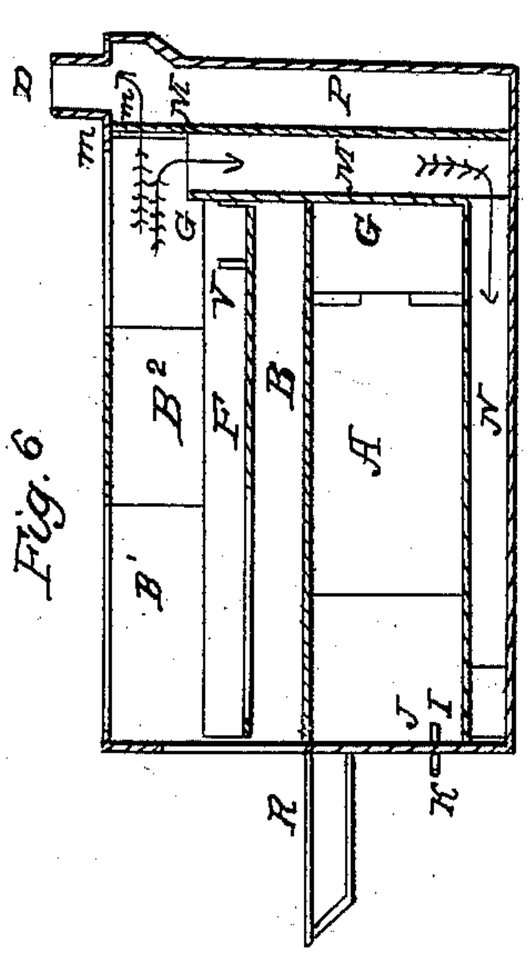
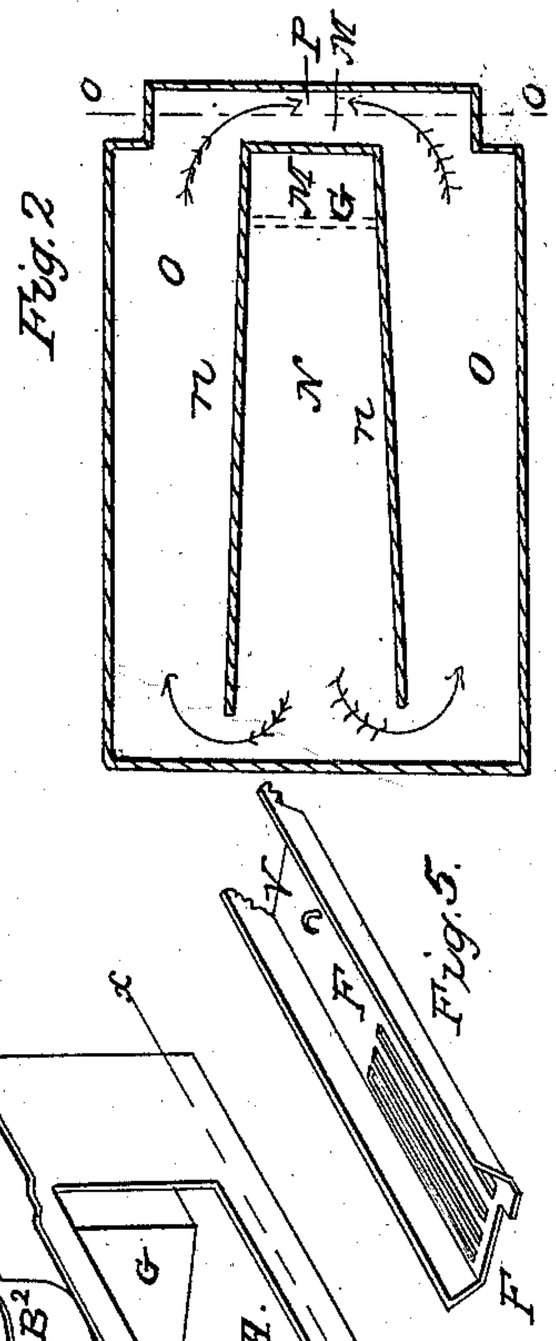
S. PETTES.

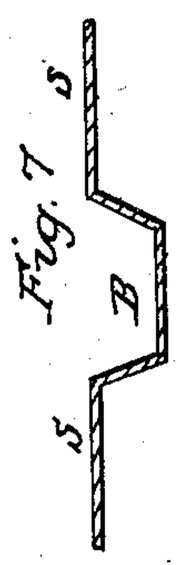
Cooking Stove.

