

M. S. WATKINS.

Improvement in Fireplace Grates.

No. 120,917.

Patented Nov. 14, 1871.

Fig. 1.

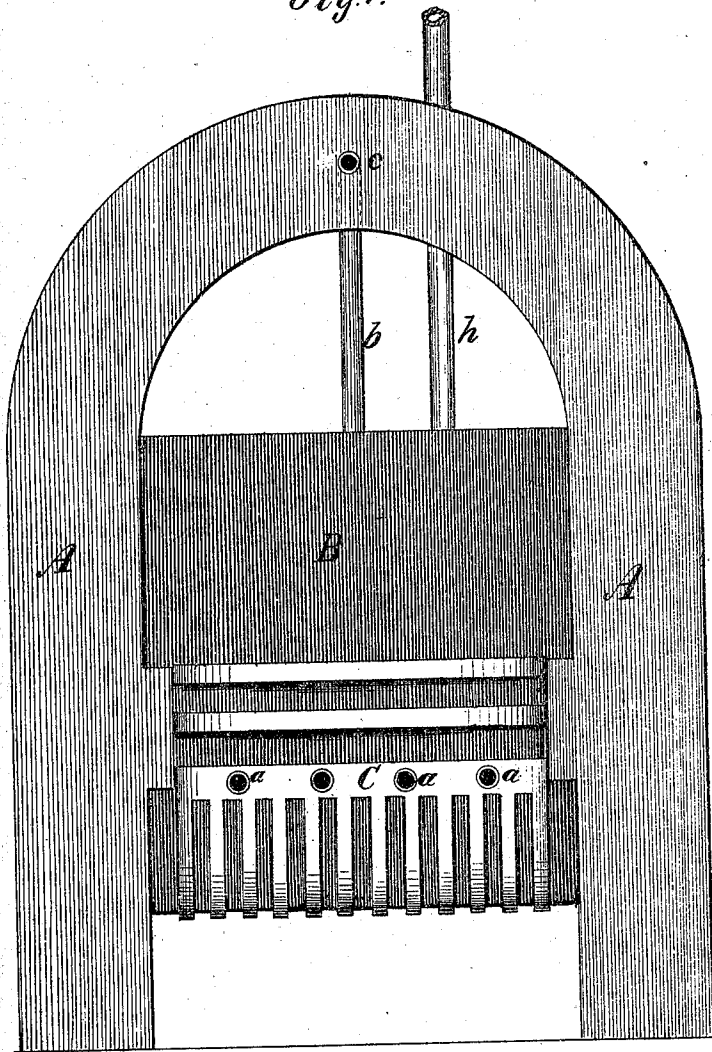
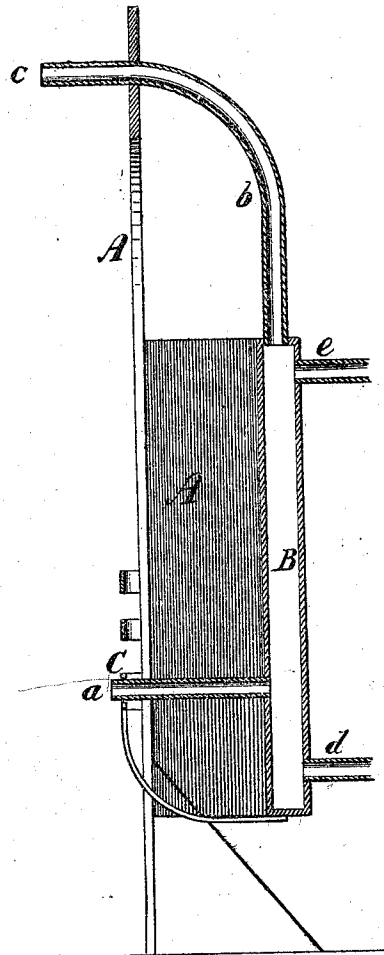


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

MILES S. WATKINS, OF MEMPHIS, TENNESSEE.

IMPROVEMENT IN FIRE-PLACE GRATES.

Specification forming part of Letters Patent No. 120,917, dated November 14, 1871.

To all whom it may concern:

Be it known that I, MILES S. WATKINS, of Memphis, in the county of Shelby and State of Tennessee, have invented a certain Improvement in Fire-Places and Coal-Grates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing making a part of this specification, in which—

Figure 1 represents the front view of fire-place and coal-grate.

A represents a cast-iron frame of any usual form. B represents a cast-iron box or air-chamber in the back of the fire-place, made air-tight, with four holes in it at the elevation of the cross-bar C. C represents the lower cross-bar of a coal-grate, made broader than usual, with four holes in it corresponding with the four holes in the air-chamber B. *a a a a* represent four cast-iron tubes, passing through the four holes in the cross-bar C and extending back and fastened into the four holes in the air-chamber B. *b* represents another cast-iron tube, which is fastened at its lower extremity into a hole in the top of the air-chamber B and extends thence up the fire-place to a point opposite *c*, where it is bent, and passes through the top of the cast-iron frame A into the apartment or room to be heated. *h* represents another cast-iron tube, fastened into another hole in the top of the air-chamber B, to which may be attached a sheet-iron tube, and extended up the chimney into an apartment or room above.

Fig. 2 represents a sectional side view of fire-place and coal-grate.

A, B, and C represent, respectively, as in Fig. 1, the cast-iron frame, the air-chamber in the back of the fire-place, and the lower cross-bar of the coal-grate. *a* represents, as in Fig. 1, one of the cast-iron tubes which pass through the cross-bar C and are fastened into the air-chamber B. *b* represents, as in Fig. 1, the cast-iron tube which is fastened at its lower extremity into the top of the air-chamber B, and extends thence up the fire-place and passes through the cast-iron frame A into the room to be heated. *d* represents a cast-iron tube fastened into a hole in the air-chamber B on its opposite side, at or near the bottom. *e* represents a cast-iron tube fastened into a hole in the air-chamber B on its opposite side, at or near the top. These two

tubes *d* and *e* may be dispensed with, except where the fire-place is between two rooms and it is desired to heat both rooms by the same fire. The sheet-iron tube to be attached to the cast-iron tube *h* may also be dispensed with when it is not desired to heat a room above. The cast-iron tubes represented by *a* may be any number desired. To the ends of the tubes *b* and *e*, and also to the end of the sheet-iron tube to be fastened to the tube *h* and extended into a room above, are to be attached one of the contrivances now in use for that purpose to regulate or entirely cut off the passage of air through these tubes.

The advantages which I claim for my invention over the fire-places and coal-grates now in use are, first, the air in the tubes *a* and in the air-chamber B, becoming heated, rises and passes through the tube *b* back into the room to be heated, thus causing a continuous circulation of heated air in the room, by which every portion of it is heated to a uniform temperature; second, when the fire-place is between two rooms the tubes *d* and *e* may be extended into the adjoining room, and by closing the tube *b* and opening the tube *e* a circulation of heated air may be kept up in that room, and thus both rooms be heated by the same fire; also, in the same manner, the room above may be heated; third, the temperature of the different rooms may be regulated as desired by the contrivances on the tubes through which the heated air passes; and fourth, by the continuous circulation of heated air in the rooms they may be heated with much less fuel than by radiation alone.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

The tubes passing through the cross-bar of the grate and extending back into the air-chamber in the back of the fire-place, the air-chamber and the tubes passing thence into different apartments, constructed substantially as described, and for the purposes set forth.

In testimony whereof I have subscribed my name to this specification in the presence of two witnesses.

M. S. WATKINS.

Witnesses:

JAMES W. AVERY,
LES RHODES.

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