

R. THOMPSON.
FIRE-PLACE.

No. 171,067.

Patented Dec. 14, 1875.

Fig: 1.

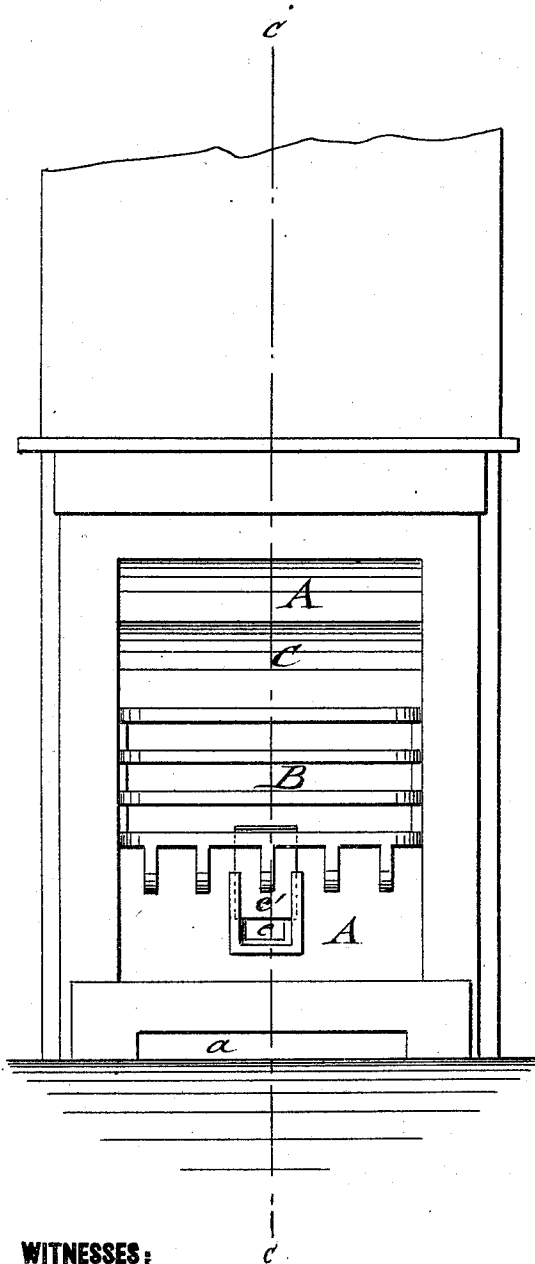
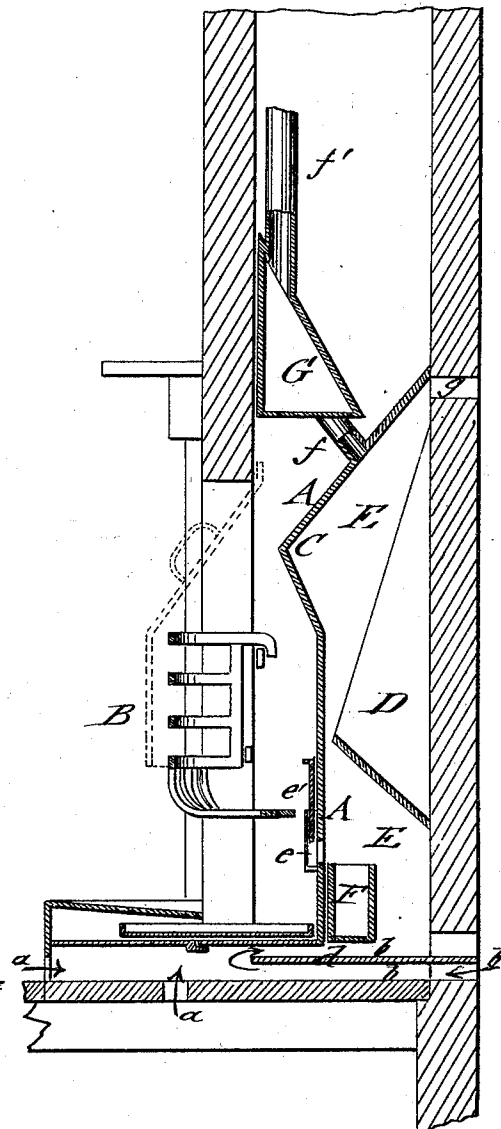


Fig: 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT THOMPSON, OF STAPLETON, NEW YORK.

IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. **171,067**, dated December 14, 1875; application filed October 29, 1875.

To all whom it may concern:

Be it known that I, ROBERT THOMPSON, of Stapleton, in the county of Richmond and State of New York, have invented a new and Improved Fire-Place, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a front view, and Fig. 2 a vertical transverse section on the line *c c*, Fig. 1, of my improved fire-place.

Similar letters of reference indicate corresponding parts.

The object of my invention is to construct an improved fire-place, by which the heat, which generally escapes through the chimney, may be utilized in a more perfect manner, and a pure, moist, and warm air supplied to the rooms above or on the same floor.

The invention consists in combining a chamber, having air inlets and outlets, with an angular shelf arranged at the back thereof, as hereinafter more fully described.

In the drawing, A represents a metallic fire wall or plate, which extends vertically from the bottom plate at some distance from the floor to a point at a level with or above the grate B, that is attached to the side walls of the fire-place, and provided with ash-pan, fender, &c., in the customary manner. The fire-wall A is formed above the grate B with an angular projection, C, that extends forward, and slants then backward in upward direction to the main wall. At the rear of the fire-wall A, back of the grate, may be arranged alternating shelves, for conducting the air along the same. A forward-projecting angular part or shelf, D, of the wall, made of bricks, or metal plates, forms, in connection with the front wall A, an air-chamber, E, which is supplied with cold air by suitable air-flues from the outside, through the floor or from the inside of the room, as shown in Fig. 2. The apex of the angular rear wall D is below the angle of the fire-wall, and approaches close to the same, so as to form a narrow air-flue, that connects the lower part with the upper part of the air-chamber, and throws, by the lower inclined part of the shelf D, the cold air directly on the heated fire-plate.

If the air-flues *a a* below the fender are not employed, the air may be drawn in through

a double flue, *b*, formed by a horizontal partition, *d*, as indicated by arrows in Fig. 2.

The air-flues supply the air-chamber E, and also the air-chambers, which are arranged at the sides of the fire-place, if such may be desired.

A water pan or receptacle, F, is placed back of the front wall A, into the lower part of the air-chamber E, for the purpose of supplying the required amount of moisture by evaporation. The water-receptacle F is filled with water from time to time through a recess, *e*, of the fire-wall, and a sliding or swinging gate, *e'*, for closing the same.

The slanting upper part of fire-wall A serves for the purpose of preventing the soot or ashes from settling thereon, so that no non-conducting layer is formed which would diminish the heating capacity of the fire-wall.

The slanting top part of fire-wall A is connected, by tubes *f*, with a collecting-drum, G, above the same, which communicates again by tubes *f'* passing up through the chimney, with the room above, or by tubes passing through the front or side walls, to the room already heated by the grate-fire.

A flue, Z, of the rear wall, below the slanting plate of the fire-wall, conducts the heated air to the adjoining room or to the outside, whenever the air should not be required for heating purposes. The drum G may be dispensed with, and the conducting-tubes placed in direct connection with the rooms to be heated.

The air-chamber supplies a pure, moistened, and heated air to the rooms on the same or next floor, and produces thereby, by the use of the same amount of fuel, a more perfect utilization of the products of combustion.

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

The combination of the angular shelf D and air-chamber E, the two respectively arranged in relation to each other, in a fire-place, as and for the purpose set forth.

ROBERT THOMPSON.

Witnesses:

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