2 Sheets—Sheet 1.

F. A. SAGE.

Fire-Place.

No. 219,530. Patented Sept. 9, 1879.

FIG. 1

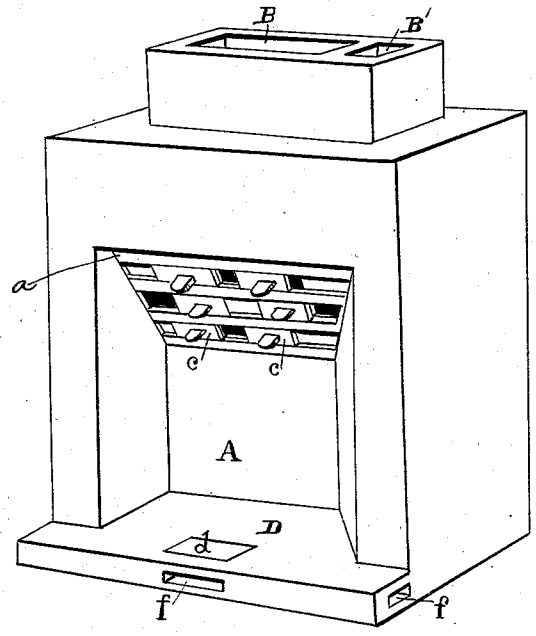


FIG. 2.

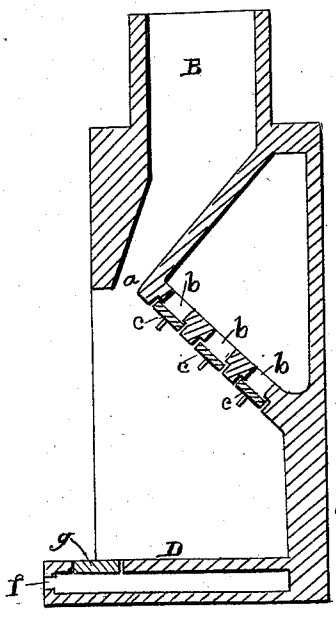
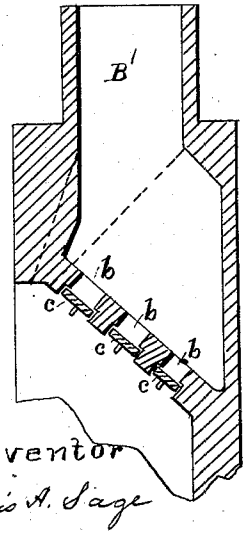


FIG. 3.



Witnesses

Frank A. Brooks

S. A. Towne

Inventor

Francis A. Sage

By Dewey & Co.

attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

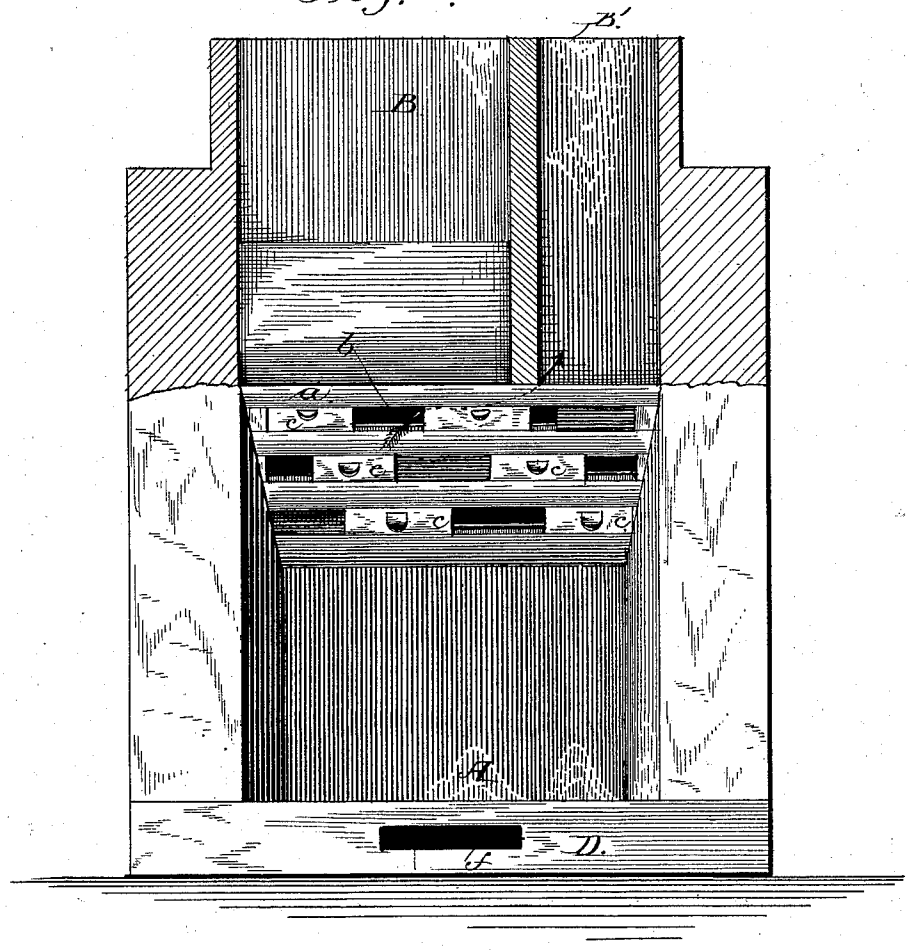
2 Sheets—Sheet 2.

