

E. DEWITT.
Stove-Grates.

No. 135,095.

Patented Jan. 21, 1873.

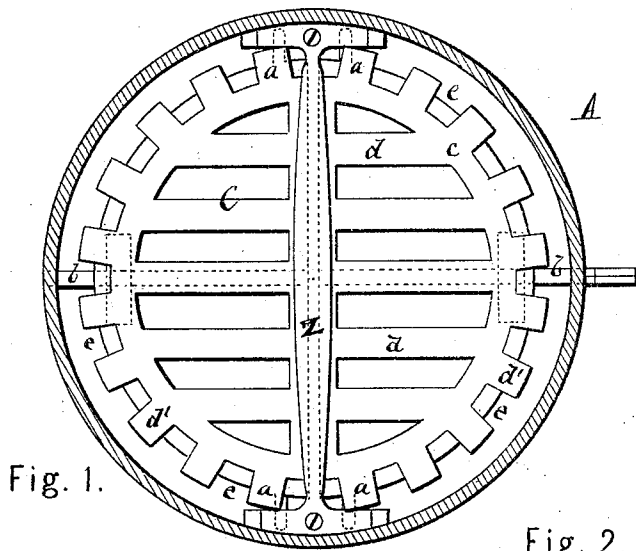


Fig. 1.

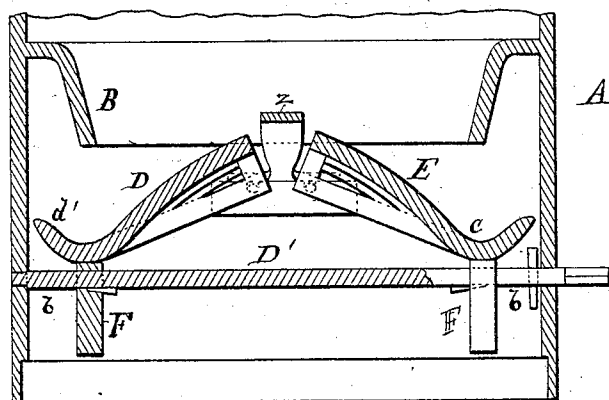


Fig. 2.

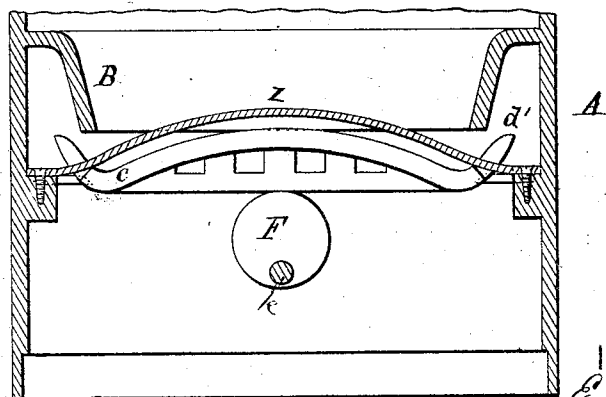


Fig. 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

EZRA DEWITT, OF BELVIDERE, NEW JERSEY.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. 135,095, dated January 21, 1873.

To all whom it may concern:

Be it known that I, EZRA DEWITT, of Belvidere, in the county of Warren and State of New Jersey, have invented a new and valuable Improvement in Stove-Grates; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawing making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawing is a top view of my grate. Fig. 2 is a vertical section of same with gratings depressed. Fig. 3 is a vertical section taken at right angles to the section shown in Fig. 2, the gratings being raised.

This invention has relation to grates for stoves and furnaces; and it consists in the construction and novel arrangement of the tilting sections of the grate, the cam-shaft, and the guard, whereby said sections are vibrated toward and from each other. The object of the present invention is to provide a grate from which clinkers and other obstructions can be readily cleaned without disturbing the fire-bed, the mechanism at the same time serving as a very effectual means for shaking the ashes from the grate.

In the accompanying drawing, the letter A designates the stove-wall, and B indicates the wall of the fire-pot, connected with the stove-wall by a flange or otherwise above the grate level, and having its lower edge extending down thereto. C indicates the grate. This consists of two sectional gratings, D and E, pivoted at their adjacent edges to the stove-wall by means of suitable journals *a* and seat-lugs *b*. Each grating consists of a circumscribing bar, *c*, grate-bars *d* running parallel with the planes of vibration, and an exterior flange, *d'*, extending upward and outward from the outer portion of the bar *c*. This flange is not usually continuous, but is provided with notches *e*, preferably situated in line with the prolongation of each grate-bar *d*. Below the grate extends the cam-shaft D', centrally and transversely, so that its plane of rotation will be at right angles with the plane of vibration of the gratings D and E.

This shaft is provided near each end, just under the bar *c*, with the eccentrics or cams F, by the oscillation of which on the shaft D' the gratings are made to vibrate from or toward each other. A strip of metal, Z, is attached to the opposite sides of the stove-wall and arranged to bridge or cover the intermediate space between the gratings, which is enlarged when they are vibrated from each other. By this means clinker and pieces of coal are prevented from becoming wedged in between the adjacent edges of the gratings and obstructing their operation. The middle portion of the grate within the bar *c* is rounded upward toward the center, or made in convex form, so that clinker and other obstructions will tend toward the circumference.

In the operation of this grate attention is directed to the ease with which the fire-bed can be removed after it has become obstructed at its base by the accumulation of clinker and other matter. The gratings are shaken to and from each other by applying a crank-key to the end of the cam-shaft, which is provided with a key-seat, *k*, for this purpose. Clinker is removed by turning the eccentrics downward sufficiently to allow the outer edge of each grating to fall below the wall of the fire-pot. The clinker can then be readily raked out, and the gratings, being turned up toward each other, are without obstruction to the draft, and the bed of live coals above may now be thrown down upon the grate by agitating them, if necessary, by means of a poker or otherwise.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the sectional vibratory gratings D E, pivoted at their adjacent edges, with the cam-shaft D', eccentrics F, and central guard-plate or bridge Z, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

EZRA DEWITT.

Witnesses:

PHIL. C. MASI,
D. D. KANE.