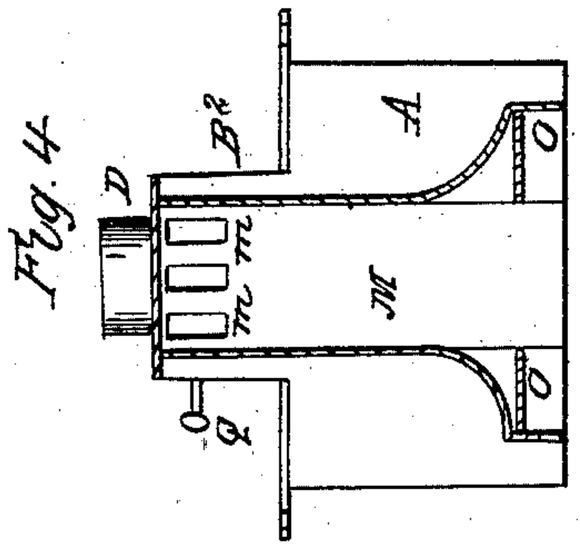
No. 3,433.

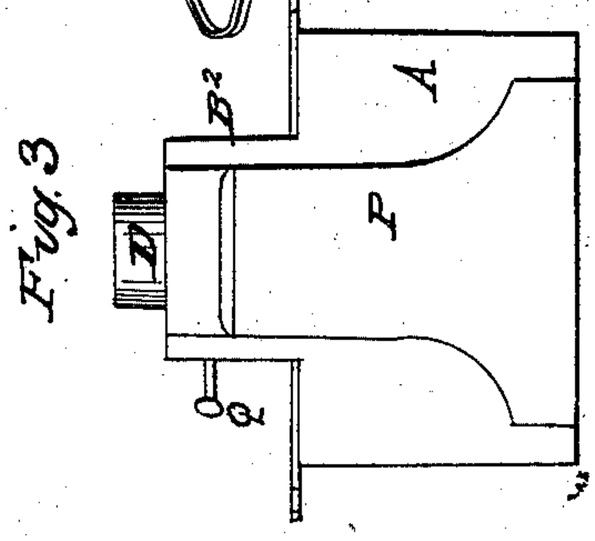
Patented Feb. 12, 1844.











UNITED STATES PATENT OFFICE.

SIMON PETTES, OF SCHENECTADY, NEW YORK.

COOKING-STOVE.

Specification of Letters Patent No. 3,433, dated February 12, 1844.

To all whom it may concern:

Be it known that I, SIMON PETTES, of Schenectady, county of Schenectady, and State of New York, have invented a new and useful Improvement in Cooking-Stoves, which is described as follows, reference being had to the annexed drawings of the same, making part of this specification.

Figure 1 is a perspective view of the stove. Fig. 2 is a horizontal section at the dotted line *x x* of Fig. 1, showing the bottom flues. Fig. 3 is an end elevation. Fig. 4 is a vertical transverse section of the line *o o* of Fig. 2, showing the side flues. Fig. 5 is a perspective view of the grate. Fig. 6 is a longitudinal section. Fig. 7 is a transverse section of the top plate of the oven in which the sunken bottom is found. Fig. 8.

The oven A of this stove is of a rectangular form, of the requisite length, breadth, and depth—being the entire length and breadth of the stove—provided with suitable side doors. The top plate of said oven is sunk or depressed in the middle at B its entire length and about one third its width thus forming a sunken bottom for the fire chamber which is constructed over and around said fire chamber. The sides of this depression are made flaring inward toward the middle of the oven at an angle of about 50 or 60 degrees serving as radiators of heat therein and in conjunction with the horizontal part of said sunken bottom and the flues back and beneath the oven the necessary heat is imparted to the oven.

The fire chamber B′ is about one half the width of the oven, over and upon which it is constructed and of the same length and about half its height, of a rectangular shape, except at the middle of the sides where they (the sides) are swelled outward in semi circular protuberances B^2 to admit two side openings C in the top plate for side boilers, or other vessels, or culinary articles, and at the rear end where it is projected in the form of a semi oval to admit the smoke pipe or funnel D. The top plate of the fire chamber is perforated in the middle longitudinally directly over the sunken bottom, with a number of apertures C^2 for the introduction of culinary vessels; and the front plate contains an opening or door E at which the fire chamber is supplied with fuel closed by suitable doors.

