

(No Model.)

F. E. BACKUS.
FIREPLACE LINING.

No. 560,017.

Patented May 12, 1896.

Fig. 1

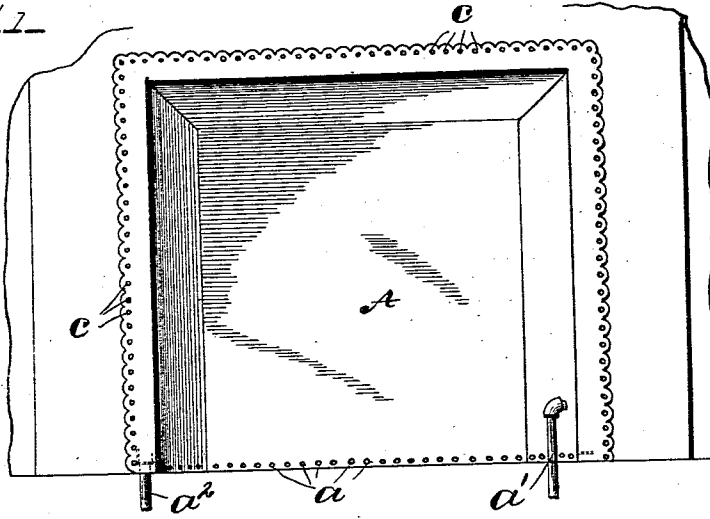


Fig. 2

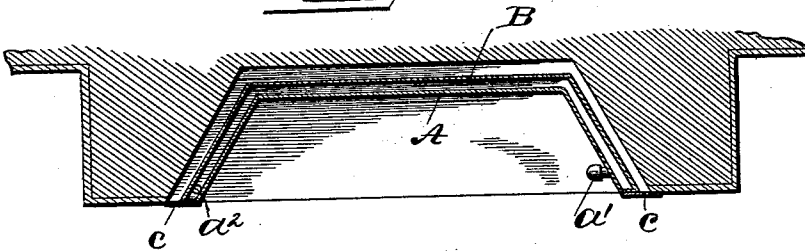
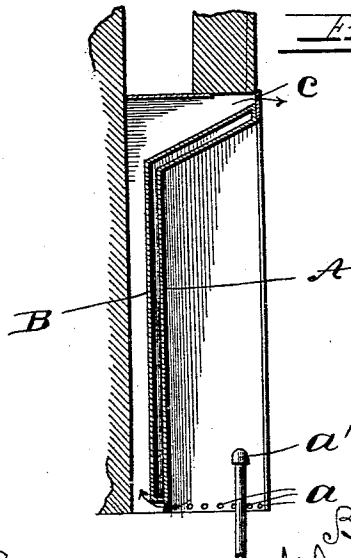


Fig. 3



Witnesses
G. A. Pauberschmidt,
J. D. Knigshorn.

Inventor
Frederick E. Backus
By
Whitaker & Tresselt
Attorneys.

UNITED STATES PATENT OFFICE.

FREDERICK E. BACKUS, OF WILLIAMSPORT, PENNSYLVANIA.

FIREPLACE-LINING.

SPECIFICATION forming part of Letters Patent No. 560,017, dated May 12, 1896.

Application filed February 13, 1895. Serial No. 538,245. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK E. BACKUS, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Fireplace-Linings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to the art of steam-heating and like heating, and more particularly to the means usually employed to distribute or radiate the heat. In the steam-heating systems the steam is utilized by passing it to radiators, which are stationed at convenient places in the rooms to be heated. These radiators are objectionable in that they occupy floor-space and that the wall near which they are placed becomes discolored and blackened by the dust carried by hot air rising from the radiator. I propose to avoid both of these objections. The means for accomplishing this result constitutes my invention.

In the accompanying drawings I have illustrated one form in which I have contemplated embodying my invention, and the said invention is fully disclosed in the following description and claims.

In the drawings referred to, Figure 1 is a front view of a fireplace with my improved radiator connected therewith. Fig. 2 is a horizontal sectional view. Fig. 3 is a vertical section of such fireplace and radiator.

The fireplaces now made are mainly constructed with an iron lining provided with a more or less ornamental surface. I construct a radiator to take the place of this lining of two thicknesses of material a short distance apart, and I provide the hollow chamber thus formed with an inlet-pipe for the introduction of steam or water and an outlet for the water of condensation. When this radiator is placed in the fireplace, the same will present the same appearance as any modern lined fireplace. This furnishes a large amount of heating-surface, and yet occupies none of the available space of the room. The air, heated by contact with the radiator, rises against

the inclined top part of the radiator, which will generally be inclined, as shown in the drawings, and will then be forced outward in a constant current, carrying it well away from the wall of the room.

In the drawings, A and B designate the two walls forming my radiator. These walls may each be an integral plate or each may be composed of four or more plates connected together, as may be preferred or found best by the maker. I construct the radiator of such a size that there will be a small space left between the rear wall of the same and the brick-work of the chimney.

In finishing the fireplaces just described there is usually a strip of metal placed around the fireplace-opening covering and concealing the edges of the lining metal. In my construction this metal strip C covers the whole edge of the radiator and the space between the same and the adjacent walls. This strip against the said space is provided with perforations giving a free passage of air. This strip may be made integral with the lining if so preferred. The outer wall of the radiator is in this instance shown as extending below the other and is provided with openings *a* for admitting air therethrough.

The radiator is provided with the usual inlet *a'* and outlet *a''*, as shown in the drawings, and these connections may be located as found most desirable.

In the use of this device the chimney-opening is closed, and, in addition to the air-currents already described, air will enter through the perforations *a* and through the lower perforations, and after being heated from contact with the inner side of the radiator will issue into the room through the perforations *c* above the radiator and through the higher openings at the sides.

While I have described the device as being intended for use with a steam-circulating system, it is obvious that it may be used with a water or other liquid circulating system.

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

1. A radiator composed of two walls constituting a shallow-chambered structure, which structure has a back and forwardly-extending sides and top forming a heater of dish-

ing shape adapted to be placed in a fireplace-niche, and an inlet and outlet for the heat-circulating medium, substantially as described.

5 2. The combination with a fireplace-radiator of usual form composed of two walls constituting a heater of dishing shape placed within said fireplace, the said structure having provisions for the circulation of air around the radiator and an inlet and an outlet to the

radiator for the heat-circulating medium, substantially as described. 10

In testimony whereof I affix my signature in presence of two witnesses.

FREDERICK E. BACKUS.

Witnesses:

J. J. CROCKER,
LA REINE COTNER.