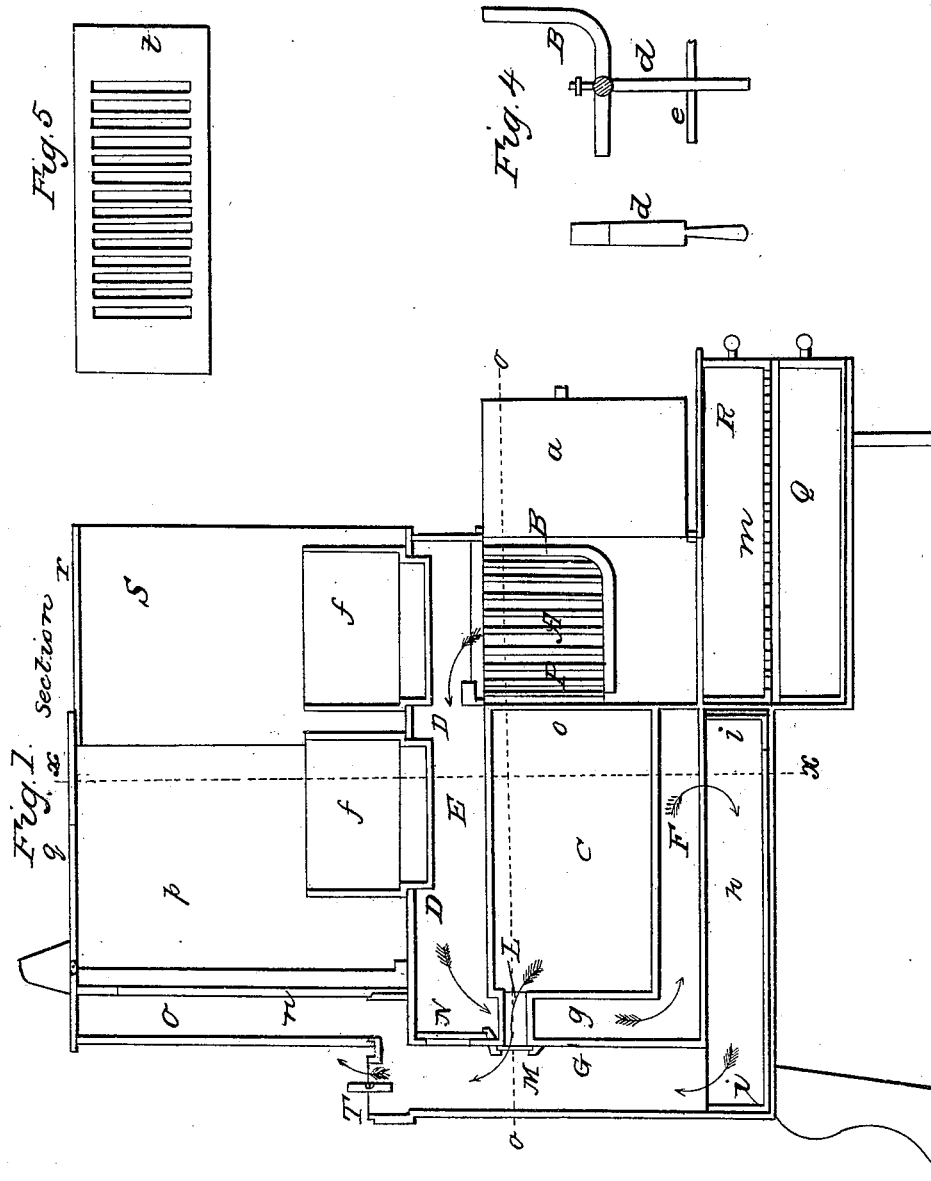


N. MASON.
Cooking Stove.

2 Sheets—Sheet 1.

No. 6,638.

Patented Aug. 7, 1849.

