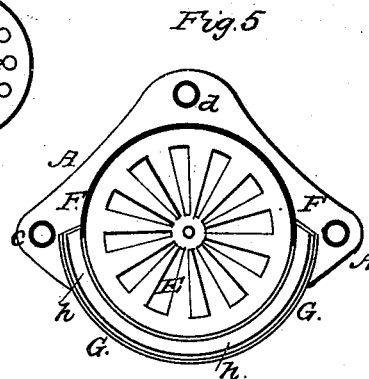
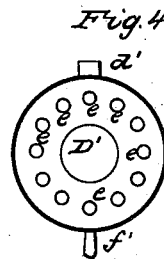
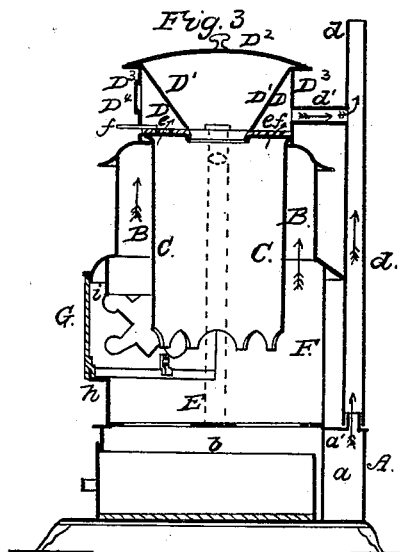
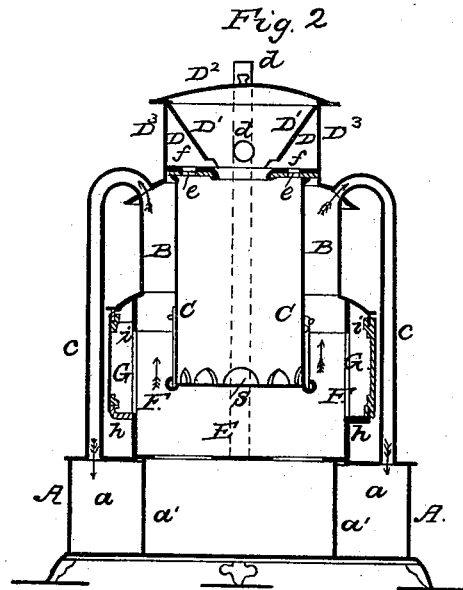
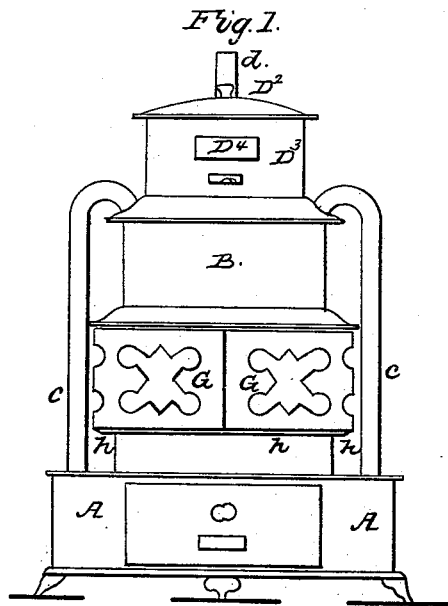


S. B. SEXTON.  
Base Burning Stove.

No. 47,136.

Patented April 4, 1865.



WITNESSES  
R. J. Campbell  
C. Schaff

INVENTOR  
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# UNITED STATES PATENT OFFICE.

S. B. SEXTON, OF BALTIMORE, MARYLAND.

## IMPROVEMENT IN BASE-BURNING STOVES.

Specification forming part of Letters Patent No. 47,116, dated April 4, 1865.

*To all whom it may concern:*

Be it known that I, S. B. SEXTON, of Baltimore, county of Baltimore, and State of Maryland, have invented a new and useful Improvement in Base-Burning Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a front elevation of a stove having my improvements applied to it. Fig. 2 is a transverse section taken in a vertical plane through the stove of Fig. 1. Fig. 3 is a longitudinal section taken in a vertical plane through the stove. Fig. 4 is a horizontal section through the uppermost chamber of the stove. Fig. 5 is a horizontal section through the fire-chamber, taken below the coal-supply cylinder.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to that class of stoves which have a vertical supply-cylinder arranged within them for receiving coal and keeping up a continued supply thereof to the fire-chamber, and which are commonly designated "base-burning stoves," for the reason that combustion takes place at the base of said coal-supply cylinder.

The main object of my invention is to so construct stoves of this class that the gas which is generated within the coal-supply cylinder will be exposed to the draft of the main flue and carried off, whether the top of said cylinder is opened or closed, as will be hereinafter described.

Another object of my invention is to provide for conducting the products of combustion directly from the upper end of a chamber surrounding a suspended coal-supply cylinder down into the base of the stove, and thence into the direct-draft pipe, as will be hereinafter described.

