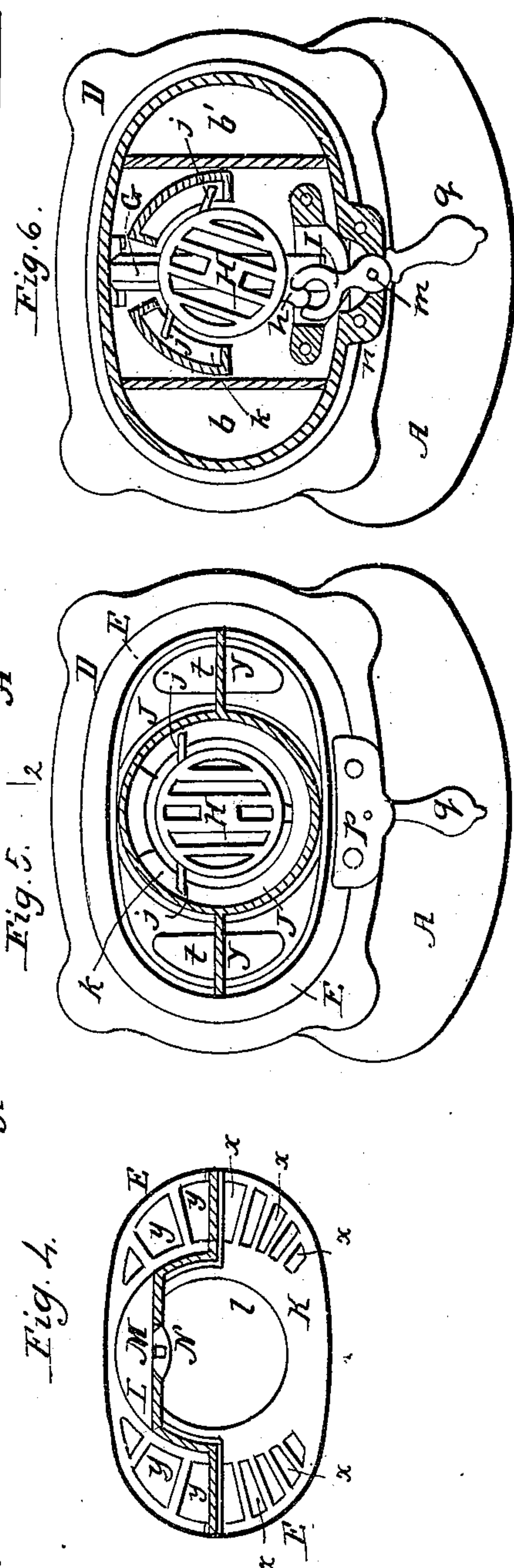
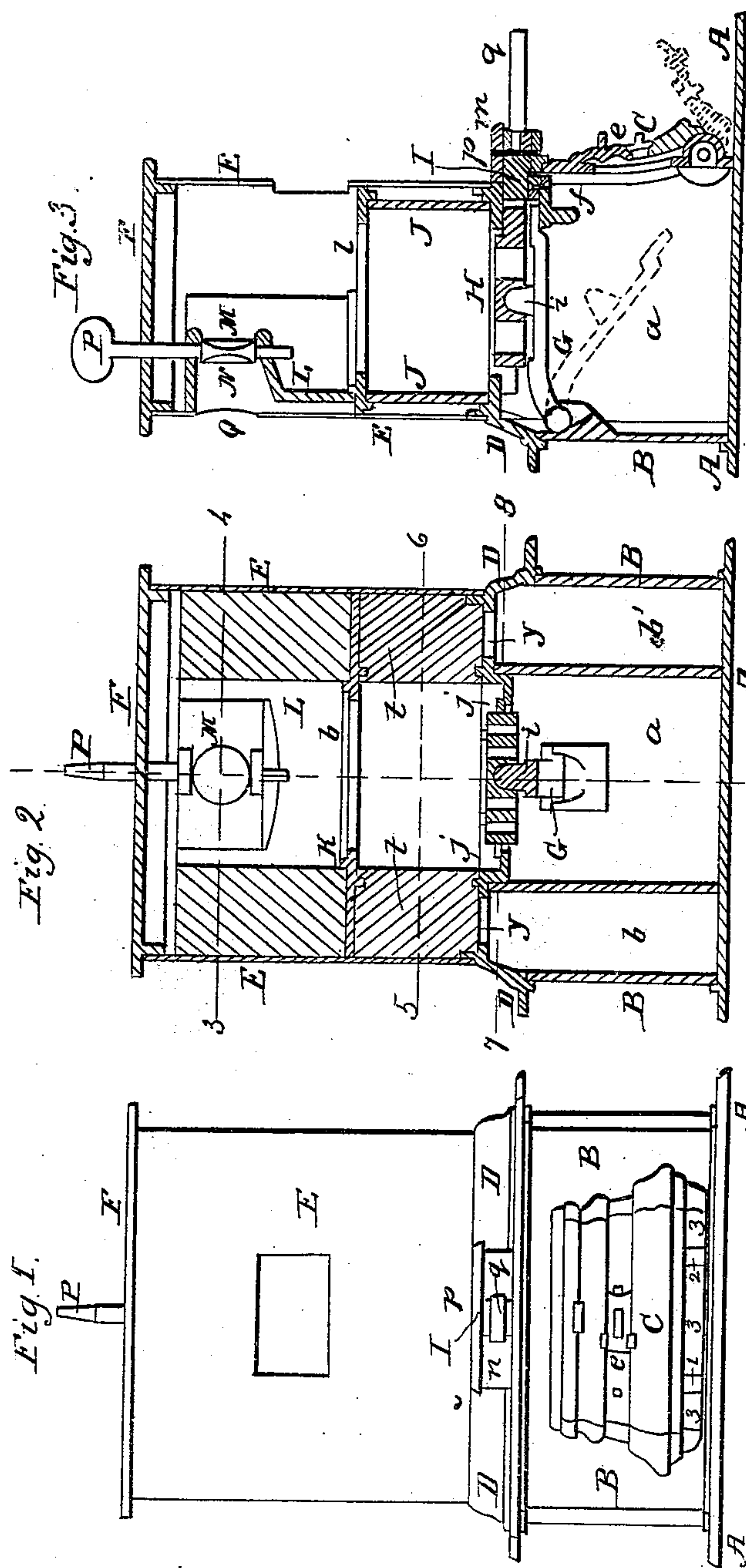


