(No Model.) 3 Sheets—Sheet 1.

M. I. COHEN.

FIREPLACE GAS HEATER.

No. 576,774. Patented Feb. 9, 1897.

Fig. 1

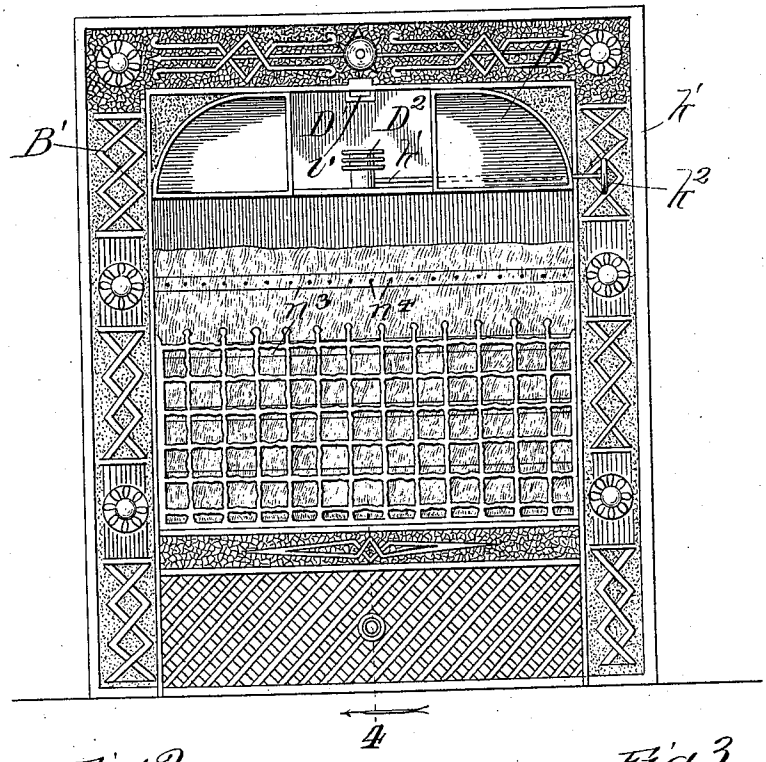


Fig. 2.

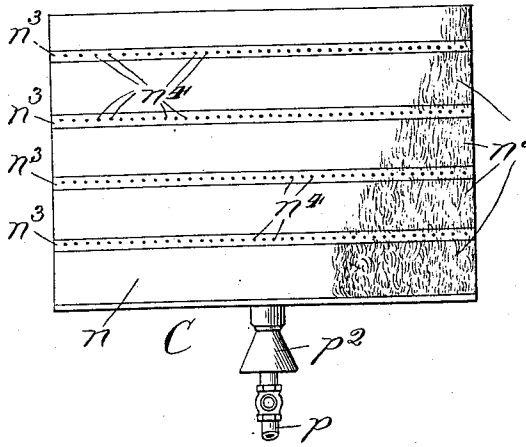
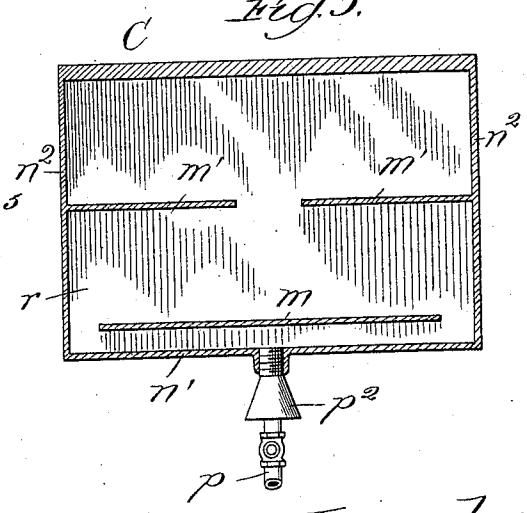


Fig. 3.



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(No Model.) 3 Sheets—Sheet 2.