F. A. SAGE.

Fire-Place.

No. 219,530. Patented Sept. 9, 1879.

Fig. 4.



Witnesses:
J. Walter Fowler.
Richd. K. Evans.

Inventor:
Francis A. Sage
by A. N. Evans & Co
attys

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FRANCIS A. SAGE, OF ST. HELENA, CALIFORNIA.

IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. **219,530**, dated September 9, 1879; application filed June 9, 1879.

To all whom it may concern:

Be it known that I, FRANCIS A. SAGE, of St. Helena, county of Napa, and State of California, have invented an Improved Fire-Place; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an improved chimney or fire-place; and my improvements consist in providing a supplemental flue built beside the main flue, the supplemental flue being connected with the back or arch of the fire-place by a series of openings or slots, which may be closed by dampers. An increased draft for any part of the fire may be maintained by removing the dampers from any of the openings, so that the products of combustion may pass directly to the supplemental flue in case there is not a proper draft through the main flue. On removing or sliding any one of the dampers so as to uncover any one of the openings or slots, a current of air is immediately carried through the fire opposite the location of the opening, and the draft thereby induced assists combustion at that point.

It further consists in combining with a chimney or fire-place constructed as above a ventilating-opening in the hearth, connected by pipes with the air outside the house, so that fresh air may be delivered under the fire, if desired, and the room be also better ventilated, as is more fully described in the accompanying drawings, in which—

Figure 1 is a perspective view. Fig. 2 is a vertical section through the chimney B. Fig. 3 is a vertical section through the supplemental flue B′.

Let A represent the fire-place, which may be contructed for the combustion of wood, coal, or any desirable fuel. At the upper edge of this fire-place is the usual opening *a*, connecting with the chimney or main flue B. This opening, however, I do not extend or continue all the width of the fire-place, but only part way, as shown, for the purpose hereinafter described. A supplemental flue, B′, is constructed on the side of the main flue.

At the upper back part of the fire-place, where the arch is usually formed, is cut a series of slots, *b b*, in two, three, or more rows, said slots connecting with the supplemental flue B′, and forming means of communication from the fire-place to said flue. Slides or dampers *c* move in grooves formed in the back plate or arch, so as to control the movement of air through the slots.

The upper slot is made, for instance, in the center of the arch, the next two slots at the sides and closed at the center, and the lower slot in the center again, each of the series of slots being controlled by the dampers, so that they may be closed or opened at will. This back part of the fire-place is preferably made of wrought or cast iron.

When the fire is made, in case a proper draft cannot be obtained through the flue *a*, any of the dampers in the arch may be thrown back and a draft obtained through the supplemental flue, which, being above and at the back side of the fire-place, forms a more direct discharge for the draft, thus increasing or giving it greater rapidity.

By opening the lower sets of dampers more draft may be given to the back part of the fire, as there will then be an opening immediately over the back part.

By opening the central line of flues an increased draft may be given to the sides of the fire, as the slots or openings are on the sides, and more air will then pass up them. With the upper slot the front portion of the fire gains increased energy by there being readier means of escape for the rising gases and products of combustion. All these openings are controlled by the dampers separately, and one or more may be opened or closed at the same time.

It is well known that very frequently in small or close rooms the fire receives a smaller quantity of pure air than it should to burn properly; and again, as the air in a room becomes heated it draws into the open fire-place over or above the fire, and fails to supply the proper amount of fresh oxygen under the burning fuel. To obviate this defect and furnish a continuous supply of fresh pure air under the burning fuel, I form a draft-opening, *d*, on the hearth D, in the center of the fire-place. This opening connects with pipes, tubes, or leaders *f* on the sides or front of the fire-place, which, in turn, lead to the outside of the room or house into the outer air, so that a continuous supply of fresh air may pass through them.

The central opening, *d*, has a lid or cover, *g*, forming part of the hearth, which may be removed at any time. When this is open the draft of the fire will draw a current of pure fresh air in through the tubes or pipes leading outside, and this air pours through the opening into the body of the fire, furnishing an increased supply of oxygen and a consequent better draft. This opening will also make better ventilation in the room by drawing the bad air into the fire. In this way the draft of the fire is under perfect control, and it will be impossible for the smoke and products of combustion to come back into the room.

The supplemental flue may be used or not, as desired, the openings into it being controlled by the dampers, as shown.

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

1. In combination with the fire-place A, provided with a draft-opening into the chamber B, the supplemental flue B′, connecting with said fire-place by means of the openings or slots *b*, with their dampers *c*, whereby an increased draft may be maintained and any particular portion of the fire be affected, substantially as and for the purpose herein described.

2. The fire-place A, with its opening *a* to the main flue B, and provided with the supplemental flue B′, slots *b*, and dampers *c*, in combination with the hearth D, having a central opening, *d*, connected by means of tubes or pipes *f* with the outer air, whereby the indraft and out-draft of the fire may be regulated, substantially as herein described.

In witnesss whereof I have hereunto set my hand.

FRANCIS A. SAGE.

Witnesses:

GEO. H. STRONG,

S. H. NOURSE.