J. MARTINO.

Heating Stove.

No. 25,365.

Patented Sept. 6, 1859.



Witnesses:
Henry Howson
Horace See

Inventor.
John Martino

UNITED STATES PATENT OFFICE.

JNO. MARTINO, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO D. STUART AND
RICHARD PETERSON, OF SAME PLACE.

STOVE.

Specification of Letters Patent No. 25,365, dated September 6, 1859.

To all whom it may concern:

Be it known that I, JOHN MARTINO, of the city and county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Air-Tight Coal-Stoves; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon.

My invention relates to that class of stoves which have been termed "air-tight radiators" owing to the provisions made to prevent the access of more air than is actually required for combustion into the space beneath the fuel, and my improvement consists in a plate peculiarly arranged within the stove above the fire pot so as to divide the interior of the stove into two chambers and thereby avoid the necessity of employing the extraneous return flue common to this class of stoves as fully described hereafter.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

In reference to the accompanying drawing which forms part of this specification—Figure 1, is a front elevation of my improved air-tight stove; Fig. 2, a sectional elevation; Fig. 3, a sectional elevation on the line 1, 2, Fig. 2; Fig. 4, a sectional plan on the line 3, 4, Fig. 2; Fig. 5, the same on the line 5, 6, Fig. 2, and Fig. 6 the same on the line 7, 8, Fig. 2.

Similar letters of reference allude to similar parts throughout the several views.

A, is the base plate of the stove supporting a box, B, which is divided into three compartments *a*, *b*, and *b'*, the intermediate compartment, *a*, forming the ash-pit and having an opening in front furnished with an accurately fitting door which is hinged at the bottom so as to turn down as seen in dotted lines Fig. 3. This door, C, has orifices through which more or less air may be allowed to pass, or may be totally cut off by means of a sliding plate, *e*. Resting on the box, B, is the plate, D, to which is secured the outer casing or cylinder, E, the latter being surmounted with the cover plate, F.