M. I. COHEN.

FIREPLACE GAS HEATER.

No. 576,774. Patented Feb. 9, 1897.

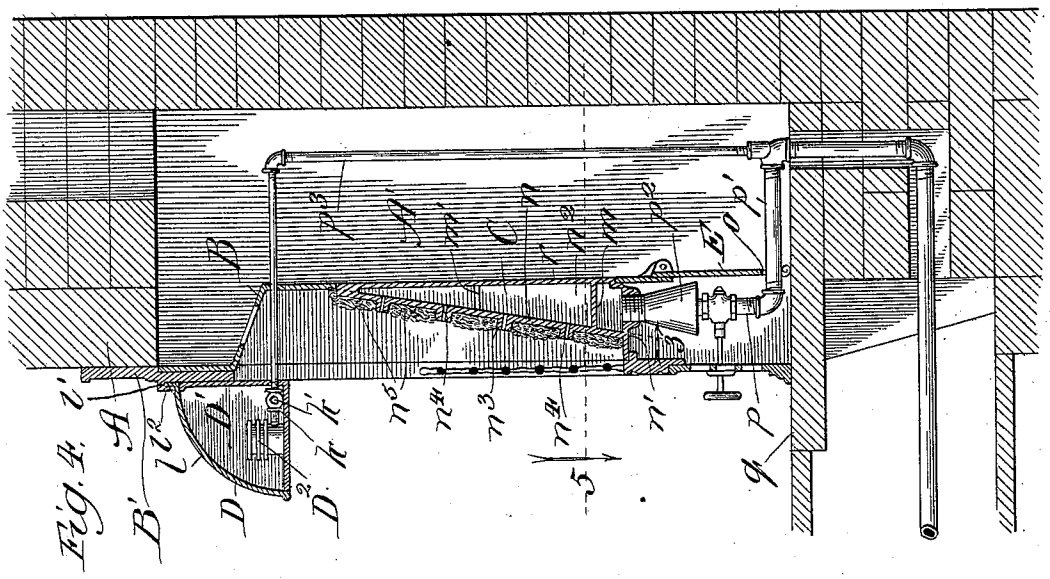

Fig. 4.

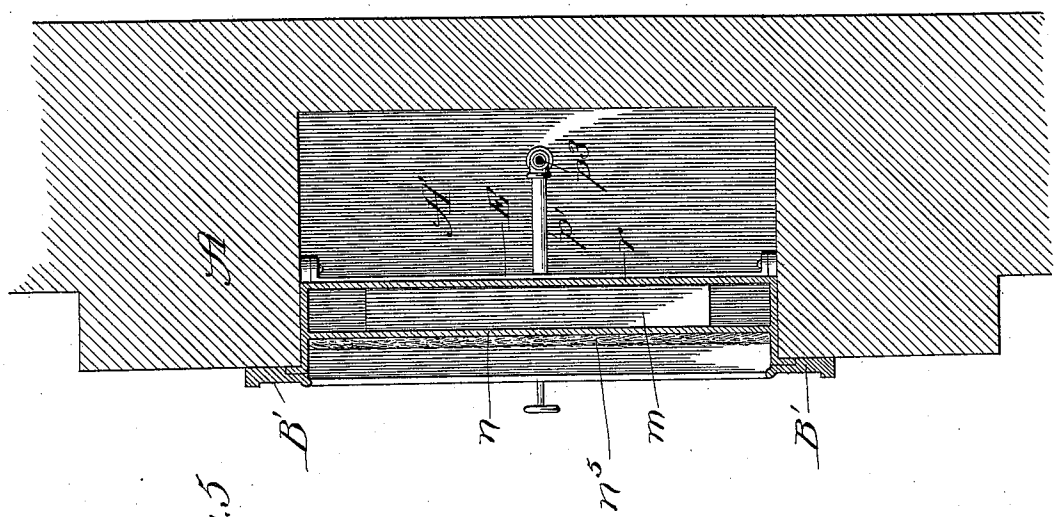

Fig. 5.

