

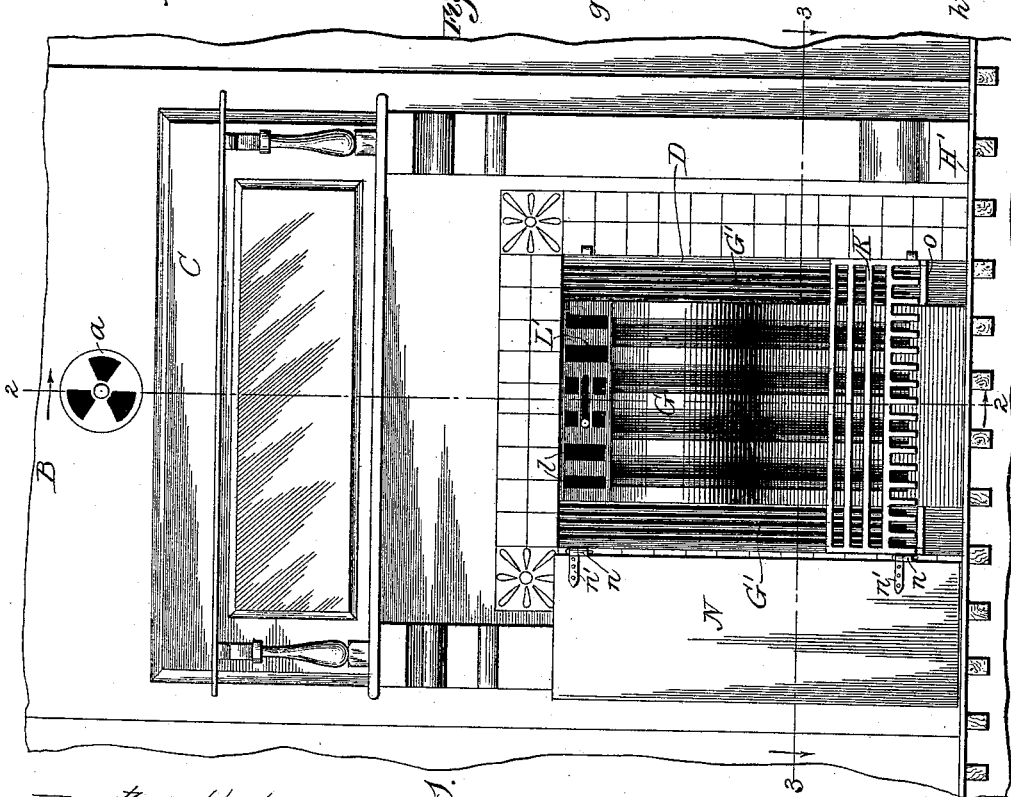
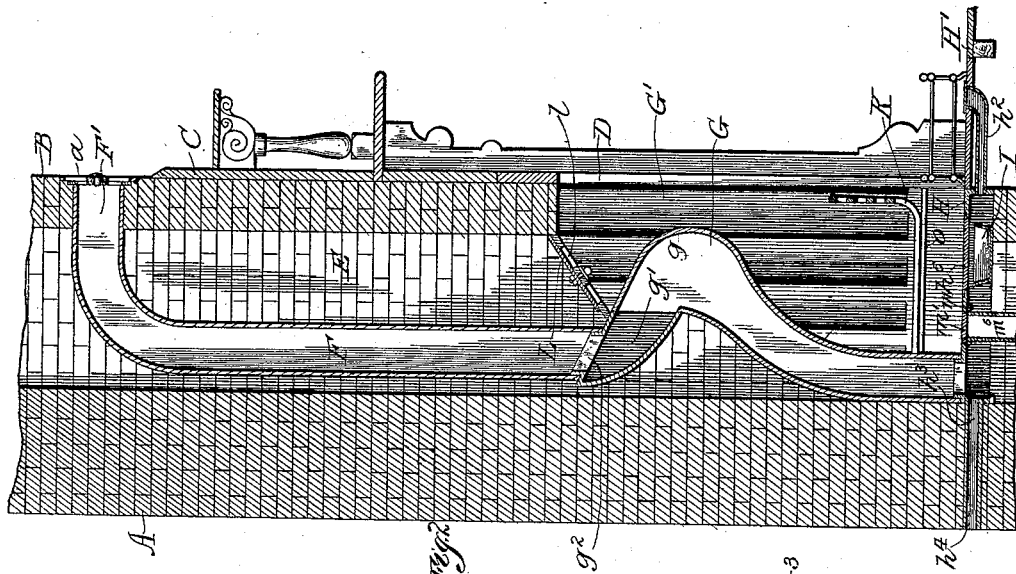
(No Model.)

