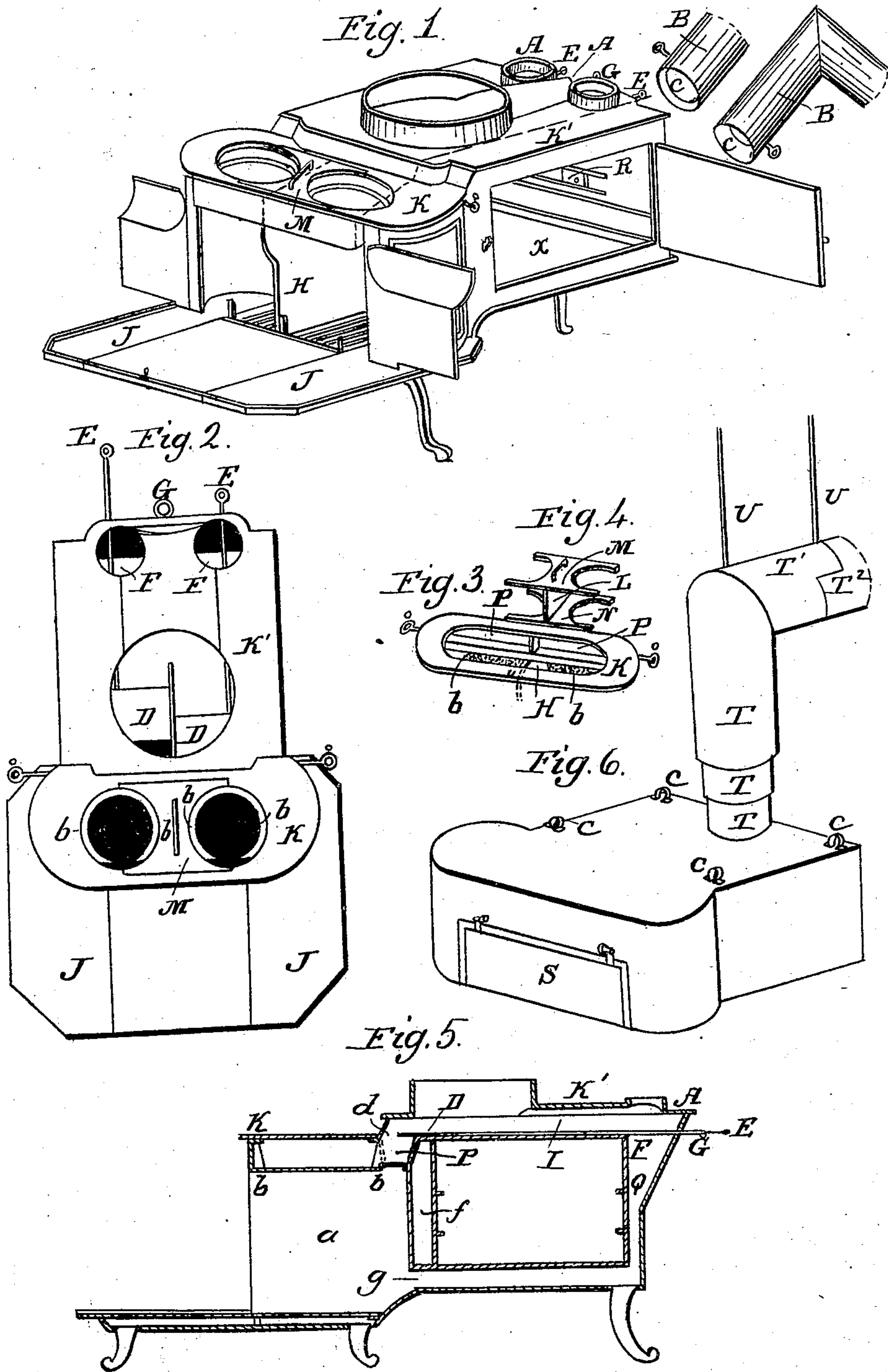


G. D. BOYCE.

Cooking Stove.

No. 1,444.

Patented Dec. 27, 1839.



UNITED STATES PATENT OFFICE.

GEO. D. BOYCE, OF WEST WAREHAM, MASSACHUSETTS.

STOVE.

Specification of Letters Patent No. 1,444, dated December 27, 1839.

To all whom it may concern:

Be it known that I, GEORGE D. BOYCE, of West Wareham, in the county of Plymouth and State of Massachusetts, have invented certain Improvements in Stoves for Cooking; and I do hereby declare that the following is a full and exact description thereof.

Figure 1 in the accompanying drawing, is a perspective view of my stove, which in its general form resembles many other cooking stoves. Fig. 2 is a top view showing portions of the dampers and other parts, as seen through the openings in it. Fig. 3, is a segment of my stove, giving a perspective view through the opening in the top front plate, the part Fig. 4, which divides it into two boiler holes being removed. Fig. 5, is a sectional view through the part marked by a dotted line Fig. 1. Fig. 6, is a tin cover adapted to the top of the stove, forming an inclosure over the boilers, and which may be used as an oven when desired, but which may be raised up out of the way, in a manner to be described.

In Fig. 1, A, A, are two openings for stove pipes, B B being sections of said pipes, each furnished with dampers C, C. K and K' is the top plate; J J, the hearth forming a part of the bottom plate in the ordinary way.

