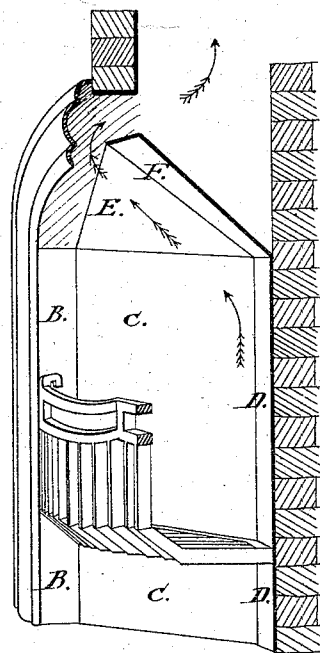
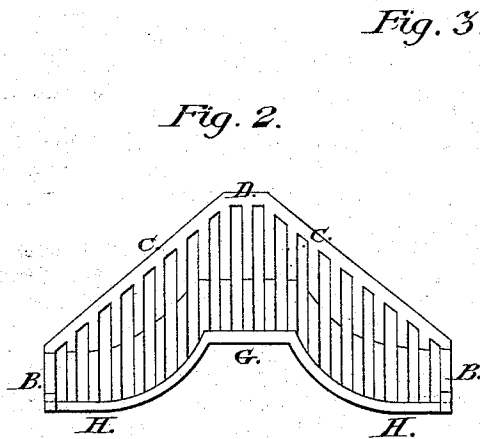
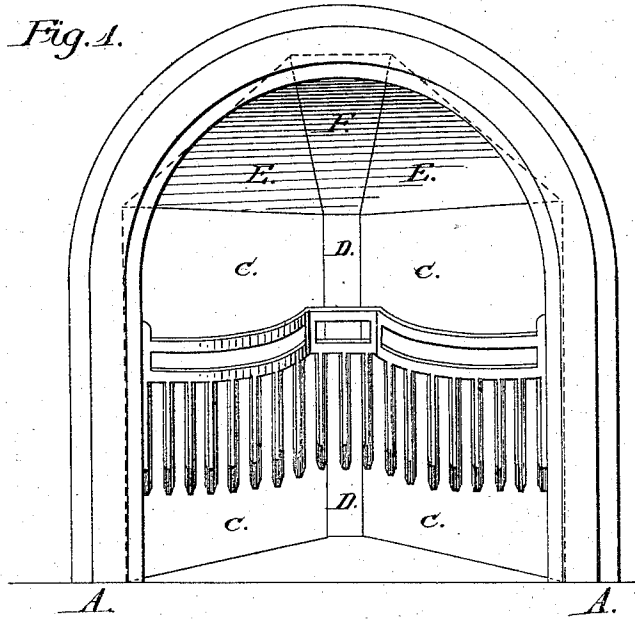


W. LEE & B. W. PARKER.
Grates.

No. 154,146.

Patented Aug. 18, 1874.



Witnesses:
Benjamin T. Bennett.
Joseph C. Parker.

Inventor:
William Lee
Benjamin W. Parker

UNITED STATES PATENT OFFICE.

WILLIAM LEE AND BENJAMIN W. PARKER, OF COLUMBUS, OHIO.

IMPROVEMENT IN GRATES.

Specification forming part of Letters Patent No. **154,146**, dated August 18, 1874; application filed January 28, 1874.

To all whom it may concern:

Be it known that we, WILLIAM LEE and BENJAMIN W. PARKER, of Columbus, in the county of Franklin, State of Ohio, have invented certain Improvements in Open Grates and Fire-Places for Burning Coal, of which the following is a specification:

The invention is designed to effect an improvement in the draft and carry the smoke with certainty to the smoke-flue and with the least escape of heat; and also to effect the largest and most diffusive degree of radiation of heat outward into the room where the grate and fire-place may be used.

Figure 1 is the front elevation of a section of the plan of the combination. Fig. 2 is an outline of the grate or grate-basket. Fig. 3 is an elevation of a section of the left-hand side of the grate and fire-place.

A A in Fig. 1 is the front line of the grate-frame and fire-place. B B in Fig. 3 is a side jamb set at a right angle to the front, and is perpendicular. C C in Fig. 3 is a diagonal jamb set at an angle of about forty-five degrees to side jamb B B in Fig. 3.

In Fig. 1, C C and C C, the two diagonal jambs are represented, but, Fig. 1 being designed only to show a front elevation, the side jambs are not shown.

D D in Fig. 3 is a section of the back, the whole being represented in Fig. 1, D D, and is parallel to the front A A. E E F in Fig. 1 represent, in sections, a cap or canopy rising vertically from the diagonal jambs and the back, Fig. 1, C D C—that is, E E from the diagonal jambs C C, and F from the back D—each section of the cap or canopy inclining forward over the fire-place at an angle of about forty-five degrees. H G H in Fig. 2 are sections of the receding front line of the grate or grate-basket, G being parallel to the back and front of the fire-place, (Fig. 1, D and A A,) and H H circling from G to the ends or sides, so as to be convex at the front of these sections. B B in Fig. 2 are parallel to the side jambs represented in Fig. 3, B B, and C C in

Fig. 2 are parallel to the diagonal jambs C C in Fig. 3.

The cap or canopy, Fig. 1, E F E, is an adaptation to the diagonal radiating jambs, Fig. 1, C C and C C, and the back of the fire-place D D, for the purpose of radiating vertically downward and divergently outward, and the cap or canopy is also designed to contribute to the formation of a draft-channel to the smoke-flue.

The fire-grate, Fig. 2, outlines H G H, B C D, C B, is also an adaptation to the side jambs, Fig. 3, B B, to the diagonal jambs, Fig. 1, C C, and to the back, Fig. 1, D D, while, by receding, Fig. 2, H G H, it increases the radiating-surface, and, by the convexity of the sections H H, radiates divergently; and at the same time the recess G, Fig. 1, forms the commencement of a draft-channel back of the back part of the throat or opening to the smoke-flue.

The result of the whole combination is, first, a complete draft-channel, commencing at the receding of the grate, Fig. 2, G, and continuing by the back, Fig. 1, D, between the diagonal jambs C C, and by the middle section of the cap or canopy, Fig. 1, F, to the throat of the smoke-flue; second, an arrangement of the radiating parts or surfaces to radiate the heat from the fuel divergently and diffusively, not only by the diagonal jambs, but also by the cap or canopy and by the grate.

We make no claim of invention for the diagonal jambs, Fig. 1, C C; but

We claim as our invention—

The canopy composed of three planes, E F E, resting upon the diagonal jambs C C, connected by the section D, in combination with the backwardly-curving portions H of the grate, connected by the plane portion G.

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Witnesses:

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