T. BROWN.

OPEN FIRE-PLACE GRATE.

No. 182,349. Patented Sept. 19, 1876.

Fig. 1.

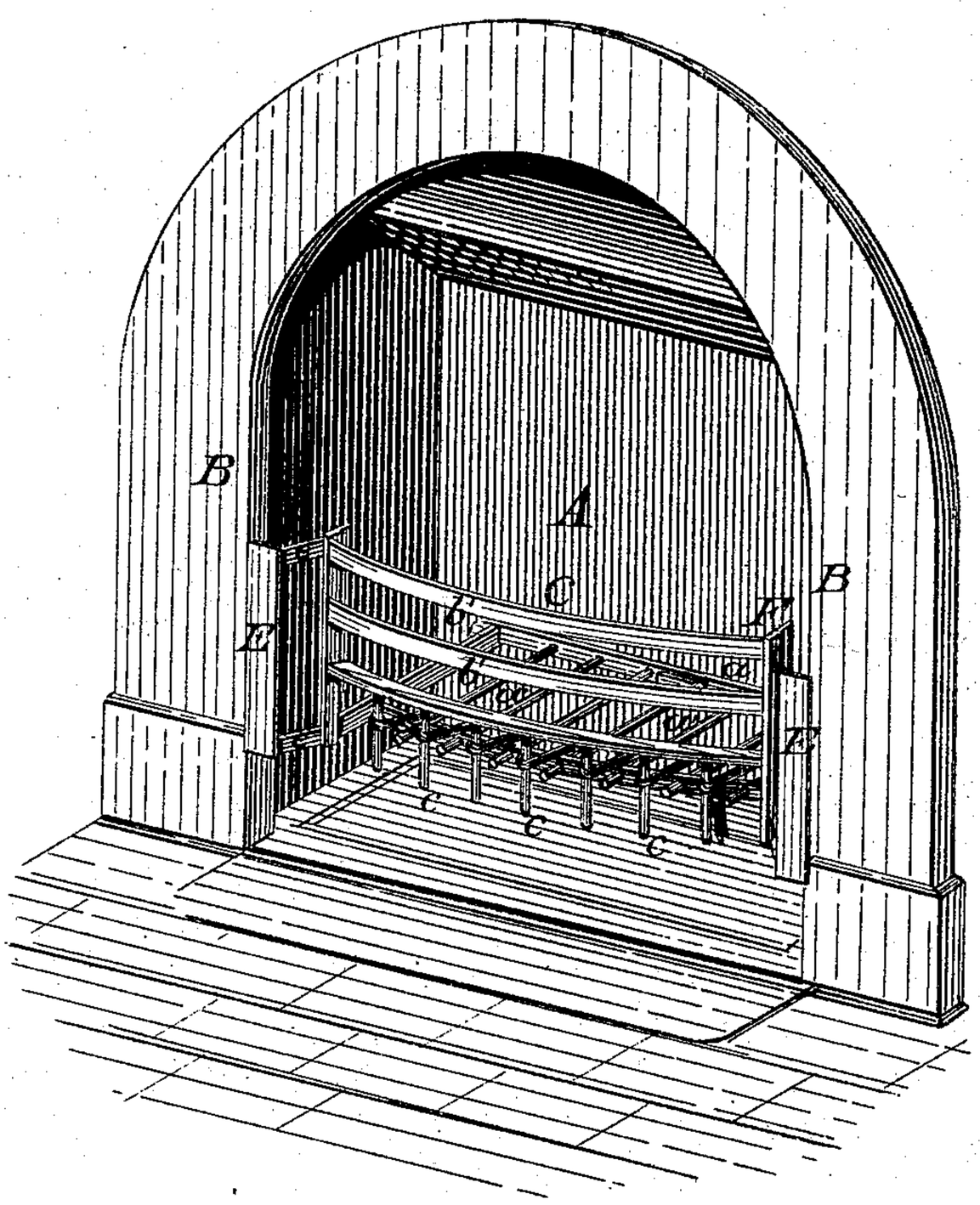


Fig. 2.

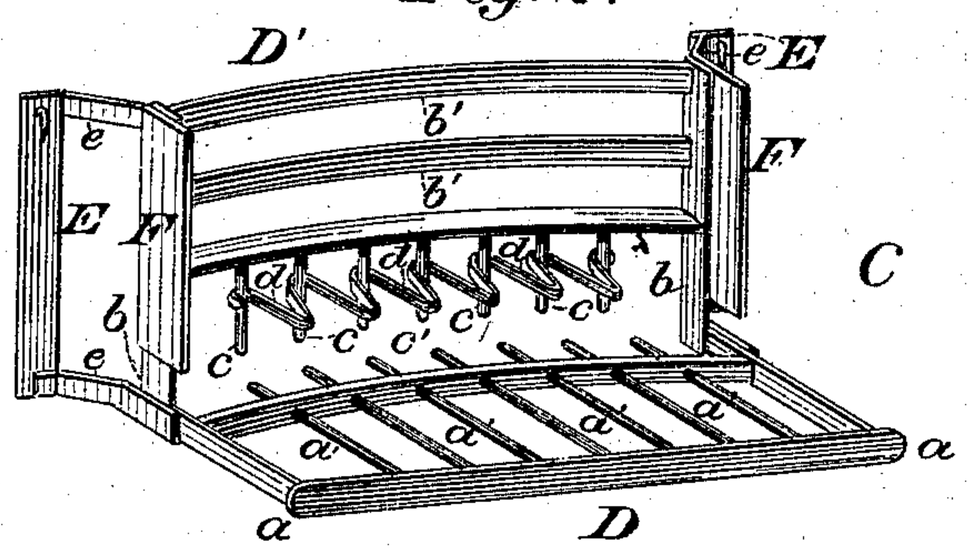
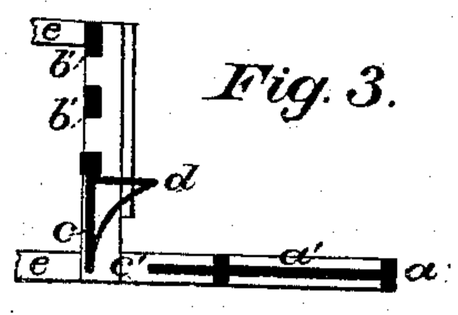


