M. HAUGHEY.

Fire-Place.

No. 130,427. Patented Aug. 13, 1872.

Fig. 1.

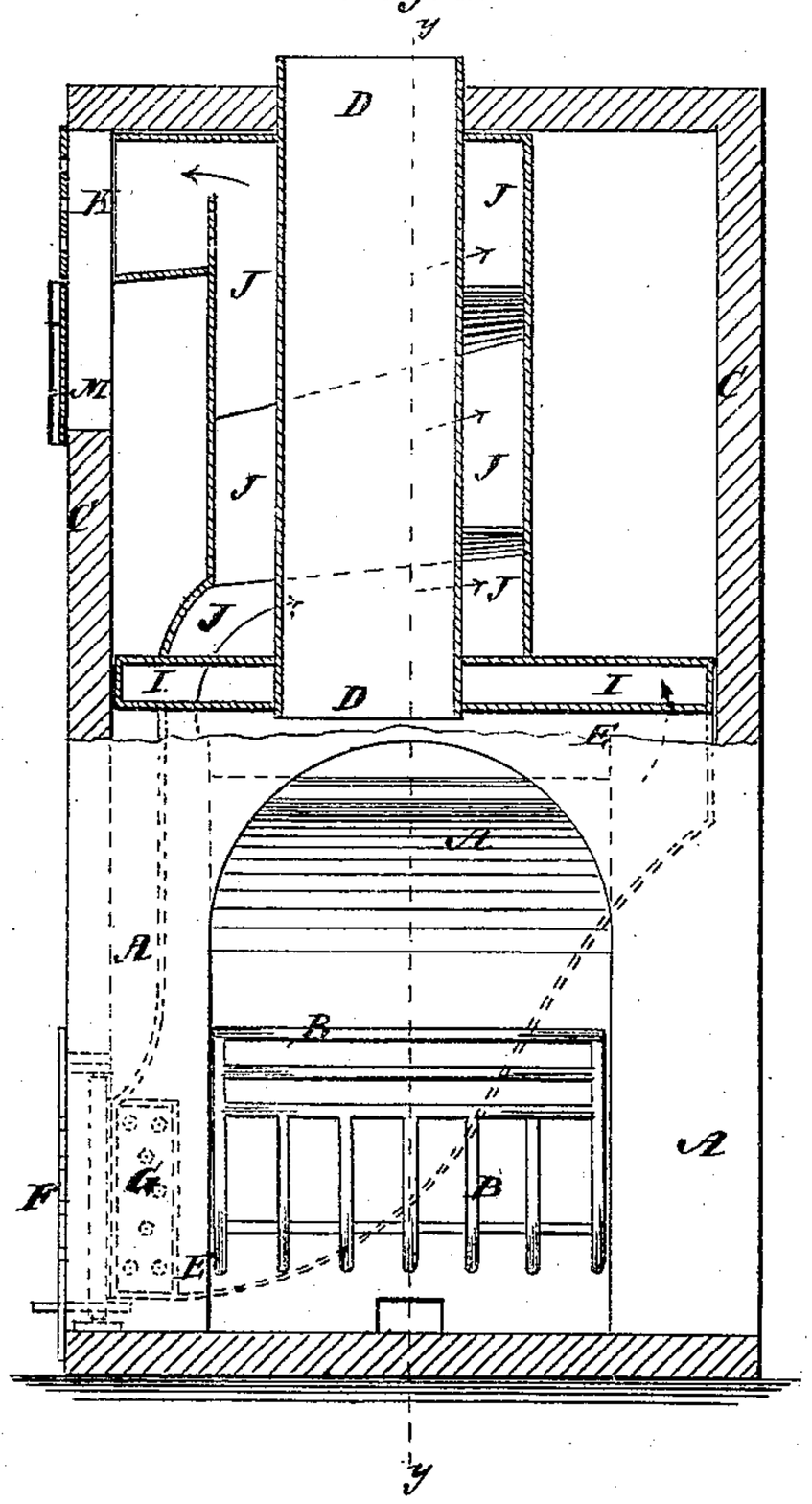


Fig. 2.

