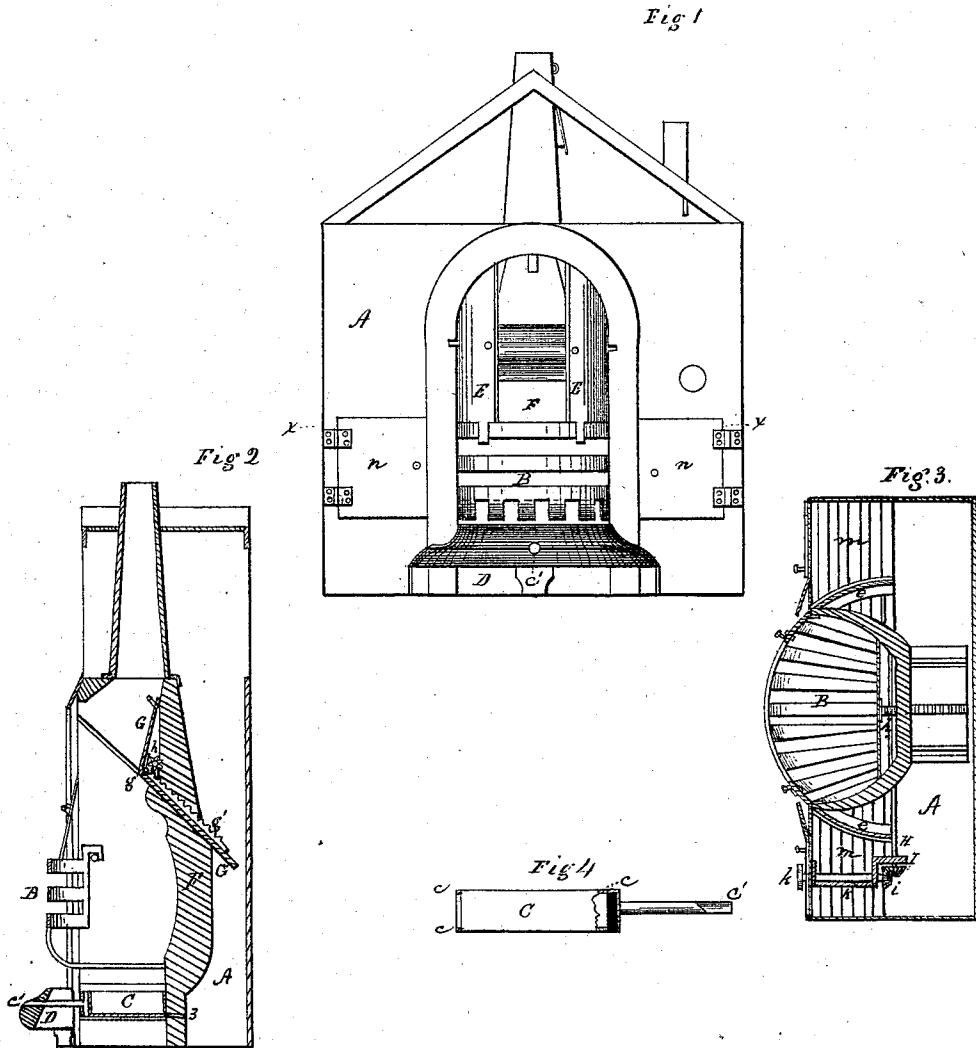


M. FITZPATRICK.
Fire-Place Grates.

No. 150,680.

Patented May 12, 1874.



WITNESSES-

Chas. H. Mason
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UNITED STATES PATENT OFFICE

MICHAEL FITZPATRICK, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN FIRE-PLACE GRATES.

Specification forming part of Letters Patent No. **150,680**, dated May 12, 1874; application filed April 21, 1874.

To all whom it may concern:

Be it known that I, MICHAEL FITZPATRICK, of St. Louis, Missouri, have invented a new and useful Improvement in Grates, of which the following is a clear, full, and exact description, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a front view. Fig. 2 is a vertical cross-section. Fig. 3 is a horizontal section through the line *x x*. Fig. 4 are details referred to in the specification.

My invention relates to that class of grates which are used for heating rooms above the room in which it may be placed; and it consists, first, in the construction of the adjustable damper fitting the throat of the chimney; secondly, in the air-chamber under the grate with its pipe passing around the ash-pan.

To enable others skilled in the art to make and use my invention, I will proceed to describe in detail the manner in which I have carried it out.

In the drawings, A represents the outer frame-work of the grate; B, the grate-basket; C, the ash-pan, and D the hearth. Above the front of the grate-basket are the sliding doors E E, which, when closed, slide forward upon the upper bar of the basket, as shown in Fig. 1. When opened they slide back on curved beds *e*, secured inside the frame-work A, as shown in Fig. 3. The back F of the grate is of cast metal, and cast in one piece, with the lower part hollow, to be used as a water-back to prevent it from burning out, and also for holding hot water for domestic uses. The adjustable damper G G' is formed of two cast-metal plates, hinged together at *g*. The upper one, G, is cast in a form to fit the throat of the flue, while the lower one is cast with three ribs. The center one, *g'*, is provided with teeth cast on it to form a rack to be operated by the pinion *h* on the shaft H. The ends of the plate G' slide in grooves cut slanting in

the sides of the grate, as shown in Fig. 2, when operated on by the pinion *h*. The shaft H is provided at one end with a beveled pinion, I, which gears into the pinion *i* on the adjusting-shaft K, provided with the knob *k* on the front of the grate. By turning the knob *k* the pinion *h* is caused to revolve, and, acting on the rack *g'*, causes the plate G' to move up or down in the slots or grooves cut in the sides of the grate, thus adjusting the damper G G' at will, and with entire ease and convenience. The ash-pan C is constructed hollow along its front and each end, as shown in Fig. 4, and this hollow tubing *c* connects at each end with openings 3 through the back of the grate, and with the pipe *c'* attached at the front, and passing under the hearth D. Through this pipe the air from the room passes into the hollow tubing around the ash-pan, and thence into the air-chamber in the rear and on the sides of the grate. On each side of the grate-basket is a small door, *n*, opening into the hot-air chamber, with a grating, *m*, arranged for holding plates, or any other article which it may be desirable to warm or keep warm.

This arrangement I believe to be new in connection with grates, and it secures a great convenience to housekeepers.

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

1. The adjustable hinged damper G G', constructed as described, in combination with the shaft H, having the pinions *h*, and suitable gearing for operating the same, substantially as and for the purpose set forth.

2. The ash-pan C, constructed with the hollow rim or tubing *c*, in combination with the pipe *c* and air-chamber A, all operating substantially as and for the purpose set forth.

MICHAEL FITZPATRICK.

Witnesses:

JOSEPH PASQUIER,
BENJ. R. SINGLETON.