

G. W. CUMMINGS.
Fire-Place Backs.

No. 138,135.

Patented April 22, 1873.

Fig. 1.

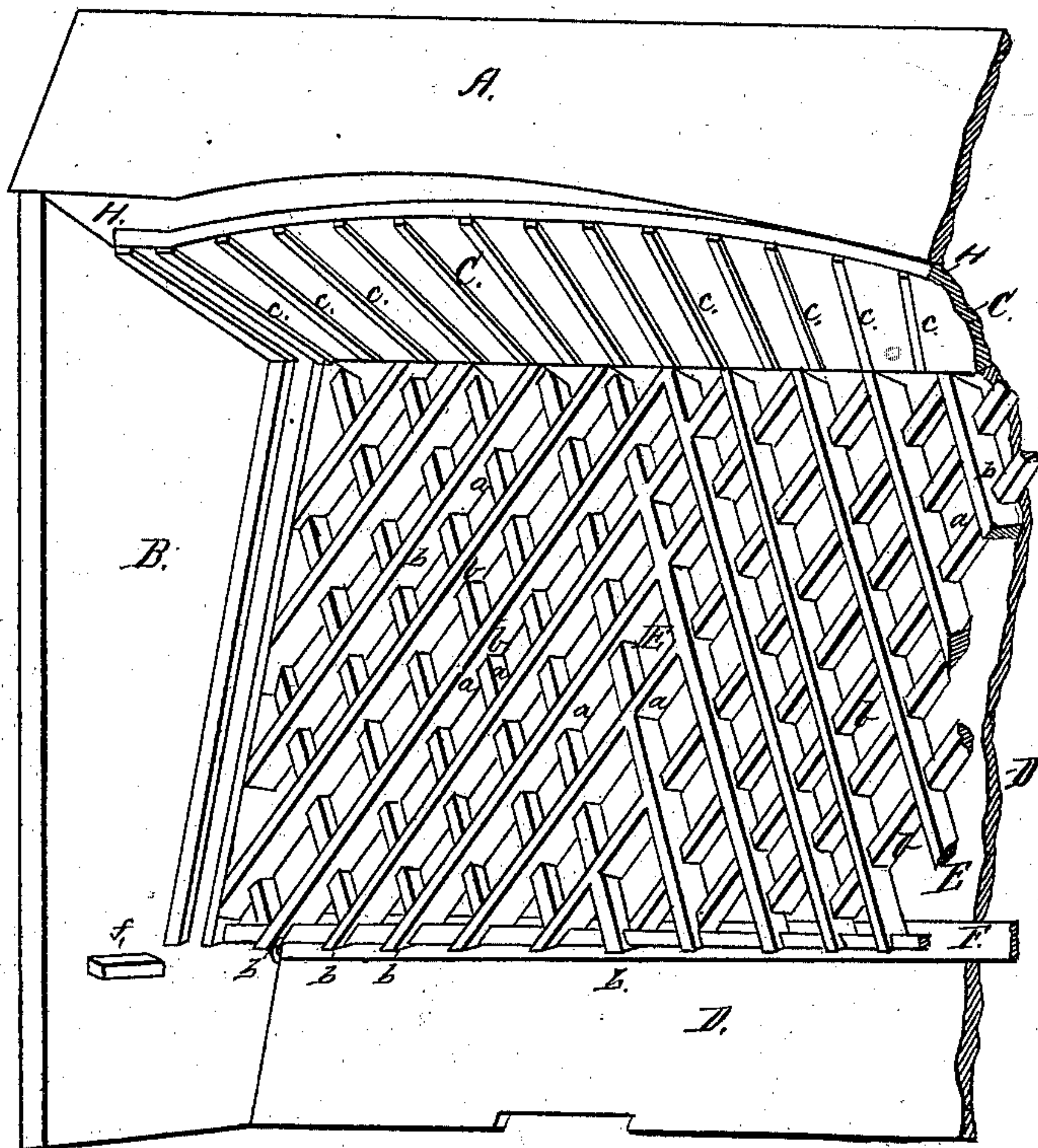
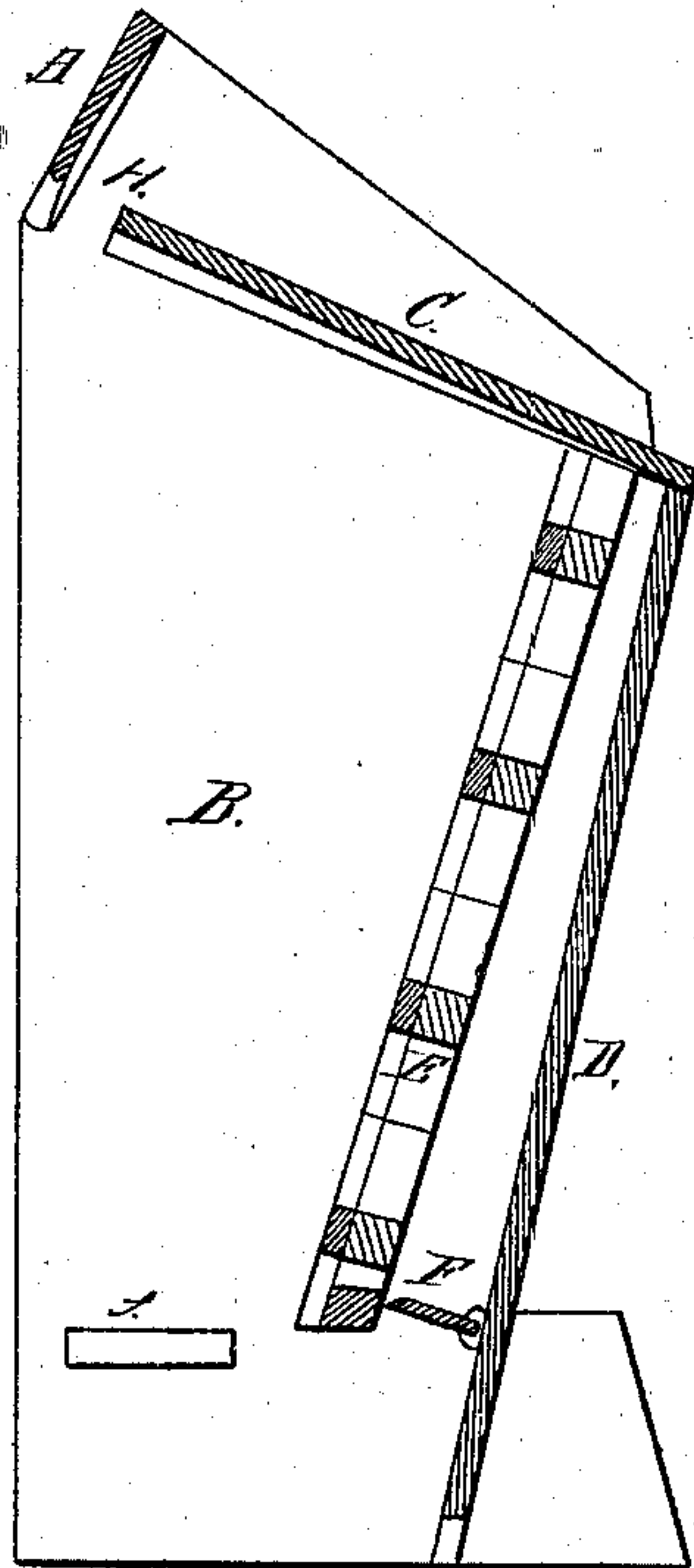


