E. Smith,

Cooking Stove,

No. 5,449. Patented Feb. 15, 1848.

Fig. 1

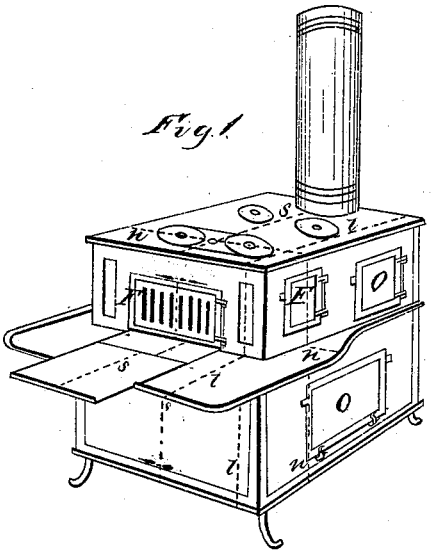


Fig. 2

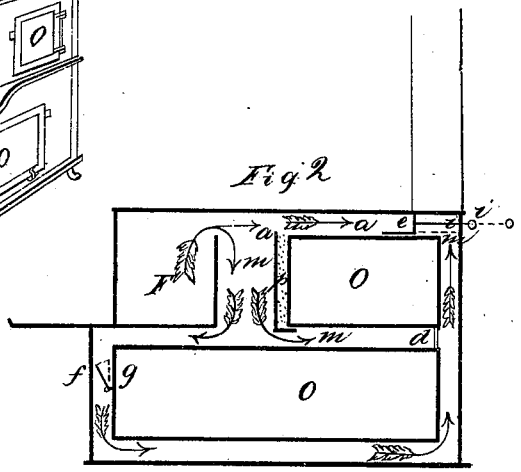


Fig. 4.

Fig. 5

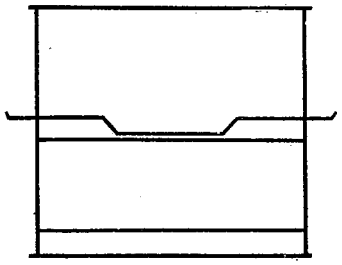
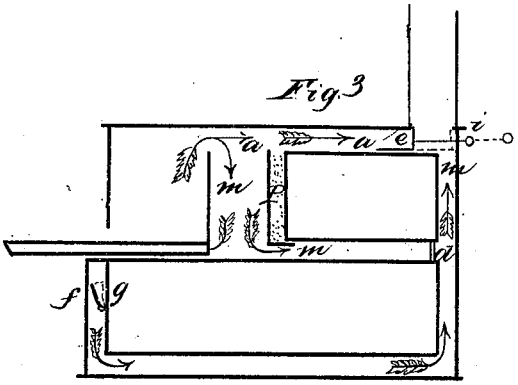


Fig. 3



Witnesses
Levi Williams
John V. Williams

Inventor.
Edwin Smith

UNITED STATES PATENT OFFICE.

EDWIN SMITH, OF WHITESTOWN, NEW YORK.

COOKING-STOVE.

Specification of Letters Patent No. 5,449, dated February 15, 1848.

To all whom it may concern:

Be it known that I, EDWIN SMITH, of Whitestown, in the county of Oneida and State of New York, have invented a new, useful, and Improved Stove called the "American Reverse Draft"; and I do hereby declare that the following is a full and exact description.

The nature of my invention, consists in having dampers so arranged as to enable the operator to guide or turn the heat either backward, or forward, over, under or around either one or both of the ovens it contains; or by merely changing the position of the dampers, convert any of the passages for the fire and smoke into chambers of heated air whenever the same may be desired; thus increasing or decreasing the heat at pleasure, in either of the ovens or parts of either of them.

It also further consists in placing, an iron plate an inch or two in front of the uppermost oven, and filling the space between such plate and the outside of the oven, with ashes to protect the oven from too severe action from the fire.

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

I construct my stove externally in the form shown in Fig. 1 in the accompanying drawing where F, F, are the doors of the fire box, and O, O, the doors of the ovens. Fig. 2 represents a section of the stove passing through the dotted line *l*, *l*, *l*, shown in Fig. 1.

The large black lines in Fig. 2 represent the edges of the internal plates of the stove; F the fire box, O, O, the ovens—and the spaces between, marked with arrows, the passages for the fire and smoke.

At *d*, is shown the end of a graduating, or slide damper formed of two plates of iron, each having alternate openings and crossbars, in the manner or form shown in Fig. 4,—so that, one of the plates being movable and the other stationary, the drawing of the movable plate, causes the crossbars in one plate to cover the openings in the other; either in whole or part, according to the distance which the movable plate has been drawn.

Fig. 3 is a longitudinal section of the stove, passing through the pipe, and the center of the stove at the place indicated by the dotted line *s*, *s*, *s*, Fig. 1.

At *e*, Figs. 2 and 3 is also a graduating damper, of the form there shown; and which may be drawn back in the position of the dotted line *i*, or let remain at any intermediate point, thereby graduating the currents of fire and smoke through the different passages which there connect with the pipe.

At *f*, Figs. 2 and 3 is another damper which partly revolves so as to open or close the passage in front of the lower oven—closing it when in the position there shown; and opening it when in the position of the dotted line *g*. Hence it will be seen that when the damper at *e* Figs. 2 and 3 is drawn back to the position shown by the dotted line *i*, and the two lower dampers closed, the fire and smoke will pass directly to the pipe in the direction of the arrows *a*, *a*. If the damper *e*, be moved to the left, so as to cut off this passage, and the one at *d*, be opened, while the one at *f* is closed, the heat, or fire and smoke, will then pass in the direction of the arrows *m*, *m*, *m*. If the dampers at *e*, and *d*, be each partly open, while one at *f*, be closed, the heat will pass partly above, and partly below the uppermost oven. If the damper *f* be now opened, and the one at *e*, be made to close the passage above the uppermost oven, while the damper at *d*, be partly closed, a reverse draft will take place, and part of the fire and smoke will pass around the front end of the lower oven and under it, while the remainder will continue to move in the manner indicated by the arrows *m*, *m*. If the damper *d*, be closed entirely, while the other dampers are in the positions last described the whole of the fire and smoke will pass around the front end of the lower oven—beneath and behind it, and thence ascend to the smoke pipe. If now the dampers *f* and *d*, be closed and the one at *e*, be drawn back to the position *i*, the fire and smoke will pass directly to the pipe and consequently the lower part of the stove will be comparatively cool which is very desirable for a summer arrangement.

I do not claim to be the original inventor of a cook-stove having a fire chamber and a small oven arranged over a large oven with flues between behind and beneath them furnished with dampers for changing the draft but

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

The employment of a sliding register, ar-

ranged at or near the back of the horizontal flue, between the two ovens, in combination with a stove of the above description, having a sliding damper next the smoke pipe and a turning damper in the front flue beneath the hearth—said sliding register being operated in the manner and for the purpose above described causing the whole draft (when the register is partly drawn and the upper damper is closed as represented in Figs. 2 and 3 and the front damper is open) to pass over the fire plate and thence down to the center of the stove and thence partly around the large and small ovens giving it a reverse draft around the large oven and heating both ovens from the same point at the same time, and likewise by closing the register causing the whole draft to pass around the large oven and back of the small oven to the pipe.

EDWIN SMITH.

Witnesses:
NAT. F. EDGERTON,
WHITNEY SMITH.