No. 112,044. PATENTED FEB. 21, 1871.

G. G. HUNT.

BASE BURNING STOVE.

Fig. 4.

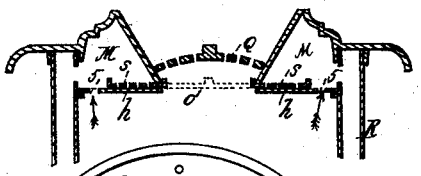


Fig. 2

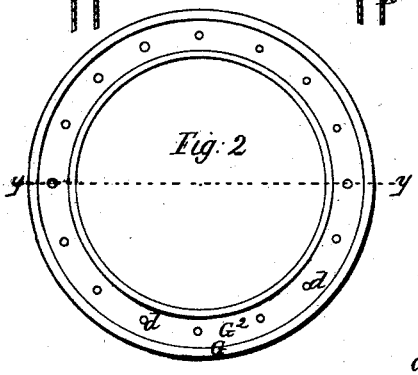


Fig. 3.

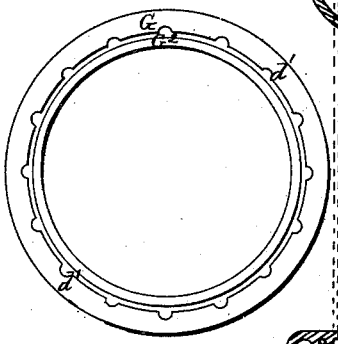
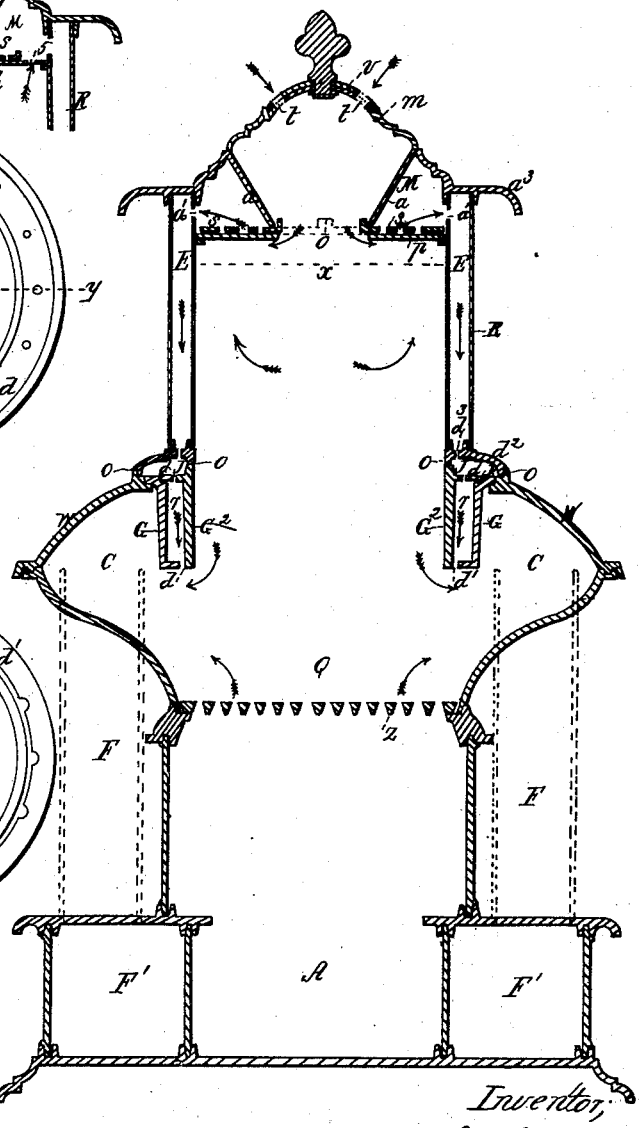


Fig. 1.



Witnesses

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GEORGE G. HUNT, OF CHICAGO, ILLINOIS.

Letters Patent No. 112,044, dated February 21, 1871.

IMPROVEMENT IN BASE-BURNING STOVES.

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

I, GEORGE G. HUNT, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Base-burning Stoves, of which the following is a specification.

The first part of my invention relates to an improved method of making the gas-ring or walls of the lower end of the coal-reservoir, the object of which is more durability and ease of removal when burned out

The second part of my invention relates to certain improvements in the upper part of said reservoir, by placing therein a perforated plate, or its equivalent, for the purpose of more perfectly controlling the gases evolved, and also in making that part of said coal-reservoir which is designed to hold the fresh coal removable and wholly exterior to the rest of the stove, for the purposes hereinafter described.

The whole invention is an improvement on my patents of June 9, 1863, and November 26, 1867.

Description of the Accompanying Drawing.

Figure 1 is a vertical section of a stove embodying my invention, taken in a line at right angles with the front of the stove, and also in the line *y y*, fig. 2.

