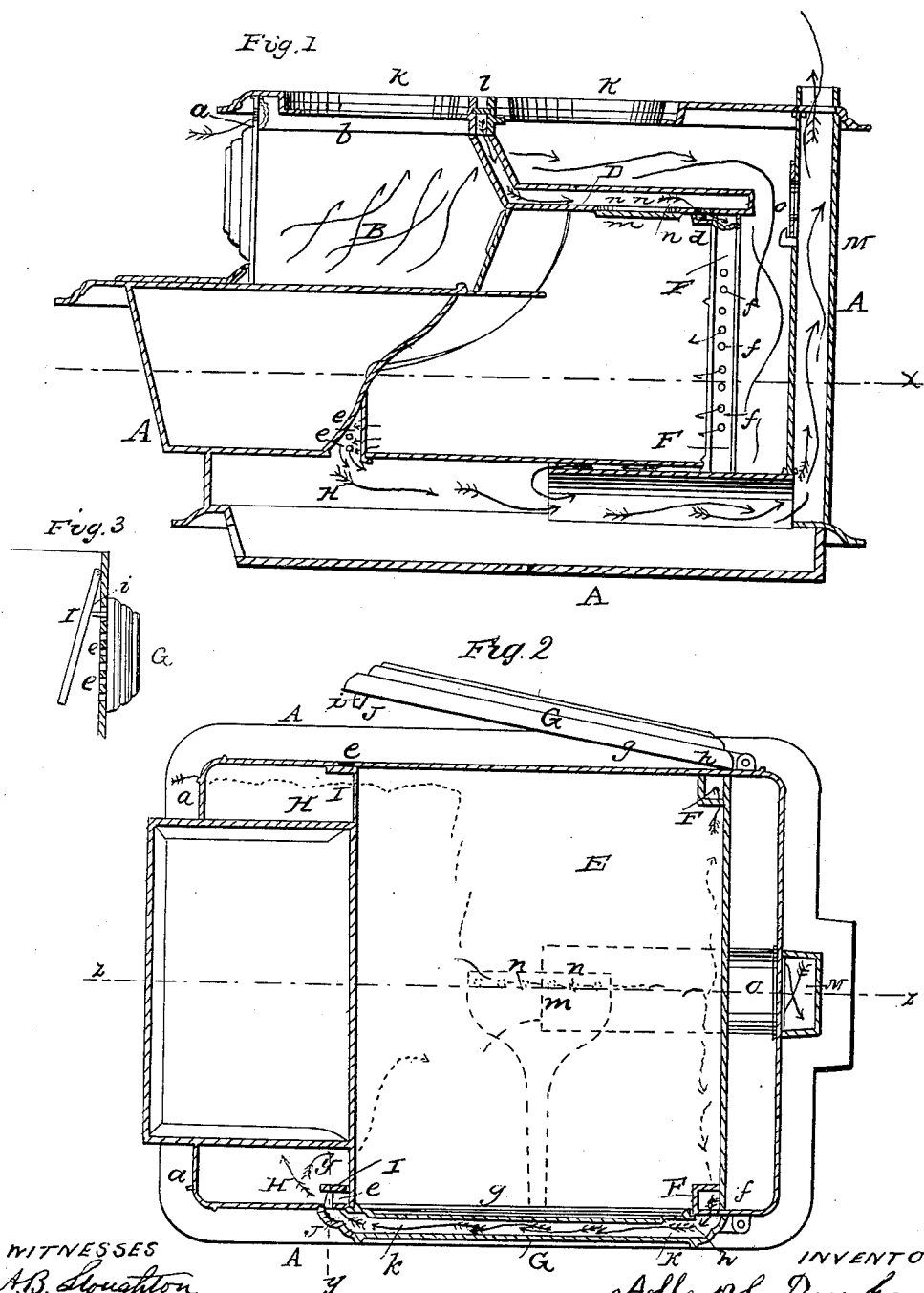


A. S. DUNHAM.

Cook Stove.

No. 50,231.

Patented Oct. 3, 1865.



WITNESSES
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UNITED STATES PATENT OFFICE.

ALBERT S. DUNHAM, OF TAUNTON, MASSACHUSETTS.

IMPROVEMENT IN COOK-STOVES.

Specification forming part of Letters Patent No. 50,231, dated October 3, 1865.

To all whom it may concern:

Be it known that I, ALBERT S. DUNHAM, of Taunton, in the county of Bristol, in the State of Massachusetts, have invented certain new and useful Improvements in Cooking-Stoves; and I do hereby declare the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a vertical section through the center of the stove at *z z*, Fig. 2. Fig. 2 shows a horizontal section through at the red line *x x*, Fig. 1. Fig. 3 shows an enlarged detached view of the self-closing valve, which is opened by closing the oven-door.

