

United States Patent Office.

S. B. SEXTON, OF BALTIMORE, MARYLAND.

Letters Patent No. 79,505, dated June 30, 1868.

IMPROVEMENT IN BASE-BURNING STOVES.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, S. B. SEXTON, of the city and county of Baltimore, and State of Maryland, have invented a new and improved Base-Burning Stove; and I do hereby declare 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 the improved stove.

Figure 2 is a top view of the stove, as seen by removing the coal-supply cylinder.

Figure 3 is a section taken through the stove in the vertical plane indicated by red line *y y* in fig. 2.

Figure 4 is an enlarged diametrical section of the illuminating-ring, and portions of the cylinders to which it is applied.

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

This invention relates to certain novel improvements on base-burning stoves having their coal-magazines exposed, or unenclosed by casings or jackets, as will be hereinafter explained.

In the accompanying drawings, B represents a hollow-base section, which is separated from a chamber, A', surrounding the fire-pot I', by a horizontal plate, B', through which plate several perforations, *t*, are made, for the purpose of forming communications between said chamber and the hollow base, and allowing the products of combustion to descend all around the sides of the fire-pot, enter the hollow base, B, and escape into the vertical exit-flue K, as indicated by the arrows in fig. 3.

The fire-pot I is of a cylindrical form, with a flaring flange, I', formed on its upper end, and with a fire-brick lining, *g*, as shown in fig. 3. This fire-pot is arranged centrally within the chamber A', which is enclosed by the cylindrical jacket A, and it is supported upon the cylindrical ash-pit section H, which latter is supported upon the drawer-section Y of the ash-pit, as shown in fig. 3.

The upper edge of the flaring flange of fire-pot I terminates within a space which is enclosed by an illuminating-ring, C, between which ring and said flange an annular space is left, of sufficient size to allow the products of combustion to pass over and descend through the chamber A', into the hollow base, B.

The ring C is constructed with suitable openings through it, which are produced with a door, *a*, and windows *a' a'*, having mica lights, *b b'*, thus making an illuminating-ring, through which the light of the fire will be exposed. The windows *a' b'* may be fixed, but the door *a b* should be hinged or otherwise applied to the ring, so that access is afforded to the fire-pot through its opening.

The ring C is constructed with flanges, and fitted between the cylindrical jacket A and a cylindrical coal-magazine, D, which latter is somewhat smaller than the jacket A, and is supported over the fire-pot I by means of said ring. The tapering or conical form of the illuminating-ring not only adapts it for sustaining a magazine-cylinder, D, of smaller diameter than the jacket, upon this jacket, but such form also adapts it to serve as a means whereby the light of the fire in the fire-pot can be seen through it. It also forms the outer wall of the combustion-chamber, as shown in fig. 3.

The cylinder D is constructed with a contracted base portion, D', for properly feeding the coal to the fire-pot, and on the upper end of this cylinder is an ornamental cap, E, having a funnel-shaped opening, F, through its centre, which is provided with a cover, G. The cylinder D constitutes the coal-magazine, and an exposed outer wall, from which more or less heat will be radiated during the operation of the stove. It forms the upper section of the stove, and is provided with a short pipe, *k k'*, leading directly into the escape-flue K, for the purpose of carrying off any gas and smoke which may rise in the body of the coal within this magazine. The damper *n*, in the flue *k k'*, is designed for regulating or preventing the escape of gas from the said magazine.

From the above description, it will be seen that I have a base-burning stove whose upper section is an exposed coal-magazine, whose intermediate section is composed of an illuminating-ring, and a fire-pot, which is placed centrally within a space enclosed by a jacket, A, and whose base-section forms a flue and heat-radiator, through which the products of combustion pass on their way from the fire-pot or combustion-chamber to the main escape-flue K.

One of the advantages which I obtain by the above arrangement is, that the entire stove presents heat-radiating surfaces. Considerable heat will be radiated directly into a room from the coal-magazine D, but most of the heat will be radiated from the illuminating-ring C, the jacket A, and the hollow base, B, whose surfaces are exposed directly to the products of combustion on their way to the escape-flue.

I am aware that it is not new to use a flaring exposed coal-magazine, arranged over a flaring fire-pot which is surrounded by an air-heating space, with flues leading upward from a fire-chamber into a drum or chamber over the coal-magazine. Such a stove was secured to me by Letters Patent on the seventeenth day of March, 1868, and therefore I do not now lay claim thereto.

I am also aware that it is not new in base-burning stoves, having their coal-magazines enclosed by outer casings or flue-jackets, to employ descending flues for the escape of the products of combustion.

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

1. The exposed cylindrical coal-magazine D, sustained upon the jacket A by means of an illuminating-ring, C, in combination with a fire-pot which is enclosed within the jacket, so as to leave a space around it for the descent of the products of combustion on their way to the escape-flue, substantially as described.

2. An exposed coal-magazine, D, an illuminating-ring, C, an annular flue-chamber, A', and a hollow base, B, arranged and combined substantially as described.

3. The combination of a cylindro-conic coal-supply magazine, the cylindric portion being exposed, an inclined illumination-ring, C, furnished with mica or other transparent windows or doors, and a fire-pot, all in the manner and for the purpose described.

4. An escape-pipe, leading into the flue K from an exposed magazine, D, when this magazine is arranged over a fire-pot surrounded by a descending flue, and supported upon a hollow base, B, substantially as described.

S. B. SEXTON.

Witnesses:

GEO. T. LEONARD,
S. B. SEXTON, Jr.