G, is an arm resting at the rear end, on lugs projecting from the inside of the ash pit compartment, *a*, of the box, B, and in front on a turn buckle, F, hung to a pro-

jection on the underside of the plate D. The end of the arm, G, fits into a recess in this projection so as to be maintained in its proper lateral position. On the top of this arm G, is a rounded projection, *i*, which fits into an orifice in the underside of the grate, H, the projection forming the center on which the grate rests and turns. The grate has two pins, *j*, *j*, projecting from its edge, each pin resting on the bottom of a recess, K, in the plate, D. It will be observed that each recess is curved and forms the segment of a circle of which the projection, *i*, is the center, so that the pins, *j*, may move freely in the recess when the grate turns on the central projection, *i*. The front edge of the grate is furnished with a rounded projection, *h*, which is embraced by the forked end of the arm, I, the opposite end of which is of the circular form represented in Fig. 6. This circular end is so fitted to an opening in an enlargement, *n*, of the plate, D, that a portion only of its circumference projects through the opening the edges of the circular end fitting snugly to the inside of the opening. The arm is maintained in its proper vertical position by a cover plate, *h*, screwed to the top of the enlargement, *n*, and a pin, *m*, passes through this cover plate through the center of the rounded end of the arm and into the enlargement, *n*. The portion of the rounded end of the arm, I, which projects through the opening, has a hole for receiving the end of the handle, *q*, so that by moving this handle backward and forward the arm, I, will vibrate on its pin, *m*, and the grate will consequently be agitated so as to clear the ashes from the fuel, after which the handle, *q*, may be removed.

The outer casing, J, of the fire-pot rests on the plate, D, and is furnished with the usual fire-brick lining, and on each side of the casing is a wing, *t*, extending to the outer casing of the stove.

K, is a cast iron plate formed to fit the inside of the outer casing, E, and resting on the top of the casing, J, and this plate has a central opening, *l*, of the size of, and coinciding with, the inside of the fire clay lining of the fire pot, the plate has also openings, *x*, *x*, and *y*, *y*, the purpose of which will be alluded to hereafter. On the top of the casing, J, and its wings, *t*, rests a plate, L, the peculiar form of which will be best observed on reference to Figs. 3 and 4. This

plate serves to divide the interior of the stove above the fire pot, into two distinct chambers which I have denominated the fire chamber, and the flue chamber, the latter
 5 being in front and the former in the rear. Between these chambers there is a communicating passage at, M, furnished with a damper, N, attached to a spindle, P, which projects through the cover plate, F.

10 When the fuel in the fire pot burns so fiercely as to impart too great a heat, the damper, M, is opened when the products of combustion will pass directly from the fire chamber through the point of communication, M, into the flue chamber, and thence in
 15 a direct line through the exit opening, Q, to the chimney.

When a greater heat of the outer casing is required, the damper, N, is closed. The
 20 products of combustion will pass downward through the openings, *x*, in the plate, K, thence in front of the wings, *t*, of the casing, J, and through the openings, Y, in the plate, D, into the compartments, *b*, and *b'*, of the
 25 box, B, and rising from these chambers pass upward at the back of the wings, *t*, through the exit pipe, Q, to the chimney. The products of combustion as they take the above

circuitous course, lick the whole inner surface of the outer casing, F, which thus gives 30 out the increased heat required.

The above described arrangement is designed to obviate the necessity of employing a supplementary pipe or casing on the outside of the main casing, a plan generally 35 adopted in air-tight stoves.

I do not claim broadly forming a return flue within the casing of a cylinder stove and independent of external pipes, as various devices have been heretofore adopted 40 for accomplishing this end; but

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

The division plate L, with its damper N, the plate *k* with its openings, and the casing 45 J with its wings *t t*, where the several parts are arranged in respect to each other and to the outer casing and firepot, as and for the purpose herein set forth.

In testimony whereof, I have signed my 50 name to this specification in the presence of two subscribing witnesses.

JOHN MARTINO.

Witnesses:

HENRY HOWSON,
 C. E. FOSTER.