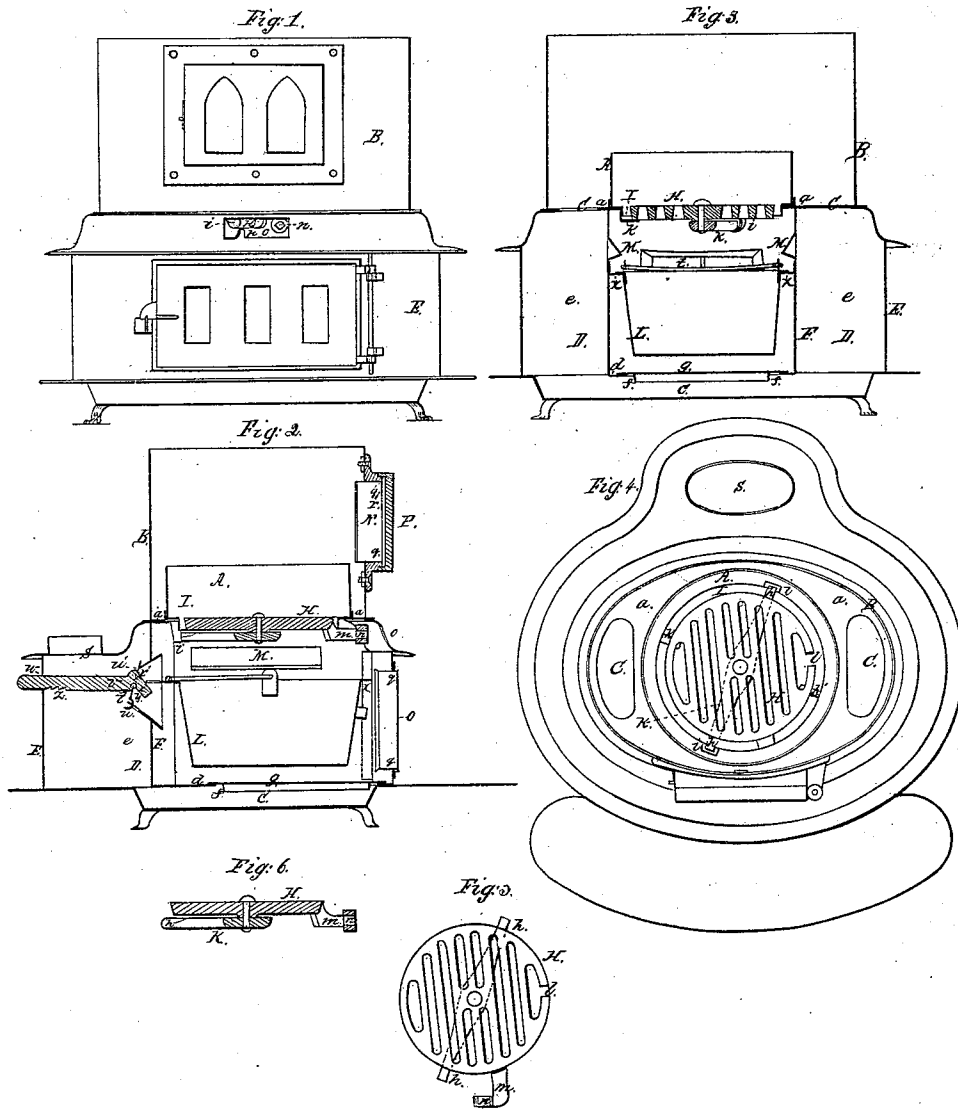


M. C. Burleigh.

Heating Stove.

N<sup>o</sup>. 102,767.

Patented May 10, 1870.



Witnesses.

S. N. Piper  
L. N. Miller.

Inventor.

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R. W. Ladd.

# United States Patent Office.

MICAJAH CURRIER BURLEIGH, OF SOMERSWORTH, NEW HAMPSHIRE.

Letters Patent No. 102,767, dated May 10, 1870.

## IMPROVEMENT IN HEATING-STOVES.

The Schedule referred to in these Letters Patent and making part of the same

To all persons to whom these presents may come:

Be it known that I, MICAJAH CURRIER BURLEIGH, of Somersworth, of the county of Strafford and State of New Hampshire, have made a new and useful invention having reference to Stoves or Furnaces; and do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front view;

Figure 2, a longitudinal section;

Figure 3, a transverse section; and

Figure 4, a top view of the fuel and ash-chambers of a stove, with parts immediately adjacent thereto, the same exhibiting the main features of my invention.

In such drawings—

A denotes the fuel-chamber or pit, which is circular in form, and inclosed within an elliptical case B.

Passages C C, for discharge of smoke from the fuel-chamber, lead through the bottom *a* of the case B into a separate chamber, D, arranged within the base E of the stove.

The ash-chamber or pit is formed by a box, F, which projects downward from the bottom *a* into the chamber D, the said box F being so disposed that there shall be a clear or open space, *c*, between its bottom *d* and that of the chamber D; also, so that there may be a smoke-space, *e*, around the ends and back of the said box F. The said smoke-spaces *c* and *e* freely open into each other.