Figure 2 is a top view of the part G G^2, fig. 1.

Figure 3 is a bottom view of the same part.

Figure 4 is a modification of the upper part of the coal-reservoir R, fig. 1.

F F, fig. 1, are a series of tubes connecting the combustion-chamber C with a flue, F', in the base of the stove. These tubes not being in the same plane are merely represented by dotted lines.

General Description.

In fig. 1—

A is the ash-pit.

F', a flue.

L, the grate.

Q, the fire-pot.

C, the combustion-chamber.

W, the upper wall thereof.

R, the coal-reservoir.

G G^2, the gas-rings or lower end of reservoir R.

S S, perforated removable plates.

a a is a funnel-shaped flange projecting downward into the reservoir.

m, the cover or lid to the reservoir.

r, a register for admitting air to the interior of the reservoir.

t t, the openings through said register and cover.

The upper wall of the combustion-chamber W rests by its lower edge in a groove formed in the upper edge of the fire-pot Q, and on its upper inner edge the wall W has a projecting lip, on which is suspended the ring G, which has formed on it a projecting flange on its upper edge, which fits and corresponds with the lip on the wall W.

The part or ring G has on its lower edge a flange, which projects inward at right angles nearly to the ring G^2. This flange has on its inner edge a series of indentations, *d' d'*, fig. 3, which prevents the closing of the communication of the space *t* with the combustion-chamber C by the expansion by the heat of the ring G^2.

The ring G^2 has on its upper edge an outward-projecting flange, *k*.

When the two rings G G^2 are in place they inclose or form an annular space, *r*, which space has a communication, *d*, at its upper part with an annular space, J, formed by the concave side of the plate d^2, resting by its edge on the wall W.

The plate d^2 has a series of openings, d^3, which communicates with the gas-escape passages E E.

The space *r* has also a passage or passages, d^1, at its lower edge, to the combustion-chamber C.

These gas-rings may, if desired, be cast in one piece, with hollow walls; or may be made with holes extending from top to bottom, as would be the case were the apertures *d* and d^1 connected or continuous; or may be made with spiral or winding passages through the substance thereof, or any equivalent means, whereby the air and gases may be passed through or between the outer and inner sides of said gas-ring or rings and be discharged at or near the lower edge thereof into the combustion-chamber or flue.

a a is a funnel-shaped flange. This flange is funnel or hopper-shaped for the purpose of deflecting the gases that rise from the coal toward the apertures *a' a'*.

s s are perforated movable plates, which slide on a lower plate, *h*, which plate has an opening in the center of nearly the same size of the bottom of the pendent flanges *a a*.

The plates *s s* have a series of openings through them so as to admit air to the interior of the reservoir R. These openings are of such suitable size that the current of air entering effectually prevents the smoke from passing upward or outward through said plates, owing to the rapid manner in which the air passes through the small openings, while, if the openings were very large, only a limited quantity of air would enter, and at so slow a rate that smoke and gas would sometimes escape.

The cover *m* and register *v* are fully described in my patent of June 9, 1863. In the modification (fig. 4) of the upper part of the reservoir R, (which is designed for the same use as the plates *s s*,) P represents a circular perforated plate, resting by its edges on the interior of the flange *a a*.

The plate *h* is placed at a suitable distance below the bottom of the flange *a a* to allow for the perforated plates *s s* sliding thereon, and beneath the bottom of said flange for the purpose of closing the opening in the bottom of said funnel or flange, for purposes be-

fore described. When in position, as shown by the dotted line, the operation is similar as with plate P, fig. 4.

In fig. 1 the reservoir R is shown as detached at the joint *o o o o*, thus enabling its being rotated or revolved for the purpose of shaking down the coal should it become "coked" or wedged. The reservoir being detached also, enables its easy and ready removal for the purposes of easy access to the grate for kindling, cleaning, &c.

The operation of the stove is as follows:

A fire being kindled in the usual manner, and the coal-reservoir being filled, gases are evolved from the coal therein and rise above the surface of the same, where, meeting the edge of the flange *a a*, are deflected by said flange and jets of air through plates *s s* toward the apertures *a' a'*, where they enter and pass off by the escape-passages E E and space *r* to the combustion-chamber or flue.

In the passage of the air and gases through the space *r* a great amount of heat is absorbed from the rings G G^2, thus tending to make these rings more durable, while at the same time the gases are heated to the degree necessary for combustion.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

1. The movable gas-ring or rings, or diaphragm G G^2, when made in the manner and used for the purposes hereinbefore set forth and described.

2. Making the coal-reservoir of a base-burning stove detached and movable from the main body of the stove, for the purposes hereinbefore specified.

3. The perforated plates *s s*, or their equivalents, in combination with the cover *m* and reservoir R, when used for the purposes hereinbefore specified.

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Witnesses:

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