2 Sheets—Sheet 1.

A. McVEAN.

STOVE-GRATES.

No. 183,954. Patented Oct. 31, 1876.

Fig. 1.

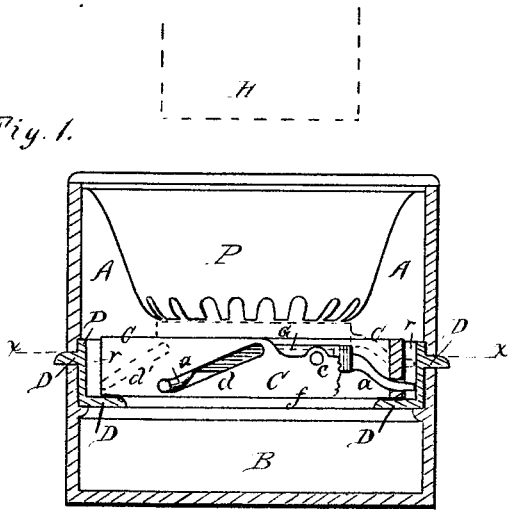
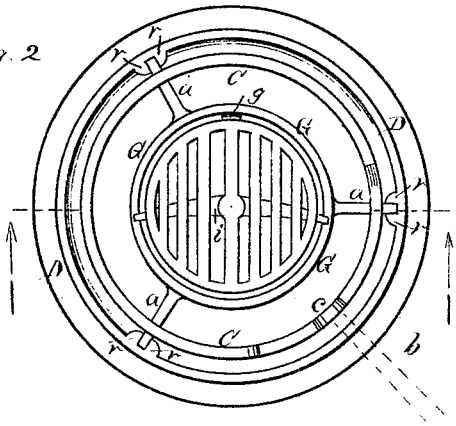


Fig. 2



Witnesses.

Alphonso Button

Henry E. White

Inventor.

Alex. McVean

By Wm. C. Goughborough

Atty

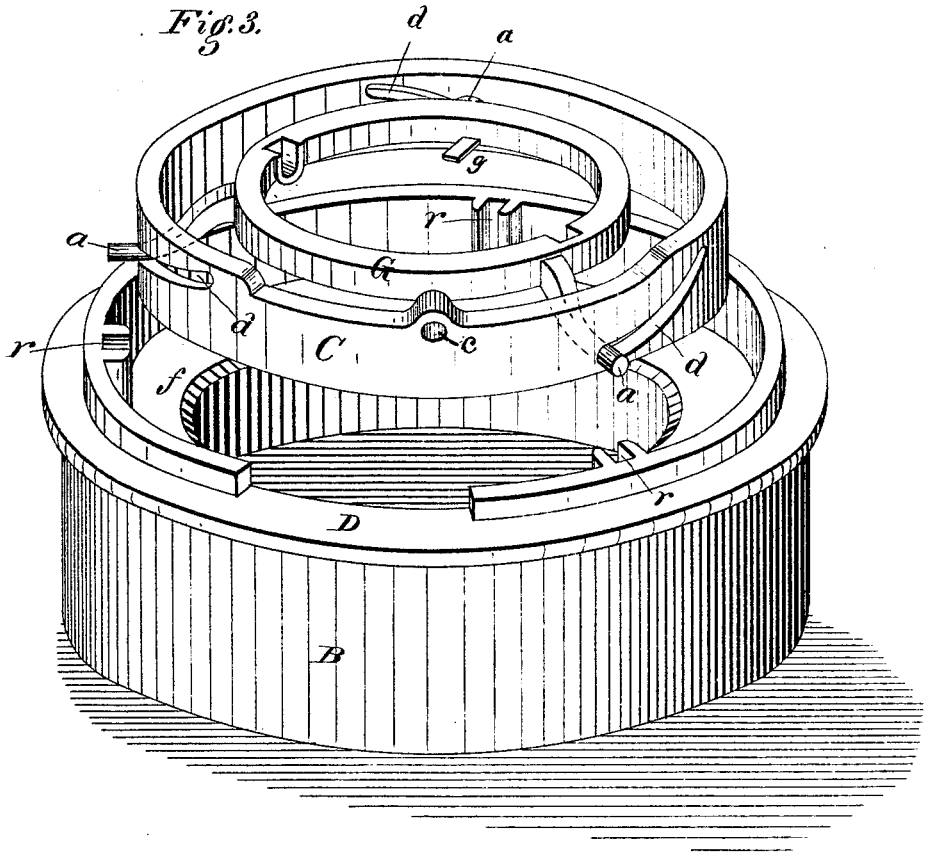
2 Sheets—Sheet 2.

