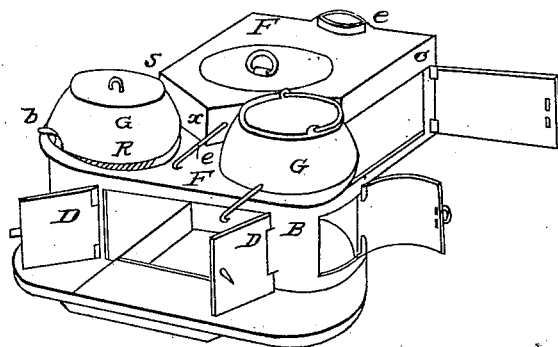


# H. ROOT. Cooking Stove.

No. 1,311.

Patented Sept. 3, 1839.

*Fig. 1*

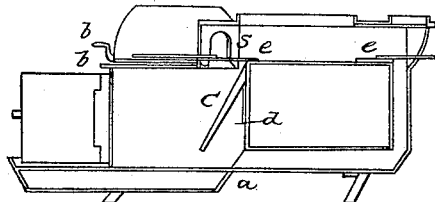


*Fig. 3*

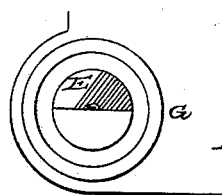


*Fig. 2*

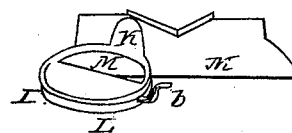
*Longitudinal Section*



*Fig. 5*



*Fig. 4*



# UNITED STATES PATENT OFFICE.

HIRAM ROOT, OF DEERFIELD, MASSACHUSETTS.

## VALVE OF COOKING-STOVES.

Specification of Letters Patent No. 1,311, dated September 3, 1839; Antedated March 3, 1839.

*To all whom it may concern:*

Be it known that I, HIRAM ROOT, of Deerfield, in the county of Franklin and State of Massachusetts, have invented a new and useful Improvement in the Valves of a Stove, called the "Improved Cooking Stove," patented by Hastings and Sikes; and I do hereby declare that the following is a full and exact description.

First, make the bottom of cast iron, the front of which is to be oval, with an ash-pit and slide damper. The rear part is to be square, of about twenty inches in dimensions. Where the oval and square parts meet, there is to be a rise *a*, Figure 2, so as to make the oval part lower than the square part. The ash-pit is to be continued through the square part of the bottom, so as to afford a better flue under the oven, hereafter to be described. Then make the perpendicular sides, as follows: That part which rests on the square part of the bottom should be a square, and that part of the side which rests on the oval part of the bottom should be in form of a half cylinder and not so high into about one-third as the square part of the side, making a step *x*, Fig. 1. The square and cylindrical parts of the sides B, C, Fig. 1, represented in the drawing, are to be cast whole and form one entire side.

When the sides are put upon the bottom, the cylindrical parts rest upon the oval part of the bottom, and the space between the cylindrical parts of the sides in front is to be closed with folding doors D, D, Fig. 1. The top part of the stove F, F, Fig. 1, is to be cast so as to fit the outlines of the upper edges of the sides. There are to be three holes in the top plate of the stove, one in the square part of it, the other two in front, in that part which covers the space between the cylindrical sides and in the step part of the stove.

The oven part of the stove is formed by inner sides to the square part of the stove, leaving a space between the top and upper plate of the oven, and also between the bottom plate of the oven and the bottom of the stove, for drafts to convey or carry off the smoke, and let the heat pass under or over the oven. The holes aforesaid in the front or step part of the stove are to be covered, or surrounded with oval cylinders, called risers, G, G, Fig. 1, and of the height of the step part of the stove and a little more, and may be cast with and connected with the

top plate of the stove. These risers meet and unite with the back, or perpendicular part of the step of the stove, and the space between where they meet the step on each side, from *x* to *s*, Fig. 1, is to be open so as to make a flue for the smoke, and allow the heat to reach the large boiler which covers the hole P on the top of the stove. The one half of the holes in the step part of the stove, next to the oven, are to be covered with half circle plates of iron E, Fig. 5, fastened to the sides of the risers by ears, forming half bottoms to the risers, or the half bottoms to the risers may be formed by a plate of iron M, Fig. 4, of sufficient width, extending across from side to side of the stove, placed in before the top plate of the stove is put on, and resting on notches on the sides of the stove, thus making half bottoms to the risers. The other halves of the holes aforesaid are to be covered with half inch plates, called valves, which are constructed, used, and described as follows: These valves are round pieces of iron I, Fig. 3, showing one half of them cut out, leaving a rim, so as to form a whole circle. On the rims of the valves are perpendicular plates of iron K of the size of the open space S, Fig. 2, in the risers next to the oven, as before described; and which are designed to close those holes, or spaces, or open them by turning the valves one way or the other. There are slits R cut in the front part of the risers, horizontally, about half of an inch above the top plate of the stove, for the handles *b*, which are attached to the valves, for the purpose of turning them one way or the other, and thus close or open the holes in the risers next to the oven. On these valves there are to be rims L, about half an inch from the outer edge of the valves, extending around the whole circle of the valve, which are for the purpose of closing the slits cut in the risers as aforesaid, and preventing the smoke and heat from escaping. These valves rest and turn on the half bottoms E of the risers and on the edges of the top plate of the stove within the risers. Boilers are to be set into the risers.

The operation of the valves is as follows: By turning the valves one way you expose the boilers to the heat of the fire, and open the holes in the sides of the risers next to the oven. By turning the valves the other way, you shut off the heat from the boilers and close the holes aforesaid on the risers.

Between the oven and the fire there are two plates *c, d*, Fig. 2. The one next to the oven is set upright and against the front side of the oven, and is about as high as the top of the oven. The other, next to the fire, is set slanting and extends nearly to the top of the oven and meets the other plate at the upper edges. The object of the plates is to prevent overheating in the front part of the oven and leave a space for the air to circulate between them. There are also to be two dampers *e, e*, Fig. 2, with rods attached to them, resting and sliding on the top plate of the oven, the one to close the space between the back plate of the oven and the back plate of the stove, thereby closing the flue, which passes under the oven. The other is designed to close a space or flue between the step part of the stove and oven and between the risers, so that when the valves aforesaid are turned and close the holes in the risers, and this last mentioned damper is shut and the other opened, the heat is turned under the oven, and so vice versa.

There is to be a door to the oven, on the

right hand side of the stove, and also one in the cylindrical part of the right hand side, for the purpose of putting in wood.

What I claim as my invention on the stove patented by Sikes and Hastings, and desire to secure by Letters Patent, is—

The mode of constructing the valves, used for closing the openings in the bottom and sides of the risers *G, G*, and at the same time consisting of circular plates, with semi-circular openings, surrounded by perpendicular risers to which are attached coverings for the holes in the sides of the risers, and also handles projecting through the slits around the base of said risers, as above described.

And the applicant further requests that his Letters Patent may take date as far back as the laws will allow. His original specification and drawings were filed in March, A. D. 1838.

HIRAM ROOT.

Witnesses:

ALMON BRAINARD,  
AMSI CHILDS.