

M. FITZPATRICK.

Fire-Places.

No. 165,440.

Patented July 13, 1875.

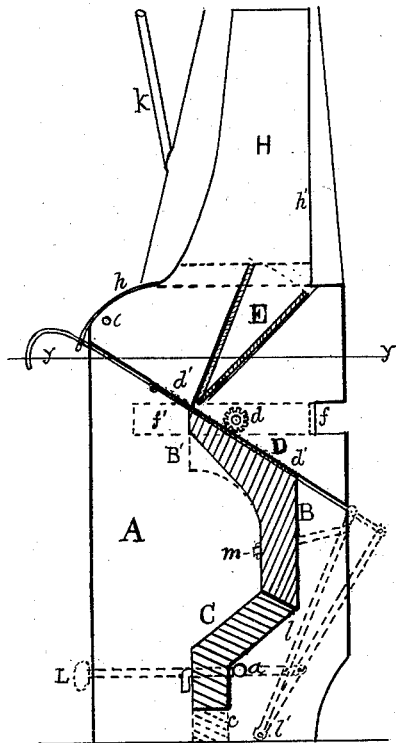


Fig. 1.

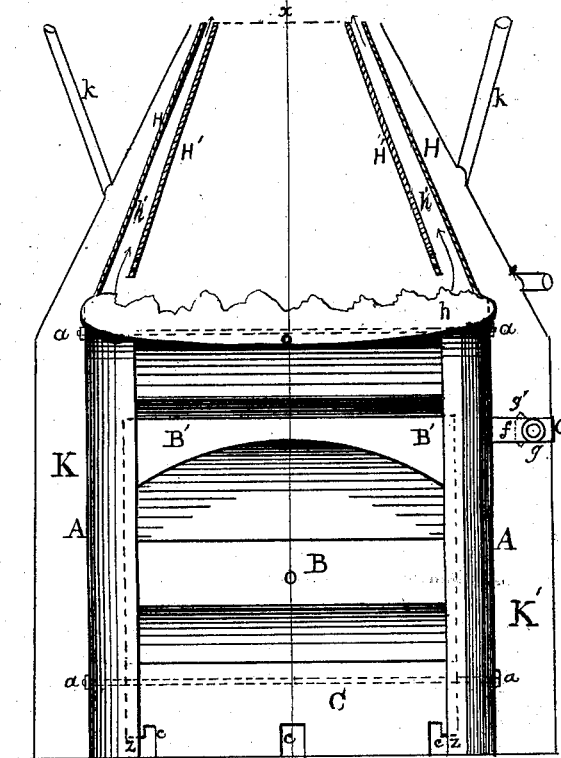


Fig. 2.

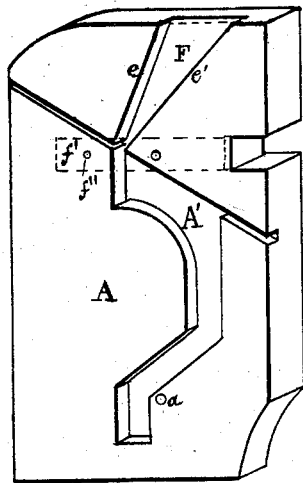


Fig. 4.

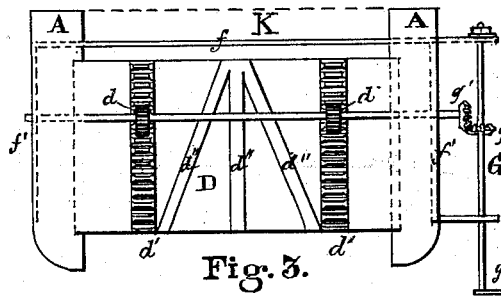


Fig. 5.

Attest
C. M. Cornell
J. A. Dutton

Inventor
Michael Fitzpatrick
Per Blanchard & Simpleton
 Attorneys

UNITED STATES PATENT OFFICE

MICHAEL FITZPATRICK, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WM. CASSIDY, OF SAME PLACE.

IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. 165,410, dated July 13, 1875; application filed December 22, 1874.

