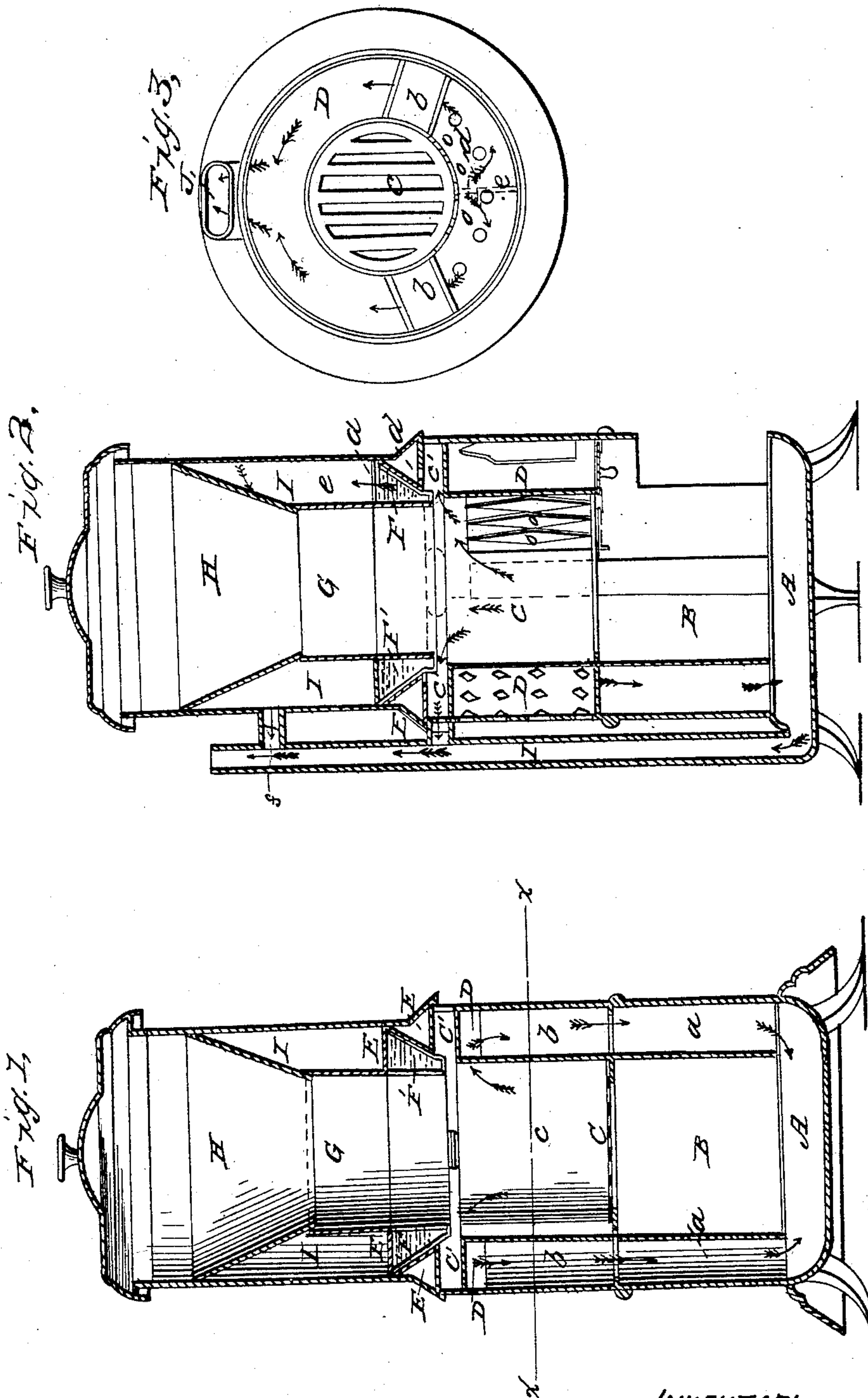


W. B. TREADWELL.

Stove.

No. 36,974.

Patented Nov. 18, 1862.



WITNESSES:
Edw. Jones
Charles. Heywood

INVENTOR:
W. B. Treadwell
Somers & Alexander, attys.

UNITED STATES PATENT OFFICE.

