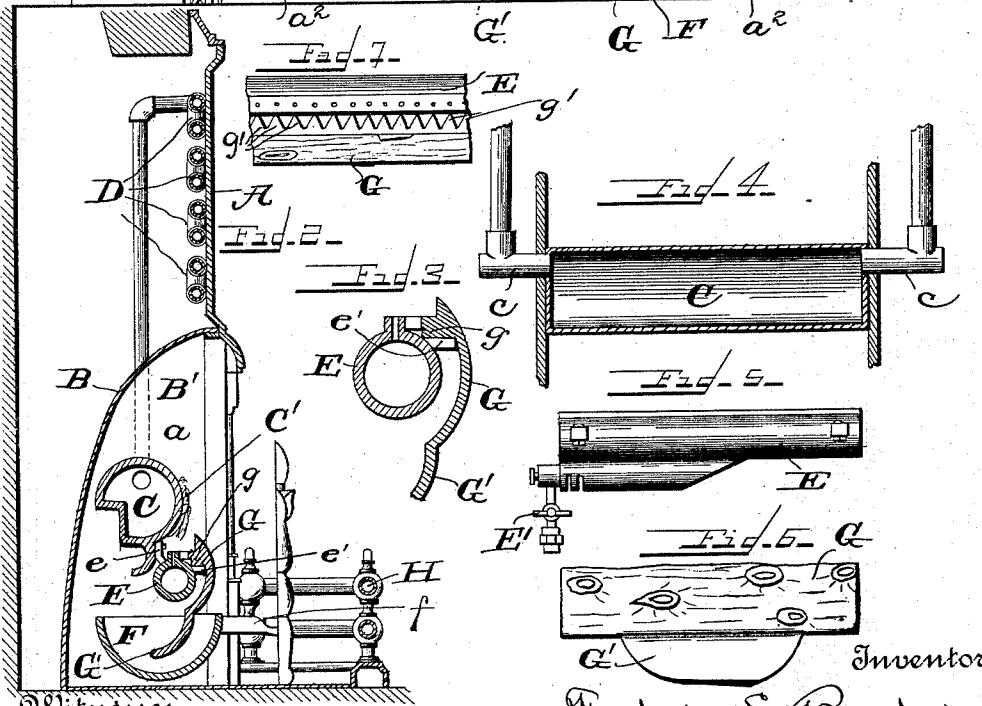
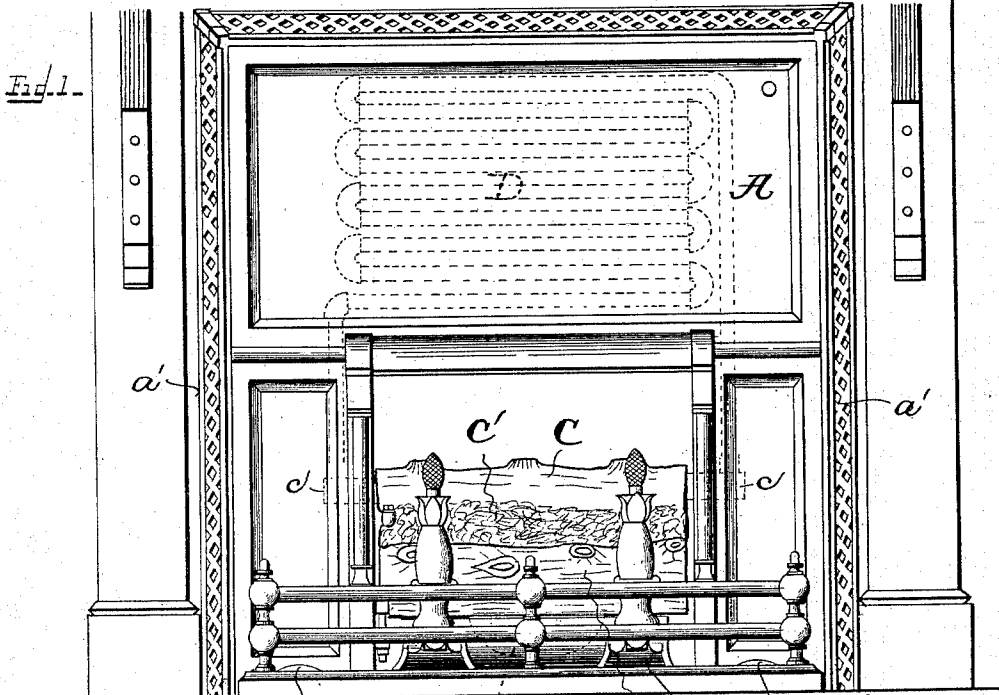


(No Model.)

F. E. BACKUS.  
GAS LOG FIREPLACE.

No. 485,079.

Patented Oct. 25, 1892.



Witnesses  
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# UNITED STATES PATENT OFFICE.

FREDERICK E. BACKUS, OF PHILADELPHIA, PENNSYLVANIA.

## GAS-LOG FIREPLACE.

SPECIFICATION forming part of Letters Patent No. 485,079, dated October 25, 1892.

Application filed March 12, 1892. Serial No. 424,692. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK E. BACKUS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Log Fireplaces; 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 invention is an improvement in gas-log fireplaces; and it consists in the novel features of construction and combination of parts hereinafter described.

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

In the drawings, Figure 1 is a front view of my improved gas-log fireplace. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a detail sectional view of the burner and removable concealing-plate. Fig. 4 is a detail view of the water-log. Fig. 5 is a detail of the gas-log. Fig. 6 is a detail of the removable plate. Fig. 7 is a partial top view of the burner and removable plate.