Another object of my invention is to provide for supporting the illuminating windows or doors of the cylinder which surrounds the fire-chamber upon a ledge or base, which is formed upon and which projects without the circumference of said cylinder, for the purpose of facilitating the application of said doors or windows to the stove and giving prominence to them, as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

The base A of the stove has a chamber, *a*, extending along the sides and back of the ash-chamber *b*, and which is separated from the latter chamber by the vertical partition *a'*. (Shown in Fig. 2 and 3.) From the outer chamber, *a*, three pipes, *c c c* and *d*, ascend, the two former communicating with the top of the chamber B, which surrounds the coal-supply cylinder C, as clearly shown in Figs. 1 and 2. The pipe *d* extends up from the back part of the chamber, *a*, and forms the direct flue for conducting the products of combustion into the chimney. This vertical flue *d* has a branch flue, *d'*, leading into it from a chamber, D, which surrounds the funnel D' in the uppermost chamber of the stove. The flaring sides of the funnel D' terminate at their base in an opening, which leads into the top of the coal-supply cylinder C, and this funnel is closed on top by the cover-lid D<sup>2</sup>, which is removed when it is desired to supply coal to the cylinder C. The chamber D also communicates with the coal-supply cylinder C through the perforations *e e e*, which can be closed, when desired, by the circular perforated valve *f*, the handle *f'* of which projects through a horizontal slotted opening in the cylindrical case D<sup>3</sup>, as shown in Figs. 1 and 3. If desirable, oblong openings may be made through the cone or funnel D' at its contracted end, as shown in Figs. 2 and 3, for the purpose of allowing accumulated gas to escape into the chamber D when the perforations *e e e* are closed by the damper *f*, or during the introduction of coal into the supply-cylinder. These openings through the funnel create a draft above the lower end of said funnel and carry off into the chamber D and main flue *d* any gas which might escape above the lower end of the funnel. By means of the perforations leading into the chamber D, as above described, there is a strong suction created at the top of the cylinder C, which not only prevents the gas from this cylinder escaping into the room when the top D<sup>2</sup> is opened, but prevents the gas from insinuating itself through the crevices of the stove, and thus escaping into the room when said cover is in place. This arrangement also enables me to ventilate a

room or check the fire when the cover  $D^2$  is open.

The descending flues  $c c$ , arranged on each side of the stove, cause the products of combustion rising above the fire-chamber E to ascend to the top of the chamber B before escaping, whence they are conducted through said flues into the chamber  $a$ , thus heating this chamber or base of the stove before they finally escape through the flue  $d$ . By this arrangement the heat is distributed throughout the entire stove, from the top to the bottom, and very little is allowed to escape into the chimney.

In Figs. 1, 3, and 5 I have represented illuminating windows or doors applied to the front part of the semi-cylinder F, which partially surrounds the fire-chamber E. These doors or windows G are adapted for receiving mica lights, and they may be applied so that they can be opened by sliding them back. The doors or windows G occupy the front opening made in the semi-cylinder F, and expose a light from one-half the diameter thereof, or all around, as may be desired.

To support these doors or windows, and at the same time to set them out some distance from the fire-chamber, I form a semicircular base or projecting flange,  $h$ , upon the lower edge of the opening through the case F, and also apply a flange,  $i$ , to the projecting rim of the upper cylinder, as shown in Figs. 2 and 3, and to these parts  $h i$  I apply the doors or windows G G by means of contrivances which may allow the doors to slide on their semicircular ways, as shown in Figs. 2 and 3. By applying sliding doors to the stove, as I have described, they can be opened at pleasure, and the interior of the fire-chamber easily got at for cleaning it out, or for other purposes.

In practice, the cover  $D^2$  may be stationary, or in the form of an urn, and a chute leading

from a door,  $D^4$ , through the chamber D into the funnel  $D'$ , may be used for feeding the coal into the magazine C. This door should be so isolated from the circulating-space by the chute that the products of combustion will not enter the room when the door is opened.

In Fig. 2 I have represented a supplemental grate, S, applied to the bottom of the supply-cylinder C by means of hooks or other fastenings which will admit of its being removed at pleasure. This grate S is to be used when a small fire only is required, or when it is not desired to make a fire in the chamber E.

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

1. A base-burning stove which is so constructed that the gas which is generated in the coal-supply cylinder C can be conducted off through the top plate of said cylinder and around the feed-opening thereof at pleasure, substantially as herein described.

2. A chamber, D, with a valvular bottom and escape-pipe  $d'$ , arranged over the coal-supply cylinder, or magazine of a base-burning stove, substantially as described.

3. The draft-flues  $c c$ , when carried out of the top of the chamber B, and conducted into a chamber,  $a$ , having an ascending flue leading out of it, substantially as described.

4. The combination, in a base-burning stove, of the projecting ledge  $h$ , formed on the lower edge of the opening through case F, and a flange,  $i$ , projecting from the base-rim of the cylinder surrounding the chamber B, substantially as described.

5. The application of a supplemental grate, S, to the magazine of a base-burning stove, substantially as described.

S. B. SEXTON.

Witnesses:

R. T. CAMPBELL,  
E. SCHAFER.