C. C. GATES.

Grate.

No. 164,161. Patented June 8, 1875.

Fig. 1

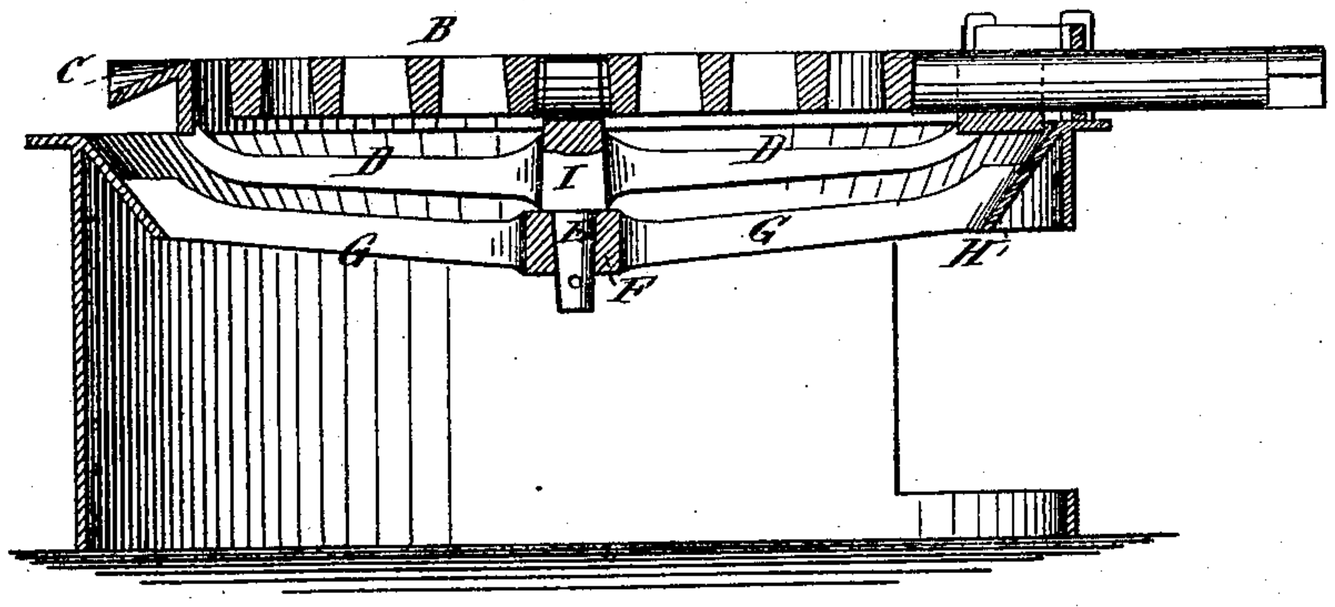


Fig. 3

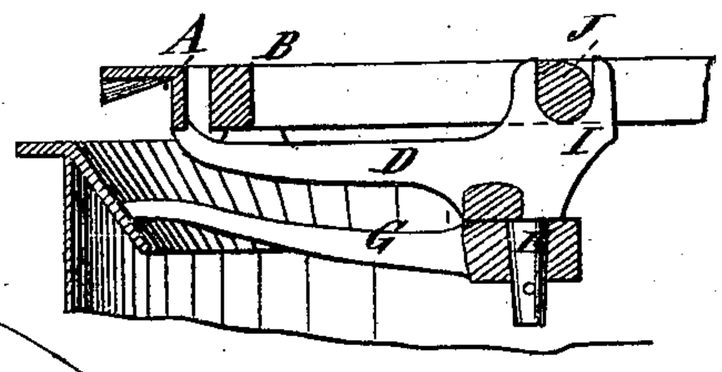
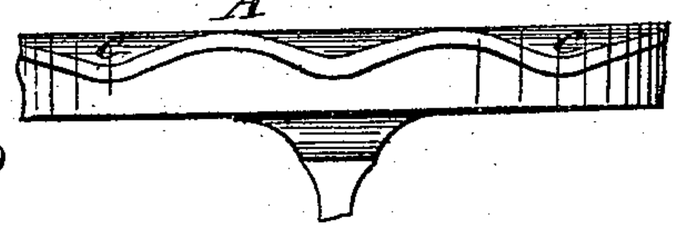


Fig. 2.

Fig. 4



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UNITED STATES PATENT OFFICE.

CHARLES C. GATES, OF ALBANY, NEW YORK, ASSIGNOR TO J. L. MOTT IRON-WORKS, OF NEW YORK CITY.

IMPROVEMENT IN GRATES.

Specification forming part of Letters Patent No. **164,161**, dated June 8, 1875; application filed May 15, 1875.

To all whom it may concern:

Be it known that I, CHARLES C. GATES, of Albany, in the county of Albany and State of New York, have invented a new and Improved Stove-Grate, of which the following is a specification:

My invention consists of a grate, in combination with an outer vibrating ring, the ring being corrugated on its upper surface, which is in the plane of the grate, while the concave parts of the corrugations incline downward radially to the periphery, to facilitate the throwing off of the refuse when shaken, and the ring is rigidly attached at the lower side to arms, intersecting at the grate's center with a center-pin, on which the ring oscillates to shake the grate, the pin being pivoted in a center-bearing, rigidly supported by arms of the base of the stove. The invention also consists of a dumping-hook or bearing for the grate, attached to the center of the ring, or near the center, in which a journal of the grate rests for holding the grate, and allowing it to dump and shake, the bearing being forward of the grate's center on the depressing side, to lessen the dip of the grate in the ash-pit when dumping, and thus affording more freedom for removing the ash-pan.

Figure 1 is a sectional elevation of my improved grate, taken on the line *x x* of Fig. 2. Fig. 2 is a plan view. Fig. 3 is a section on line *y y* of Fig. 2, and Fig. 4 is a side elevation of a portion of the ring.

Similar letters of reference indicate corresponding parts.

A represents the ring, and B the grate, both of which have their upper surfaces in the same plane, the grate being inclosed by the ring. C represents the grooves of the corrugations in the upper surface of the ring, inclining downward from the inner periphery of the top to the outer periphery, for facilitating the discharge of the refuse matters. D represents the arms, attached to the under side of the ring, and converging in the center-pin E, which rests in the bearing F for supporting the ring, so that it may be turned forward and backward horizontally for shaking the grate. The bearing F is supported by the arms G, which are attached on the base H of the stove for their support. I is the hook, bearing on the arms D near their center for the support of the grate B, so that it may be dumped by its pivot J. The shaft K of the grate extends out of the ring through a notch, L, so that it moves the ring when the grate is shaken.

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

1. The grate B, in combination with an outer vibrating ring, the grate and the ring being in the same horizontal plane, and the ring being corrugated on its upper surface with grooves inclining downward radially from the inner to the outer periphery, and having a center-pin, on which it vibrates, substantially as specified.

2. The horizontally-oscillating ring A, having the center bearing-hook I for the pivot J of the grate, the hook being contrived to support the grate flush with the upper surface of the ring, and arranged forward of the grate's center on the depressing side of the grate, to lessen the dip of the grate in the ash-pan, substantially as specified.

CHARLES C. GATES.

Witnesses:

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