E. BUSSEY.

Magazine-Stove.

No. 161,479. Patented March 30, 1875.

Fig 2.

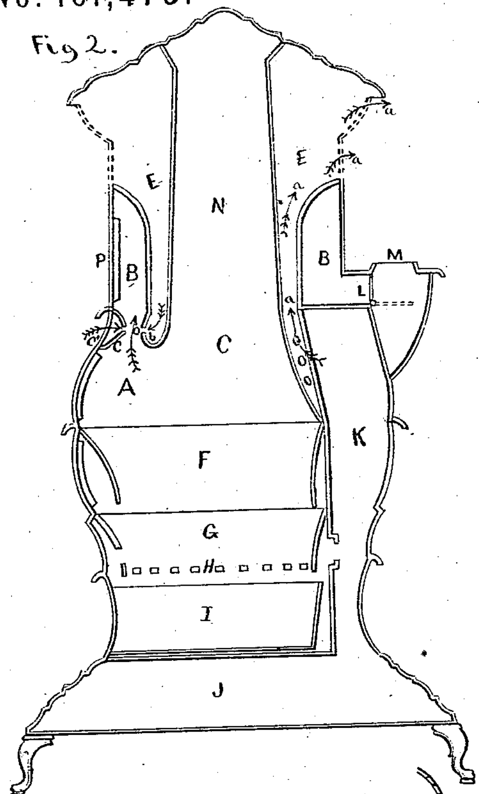


Fig 1.

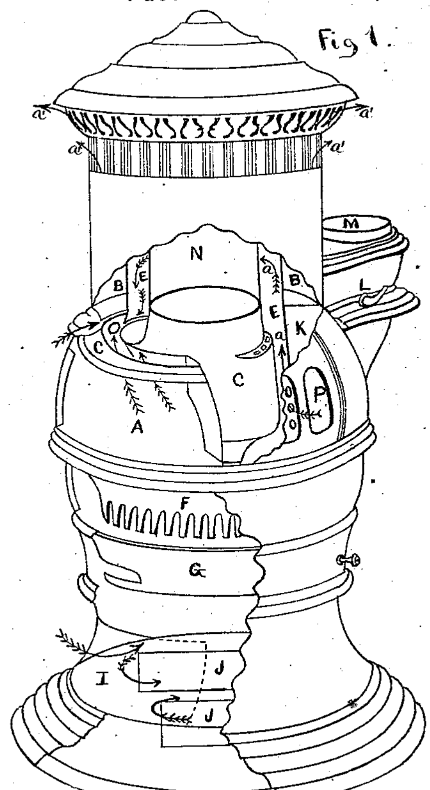
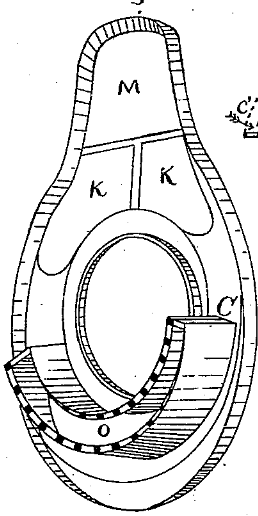


Fig 4.



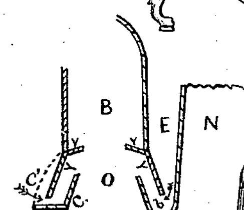
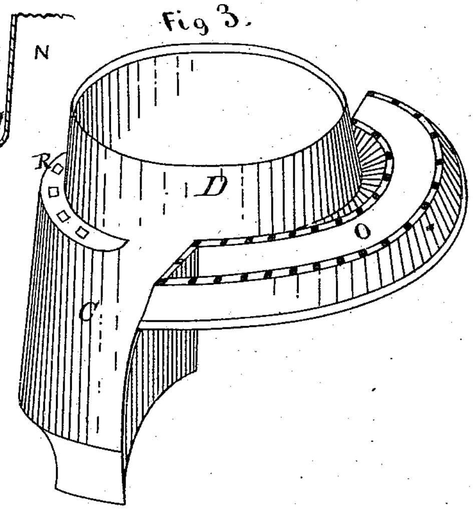


Fig. 5.

Fig 3.



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UNITED STATES PATENT OFFICE.

ESEK BUSSEY, OF TROY, NEW YORK, ASSIGNOR TO HIMSELF AND CHARLES A. McLEOD, OF SAME PLACE.

IMPROVEMENT IN MAGAZINE-STOVES.

Specification forming part of Letters Patent No. **161,479**, dated March 30, 1875; application filed March 3, 1875.