2 Sheets—Sheet 1.

A. E. LYTLE.
HEATER FOR FIREPLACES, &c.

No. 492,732.

Patented Feb. 28, 1893.



Witnesses:
J. M. Rheem
Wm. J. Hemming

Fig. 2

Inventor:
Albert E. Lytle
By Chas. C. Tillman
Atty

(No Model.)

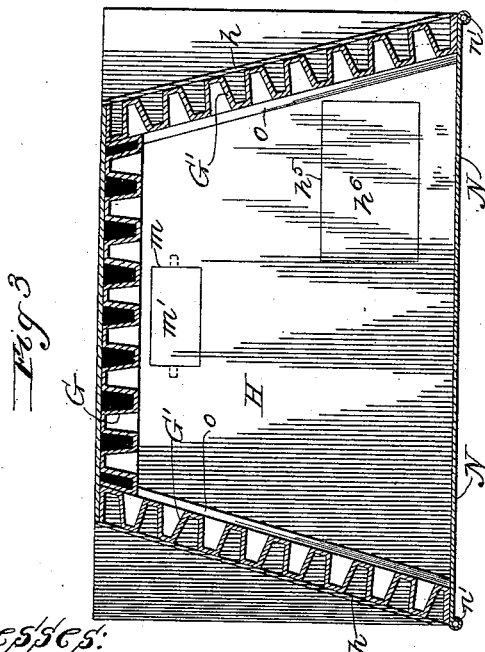
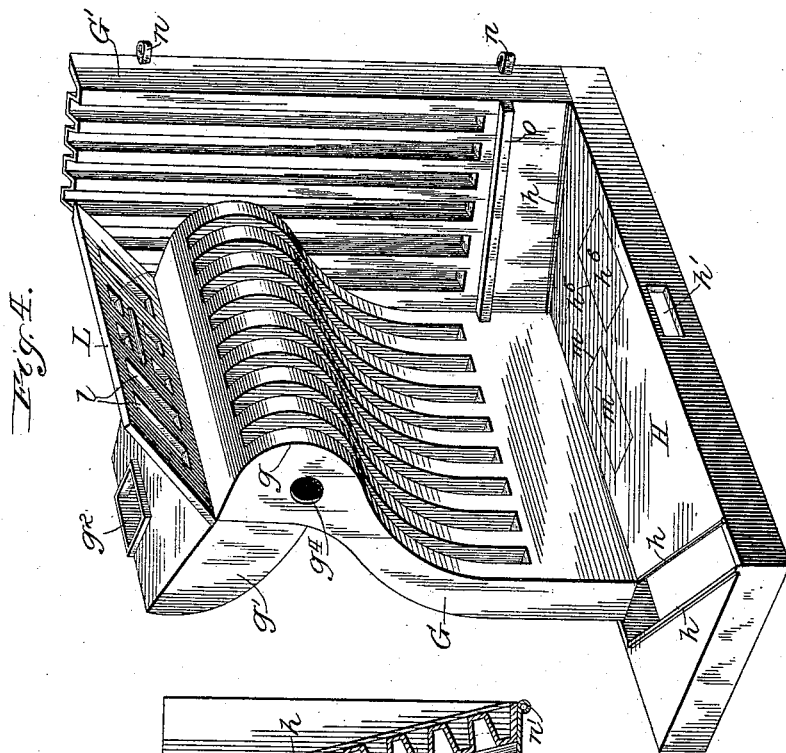
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Wm. M. Rhum.
Wm. T. Henning.

Albert E. Lytle,

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UNITED STATES PATENT OFFICE.

ALBERT E. LYTTLE, OF CHICAGO, ILLINOIS, ASSIGNOR TO SIMEON D. OVITT,
OF SAME PLACE.

HEATER FOR FIREPLACES, &c.

SPECIFICATION forming part of Letters Patent No. 492,732, dated February 28, 1893.

Application filed February 29, 1892. Renewed January 26, 1893. Serial No. 459,930. (No model.)