Referring to the aforesaid drawings, A represents the face-plate or radiating surface of the fireplace, which is formed, preferably, of metal and ornamented in any suitable manner. The face-plate A is provided with an opening or recess *a*, in which is fitted the curved back or deflector B, which forms a recess to receive the gas-log and the devices contacting therewith. This recess is also provided with the side portions B' B', as shown in Fig. 2.

C is a water-reservoir having the configuration of a log of wood and provided with pipes *c c*, extending from each end and connecting with a steam coil or radiator D, supported by the upper part of the face-plate A. The pipes *c c* pass through suitable apertures in the side plates B' B' of the recess and support the water-log in position.

E is the gas log or burner, provided with a row of burner-orifices, and said gas-log is supported from the water-log in any desired manner. In this instance I have shown the

gas-log secured to the water-log by means of bolts or screws *e e*. Beneath the gas-log E is an open water-receptacle F, of metal, which is supported in position in any desired manner. I prefer to provide the said receptacle with forwardly-extending arms *f f*, which are provided at their outer ends with imitation andirons, giving the fireplace a very ornamental appearance.

G is a removable plate having the appearance and configuration of a log and provided at each end with shoulders *g g*, (see Figs. 2 and 3,) adapted to engage and rest upon projections or brackets *e' e'*, secured to or cast integrally with the gas log or burner E and effectually concealing said burner. The said plate G is also provided near its upper edge with a series of inwardly extending-points or projections *g' g'*, (see Fig. 7,) adapted to engage the gas-log adjacent to the jet-orifices, and said plate is also provided at its lower edge with a depending tip or projecting portion *G'*, which when the plate is in operative position extends downward into the water-receptacle F, and as it becomes heated from contact with the hottest part of the gas-log communicates its heat to the water in the said water-receptacle.

The gas-log is provided with suitable means for connecting it with a gas-supply, and is also provided with a cock E', by which the flow of gas can be turned on or off or regulated, as desired.

The face-plate A is provided at its edges with the beveled cornice portions *a' a'*, which are perforated, as shown in Fig. 1, to allow the cold air to enter behind said face-plate at the bottom and as it becomes warm ascend, passing over the radiator-coils, where it becomes highly heated, and passing out into the room through the top apertures. Suitable apertures may also be provided at or near the bottom edge of said plate A, if desired, as indicated at *a<sup>2</sup>* in Fig. 1. To add to the appearance of the fireplace, a fender H may be employed, as shown in the drawings. I also prefer to provide the water-log C with an outer coating of asbestos C', which becomes incandescent when the gas-log is ignited and glows with the appearance of burning wood.

The operation of the device is as follows:

The water-log C and water-receptacle F having been filled with water, the gas is admitted to the gas-log and ignited. The water in the water-log becomes heated and the steam generated passes into the radiator D in rear of the plate A, where it imparts its heat to the pipes and plate A in the usual manner and condenses, thus keeping up the circulation of steam. The heat imparted to the air in the fireplace-recess is deflected out into the room by the curved deflector B. The plate G will become highly heated by its contact with the gas-log adjacent to the burner-orifices and its heat will be communicated to the water-receptacle F beneath, raising the water to a high temperature and vaporizing it, causing the water vapor to mingle with the air of the room, and thus keeping the air moist to a desirable degree. The air entering behind the plate A will be heated, as before described, by passing over the radiator-pipes and will pass out at the top. The plate A will also become heated to a high degree from the radiator-pipes and from its nearness to the gas-log, and it will radiate its heat to the surrounding air. It will be noticed that by reason of the perforations *a' a'* the plate A is enabled to give off its heat on both sides, thus giving a great radiating surface and enabling all the heat to be utilized.

It will be understood that my improved device is designed to be placed in a chimney-niche with the cornice portions of the plate A in engagement with the chimney-face. The chimney or draft flue will therefore be closed up to prevent the hot air from being drawn up the flue; but my device may be used as well where there is no chimney-flue, by forming a suitable recess to receive the rearwardly-extending deflector or back B.

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

1. The combination, with the supported wa-

ter-log, of a burner supported thereby, a water-receptacle supported beneath said burner, and a portion depending from said burner into said water-receptacle for conducting heat to the water contained therein, substantially as described. 45

2. The combination, with the supported water-log, of the burner supported from said water-log and having a series of burner-orifices, a water-receptacle supported beneath said burner, and a removable plate having portions adapted to engage said burner adjacent to said burner-orifices, said plate having a depending portion extending into said water-receptacle, substantially as described. 50 55

3. The combination, with the supported water-log, of the burner supported therefrom and provided with brackets or projections, a water-receptacle supported beneath said burner, and a removable plate supported by said burner, having portions adapted to engage said brackets and a depending portion extending into said water-receptacle, said plate being adapted to conceal said burner and conduct heat to said water-receptacle, substantially as described. 60 65

4. The combination, with a radiator adapted to be placed within a chimney-niche and having a face-plate provided with a fireplace-recess, said plate having portions adapted to engage the chimney-breast and close said niche, of a water-log connected with said radiator and a heater therefor separated from said radiator by a deflector, said plate being provided with apertures for the admission of air to said radiator in rear of said face-plate and deflector, substantially as described. 70 75 80

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

FREDERICK E. BACKUS.

Witnesses:

CLARENCE E. SPROUT,  
G. C. CALVERT.