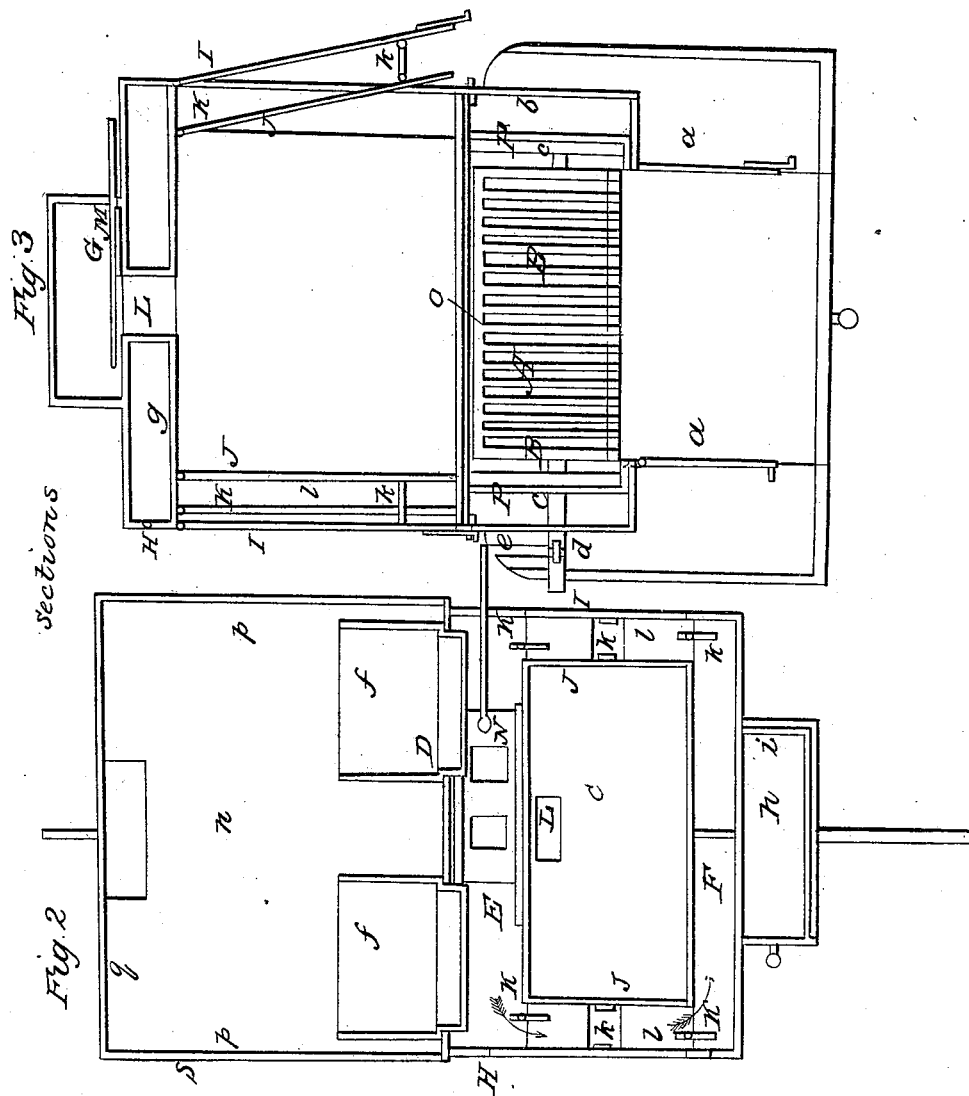


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UNITED STATES PATENT OFFICE.

NICHOLAS MASON, OF ROXBURY, MASSACHUSETTS.

COOKING-STOVE.

Specification of Letters Patent No. 6,638, dated August 7, 1849.

To all whom it may concern:

Be it known that I, NICHOLAS MASON, of Roxbury, in the county of Norfolk and State of Massachusetts, have invented a new and useful Improvement in Cooking-Stoves; and I hereby do declare that the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a vertical longitudinal section. Fig. 2, a vertical transverse section at the line (*xx*) Fig. 1. Fig. 3, is a horizontal section at the line *oo* Fig. 1. Fig. 4, is a section of the grate for holding the coal, and it shows the notched bar for sustaining the same in its proper position. Fig. 5 is a top view of the grate, when used for burning wood.