To all whom it may concern:

Be it known that I, ALBERT E. LYTTLE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Heaters for Fireplaces and other Heating Apparatuses, of which the following is a specification.

My invention relates to certain new and useful improvements in heaters, for heating apparatuses of various kinds, and while it is more especially adapted to be applied to, and within the ordinary fire-places, yet it is applicable with slight changes in form, to stoves, furnaces, and the like, and consists in certain peculiarities of the construction and novel arrangement and operation, of the various parts thereof, as will be hereinafter more fully set forth and specifically claimed.

The objects of my invention are, first, to afford an attachment for fire-places, which shall economize in the amount of fuel consumed, yet will produce from a given amount of fuel, an increased quantity of heat; second, to supply the rooms thus heated with fresh, pure air, rendered more wholesome, and healthful, by the addition of moisture, or a limited amount of steam, and thus to furnish a number of rooms with heat, from the same grate or fire.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe it referring to the accompanying drawings, in which:

Figure 1, is a front view in elevation of the grate or fire-place, with my heater in position, showing the mantel, and a section of the wall of the room with the register open. Fig. 2, is a vertical view, taken on line 2, 2, of Fig. 1. Fig. 3, is a cross or plan sectional view, taken on line 3, 3, of Fig. 1, with the grate and doors removed. And Fig. 4, is a perspective view of the bottom, back, and one of the side walls of my heater detached.

Similar letters refer to like parts throughout the different views of the drawings.

A, represents the exterior wall of a house or building, and B, represents the interior wall thereof. C, is a mantel or ornamental

front piece, within which is placed the opening D, for the fire-place or the grate.

E, is the chimney or smoke flue, within which is placed and connected at its lower portion, to my heating apparatus, the hot air pipe or flue F, which may extend upward, within the smoke flue, to any desired point, and may have openings F', into the interior of the room where the grate is placed, or into the rooms above.

Where the heater is designed to furnish warmth for one room only, the hot air flue F, may be constructed so as to open into the room at a proper point above the top of the mantel as shown, or otherwise if desired, but where there are several rooms to be heated, from and by the same grate or fire, the hot air flue F, is extended and may have suitable pipes or connections (not shown), connected therewith, and opening into the rooms, and provided with registers, or cut-offs *a*, to close said openings, when it is desired to prevent the room or rooms becoming too warm.

G, is a corrugated back, which is preferably made of cast or sheet iron, and of the form shown in Fig. 4, having its lower end open, and its upper front portion formed with an enlargement or forward curve *g*, the top of which is bent backward, and forms the hot air chamber *g'*, into the upper surface of which is provided the opening *g''*, to which is connected the hot air pipe or flue F.

In each side of the corrugated back G, and preferably in the upper and enlarged portion thereof, is formed an opening of any desired size and form *g'''*, which receives the heated air from the jamb or side walls G', which like the rear or back wall G, are constructed with vertical corrugations, but without the extended portion *g*, each of which side walls are provided at a point to correspond with the openings *g'''*, in the sides of the corrugated back G, with openings (not shown), to admit the heated air from their chambers to those of the back.

The jambs or walls G', may be made of any suitable material, but preferably of sheet or cast iron, and have their lower portions open to receive air, as will be presently explained.

On the bottom of the open space or fire-

place D, is placed a hollow base H, of proper size and form, and of any suitable material, to receive and admit therefrom the cold air. The upper surface of this base, is provided with openings h , at suitable points, to connect with the bottom of the jamb or side walls G' , and the bottom of the back G , which are placed and secured over said openings. As will be seen in the drawings, the upper surface of the base H, is about flush with the hearth H' , which is commonly placed level or flush with the floor of the room.

The front of the base H, is provided with one or more openings h' , which connect with a pipe h^2 , and open in the surface of the hearth h' , as shown in Fig. 2, in front of the grate.

The rear side of the base H, is provided with one or more openings h^3 , which have connected thereto, a pipe or pipes h^4 , which extend through the outer wall A, of the building, and receive fresh and pure air there-through.

In the upper surface of the base H, at any suitable point, is provided an opening h^5 , having a cover h^6 , beneath which is placed a water receptacle, or vessel I, which may rest on the bottom of the hollow base H, and have its upper portion or rim, a slight distance from the lower surface of the top of the base H, or may be secured to the underside of the upper surface of the base, and provided with openings, through which the steam or moisture from the water may escape into the air chamber, formed by the hollow base, and be carried from thence through the corrugations of the side or jamb walls G' , and back G , into the hot air flue.