W. B. TREADWELL, OF ALBANY, NEW YORK.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. 36,974, dated November 18, 1862.

To all whom it may concern:

Be it known that I, WILLIAM B. TREADWELL, of Albany, in the county of Albany, in the State of New York, have invented certain new and useful Improvements in Parlor-Stoves, to be known and used as "Treadwell's Base-Burning Stove;" and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

In the drawings, Figures 1 and 2 are vertical sections through planes at right angles to each other. Fig. 3 is a cross-section through line *x x*, Fig. 1, showing position of flues *a* and *b*, the red lines indicating the position of the triangular slip *e*.

In the drawings *A* is the base, upon which is built the base-section or ash-pit *B*.

a are flues passing upward from the hollow base *A* through the ash-pit *B* into the illuminating cavity.

C is the fire-pot, which is best made of cast-iron, cast in two or four vertical sections, the back section or sections to be cast solid, and the front section or sections to be cast with openings of sufficient size to permit the entire escape of all the products of combustion. (See Fig. 2.)

There will be cast on the upper edge of each section of the fire-pot a flange, *C'*, which, when the several sections are bolted together, will form a brim extending to the outer cylinder or casing of the stove, so as to entirely cut off the draft of base-flues *a* from passing upward through the openings *o* in the fire-pot.

D is the illuminating-chamber, of annular form, included between the fire-pot and outer casing or cylinder. In this chamber are two flues, *b*, in continuation of the flues *a*.

E is a beveled base or bearing (with a shoulder for sustaining the bed-piece) firmly attached to the second section of the outer casing.

F is the bed-piece, which may be made in two pieces, resting upon the base *E*, and is intended to hold the fire-brick in place, suspended over the fire-pot at the discharge of the feed-cylinder at the point where combustion first takes place. The fire-brick (in one or more pieces) is placed within the bed-piece *F*, as shown in red section-lines at *F'* in Figs. 1 and 2.

G is the lower section of the supply-cylinder,

the base of which should be made of cast-iron in the form of a follower, and is to rest upon and fit closely to the fire-brick; *H*, the upper section of the supply-cylinder, of a conical shape, the upper part being equal to and coinciding with the inner surface of the upper section of the outer casing. It has thus a hopper shape, giving it a greater capacity for fuel. The upper section, *H*, must fit tightly to or into the lower section, *G*. The supply-cylinder *G H* will be surrounded by the outer casing or shell of the stove, leaving between them an annular chamber or flue, *I*, entirely cut off at top by the conical upper section, *H*, whose upper edge fits closely to the inner surface of the outer casing.

c is the direct outlet-valve below the bed-piece into the flue *J* behind.

d is an opening upward through the bed-piece, fire-brick, and follower base of the lower section of the supply-cylinder.

The flue *I* is vertically cut into two flues by a triangular slip of metal, *e*, so as to turn the products of combustion as they escape upward to the right and left, carry them back, and directly off into the flue behind, through the outlet-valve *f*. By these devices I secure a very large radiating-surface. As the products of combustion pass around the fuel contained in the supply-chamber, they fit it for more rapid combustion when it shall reach the fire-line. When the valves *c* and *f* are cut off, the products of combustion are turned downward through the flues *b* and *a* into the chamber *A*, whence they pass off into a flue in the rear. The products of combustion, as they come upward through opening *d* and around in flue *I*, serve to heat the fuel in the supply-cylinders and keep up the radiation of the outer cylinder.

The red arrows in Figs. 2 and 3 indicate the course of the products of combustion when the valves *c* and *f* are open. The black arrows in Figs. 1 and 2 point out the course of the products of combustion when those valves are closed, said course being through openings *o* into the chamber *D*, thence downward in the flues *a b* into the chamber *A*, thence upward and outward through the pipe *J*.

Having thus fully described the construction and operation of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The bed-piece F, constructed as described, and operating in the manner set forth.
2. The combination and arrangement of the bed-piece F with the fire-pot C, illuminating-chamber D, and supply-chamber G H, substantially as herein set forth.
3. The supply-cylinder G H, constructed and operating substantially as herein set forth.

In witness that I claim the foregoing I have hereunto set my hand in the presence of witnesses.

W. B. TREADWELL

Witnesses:

ELIZABETH TREADWELL,
A. DICKEY.