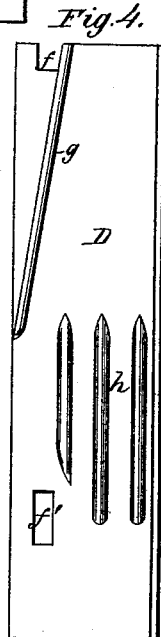
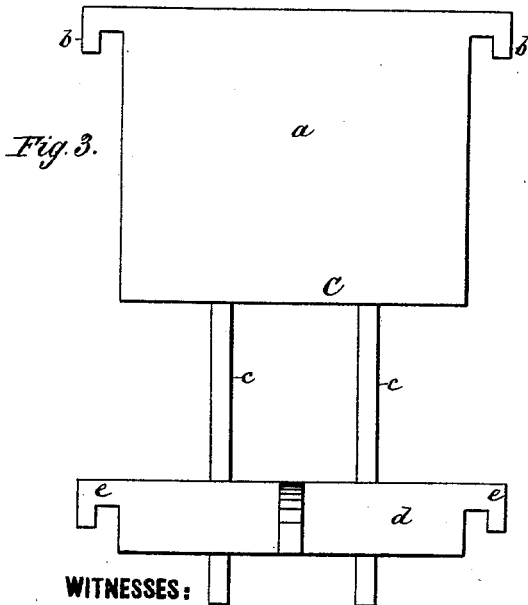
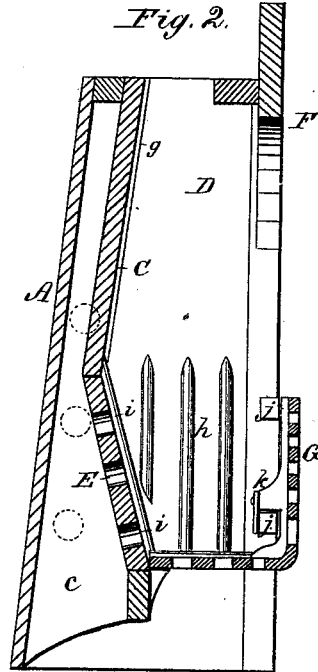
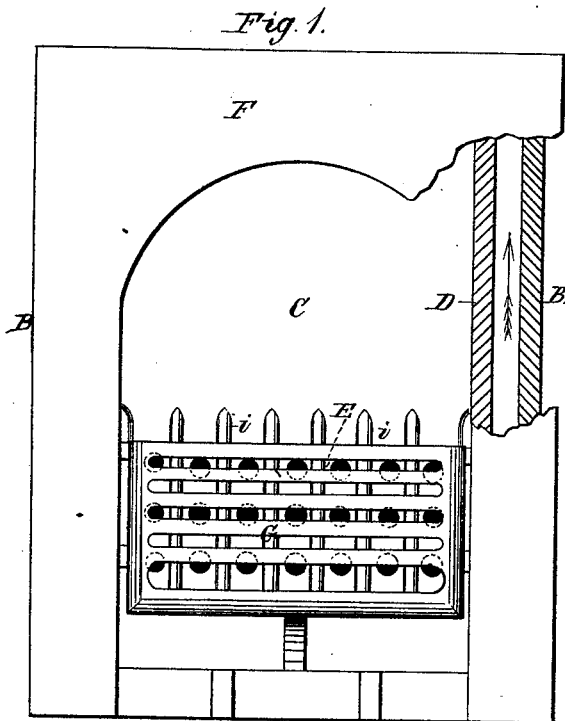


R. L. MITCHELL.
Fire-Place Grate.

No. 197,157.

Patented Nov. 13, 1877.



WITNESSES:

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BY

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UNITED STATES PATENT OFFICE.

ROBERT L. MITCHELL, OF HUNTSVILLE, ALABAMA.

IMPROVEMENT IN FIRE-PLACE GRATES.

Specification forming part of Letters Patent No. **197,157**, dated November 13, 1877; application filed September 27, 1877.

To all whom it may concern:

Be it known that I, ROBERT L. MITCHELL, of Huntsville, in the county of Madison and State of Alabama, have invented a new and Improved Fire-Place Grate; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation, partly broken away; Fig. 2, a vertical transverse section; Fig. 3, a detail of the front back-plate C, and Fig. 4 a detail of one of the inner sides.

This invention relates to certain improvements in open fire-place grates; and it consists in the particular construction of the double back and sides, and in the combination, with the inner back and sides, of a detachable back-plate for the fire-pot, which operates as a key to lock and hold the other parts in proper position, as hereinafter more fully described.

In the drawings, A represents the outer back-plate, which rests against the back of the chimney, and to which the outer sides B B are detachably fastened, the said sides B B occupying a position adjacent to the jambs.

C is the inner back-piece, which consists (see Fig. 3) of the plate *a*, having hooks *b*, supporting-partitions *c*, and cross-bar *d*, having hooks *e*, all of which parts are securely fastened together, and constitute one of the separate pieces of the grate.

D are the inner sides of the grate, having slots *f f'*, a corner-strip, *g*, and ribs *h* upon that portion of the sides forming a part of the fire-pot.

E is the detachable fire-pot back, which is made in a separate piece, and is provided with perforations and ribs *i*.

F is the front or face plate, having lugs *j*; and G is the grate, having hooks *k*, which latter grasp the lugs and support the grate.

The mode of constructing my improved grate is as follows: The back A is placed against the back of the chimney, and the two outer sides B B are placed next to the jambs, and detachably fastened to the back by any suitable means. The back C is then fastened

to the inner sides by extending the hooks of the back through the slots of the sides, and then adjusting the same into position in the outer casing. The detachable fire-pot back E is then placed with its lower edge upon bar *d*, and its rear side resting upon the supporting-partitions *c*. Its upper edge rests then against the lower part of the top plate *a* and the corner-strips *g*, thus locking the sides to the back, and securely holding the whole together. The front F is then placed on, and the grate fixed with its inner edge resting upon a support, *l*, of the bar *d*, and its sides fastened to the front by means of the hooks *k* and lugs *j*.

The back of the fire-pot, it will be seen, is readily removable, and can be taken out when desired. It is perforated, as shown; but I may make it plain and solid, or otherwise modify it, according to the character of the draft.

In manufacturing the parts of my grate I shall generally make them of cast-iron; but the detachable back of the fire-pot may be made of wrought-iron.

In setting up the parts of the grate the spaces between the outside casing and the chimney should be filled in with mortar or soft clay, which would serve to hold the parts rigidly together.

The hot-air chambers of my improved grate are designed to be connected with air-pipes having dampers and registers for the purpose of heating the upper stories.

Having thus described my invention, what I claim as new is—

1. The back C, having hooks *e*, in combination with the sides D, having slots *f f'*, and the removable locking fire-pot back E, substantially as and for the purpose specified.

2. The combination, with the back A and side B, of the inner back C, consisting of the supporting-partitions *c*, the plate *a*, and the bar *d*, having hooks *b e*, the sides D, having strips *g* and slots *f f'*, and the detachable fire-pot back E, substantially as described.

ROBERT L. MITCHELL.

Witnesses:

W. D. MINTON,
W. T. DRYDEN.