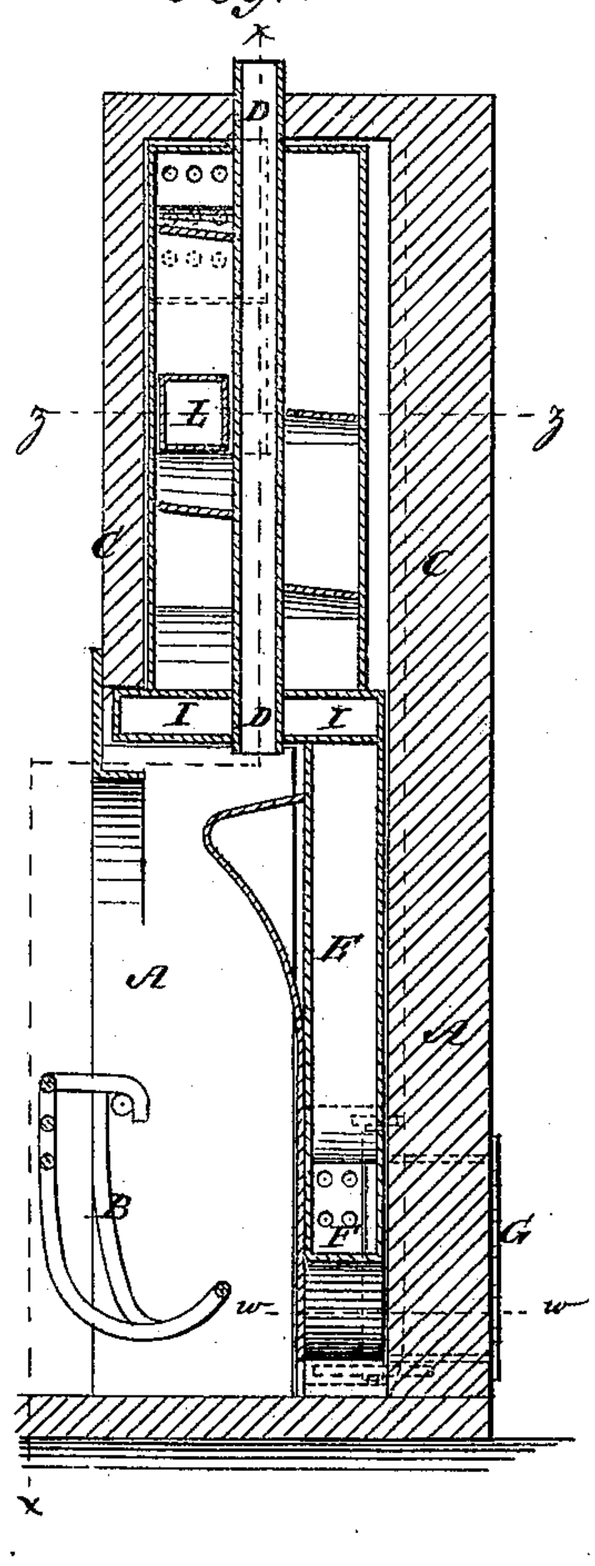


Fig. 3.

