H. Ball,

Grate Bar.

No. 109,711. Patented Nov. 29, 1870.

Fig. 1.

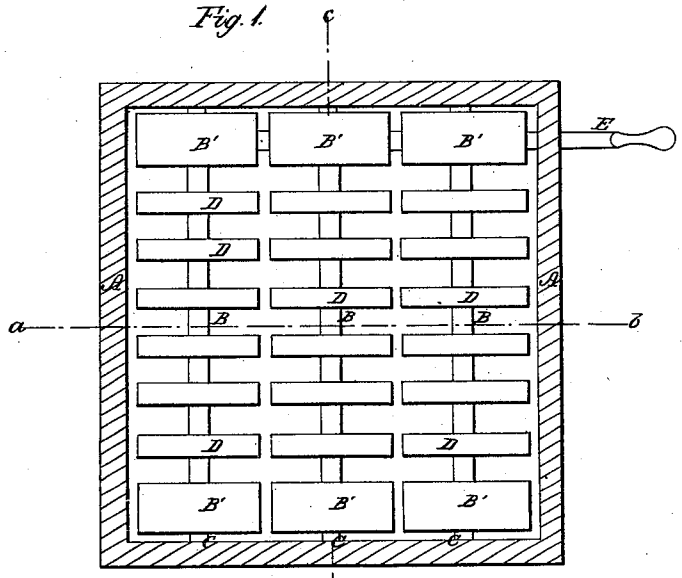


Fig. 2.

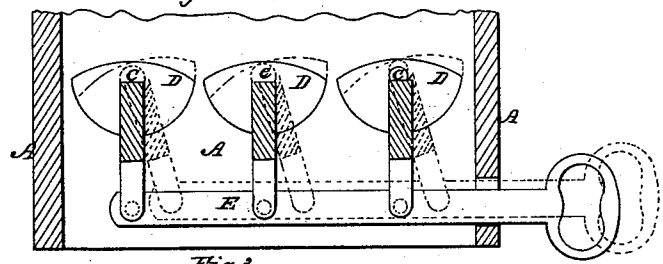
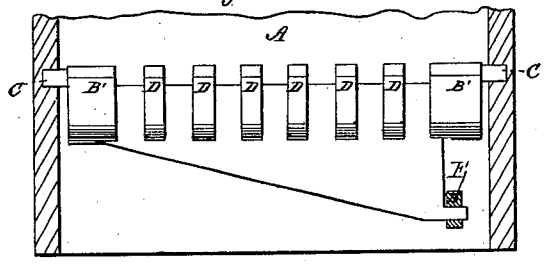


Fig. 3.



Witnesses:
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United States Patent Office.

HOSEA BALL, OF NEW YORK, N. Y.

Letters Patent No. 109,711, dated November 29, 1870.

IMPROVEMENT IN GRATE-BARS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HOSEA BALL, of the city, county, and State of New York, have invented a new and improved Grate-Bar, of which the following is a specification.

Nature and Objects of the Invention.

My grate-bars are pivoted and connected to adapt them to receive a simultaneous oscillating motion.

Each bar is provided at its upper part with a number of transverse bars, having convex upper surfaces, to support the fuel, and are well adapted to discharge ashes when the bars are rocked.

Description of the Accompanying Drawing.

Figure 1 is a plan or top view of a grate composed of my improved bars.

Figure 2 is a transverse vertical section on the line *a b*, fig. 1.

Figure 3 is a longitudinal section on the line *c d*, fig. 1.

General Description.

In the drawing—

A A represent the walls of the furnace, and

B, the primary grate-bars, which rock upon pivots or bearers C.

These bearers may be attached to the ends of the bars B, and rest in sockets in the sides of the furnace, or, as shown in the drawing, studs may project from the sides of the furnace, and enter sockets in the ends of the bars.

I prefer that the center of oscillation of the bar shall be upon the chord of the arc formed by the upper surface of each of the removable upper bars D D, which fit transversely upon the main bars B, and constitute the furnace bottom, or the grated floor of the fuel-chamber.

Fig. 2 shows the relation as to the center of oscillation.

The bars B may be of the form shown in the figure, with one oblique side, slanting down to a lower corner, where the rocking-rod E is attached, or the bar may be rectangular, and have a downwardly-extending arm, to which the said rod is connected.

The floor of the furnace consists of several ranges of these upper bars D D, those of each range being attached to their respective bars B, and moving therewith.

The segment-shaped blocks B', at each end of the range of upper bars are not so much exposed to heat, and are cast with the bar B, while the upper bars D are removable.

I am aware that rocking grate-bars have before been made with lateral projections, but a great advantage results from the construction of my segmental transverse bars D, their convex upper surfaces having a better effect on the fuel, and adapting them to discharge the ashes more freely when the bars are rocked.

Claim.

I claim as my invention—

The rocking grate-bars B, each provided at top with a number of transverse bars, D, constructed with convex upper surfaces eccentric to the pivots C, the whole being adapted to operate substantially as described.

To the above specification of my invention I have signed my hand this 31st day of August, A. D. 1868.

HOSEA BALL.

Witnesses:

EDWARD H. KNIGHT,

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