The same letters refer to like parts on all the figures.

The nature of my invention consists in causing the heat and smoke from the fire chamber to pass over the oven and down diving flues on the ends and back of the oven and under the same toward the front part of the stove, where they descend and enter another flue, immediately below, which conducts them to a vertical flue at the back part of the stove, leading to the smoke pipe, thus causing the oven to be entirely surrounded with heat when desired, to cook the meats in the oven alike on all sides.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

The stove in its lower exterior appearance resembles other cooking stoves in use, that is to say, it is of an oblong form and is provided with side oven doors, hearth in front and other usual appurtenances.

A is the fire chamber arranged at the front part of the stove, and extending from one part to the other, having front doors *a* and a side door *b* for the admission of fuel. B, is a grate bent after the form of a right angle with the corner removed, and suspended in the fire chamber on horizontal axles *c* turning in suitable bearings on the sides of the stove, and extending through an opening in one side of the same, and having an arm or bar *d* attached loosely to the same, to admit of its rise and fall, with a shoulder formed near its lower end in such a manner as to allow of said arm being moved through the slot *e* in the side of the hearth, to hold

the grate in its proper position, or to turn over the grate to discharge cinders, &c., from it.

C is the oven of the usual form, arranged immediately behind the fire chamber, and extending from one side to the other.

D, are the openings in the top plate to admit of the ordinary boilers *f*.

E is a horizontal flue, formed by the top plate of the stove and the top of the oven, communicating with the fire chamber in front and with a diving flue *g*, formed by the back plate of the stove and the back of the oven in the rear.

F is a horizontal flue immediately under the oven, communicating with the vertical flue and extending to the forward part of the oven where it communicates with another horizontal flue *h*, immediately under the same, formed by a draw *i*, inserted in a corresponding shaped place formed below the stove. This draw is designed to receive the soot, &c., cleaned from the flues.

G is a vertical flue arranged at the back part of the stove immediately next the diving flue *g*, and communicating with the lower horizontal flue *h* at its lower end, and with the stove pipe at its upper end.

H, is a door suspended on pivots on one side of the stove, and forming part of the same, provided with a clasp or latch, for securing the same when closed and having an oblong space similar in size to the end of the oven. The object of this door, is to enable a person to clear the flues when they become foul, and to deposit the soot in the draw *i* below.

I are the oven doors, suspended on pivots and having clasps *s* or latches, for securing them when closed.

J, are other doors corresponding in size and form with the oven, and exactly fitting in the same, suspended on pivots turning in suitable openings in the upper and lower plates of the oven, a short distance inside the doors I, and connected to the same, by means of hooks, or hinged plates *k* in such a manner as to form flues *l*, at the ends of the oven, as represented in Fig. 2, when the doors are closed, and to cause the inner and outer doors I, J, to move together when opened.

K, K, are swinging dampers, suspended on pivots, in spaces in the upper and lower plates of the oven, between the inner and outer doors I, J, of the same, and communi-

cating with the upper and lower horizontal flues. The pivots on which these dampers are suspended, project from the ends of the same, near their edges so as to give a preponderance of weight to the opposite edges, and by this means cause them to assume a vertical position when the doors are closed, and the communication with the upper and lower flues E, F, through the flues I, to be opened; and when said doors are opened the lower and upper edges of the inner ones J, will turn said dampers to a horizontal position, so as to cause them to effectually close the spaces in the upper and lower plates of the oven, and prevent the escape of heat or smoke through the same.

L is a horizontal flue or passage way, extending from the upper part of the oven, to the vertical flue G, for carrying off the odor &c. arising from the article being cooked in the oven.

M is a sliding damper, moving in grooves formed in the flue G, and operated by a rod projecting from the side of the same, for closing the passage way or flue L.

N is a sliding register plate or damper moving in grooves in the back diving flue, and provided with a rod projecting from the side of the stove, for opening or closing the openings in the back plate, and causing the draft to either pass directly from the fire chamber into the smoke pipe, or around the oven as desired.

