JOHN W. STANTON.

Improvement in Grate Bars.

No. 123,739. Patented Feb. 13, 1872.

Fig. 1.

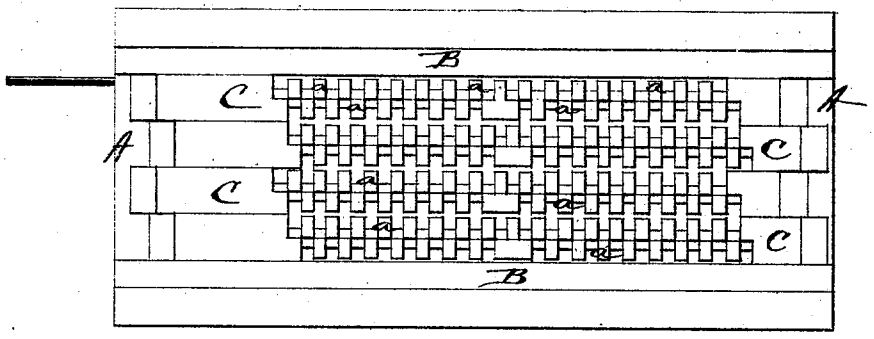

Fig. 2.

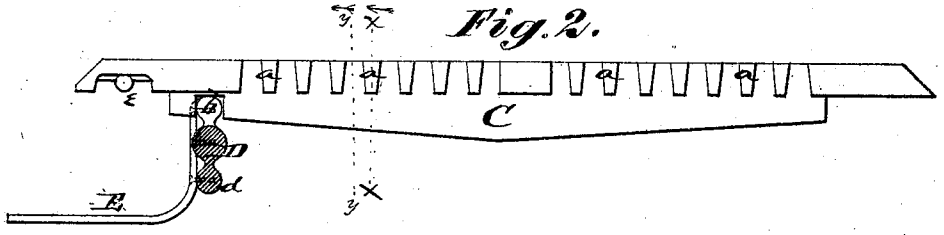

Fig. 3.

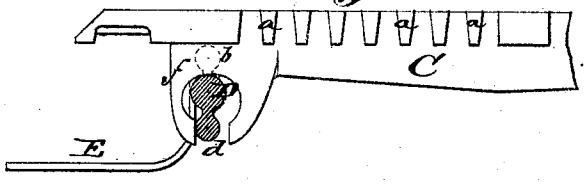

Fig. 4.

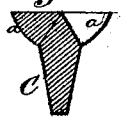

Fig. 5.

Witnesses
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Per
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123,739

UNITED STATES PATENT OFFICE.

JOHN W. STANTON, OF BARNESVILLE, OHIO, ASSIGNOR OF ONE-HALF HIS RIGHT TO HENRY KERSTINE, OF SAME PLACE.

IMPROVEMENT IN GRATE-BARS.

Specification forming part of Letters Patent No. 123,739, dated February 13, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, JOHN W. STANTON, of Barnesville, in the county of Belmont and State of Ohio, have invented certain new and useful Improvements in Grate-Bars; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a grate for furnaces, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a plan view of my improved grate. Figs. 2 and 3 are longitudinal side elevations, partly in section; and Figs. 4 and 5 are cross-sections through the lines *x x* and *y y*.

A A represent end bars, upon which the ends of the grate-bars rest. B B are stationary side bars, between which the grate-bars C C are placed. The ends of these bars are flat where they rest upon the end pieces A A, but the body or main portions of said grate-bars are pentagonal in their transverse section, with an angle at the top, and upon their inclined upper sides are alternate projections *a a*, producing a series of air-courses at regular intervals in all directions. In projections at one end on the under sides of the side bars B B is pivoted a fluted bar, D, running across the grate on the under side, and having projections *b b* on the upper and *d d* on the under side. The projections *b b* are so arranged as to pass in between ears, or a notch cut in the under side of each alternate grate-bar C, while from the under sides of the other grate-bars project ears *f f*, as shown in Fig. 3, which ears have openings through them large enough to allow the free movement of the bar D. This bar passes through said openings, and the projections *d d* on its under side fit in slots made in the ears *f* from the opening mentioned to the lower edge. To the bar D is attached a lever, E, by means of which said bar is caused to oscillate on its pivots or journals, and thereby causing the alternate grate-bars to slide laterally in opposite directions, thus agitating the bars and fuel, and causing the loose ashes to sift through the air-courses. The form of the grate-bars gives increased quantity of air-courses, and hence greater draught to the furnace, and admits of the use of less metal in casting it. One or both ends of each grate-bar may have recess cut in its under side for the admission of a small roller, *e*, which rests upon the end pieces A A for the purpose of facilitating the movement of the grate-bars.

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

1. A grate-bar having the lateral projections *a a* set alternately upon the two sides of the wedge-shaped top, substantially as shown and described, and for the purposes herein set forth.

2. The combination of the grate-bars C C having the lateral projections *a a*, and the pivoted bar D with projections *b b* and *d d*, and lever E, all constructed and arranged substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN W. STANTON.

Witnesses:

SAMUEL M. RIDER,

ROBERT KERSTINE.