J. R. CASE.

GRATES.

No. 181,246. Patented Aug. 22, 1876.

Fig. 1.

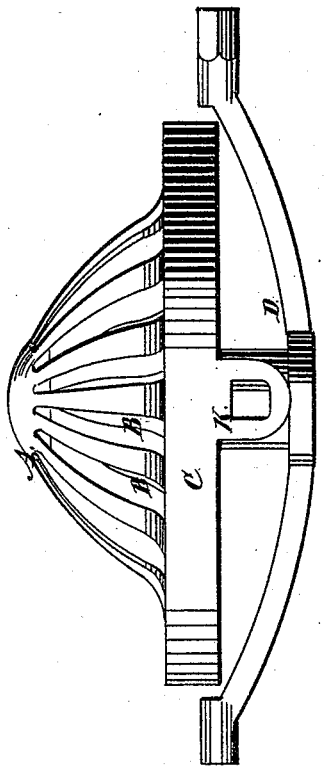


Fig. 2.

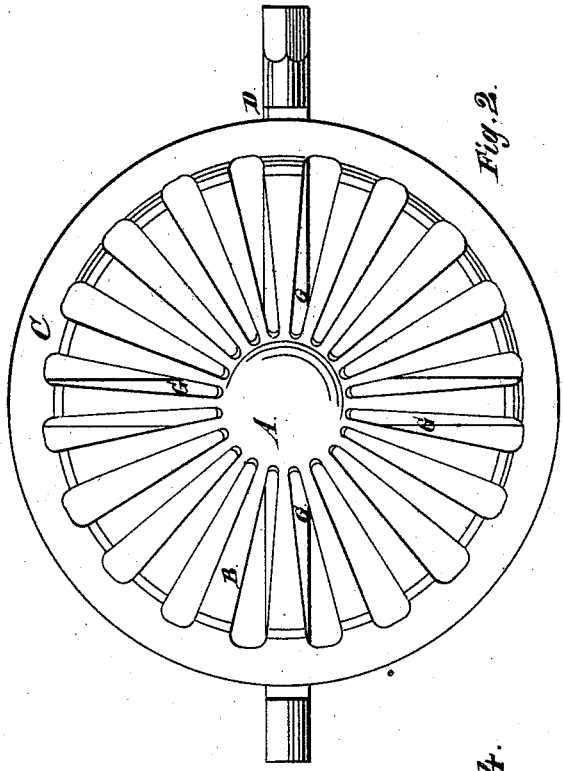


Fig. 3.

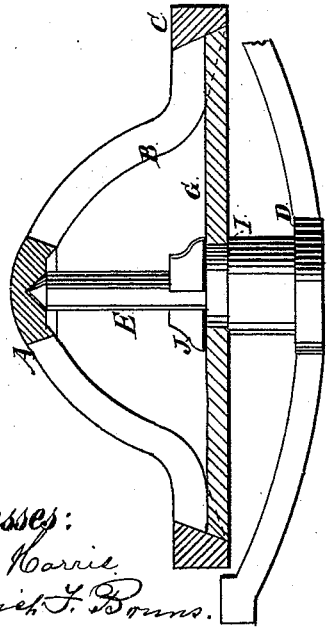
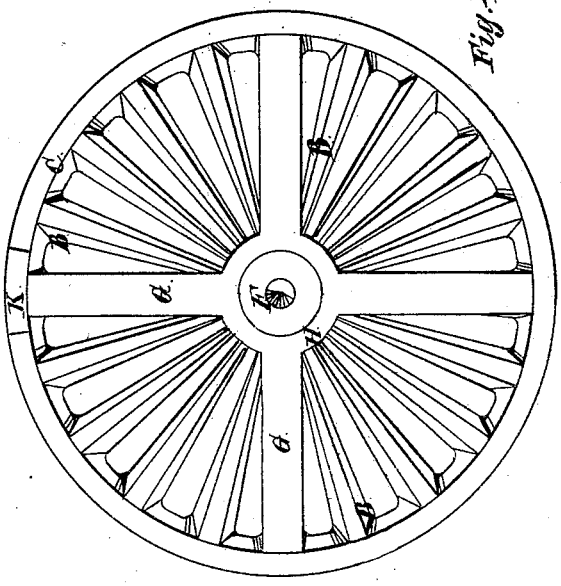


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN R. CASE, OF ISHPEMING, MICHIGAN.

IMPROVEMENT IN GRATES.

Specification forming part of Letters Patent No. **181,246**, dated August 22, 1876; application filed January 27, 1876.

To all whom it may concern:

Be it known that I, JOHN R. CASE, of Ishpeming, in the county of Marquette and State of Michigan, have invented a Stove-Grate, of which the following is a specification:

My invention consists in constructing the grate with a raised center and radial arms or grate-bars, and supporting it by a pivotal bearing raised from the dumping-bar, on which the raised grate-center rests; and it further consists in certain combinations of devices, which are hereinafter fully described and set forth.

In the accompanying drawings, Figure 1 represents a side elevation of my grate, showing the dumping-bar upon which it is supported. Fig. 2 shows a top view of the same. Fig. 3 shows a central vertical sectional view of the same, and Fig. 4 shows a bottom view of the grate detached.

A represents the raised center of the grate, and B the radial grate-bars, which are supported at their outer ends by the ring C.

I do not limit myself to the construction shown of the ring C, as connecting-pieces between the bars near their outer ends would serve the same purpose. I also vary the shape of the grate to conform to the shape or form of the furnace in which it is used.

D is the dumping-bar, provided with trunnions, which must have bearings in the base of the stove or furnace, on which they can turn to dump the grate. E is a center post, cast with or firmly secured to the dumping-bar D. Its upper end forms a bearing, on which the grate is pivoted. F is a recess in this center piece A, which rests upon this bearing, which forms a pivot on which the grate is turned when it is shaken. G are braces extending from the ring C to the center ring H. This center ring H passes around the center or post E, and rests upon the shoulder I upon the center piece. J is a key, which passes through the center post E, above the ring H, to hold the grate on the dumping-bar when it is dumped.

I contemplate making part of my grates with dumping-bars more depressed directly beneath the ends of the grate-bars, in order to admit of more of a swinging or dumping motion of the grate upon its bearing upon the top of its center post E, without turning the dumping-bar upon its bearings.

K is a lug, provided with an opening to receive the shaking-iron to shake or dump the grate.

It will be observed that the raised center of the grate produces a large air-surface for the fuel underneath, and the bearing of the grate at its center, as described, admits of the grate being easily shaken. The grate is also attached to the dumping-bar, so that it is held in place thereon, so that it can be readily restored when dumped.

The fuel, striking upon the center and inclined surface of the grate, gradually falls toward the outer ends of the circumference of the grate-bars, and causes the ashes to fall through between them. This causes the fire to partially clear itself, and requires but little attention. It will also be observed that the raised center causes a large fire-surface to be exposed to the air, and produces a very free draft when the stove-damper is open.

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

1. The grate consisting of a raised center A and inclined radial grate-bars B, braced by connecting-pieces, in combination with the dumping-bar, provided with a raised bearing, on which the grate is pivoted, substantially as specified and shown.

2. The braces G, center ring H, and center post E, for bracing and supporting the grate.

3. The center post E, provided with the shoulder I and key J, for securing the grate in place, as specified.

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