The object of my invention is to convey pure heated air into and around such portions of the stove-oven as the flame or gaseous heat from the fuel cannot well be brought in contact with for baking purposes, and also to heat and radiate pure hot air into the room from cooking-stoves when not required for baking.

My invention consists in the construction and mode of placing chambers to receive or draw in the pure air on both sides of the front end of the cook-stove above the grate or place for the fuel, the same extending in the rear, connecting with a flue or pipe to convey the pure heated air over or into the top of the oven or through the oven-doors.

To enable others skilled in the art to make and use my improved cooking-stove, I will describe it in detail, referring to the drawings and to the letters of reference marked thereon.

The main body *A A A* of the cook-stove may be of any desired size, form, or pattern. At the top of the stove, on both sides, at the ends of the fire-chamber *B*, are openings *a a* to admit the cold air into chambers *b b*, where it is in close contact with the fire in the fire-box *B*, and becomes hot, when it forms a strong current into the flue or air-channel *c c*, which is so placed over and in the rear of the fire-box *B* as to get the greatest heat. The two currents of air from the sides, here uniting, are conducted through the air-flue *D*, over the oven *E*, into the pipe or flue *d*, where it divides again right and left and is conveyed into the vertical flues *F F*, they having a series of small holes, *f f f f f*, near the back of the oven, which

allows the heated air to pass out freely at both sides of the stove into the room when the oven-doors *G G* are open. The admission of the cold air and the current of the heated air to the point above named is indicated by the black arrows in Fig. 1.

The oven-doors *G G* are cast dishing or sunk sufficient to admit of being double-plated. The inner plate, *g*, may be of sheet-iron, and enough short of the flange or outer edge of the door to leave an opening, *h*, which will fit on and close over the series of holes *f f f f f* in the stove, at the back plate of the oven, when the oven-door is shut up, thus forming a flue, *k k*, communicating with the vertical flue *F* through the oven-door longitudinally to the narrow end, where there is another slit or opening, *J*, similar to the opening *h*, the opening *J* fitting on and closing over another series of holes, *e e e e*, on the side of the stove *A*, beneath the hearth *C*, the holes *e e e e* communicating with the draft-flue *H* under the bottom of the stove, so that when the stove-doors are closed the current of heated air circulates through between the two plates of the oven-door, and thus entirely surrounds the oven.

When the oven-door is opened there is a hinged shutter or valve, *I*, which operates by its own gravity to close the holes *e e e e* and prevent the cold air from being drawn in or the gas or smoke from escaping. When the oven-door is shut to, the pin *i*, protruding from the inside of the door, operates to open and hold the valve *I* open, as seen in Fig. 3, so as always to insure a current of air with the draft of the stove between the two plates of the oven-doors.

The heated air may be let off at the top of the stove by sliding the damper *b* on the top of the air-channel *c c* between the boiler-places *K K*; or it may be let into the oven *E* by the sliding damper *m* on the under side of the top of the oven through the openings *n n n n*, communicating with the air-flue *D*; or it may be conveyed directly into the smoke-flue *M* by opening the damper *o* near where it enters the pipe.

It has ever been regarded as one of the greatest defects in cooking-stoves that they could not be so constructed as to get a uniform heat on all sides, and especially around the oven

for baking purposes. The oven-doors of the stove necessarily being about one-third of the surface of the oven, and no heat coming in contact with the outside of the plate, it only served to emit or radiate the heat from within, so that the portion of anything that came near the doors would bake slake, while the other portions would be brown.

It will readily be seen that by my mode of constructing the chambers for receiving the pure air and the arrangement of placing them so that the air circulating in them may be intensely heated without being impregnated with the gases from the fuel, and conducted into the oven, or conveyed over such portions of the oven as the gaseous heat or flame from the fuel cannot be used, and also radiated into the room for the purpose of equalizing the temperature, there is great economy in the use of fuel, and that the baking in the oven of the cook-stove thus constructed will be done with greater facility and as perfectly as any of the other modes of cooking.

In the above-described cooking-stove I do not claim radiating pure heated air into the room, nor do I claim the construction of double-plate oven-doors for circulating heated air

from the fire through them, that device having been known and in use long enough to become common property by the expiration of a patent granted to Hosea N. Huntley, November 25, 1851.

Having thus fully described my invention and improvements in cooking-stoves, what I claim as new, and desire to secure by Letters Patent, is—

1. The construction of the air-chambers and placing them at each end, at the top of the fire-box, to draw in the pure air to be heated and conveyed into the oven or through between the plates of the oven-doors, as herein described, for the purposes set forth.

2. The arrangement of the air-chambers, flues, and dampers, whereby the atmospheric air can be heated and circulated without becoming impregnated with the gases from the fuel, to facilitate baking in cook-stoves, as herein described.

In testimony whereof I hereunto set my hand this 2d day of May, 1865.

ALBERT S. DUNHAM.

Witnesses:

EGBERT R. ROBINSON,
MARTHA J. DUNHAM.