A movable or adjustable grate F or fire pan, with flaring sides, is placed in the before described depressed bottom of the fire chamber in which the fuel is placed, open or closed at both ends, and constructed with arms or projections at the rear end which enter corresponding apertures in a vertical plate G placed at the rear end of the fire chamber and forming part of the diving flue and when the grate is raised said projections are made to rest upon the upper edge of said vertical plate. The front end of the grate rests upon a vertical rising and falling slide H hereafter described.

The sides of the grate are made more flaring than the sides of the sunken bottom in which the grate is placed in order to extend beyond the flaring or sloped sides of the depressed bottom and to allow the fuel escaping and falling over the sides of the grate into the space between the grate and the sunken bottom to pass freely through the side spaces to the bottom of the sunken space, or bottom of the fire chamber.

The grate F is made with parallel longitudinal bars and openings extending about half the length of the pan, the remaining half is made solid. The grate, however, may be made open throughout its whole length, if preferred. It is provided at or near its rear end with an eye V for the insertion of a hook by which it is raised at the rear end when required, in order to bring the fire nearer to the culinary articles placed in or over the apertures in the top plate. The front end of the grate is raised for the same purpose by means of the aforesaid vertical slide H. This slide is raised by an arm I projecting from a horizontal vibrating axle J passing through the front plate of the oven which arm strikes against the under side of the lower end of the slide where it is turned at right angles. The axle is turned or vibrated by a lever K which is held in any position required by a vertical rack L fastened to the outside of the front plate of the oven. The slide moves in loops, grooves, or staples, secured to the inside of the said front plate. The slide may also be raised by attaching it directly to the lever by a horizontal pin moving in a vertical slot in the front plate. It may, however, be raised in any convenient way for raising the front end of the grate.

The grate receives the fuel lengthwise, which is the proper way to consume it, and

not crosswise of the draft as in most stoves. A vertical diving flue M^2 is constructed at the rear end of the fire chamber leading from it to a horizontal flue N constructed under the oven at the middle thereof between its bottom plate and the bottom plate of the stove—said diving flue increasing gradually in size as it descends to the central horizontal flue N and being about two thirds the width of the fire chamber. The central flue N which leads from the diving flue to the front of the stove, is constructed by placing two plates *n*, *n*, edgewise between the bottom plate of the oven, and the bottom of the stove, extending about three fourths the length of the stove—the ends next the front being wider apart than those next the diving flue, so as to make the flue to gradually increase in width. This arrangement of the plates also forms two side flues *o* into which the central flue leads:—and these side flues also gradually widen as they approach the vertical flue P at the back of the stove into which they lead. Flues thus enlarged as they approach the outlet are found to draw better than those of a uniform width, or contracted as they recede from the fire chamber.

The rear vertical plate M of the diving flue is perforated with a number of oblong openings *m* and provided with a damper or sliding register *n* in order to let the draft be directly from the fire chamber to the funnel D by opening said apertures. When these apertures are closed by the damper or register the draft will be down the vertical or diving flue M^2 along the central horizontal flue N into the side flues *o* and up into the back flue P to the funnel D as indicated by the arrows. The handle of said damper or register is shown at Q.

The hearth R of this stove may be made in the usual manner, or be made separate and put on by suitable fastenings for the convenience of transportation.

The top of the oven at the sides of the fire chamber furnish convenient and useful places *s* on which dishes and other articles may be placed; and where light cooking may be performed from the heat of the sides of the fire chamber.

The apertures T T in the front plate of the stove, below the hearth, are for cleaning the flues under the oven. The size and proportion of the stove may be varied at pleasure.

Raising the grate and fire not only increases the heat applied to the vessels in the top plate but also diminishes the heat at the top of the oven, and vice versa, and by raising only one end of the grate the above results will be produced at one end of the fire chamber and oven at pleasure and also enabling the user to cook with a less consumption of fuel—said adjustable grate performing the functions of regulator of heat and saver of fuel.

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

Combining a diving flue back of the oven and the diverging plates connected therewith placed under the oven, with the stove as described the whole constructed and operating as set forth.

SIMON PETTES.

Witnesses:
WM. P. ELLIRT,
ALBERT E. JOHNSON.