Near the front of the back G , and beneath the grate K, is formed in the base H, an opening m , having a cover m' , through which the ashes falling from the grate, may be dumped into a suitable chute, m^6 leading to the basement or below.

On the upper portion of the enlarged part g , of the back G , is placed preferably in an angular position, and extending from one of the walls G' , to the other, a plate L, having slots l , and provided with a movable door L' , to close said slots when desired, and to regulate the draft of the fire.

As shown in Figs. 1, 3, and 4, the front of the side walls, are provided with eyes n , for the reception and retention of suitable hooks or pintles n' , secured to the doors N, which may be provided with panels of glass, or other suitable transparent material, and are designed to be closed in front of the grate, and thus prevent the escapement of dust, soot or smoke, and present a more attractive appearance, especially when a fire is not required.

By using the hollow base H, it is evident that the air admitted thereto, through the passages h^2 , and h^4 , will be pure and free from dust or ashes, and will absorb moisture from the water in the vessel I, or be impregnated with steam therefrom, when the same is

heated to a sufficient degree to produce steam, and that the thus moistened air, will ascend through the corrugations of the back G , and side walls G' , and be heated therein, and pass therefrom through the hot air flue, and its openings, into the rooms to be heated.

In the drawings it will be seen, that the inner surfaces of the side-walls G' , are provided near their lower portions with a horizontal ledge or bracket o , upon which will rest the sides of the grate K; this construction renders it an easy matter to insert or withdraw the grate, and affords a strong support therefor.

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

1. In heaters for fire-places and the like, the combination of the corrugated back G , and corrugated side or jamb walls G' , having their lower ends open, and united with openings h , in the top of the base H, with the hollow base H, having the passages for the admission of air, and the hot air flue connected to the opening g^2 , substantially as described.

2. In heaters for fire-places and the like, the combination of the corrugated back G , having the opening g^2 , and the side-walls G' , having the openings g^4 , said back and side walls having their lower ends open, and united with openings h , in the top of the base H, with the hollow base H, having air passages and the opening h^3 , provided with a cover h^6 , and the water receptacle I, placed and adapted to discharge steam or moisture within the hollow of the base, and the hot air flue, connected to the opening g^2 , of the back, substantially as set forth.

3. In heaters for fire-places and the like, the combination of the vertically corrugated back G , having the enlargement g , opening g^2 , and the vertically corrugated side-walls G' , having the openings g^4 , said back and side walls having their lower ends open, and united with openings h , in the top of the base H, with the hollow base H, having the passages h^2 , h^4 , for cold air, and the opening h^5 , provided with a cover h^6 , and the water receptacle I, placed and adapted to discharge steam or moisture within the hollow of the base, and the opening m , for the discharge of ashes, having the cover m' , and the hot air flue connected to the opening g^2 , in the back, substantially as described.

4. In heaters for fire-places and the like, the combination of the vertically corrugated back G , having the enlargement g , and the hot air chamber g' , opening g^2 , and the vertically corrugated side-walls G' , having the openings g^4 , said back and side walls having their lower ends open, and united with openings h , in the top of the base H, with the hollow base H, having the air passages h^2 , h^4 , and the opening h^5 , provided with a cover h^6 , and the water receptacle I, placed and adapted to discharge steam or moisture within the hollow of the base, and the opening m , for the dis-

charge of ashes, having the cover m' , and the hot-air flue F, having the inlet F' , provided with damper a , the doors N, secured to the front of the side-walls, substantially as described.

5 5. In heaters for fire-places and the like, the combination of the vertically corrugated back G, having the enlargement or forward curve g , hot-air chamber g' , and the opening g^2 , and
10 the vertically corrugated side-walls G' , having the openings g^4 , and ledges or brackets o , said back and side walls having their lower ends open and united with openings h , in the top of the base H, with the hollow base H,

having the air passages h^2 , h^4 , and the opening h^3 , provided with a cover h^5 , and the water receptacle I, placed and adapted to discharge steam or moisture within the hollow of the base, and the hot-air flue F, connected to the opening g^2 , and having the inlet F' ,
15 provided with damper a , the doors N, having the transparent panels, and secured to the front of the side-walls, substantially as described.

ALBERT E. LYTLE.

Witnesses:

CHAS. C. TILLMAN,
E. A. DUGAN.