E. HAWKES.

Furnace and Stove.

No. 164,995. Patented June 29, 1875.

Fig. 1

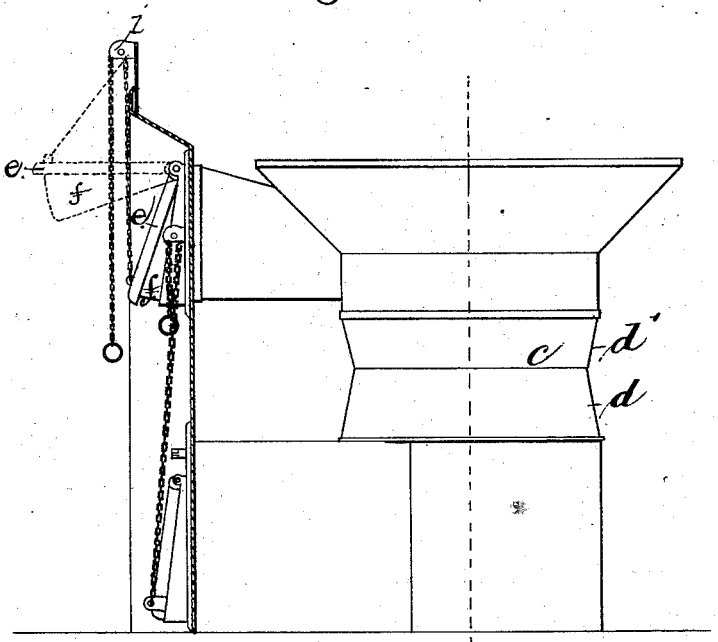


Fig. 2.

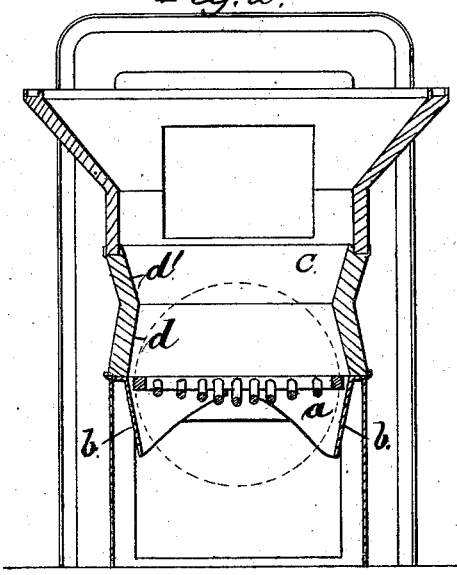
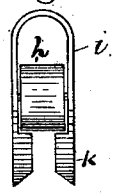


Fig. 3.



Witnesses.
Geo. T. Smallwood
Geo Brown.

Inventor.
Ezra Hawkes
per J. J. Halsted
Atty

UNITED STATES PATENT OFFICE.

EZRA HAWKES, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FURNACES AND STOVES.

Specification forming part of Letters Patent No. **164,995**, dated June 29, 1875; application filed May 28, 1874.

To all whom it may concern:

Be it known that I, EZRA HAWKES, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Furnaces and Stoves; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification is a description of my invention sufficient to enable those skilled in the art to practice it:

My improvement consists in the means of hanging and adjusting a door for the fire-pot, such door having side wings for checking the draft and preventing the escape of gas.

In the drawings, Figure 1 is a side elevation of enough of a furnace to show my improvements applied thereto, and Fig. 2 is a vertical tranverse section.

The base *a* is made, as will be seen, with inclined or sloping sides *b*, the incline being inward and downward, below the line of the grate when the latter is in a horizontal position; and the fire-pot *c* is also made with sloping sides *d* at its lower part, and an upward slope, *d'*, flaring outward from *d*, the slope or incline *d* being inward and upward, above the horizontal line of the grate. These inclines or slopes give a conical form to the chamber, both of the base and of the fire-pot, the lines of which are thus brought near to the path which the circular grate describes when turned on its axis, and consequently leaves but little space between the perimeter of the grate and the parts *b* and *d* for coal to wedge and clog; whereas, in fire-pots as usually constructed, with the inner walls of the fire-pot either vertical, or sloping outward above the line of the axis of the grate, and in bases having vertical inner walls, such clogging is a source of serious embarrassment, and attendants are frequently unable to get the grate back to place after turning it a little too far. The door *e*, of the fire-pot, I make with side pieces or wings *f*, placed at about right angles with the door, and secured to its inner side. These pieces are preferably made broader at their lower or unhinged side, as seen, and are adapted to fit snugly in the opening in the stove which the door is designed to cover. When it becomes desirable to open the door slightly to check the draft, these side pieces *f* serve to prevent the escape of gas from the fire-pot into the room, whereas without them it has free outlet, and especially after fresh coal has been put on diffuses itself through the house, destroying comfort and injuring the health.

While the side pieces *f* close up the sides of the opening which would otherwise be made by the raising or opening of the door, they yet leave an opening at the bottom; from this bottom opening the gas will not escape, for the reason that the entering current of air from without, rushing upward into the channel formed by this mouth and the side pieces, will drive back into the fire-pot any gas seeking to escape, and it will there be consumed or carried up the chimney. The door has a chain, the links of which pass over a pulley, *h*, supported in a bracket, *i*, in which is a notch, *k*, adapted to hold any link, and thus keep the door open to any desired degree.

I am aware that a door having side wings has been used at the mouth of the fire-pot; this broadly I do not claim. But what I do claim is—

In combination with the door having the side flanges, and applied to the mouth of the fire-pot, as described, the adjusting linked chain with its pulley *h*, and its bracket *i*, the latter being notched at *k* to adapt it to arrest and hold any link of the chain, as and for the purpose set forth.

EZRA HAWKES.

Witnesses:
M. W. FROTHINGHAM,
C. WARREN BROWN.