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(No Model.) 3 Sheets—Sheet 3.

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FIREPLACE GAS HEATER.

No. 576,774. Patented Feb. 9, 1897.

Fig. 7.

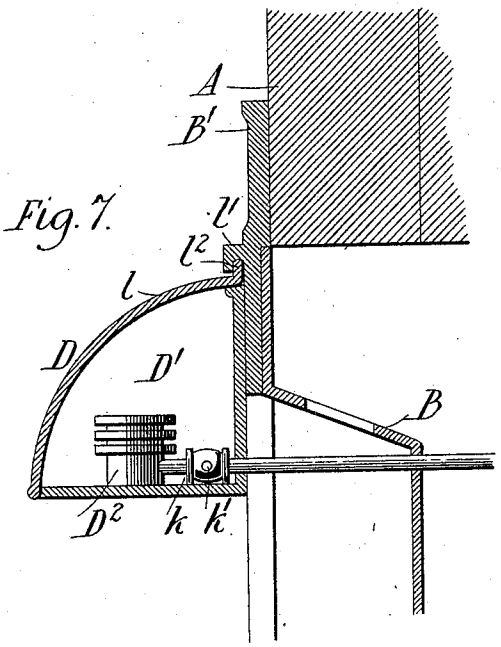
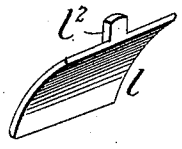


Fig. 6.



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UNITED STATES PATENT OFFICE.

MORRIS I. COHEN, OF CHICAGO, ILLINOIS.

FIREPLACE GAS-HEATER.

SPECIFICATION forming part of Letters Patent No. 576,774, dated February 9, 1897.

Application filed January 18, 1896. Serial No. 575,984. (No model.)

To all whom it may concern:

Be it known that I, MORRIS I. COHEN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Fireplace Gas-Heaters, of which the following is a specification.

My invention relates to an improvement in the variety of gas-heater employed in fireplaces, and comprising, as its generally stated construction, a box affording the combustion-chamber, formed of metal to fit into the fireplace-opening and having the forward edges or its open side faced with an ornamental frame let into the tilework of the fireplace below a mantel. My present improvement relates more particularly, as to its main features, to the variety of this heater having the shallower form of box containing a facing on its back of non-combustible material, like mineral wool, to be rendered incandescent by the heat from the gas-fuel with which the chamber is supplied.

Another feature of my improvement, however, namely, the supplemental heater in the hood, is intended for use in any fireplace gas-heater employing the usual hood projecting from the facing-frame over the fireplace-opening.

In the shallow-box variety of fireplace-heaters referred to, where the back of the box extends continuously to the base of the fireplace on which the box rests, great inconvenience and difficulty are experienced in getting at the nipple of the service-pipe, which enters the fireplace-opening at the rear of its base portion to make the connection therewith of the gas-pipe in the heater. One of my objects is to overcome this difficulty by providing the heater with a back formed in sections, the upper section being stationary and the lower section being adjustable or hinged to it to be opened like a door for facilitating the work of making the connection, and to be otherwise closed.

Another object of my improvement is to provide the heater with an attachment adapted for ready use in cooking, heating water, and the like.

Referring to the accompanying drawings, Figure 1 shows my improved fireplace gas-heater by a view in front elevation. Fig. 2 is a view in front elevation of the mixing-chamber; Fig. 3, a section taken at the line 3 on Fig. 4 and viewed in the direction of the arrow; Fig. 4, a section taken at the line 4 on Fig. 1, viewed in the direction of the arrow and enlarged; Fig. 5, a section taken at the line 5 on Fig. 4 and viewed in the direction of the arrow; Fig. 6, a perspective view of the cover for the supplemental heater in the hood; and Fig. 7 is an enlarged sectional view of the hood, the supplemental heater, and the cover.

