A. WHITE.

BASE-BURNING STOVES.

No. 182,004. Patented Sept. 5, 1876.

Fig 1

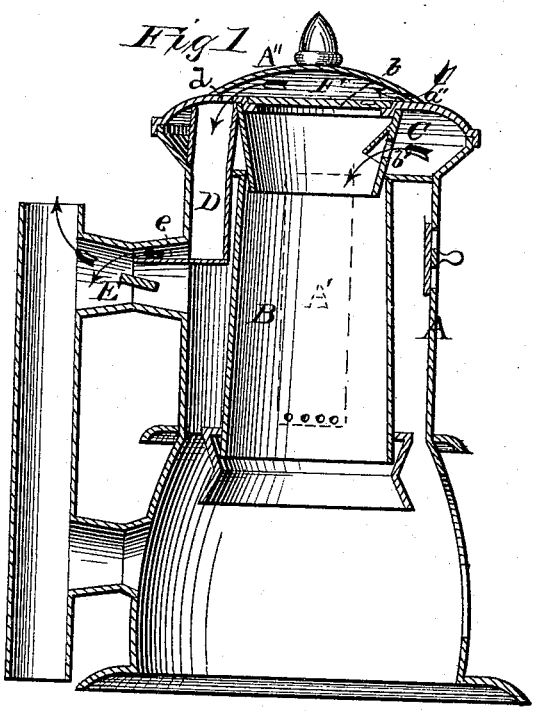
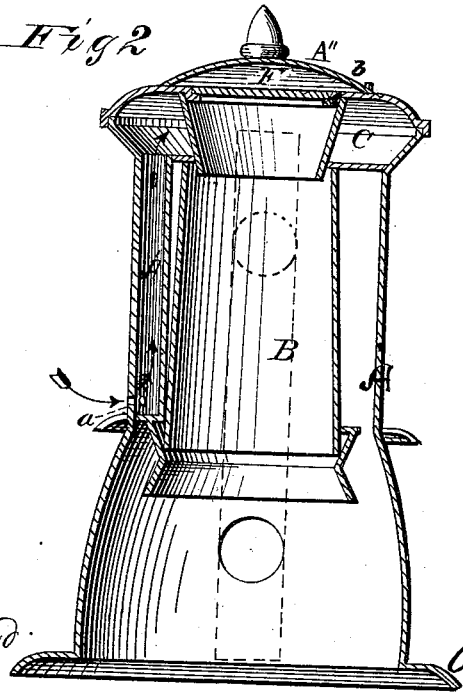


Fig 2



WITNESSES

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UNITED STATES PATENT OFFICE.

ALEXANDER WHITE, OF ROCK ISLAND, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO ALEXANDER H. HAMMOND, OF SAME PLACE.

IMPROVEMENT IN BASE-BURNING STOVES.

Specification forming part of Letters Patent No. **182,004**, dated September 5, 1876; application filed July 20, 1876.

To all whom it may concern:

Be it known that I, ALEXANDER WHITE, of Rock Island, in the county of Rock Island and State of Illinois, have invented certain new and useful Improvements in Base-Burning Stoves, of which the following is a specification:

Figure 1 is a vertical central section from front to rear. Fig. 2 is a vertical central section from side to side on line at right angles to the above.

The design of the present invention is to provide by suitable construction of the stove for such escape of the coal-gas from the upper parts of the stove or fuel-reservoir into the exit-flues, that all trouble and difficulty from the outflow of gas into the apartment, or from accumulation of coal-tar, may be obviated; and to this end it consists, more particularly, in so constructing the flues and chambers that there shall be a circulation of air over the reservoir or fuel-magazine cover, and about the top of the reservoir, and through its upper part down to the general exit; and in the general construction and adaptation of the several parts, whereby these ends are gained, and the general result sought after fully attained, substantially as will now be more in detail set out and explained.

This invention is more particularly intended for use in base-burning stoves, so called, wherein bituminous coal is to be burned; but it is not necessarily confined to this class of stoves, nor to those burning soft coal.

In the drawing, A denotes a base-burning stove, only the upper portion of which is now shown; B, the usual fuel-magazine, suitably adapted in place, and having cover *b*. About and nearly surrounding its upper end is a chamber, C, into which hot air is admitted through the duct A′, which is placed in the body of the stove at any convenient position, so long as its lower end shall be located near that portion of the stove-body which is most fully exposed to the heat from the fire. Through apertures *a* at its lower end there is suitable provision for the entrance of the external air into this duct. The upper part of the fuel-magazine is perforated at *b′*. This construction insures a sufficient draft through the chamber C, around and about the top of the fuel-magazine, and through apertures *b′* in its top to draw all or the larger portion of the gases from the inside of the magazine down through the fuel, and thence to mingle them with the general draft of the stove toward the exit.

The stove-top A″ is now shown as the ordinary swinging cover. In its edges are notches *a″*, or any suitable space or opening sufficiently large to allow the admission of a current of air, which passes through the spaces F between the magazine-cover *b* and stove-top, and finds its way through apertures *d* in the opposite side of the stove-top into the duct D, extending down inside the stove-body through the upper portion of the chamber about the fuel-magazine to the cross-pipe E, and by a suitable passage-way, *e*, in its side out into the exit-flue.

It may be found frequently that the space in the joint between the top or cover and stove-body will give all necessary draft for the above purposes. The location and peculiar construction of the pipe D prevents any change in the external configuration of the stove, while it does not at all interfere with the draft-passages or fuel-magazine, and yet secures many advantages which can be derived by being in part located in the highly-heated portion of the stove.

By this means I have provided for a sufficiently-effective circulation of the current of air about the upper part of the magazine, and over its top to draw away all the gas or tar, bearing vaper that might escape the influence of the circulation through the magazine-top, and prevent any escape of gas into the room as well as any accumulation of the disagreeable and offensive deposit about the stove-top.

In practice, with the stoves now in use, it has been found that not only does the gas escape in considerable quantity, but that there is a constant and very obnoxious deposit of coal-tar about the cover and upper parts of the stove, disagreeable to the sight and touch, and also, unless frequently removed, tending to interfere seriously with the effective operation of the stove.

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

1. The chamber C and duct A′, having apertures *a*, in combination with the magazine B, provided with inlet *b*, substantially as and for the purposes set forth.

2. The combination of duct D, situated within the body of the stove and in the upper part of the combustion-chamber about the fuel-reservoir, and having inlet *d*, with chamber or space F in the top of the stove, and exit-pipe E *e*, substantially as and for the purposes set forth.

3. The combination of space F, over the top of the fuel-magazine, and duct D, having inlet *d* and exit *e*, with chamber C around the upper end of the said magazine, perforations *b′*, and duct A, having apertures *a*, substantially as and for the purposes set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

ALEXANDER WHITE.

Witnesses:
FRANK MIXTER,
WILLIAM T. HOYT.