To all whom it may concern :

Be it known that I, MICHAEL FITZPATRICK, of the city of St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Fire-Places and Open Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification:

Figure 1 is a vertical section on line *xx* of Fig. 2. Fig. 2 is a front elevation, partly in section. Fig. 3 is a top view of the fire-place with sheet-iron hood removed. Fig. 4 is a perspective view of one side piece or jamb.

This invention relates to improvements upon the patent granted to me May 12, 1874, No. 150,680, for a fire-place grate, as will be hereinafter fully described.

A A are the two side jambs, in which—opposite to each other and being right and left—are the recesses into which the upright back and the foot pieces are to be inserted, which are represented by B and C, one of them being in perspective in Fig. 4. D is a damper-plate, which has on its upper side near each end cogged racks *d' d'* and projecting stiffening-braces *d'' d'' d''*.

E is another damper-plate above D, as seen in Fig. 1, and which vibrates loosely in its recess F, which is V-shaped, and in Fig. 1 is seen in two positions, open and closed; its purpose is to narrow the chimney-flue partially when required. G is a small shaft placed on one side, and supported by the ends of a clamp-frame, *f f'*, which holds the sides together. On this shaft G is a beveled gear-wheel, *g*, which meshes into another beveled gear-wheel, *g'*, on a shaft transverse to G, and which runs through the fire-place from outside, having on it two cogged spur-gears, *d d*, which operate upon the racks *d' d'* on the back of the damper-plate. H is a sheet-iron hood or smoke-stack, which is made several inches smaller than the size of chimney-flue above, and fits snugly upon the top of the jambs,

and also has an apron, *h*, which comes down in front as far as may be desired to protect the face of the mantel-piece, as seen in Fig. 2 in front elevation, a part of it being broken away to show the lining sheet-iron *H' H'*, by which a space, *h'*, is formed, so that the hot smoke in the middle is separated from the colder in the corners and sides. A wire can be attached to the upper end of the damper D, and passed through a hole in the apron *h*, and can be used to elevate the damper, when the geared apparatus can be dispensed with; but by the handle *g''* on shaft G is the usual method of controlling the damper. Another plan is shown in Fig. 1, where a lever, *l*, is pivoted at *l'*, and is attached to the damper, and is operated by a handle L, which comes out below the grate and above the fender. The jambs, which are held at the top in the back by the clamp-plates *f f'*, are also held by through-bolts *a a a a* at the top and bottom, and at *m* is a rod, by which the whole work is secured to the back wall.

The jambs A A and cross-plates B and C can be made of fire-clay, tile, or soap-stone—the jambs to be molded with recesses, as shown, for the reception of the other pieces, B and C. By the manufacture of the jambs with recesses to be adapted for the reception of the cross-pieces, with the holes for the tie-rods *a a* and the recesses on the reverse sides for the iron clamp-frame *f f'*, the complete fire-place can be put up and be offered for sale as an article of manufacture, to be adapted for any ordinary fire-place in buildings already constructed, and by which their defects may be obviated and smoking of chimneys be prevented. The sheet-iron hood and hot-air flues may be used, if required, and fitted to such flues and chimneys; the apron serves a valuable purpose, also, of preventing the radiating heat of the coal fire from affecting the wood or marble *fascia* above the arch or opening.

The lining of the flue serves the purpose of dividing the ascending air and gases, so that the hotter portions in the middle will serve to create a draft above, to cause the side portions, which are colder, to be driven up much faster than if all were to be in the same flue, as heretofore. In a former patent, issued to

me May 12, 1874, for a fire-place, the damper was operated by a shaft with one cogged wheel in the middle of the damper, which it is found does not operate always with ease. In the present application two racks and wheels are used, which is a great improvement over the old method; also, the hot-air flues are placed on the sides and rear, as at *k k'*, Fig. 2, so that heated air can be carried up the flue of the chimney by pipes *k k'*, and into the upper rooms, and also be brought into the same room, if required.

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

The double smoke-flue in the sheet-iron hood, in combination with a fire-place or grate, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own invention, I affix my signature in presence of two witnesses.

MICHAEL FITZPATRICK.

Witnesses:

JNO. H. SINGLETON,
ALF. C. ROBERTSON.