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE W. CUMMINGS, OF FRANKLIN, PENNSYLVANIA.

IMPROVEMENT IN FIRE-PLACE BACKS.

Specification forming part of Letters Patent No. **138,135**, dated April 22, 1873; application filed April 13, 1872.

To all whom it may concern:

Be it known that I, GEORGE W. CUMMINGS, of Franklin, in the county of Venango and State of Pennsylvania, have invented a new and Improved Fire-Grate; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing and the letters of reference marked thereon.

The nature of my invention consists in providing a fire-grate so constructed that the air may enter the fire from the rear as well as from the front, and also so constructed that the draft may be regulated by dampers.

The accompanying drawing represents my invention as follows: The view shown is a perspective view of a fire-place embodying my invention. One end of this view is broken away so as to show more fully the construction of my invention. In this view also the ordinary grate is left out, as it would obstruct the view.

The parts shown in the drawing are as follows: A is the top face-plate; B, the jamb; C, the top plate; D, the back; E, the false back; and F, the damper. The parts A, B, and D are constructed as in ordinary fire-grates. The top plate C is of iron or tile, and is made crowning, and is ribbed transversely by the ribs *c c c*, &c. This plate is so placed as to bring the flue H in front of the fire-place. This is done for the purpose of throwing the heat out into the room. The top plate, C, is made crowning, as shown, for deflecting the heat, and is ribbed, as shown, to add strength and also radiating-surface. The false back E is one of the chief features of my invention. It is made of either iron or tile, and has the appearance of being lattice-work, *a a a*, &c., being the cross-bars, forming the lattice-work. These are all cast or molded solidly together. The whole back may be of one piece or in sections. Certain of the bars *a a a*, &c., are provided with ribs *b b b*, &c. These rise above the general lattice-work, and are for the purpose of holding the coal out from the lattice-work, and for the purpose of conducting the ashes down the side of the false back E. This false or lattice-work back is so set that there is an air-space between it and the back D. This air-space may

be closed by the damper F; but when the damper is open the air enters the fire largely from the back—that is, it passes up under the outer or ordinary grate, and between the false back E and main back D, when it becomes heated somewhat before passing through the lattice-work into the fire, which adds to the heating-power of the grate.

The flue H being in the position named (the reception of the air into the fire being from the rear) is of importance, for when the damper F is closed the whole draft of the chimney is from the front of the fire and not through it at all; hence the amount of combustion can be regulated; and it will also be seen that if the damper F is closed when the ashes are being raked down the front draft described will carry all flying particles up the chimney and not allow them to enter the room; and the course of the draft when the fire is burning being from the rear toward the front and through the whole fire, and thence into the flue H, which is at the front, as described, it is very evident that far more heat will be thrown into the room than by an ordinary back flue which draws all the heat within reach up the chimney. The position of the flue H is of importance again, as it affords a construction of the fire-place which is of vast importance.

I refer to the top plate C, which is a deflector of heat. With a back flue no such construction can be secured. The false back E is of such a construction that it cannot become clogged up, at least so but what it can be easily opened with the end of a sharp poker.

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

1. The inclined fire-back E formed of the bars *b* and *a*, the front surface of the former which projects beyond that of the latter, substantially as shown and described.

2. The concave plate C provided with the ribs *c* in combination with back E having the bars *a b*, arranged substantially as shown and described.

GEORGE W. CUMMINGS.

Witnesses:

JOSEPH CARR,
A. FORINGER.