Fig. 3.



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UNITED STATES PATENT OFFICE.

THOMAS BROWN, OF CINCINNATI, OHIO.

IMPROVEMENT IN OPEN FIRE-PLACE GRATES.

Specification forming part of Letters Patent No. **182,349**, dated September 19, 1876; application filed July 14, 1876.

To all whom it may concern:

Be it known that I, THOMAS BROWN, of Cincinnati, in the county of Hamilton and State of Ohio, have invented new and useful Improvements in Open Fire-Place Grates; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The object of my invention is an open fire-place grate which will keep itself clear in front, always presenting a bright fire, admit a passage of air upon each side of the fire, and be simple in construction, and easily cleaned of ashes and cinders.

My invention therein consists, principally, in setting the front of the grate bodily in from the jamb of the fire-place, and in the manner of securing the same; second, in the construction of the front of the grate to keep the fire clear; and, further, in the construction, arrangement, and combination of the various parts, all as more fully hereinafter explained.

To enable others skilled in the art to manufacture my device, I now describe the same in connection with the drawings, in which—

Figure 1 is a perspective view of the grate in position; Fig. 2, a perspective view from the rear of the grate, detached from the fire-place; and Fig. 3, a sectional view, showing a modification of the inwardly-projecting pieces for keeping the fire clear.

Like letters denote corresponding parts in each figure.

A represents the fire-place, and B the jamb. C is the grate, composed of a horizontal frame or fire-bed, D, and a vertical front frame, D′, secured to the side pieces of the fire-bed. The fire-bed D is composed of a frame, *a*, and bars *a′*, secured in or cast with the frame. This frame does not extend the entire width of the fire-place, but a space is left between the sides of the frame and the sides of the fire-place. The fire-bed is supported at the rear on one or more suitable lugs in the back of the fire-place, and at the front has the side bars of the frame connected with the upright bars *b* of the front frame D′. This front frame D′ is preferably curved slightly outwardly, and is composed of two uprights, *b*, one at each end, and connected by horizontal bars *b′*. To the under side of the lower horizontal bar *b′* are suspended a series of downwardly-projecting fingers, *c*, extending to a level with the fire-bed, and leaving a space, *c′*, between these fingers and the front of the fire-bed. Near the upper ends of the fingers are secured inwardly-projecting V-shaped pieces *d*, extending over the space *c′* and supporting the fire, allowing ashes to sift down through and between the projections as the fire settles. These pieces *d* may be shaped and secured as shown in Fig. 3. The front frame is of the same length as the fire-bed, and is set back from the jamb of the fire-place, so as not to project into the room, as heretofore. This frame is supported to the jamb of the fire-place by two or more strips, *e*, which project outwardly and laterally from each of the upright bars *b*, and connect with two end pieces, F, flush with the jambs, which in turn are supported, by lugs or otherwise, to the jamb. Two vertical plates, F, are secured to the inside of the uprights *b*, and project inwardly a short distance, preventing the fire from falling into the space between the ends of the fire-bed and the sides of the fire-place, allowing air to pass freely up through and around the sides of the fire, and admitting of the easy clearance of the ashes therefrom. The dust which escapes from stirring the fire or from the renewal of fuel is carried up the chimney through these flues, and saves the polish on the frames. The ashes fall below the grate, and are cleared out in any ordinary manner.

The advantages of my device lie principally in the more perfect combustion of the fuel, in the convenience with which the ashes and cinders can be removed from the front and sides of the fire, and the bright and clear fire always presented.

Having thus fully described my grate, and explained some of its advantages, what I claim as new therein, and desire to secure by Letters Patent, is—

1. In an open fire-place grate, the combination of the horizontal frame D and the front vertical frame D′, set backward bodily into the fire-place from the face of the jamb, and supported from the said jamb, substantially as described and shown.

2. In an open fire-place grate, the combination of the fire-bed D and front frame D′ with the downwardly-projecting fingers *c*, space *c′*, and the projections *d*, substantially as described and shown.

3. The combination, with the fire-bed D and the front frame D′ set in from the front of the jamb, of the end pieces E and strips *e*, for supporting the front frame, substantially as described and shown.

This specification signed and witnessed this 21st day of June, 1876.

THOMAS BROWN.

Witnesses:

HENRY L. DAVIS,

ALBERT PADDACK.