From the above it will be seen that the ash-chamber or pit is suspended within the smoke-space of the base of the stove, and that the smoke, in circulating through such space, has free access not only to the ends and back of the ash-pit, but to its bottom, the said ash-pit being open at its front through the base, and then provided with a door, O.

The bottom of the ash-chamber has a hole, *f*, made through it to receive a cover, *g*, the same being to enable access to be had to the interior of the base or the floor thereof whenever it may be desirable to remove therefrom any ashes or deposits made thereon.

The grate shown at H is circular in form, and is arranged within a corresponding opening, I, made through the bottom of the fuel-chamber and into the ash-chamber. This grate, at its center, is pivoted to and supported in a horizontal bar, K, which, at its opposite ends, has journals *h h*, to rest in suitable bearings *i i*, projecting from the bottom of the fuel-chamber.

The grate also rests on two ears, *kk*, extended from the sides of its opening I. Furthermore, there is a notch or opening, *l*, made in the grate from its circumference.

Figure 5 exhibits a top view of and Figure 6 a transverse section of the grate, such sections being

taken through a socketed arm, *m*, which is extended from the grate in manner as represented, the socket of the arm being shown at *n*.

Through the front of the stove is a horizontal slot, *o*, provided with a standard or projection, *p*, arranged within it, in manner as seen in fig. 1.

By inserting a bar within the slot *o*, and extending such bar into the socket of the arm *m*, a person, by means of such bar, may oscillate the grate horizontally in its central position, the projection *p* and one end of the slot serving as stops to determine the extremes of such oscillations. By raising the bar over the projection *p* and into the space between it and the next adjacent end of the slot *o*, the notch *l* of the grate will be brought directly over the next adjacent supporting ear *k*. When the grate is in this situation it may be "dumped" or revolved with its supporting shaft, in order to discharge any coals in it into the ash-drawer L arranged within the ash-chamber, so as to be capable of being slid into or removed therefrom upon ways or supports X X, as occasion may require.

To each of the two opposite sides of the ash-chamber, and directly over the said ash-drawer or its supports, there is applied an inclined chute or deflector, M, whose purpose is to prevent ashes, while dropping from the grate, from lodging on the upper edges of the ash drawer, and to effect the discharge of such ashes into such drawer.

The mouth of the ash-pit, as well as that of the throat N of the fire-place, I provide with a flange, *q*, to extend from and around it and to close into and fit closely to the sides of a chamber or space, *r*, made in the door O or P of such ash-pit or throat. Instead of the above, the edges of the chamber of the door may close into a groove or rebate in the frame of such door, the object being to render the joint of the door when closed tighter to the passage of air than it otherwise would be.

There is at the rear of the chamber D an opening, *r*, communicating with a chamber, *s*, constituting part of the escape-flue of the stove, the funnel being, when the stove is in use, projected upward, and so as to open out of such chamber *s*.

To this opening there is a damper, *t*, which is connected with the opening by one or more hooks *u*, each of which is extended from the damper and through a hole or slot in the casing, constituting the back of the chamber D. The said hook serves as a hinge, so as to enable the damper to be opened or closed.

In the damper there is a slot, *u'*, in which is fitted a stem, *v*, of the peculiar shape as represented. This damper may be readily inserted in place through the opening at the top of the smoke-box or chamber *s*. The stem goes through a slot, *w*, made in the back of the chamber *s*.

The damper-stem is provided with an ear or projection, *x*, which is arranged at an obtuse angle with the stem, and serves as a stop to arrest the damper when drawn fully open. At the vertex of the said angle there is a curved notch, *y*, to enable the stem to straddle upon and engage with the damper.

The stem on its lower edge is provided with a series of notches, *z*, to catch upon the bottom of the slot *w*, in order to set the damper to different inclinations or positions. This construction of the damper-stem enables it to be easily applied to the stove and damper, or to be removed therefrom, as occasion may require.

In a stove made as described, the combustion of the fuel may be regulated, and the heat thereof be utilized to excellent advantage.

The suspended ash-pit or box arranged with the chamber *D*, as set forth, enables the smoke to pass entirely underneath the ash-pit, so as to heat the entire bottom of the chamber *D*, whereby heat therefrom may be radiated outwardly into the surrounding atmosphere, and thus be employed in heating the same.

I claim, as of my invention in the heating apparatus, as described, the following, viz:

The arrangement of the ash-pit *F* in the chamber *D*, viz., so as to be suspended from or extended down from the top thereof, and have a clear space for the smoke to course through, between the bottom of the ash-pit and that of the chamber *D*, before escaping through the opening at the back of such chamber, as explained.

Also, the damper *t*, as provided with the hook or hooks *u*, as and for the purpose set forth.

Also, the slot *o*, as provided with the stop *p*, in combination with the grate, supported by means and having the notch *l*, as set forth.

Also, the grate, as made with the notch *l*, as and for use as explained.

Also, the arrangement of the deflectors *M* with the ash-pit *D*, and the ash-drawer *L*, and its supports *X X*.

Also, the damper-stem *v*, as made with the ear *x* and the notch *y*, arranged with respect to the remainder of the stem, as set forth.

M. C. BURLEIGH.

Witnesses:

R. H. EDDY,  
J. R. SNOW.