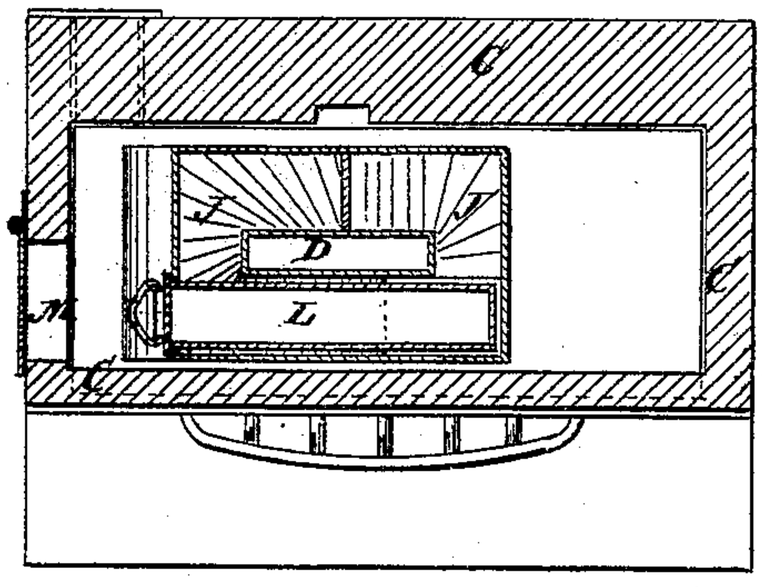
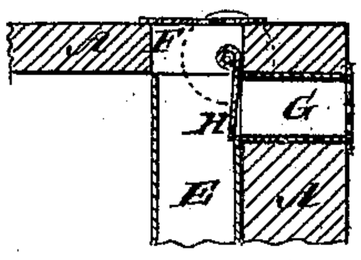


Fig. 4.



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UNITED STATES PATENT OFFICE.

MICHAEL HAUGHEY, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. **130,427**, dated August 13, 1872.

Specification describing a new and useful Improvement in Fire-Place Heater, invented by MICHAEL HAUGHEY, of St. Louis, in the county of St. Louis and State of Missouri.

In the accompanying drawing, Figure 1 is a front view of my improved heater shown as applied to a fire-place and partly in section through the line *x x*, Fig. 2. Fig. 2 is a detail vertical section of the same taken through the line *y y*, Fig. 1. Fig. 3 is a detail horizontal section of the same taken through the line *z z*, Fig. 2. Fig. 4 is a detail section taken through the line *w w*, Fig. 2.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved means for utilizing the heat wasted in heating a room with a grate, and which usually passes off through the chimney, so as to heat the room quicker and more thoroughly, and at the same time economize fuel; and it consists in the construction and combination of the various parts of the device, as hereinafter more fully described.

A represents the fire-place, which is provided with a grate, B, in the ordinary manner. C is the breast or lower part of the chimney, through which the flue D passes from the fire-place. E is an air-chamber, placed or formed in the brick-work at the back of the fire-place A, so that the air in it may be heated by the fire through said back. From the lower part of the air-chamber E an opening, F, leads out through the brick-work into the room to be heated; and another opening, G, leads out through the back of the brick-work into another room, or into the open air. The openings F G should be provided with registers or with a damper, H, so arranged that it may be turned to close either opening, as may be desired, so that the air of the room may be heated by allowing it to pass through the heater, and be again discharged into the room, or air may be admitted into the heater from without and discharged into the room, as circumstances may require. From the air-chamber E the air passes up into the horizontal air-chamber I, which surrounds the lower part of the flue D, and is directly over the fire, so that the blaze and the heated products of combustion may strike squarely against it as they pass to the flue D. From the air-chamber I the air passes into the spiral air-chamber J, which surrounds the flue D, and from the upper part of which the heated air passes into the room through an opening, K, which should be closed with a register. L is a water-trough, which is inserted through an opening, M, a little below the opening K, into the spiral air-chamber J, and which is made of such a size as not to obstruct the passage of the air through said chamber.

The water in the trough L is designed to moisten the air, and at the same time to absorb the carbonic-acid gas that may be in the air drawn from the room to be heated.

The device may be made of ordinary sheet-iron, Russia-iron, or double-plate iron, as may be desired.

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

1. The air-chamber E, horizontal air-chamber I, and spiral air-chamber J, constructed and arranged substantially as herein shown and described, to adapt them to be applied to a fire-place, A, and flue D, as and for the purposes set forth.

2. The combination of a water-trough, L, with the fire-place heater E I J, substantially as herein shown and described, and for the purposes set forth.

MICHAEL HAUGHEY.

Witnesses:

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