X, is an oven behind the fire chamber. In the back plate of this oven, there is a sliding shutter at R, adapted to an opening through which any vapor may escape into the flue behind the oven. The flue through which the heated air passes around the oven from the fire chamber, opens into said chamber both above and below the oven, as shown at *d*, and *g*, Fig. 5, said flue being governed by dampers in such a way as that the draft may be directed either above, or below, the oven, at pleasure.

D, D, Figs. 1, and 5, are two sliding dampers, or shutters, governed by the rods E, E; each of these shutters may be made to cover one half of the throat, or opening, *d*, Fig. 5, leading from the fire chamber to the flue I, between the top plate of the oven, and the plate K'; and thus to arrest the draft partially, or completely. Two other valves, seen at P, P, Fig. 3, and one of them at P, Fig. 5, are used for the purpose of changing the direction of the draft under the front boilers, which they effect by the peculiar arrangement of the apparatus, to be now described.

Above the fire-chamber, there is, in addition

to the plate K, which constitutes the top plate of that part of the stove, a second plate *b, b*, seen in part in Figs. 1, 2, and 5. This second plate has openings in it similar to those in the top plate K; said lower openings being adapted to the bottoms of the cooking vessels to be employed. These plates K, and *b, b*, may be two inches, more or less, apart; the space between them constituting a chamber, or flue, through which the heated air may be made to circulate. The plate *b, b*, does not reach to the front plate of the stove, but terminates in the manner shown in Fig. 2, allowing a space for the heated air to pass up in front of a cooking utensil, which fills the opening in it and in the plate K. To the back edge of the plate *b, b*, the valves P, P, are hinged, closing, when down, as shown in Fig. 5, a direct passage from the fire-chamber *a*, into the upper oven flue I. In this position, it causes the whole draft from the fire to pass up in front of the plate *b, b*, Fig. 2, and around the boilers, in its way to the flue I. When the valves P, P, are raised, so as to be in the position of the dotted lines Fig. 5, a direct draft from the fire-chamber to the flue I, is admitted.

O, O, are the handles for governing the valves P, P, which, in Fig. 3, are represented as turned up. In this figure, the boiler hole is shown as elongated by the removal of the part M, Fig. 4. Movable pieces for this purpose are well-known devices, but in those used by me there is a peculiarity of construction, rendered necessary in order to adapt them to my stove. The lower portion N, of the movable piece, Fig. 4, when in place, forms a part of the plate *b, b*, dividing it into two boiler holes. The two plates, M, and N, are connected by a partition piece L, which partition is connected with the piece seen at L', Fig. 3, and with a corresponding piece in front, shown by dotted lines L²; the whole, when together, constituting a partition extending from the front of the chamber between K, and *b*, to the back plate of the fire-chamber, thus giving an entire government of the draft through either division of the boiler space. I not only divide this space into two parts, but I also divide the chamber of combustion into two compartments, immediately below the partition just described, by a plate shown at H, Fig. 1. This plate may be removed and replaced at pleasure, there being grooves, or projecting pieces, on the back plate of the fire-chamber,

and also on the front or bottom plates, to hold it in place.

h, h, Fig. 5, is the back plate of the fire-chamber, and f an air space between it and the oven.

In addition to the valves, or shutters, above described, there is a long, sliding shutter, shown in part at F, F, Figs. 1 and 5, which is governed by the handle G. This serves to open, or close, the upper part of the rear oven flue Q, and to direct the draft either below or above the oven, as has been before done in other stoves. This shutter must be sufficiently long to extend from side to side of the stove, or to whatever length the opening of the upper end of said flue may require.

Fig. 6, represents a cover of tin which is fitted to the top of the stove so as to inclose all the boilers; extending back to the front of the smoke flue, or flues, and serving, when the boilers are not in use, to convert the whole space inclosed by it into an oven; it has a door in front, marked S, and may, if preferred, be furnished with other doors. I suspend this cover over the stove by cords attached to the loops c, c, c, and passing over pulleys, with counterweights. T, T, is a pipe, or flue, for carrying off the vapors from the interior of the case. The parts T, T, T, I make to slide one within the other, like telescope tubes, but loosely. The horizontal part T', slides up and down on fixed rods U, U, having holes through it fitting these rods; the part T², is stationary, and enters the chimney; this, and the part T', being so cut

as to form a lap joint, allowing the latter to rise from and fall into, the former. By these devices, the cover may be raised and lowered with great facility; special closeness is not required in the respective junctures, as the vapors have little tendency to escape from the tube.

What I claim as of my invention, and desire to secure by Letters Patent, in the within described stove, is—

1. The manner in which I have combined the valves, or dampers, D, D, and P, P, with the fire-chamber and upper oven flue, and with the partitions L, L, occupying the space between the plates K, and b, the whole being constructed, and operating, substantially as herein set forth. I do not claim the valves D, D, or the valves P, P, in their separate capacities, both kinds having been before used, but not, as I believe, in combination with each other, which combination is necessary to the proper government of my divided chambers.

2. I also claim in combination with the foregoing, the dividing of the fire-chamber into two parts, by the partition H.

3. I likewise claim the manner of constructing and combining the vapor pipe T, T, with the tin cover, by means of the sliding joints, and the lap joint, the whole operating, substantially, as described.

GEORGE D. BOYCE.

Witnesses:

JOHN S. HOLMES,
LUBARIAR EDDY.