in one piece so that they shall form the legs D D.

E E is the lower plate of the stove, and this I protect from the action of the external air and thereby preserve the lower oven plate at a higher temperature than usual.

In the ovens of cooking stoves it is a general source of complaint that the heat is too great at the top and too little at the bottom. To obviate the latter of these difficulties I allow the plates on each side of the stove to descend to the depth of three or four inches below the lower plate E E; and at the lower part of this space I insert a plate shown by the dotted line F F so as to inclose an air space of two or three inches between it and the bottom plate E E; the air contained in which constitutes a non conducting medium which prevents the heat from being carried off from the lower oven plate. But for the agitation of the air in the room I am fully convinced that the descent of the side plates below the bottom plate E, would be nearly as effective without as with the plate F but the insertion of the latter insures the desired result by retaining the same heated air in place.

To prevent the overheating of the top of the oven and to attain other advantages, I substitute for the ordinary metallic top plate of the oven an open frame of cast iron G G in which I place panels H H of soapstone, or of fire clay. These not only moderate the heat at the top of the oven, but, as less is absorbed by them than by a metallic plate they increase it at the bottom. They have also the beneficial effect upon the articles that are being baked which is produced by the ordinary brick oven, namely, the aqueous vapor that is disengaged, is absorbed by them and carried off, and the bread or other articles that are cooked do not become sodden as in ovens wholly of iron.

I have so arranged the openings by which the draft is admitted to the fire as that the air shall be highly heated before it is brought into contact with the fuel, by which means a very considerable saving is effected.

I Fig. 2 is the fire place and J the grate bars.

K is a fire-brick, or soap-stone back, to be used when anthracite is burned.

L, Fig. 2, is the door for the admission of fuel.

M M are the front doors which are fitted, as nearly as possible, air tight, the whole draft being admitted through a sliding latticed register *a a* which will exactly determine the quantity of air which is allowed to enter; these registers open opposite to the upper portion of a corrugated dead plate N that constitutes the front of the fire chamber and before the admitted air reaches the grate J it is highly heated in its passage.

O is the passage way over the oven to the flues and this I provide with a vertical dividing plate P by means of which the whole draft may be directed to the cooking utensils on either side. This is not a new feature, the same having been before done. The vertical flues *c d* and *e* at the back of the stove are similar to those in common use, and the draft through them is governed by dampers, or valves *f f* operating in the usual way. The lower flue spaces *g g′* and *g″* Fig. 3, with the division plates *h h* are also of the ordinary kind.

I claim—

The arrangement of the parts by which I supply the fire with heated air, said arrange-

ment consisting mainly of the sliding registers *a a* and the plate N in front of which the air must descend on its passage to the grate bars; the heating of the admitted air has been attempted under other arrangements and I limit my claim in this particular therefore, to the special combination of parts by which I attain this end.

SAMUEL PIERCE.

Witnesses:
EDWIN L. BRUNDAGE,
GUY C. HUMPHRIES.

[FIRST PRINTED 1913.]