To all whom it may concern:

Be it known that I, ESEK BUSSEY, of Troy, in the county of Rensselaer and State of New York, have invented certain new and useful Improvements in Parlor-Stoves; and I do declare that the following is a full, exact, and clear description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in the combination of two combustion-chambers—one above the other—and communicating with each other by a narrow throat, into which external air is admitted, substantially as will be hereinafter more fully set forth; and, also, in the construction and arrangement of the combustion-chambers and air-inlet, as aforesaid, in connection and combination with a hot-air chamber between the said upper combustion-chamber and the fuel-reservoir, substantially as will be set forth in detail; and, finally, in the peculiar construction of the dome or upper part of the lower chamber of combustion, so that it shall have a narrow throat or discharge-aperture in its upper front side or edge, through which the products of combustion from the burning fuel are made to pass, and whereby they come in contact and intermingle with a current or series of jets of air, as will hereinafter be more clearly and fully set forth.

My invention will be more fully understood by reference to the accompanying plate of drawings, in which corresponding parts are illustrated by similar letters, and in which—

Figure 1 is a general view of the stove with a portion of the outer casing removed. Fig. 2 is a central vertical section of the stove. Fig. 3 is a view, enlarged, of the dome surrounding the lower combustion-chamber. Fig. 4 is an enlarged view of an addition, which is placed over the dome, (Fig. 3,) making the contracted neck or throat which communicates with the upper combustion-chamber B; Fig. 5, an enlarged view, showing a modification of the manner of admitting air to come in contact with the gases passing through the neck or throat O, by means of the upward-inclined plates Y.

A is the lower combustion-chamber. B is the upper combustion-chamber and flue in the upper part of the stove. C is the dome, nearly surrounding the lower combustion-chamber. D is the continuation or top of the dome C, and is placed immediately over it, having the contracted neck or throat O in front. E is an air-chamber, surrounding the feeder N. F is the fire-pot, which may be made in one piece, or in two sections, as shown, G being the lower fire-pot where two pots are used. H is the grate. I is the ash-pit. J is the base-flues; K, the rear vertical flues; L, a damper. M is the exit-passage. N is the reservoir or feeder for supplying the stove with fuel, and the bottom rests on the plate D.

My improved stove is to be used, as a general thing, with coke or bituminous coal for fuel.

The method of operating the stove is as follows: Fire is kindled in the ordinary manner in the fire-pots F and G, and draft is admitted under the grate, the reservoir or feeder and fire-pots being all filled with fuel. The gases that are generated by the fire from the burning fuel, and also from the unconsumed fuel in the feeder, accumulate in the dome C, surrounding the lower combustion-chamber A, and pass through the contracted neck or throat at O. Where these gases come in contact with air admitted from the chamber E, around the feeder, and also through openings in the casing of the stove, as shown by the arrows at *b* and *c'*, immediately above the openings *b* and *c'*, where air is admitted, as aforesaid, to come in contact and consume the gases, I place the plates Y so as to bring the air more directly in contact with the gases. The upper part of said plate Y has an upward incline, and contracts the space above neck O, so that the air and gases may be more thoroughly intermingled, thereby perfectly consuming said gases. By regulating the amount of air to be admitted according to the amount of gas contained in the fuel used, a brilliant illumination is produced in the upper combustion-chamber B, which is reflected through the mica door P; and, also, a great amount of heat is evolved in the upper part of the stove. The gases of combustion and smoke pass around the upper combustion chamber or flue B to the exit-passage M, either directly or after passing down

the rear flues and under the base, the damper L regulating the direct or revertible draft.

Among the advantages possessed by a stove with my improvement are, that the gases are more perfectly consumed and a great amount of heat is produced in the upper part of the stove. The contracted neck or throat being near the lower part of the fuel-reservoir, the accumulated gases are more completely drawn upward through said contracted neck or throat and do not pass into the room in which the stove is placed from top of feeder. By means of the air-chamber E, between the upper combustion chamber or flue B and the feeder, the fuel in said feeder does not become highly heated, and, by reason thereof, the fuel in said feeder does not become ignited. Cool air is admitted to said chamber E through the outer casing of the stove, as shown by lower arrows, marked *a*, and passes out of said chamber E, as shown by the upper arrows *a'*. Air may also be admitted at the rear of the dome C, as shown at R, if found desirable.

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

1. In a heating-stove, substantially as herein described, the upper and lower combustion-chambers, communicating with each other by a narrow throat, into which external air is admitted through inclosed lateral passages or ducts, and constructed and combined substantially as and for the purposes set forth.

2. The combination of the upper and lower combustion-chambers, provided with an internal air-inlet in the throat between the two, with a hot-air chamber inclosing or surrounding the fuel-reservoir, and communicating with said throat, substantially as described.

3. In a magazine-stove, the hollow contracted neck or throat, formed by double walls between the upper and lower combustion-chambers, and combined therewith, substantially as described.

ESEK BUSSEY.

Witnesses:
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