A is a fireplace containing the usual opening A′, in which is seated the box B, affording the combustion-chamber and having its front faced with the ornamental frame B′, carrying the hood D, which overhangs the fireplace-opening. The service-pipe p' enters the opening A′ at its base, and when my improved heater is put in its gas-pipe p, which is connected with the mixing-chamber C in the manner hereinafter described, requires to be coupled with the service-pipe. With the back r of the box B extending continuously or unbrokenly down to the base q, upon which it rests, except as to a perforation for the admission through it of the service-pipe, which is the common construction, the matter of making the coupling is attended with great difficulty, owing to the inaccessibility of the parts due to the narrow working space afforded. Accordingly, to facilitate the coupling operation I form the back with a lower section E, hinged along its upper edge to the lower edge of the stationary part of the back and containing a recess o in its lower edge to fit the pipe p' when the hinged section is down. By this provision, when the heater is put in, the section E may be raised on its hinges like a door and maintained in its raised position till the coupling has been made, when it may be lowered to close the opening. The back r of the box B is shown as composed of an upper plate and a lower plate, with the back of the mixing-chamber C fitting in the space between them. The mixing-chamber is formed with a back, a base n', extending therefrom, sides $n^2\,n^2$, extending upward from the ends of the base and tapering along their outer edges to their upper ends, and a front

plate n, inclining in the direction of the taper of the sides, the plate n being provided with transverse ridges n^3 at intervals on its face, which are provided with series of perforations n^4, as shown, affording the burners, and the face of the front plate is covered with mineral wool n^5 or some other suitable material rendered incandescent by heat. In the chamber C is a lower diaphragm or baffle-plate m' with spaces about its edges, and above it in the chamber is the diaphragm or baffle-plate m, open about its central portion. The pipe p is connected with a downward-flaring hollow head p^2, which is coupled into the base of the chamber C, and through which, about the end of the pipe p, air is introduced with the gas into the chamber, wherein the gas and air are thoroughly mixed by the retaining effect of the baffle-plates and by the compressing effect of the upward-tapering form of the chamber. The heater is ignited at the plate n as the gas-and-air mixture emerges through the perforations n^4.

In the center of the hood D, I form a chamber D', the cover l of which comprises a section of the hood and conforms thereto in a manner not to disfigure the hood or present any noticeable indication of the presence of the chamber. This chamber affords a stove or supplemental heater, being equipped with any suitable burner, which may be a lamp or, and preferably, a gas-burner D^2, supplied through a pipe p^3, leading to it from the service-pipe p', as shown, and controlled by a suitable shut-off valve k, the stem k' of which extends into accessible position beyond one end of the hood and is there provided with a handle k^2. This supplemental heater takes up no space which could otherwise be utilized, and it affords a convenient adjunct to the heater for, say, heating water for shaving or for preparing food, medicine, or beverages, and the like, during the night for sick people and children.

The cover l is provided on one edge with a lip l^2 to enter a socket l' over the chamber D', and thereby attach the cover to the hood, from which it may readily be removed by raising the cover on its lip to bring the latter into such alinement with the mouth of the socket as will permit it to be withdrawn therefrom.

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

1. In a fireplace gas-heater, the heater-chamber, into which the burner-openings of the mixing-chamber discharge, having its back, to which said mixing-chamber is connected, formed with a lower adjustable section, substantially as and for the purpose set forth.

2. In a fireplace gas-heater, the heater-chamber, into which the burner-openings of the mixing-chamber discharge, having the upper portion of its back, to which said mixing-chamber is connected, rigid and the lower portion formed of a slotted section hinged at its upper edge to said rigid portion to be opened and closed by raising and lowering it upon its hinge, substantially as and for the purpose set forth.

3. In combination with a fireplace-heater, a supplemental heater comprising the hood D projecting forward from the upper portion of the fireplace front and having spaced off within it, between its ends, the burner-chamber D' formed with sides and a bottom and having an open front, a cover l for said open front, and means on said cover and chamber for removably fastening the cover in place, substantially as described.

MORRIS I. COHEN.

In presence of—
J. N. HANSON,
J. H. LEE.