O is a cast iron ribbed plate, arranged between the fire chamber and front plate of the oven, for preventing said front plate from becoming too hot, and burning out.

P are other cast iron ribbed plates arranged at the sides of the grate, and held in their places by inserting one of their edges in grooves in the plate O, and cogs formed on their opposite edges into corresponding formed notches, on the inside of the front plate of the stove.

Q is a horizontal draw, or ash box, inserted in the lower part of an oblong box or ash pit, immediately under the hearth of the stove.

R is another draw similar in size and form to the one just mentioned, moving on ribs immediately above the same, and having a grated bottom *m*, formed by transverse bars extending from one side to the other, for sifting the cinders and coal descending from the grate.

S is an oblong portable case, composed of sheet iron or other suitable material, and arranged on top of the stove. This case is open in front, and consists of an upright plate *n* resting on the back part of the stove, having an upright flue *o*, on its back part, communicating with the upper part of the case at its upper end, and provided with hinged sides *p*, and top *q* on the inner surfaces of which are formed dove-tailed

grooves for receiving corresponding formed tongues, on oblong sliding plates *r*, *s*, arranged immediately inside the upper and side swinging plates *p*, *q*, and corresponding in size and form with the same, in such a manner as to admit of said case being enlarged to the full extent of the stove, in order to convey the steam and odor from the boilers through the flue *o*, into the chimney; or folded into a small compass and removed as desired, in which latter case the opening to which the flue is attached, will be covered by an oblong plate.

T is a swinging damper for retaining the heat in the stove and regulating the draft.

Operation: When it is desired to bake with this stove, the damper M, is opened in order to let off the odor &c. from the article being cooked, and the register plate or damper N, is closed as represented in Figs. 1 and 2, so as to cause the heat and smoke to pass through the upper horizontal flue E, under the boilers *f*, between the oven and upper plate of the stove, thence downwardly through the diving flue *g*, between the back of the oven, and back plate of the stove, and through the flues I, formed by the double doors I, J, at the ends of the oven, thence forward through the horizontal flue F, between the bottom of the oven, and lower plate of the stove, toward the front of the same, and thence through the lower horizontal flue *h*, formed by the draw *i*, into the vertical flue G, communicating with the smoke pipe, as indicated by arrows in Fig. 1, thus causing the oven to be heated above and below, front and back, and at the ends, and the article being cooked to be equally done on all sides. When it is desired to use the stove for boiling purposes only, the oblong case S is placed on the same, and opened as represented in Fig. 1, to receive and carry off the odor and steam arising from the boilers, and the damper or register plate N, is opened, in which case the heat and smoke will pass directly from the fire chamber, through the flue E, under the boilers to the smoke pipe. When it is desired to use wood instead of coal, the curved grate B, is removed by disengaging the notched bar *d*, from the axle *c*, of the same, and the oblong grate *t*, represented in Fig. 5, is inserted in its place, a plane plate is inserted in the place of the ribbed grate O, and the situations of the draws Q R, are reversed, so as to cause the ashes &c. to fall directly into the ash box, without passing through the grated bottom of the box R.

What I claim as my invention and desire to secure by Letters Patent, is—

1. The mode of forming diving flues I at the ends of the oven, and opening and closing the communication through the same, by means of the doors J, J, arranged inside the oven, and connected to the outer doors I, by

links or hinged plates (*h*) and the swinging dampers K, operated by said inner doors J, in the manner and for the purpose herein set forth; and in combination with said flues
5 I claim, the upper and lower horizontal flues E, F, and back diving flue *g*, for conveying the heat around the oven, and back into the smoke pipe, as indicated by arrows in Fig. 1, and herein described.

10 2. I also claim the combination of the door H on the side of the stove, with the box

or draw *i* inserted in a corresponding formed case at the bottom of the stove, for the double purpose of forming a return flue *h* for the smoke and heat and a receptacle 15 for the soot &c. cleaned from the flues as described.

NICHOLAS MASON.

Witnesses:

NATHL. SHACKFORD,
JAMES W. STAPLES.