A. McVEAN.

STOVE-GRATES.

No. 183,954. Patented Oct. 31, 1876.

Fig. 3.



Witnesses:

Donn J. Twitchell.
Will H. Dodge.

Inventor:

Alex' McVean
By Wm. S. Coughborough
Atty.

UNITED STATES PATENT OFFICE.

ALEXANDER McVEAN, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-THIRD OF HIS RIGHT TO JOHN Q. C. SEARLE, OF CINCINNATI, OHIO.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. **183,954**, dated October 31, 1876; application filed May 26, 1876.

To all whom it may concern:

Be it known that I, ALEXANDER McVEAN of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Adjustable Stove-Grates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a verfical central section of the lower portion of an ordinary base-burner, except the fire-pot and a portion of the lifter-ring, which are shown in elevation, having my improvements attached. Fig. 2 is a plan view of those portions below the joint at the dotted lines *x* in Fig. 1. Fig. 3, Sheet 2, is a perspective view of the lower portion of the stove and the lifting-ring C, and grate-ring G, the two latter being lifted out of their seat.

This invention consists in a peculiar method of hanging the grate of base-burners, whereby it may be raised or lowered without being turned upon its axis, and, at the same time, be capable of being shaken in a horizontal plane or dumped while in either its raised or its lowered position.

The plan heretofore practiced of lowering the grate when it is desired to remove clinker, &c., by turning it upon its vertical axis, proves quite seriously objectionable, on account of the great liability of causing the whole body of live coals, &c., to settle by the agitation produced by such rotation. This difficulty is fully obviated by my invention; and, at the same time, all the advantages afforded by the dumping and the shaking or rotary grate are also secured.

The grate is pivoted to the curved or eccentric bar *i*, the ends of which rest in bearings prepared for them in the ring G, as shown in Fig. 2, and its overbalanced side rests upon the lug *g*, fixed to said ring G. This latter is provided with three or more radial arms, *a*. Their outer ends are permitted to move vertically between the ribs *r*, formed upon the vertical wall of the ring D. These arms pass through oblique or inclined slots *d*, formed through the lifter-ring C, which is fitted to turn freely within the radius of the inner face of the projecting ribs *r*. The ring C is provided with an opening at *c* to receive a shaker-bar, as indicated by the dotted lines at *b*, Fig. 2, by means of which bar the ring may be turned in either direction.

It would probably be entirely practical to use, instead of the slots *d*, a skeleton lifter-ring with incline planes, to force the arms *a* upward, and rely upon the gravity of the ring G and grate to cause them to drop as the inclines were turned from under the arms; or, the inclines might be formed upon the under edge of the lifter-ring C, and made to rest upon lugs on the flange *f*, in which case the arms *a* would rest upon the upper edge of the lifter, or through horizontal slots formed near its upper edge.

It might be found desirable to make the grate to only tilt or dump, and not to rotate; or to rotate, and not to dump. To provide for the former, it would only be necessary to form lugs upon the rim of the grate, to rest in the bearings of the present curved bar *i;* but, to adapt it to be shaken only, the supporting-ring G may be formed with two lugs at, or forward of, those points, similar to the lug *g*.

The grate-supporting ring G might be dispensed with by extending the arms *a* to the center under the grate, where a rocking-head should be hung, on which to pivot eccentrically the grate.

The dotted lines H indicate the lower end of the coal-magazine, and P the fire-pot.

What I claim as my invention is—

1. A grate supported upon a ring, G, or its equivalent, substantially in the manner shown and described, so as to be capable of being either shaken or dumped, or both, in combination with a lifter-ring, C, for the purposes set forth.

2. In combination with the lifter-ring C, the ring G, provided with arms *a*, resting between vertical ways, and constructed to receive and sustain the tilting or dumping and horizontally-rotating grate, substantially as and for the purposes set forth.

A. McVEAN.

Witnesses:

WM. S. LOUGHBOROUGH,

GEORGE B. SELDEN.