

J. YOCOM, Jr.

Grate Bar.

No. 88,355.

Patented March 30, 1869.

Fig. 1.

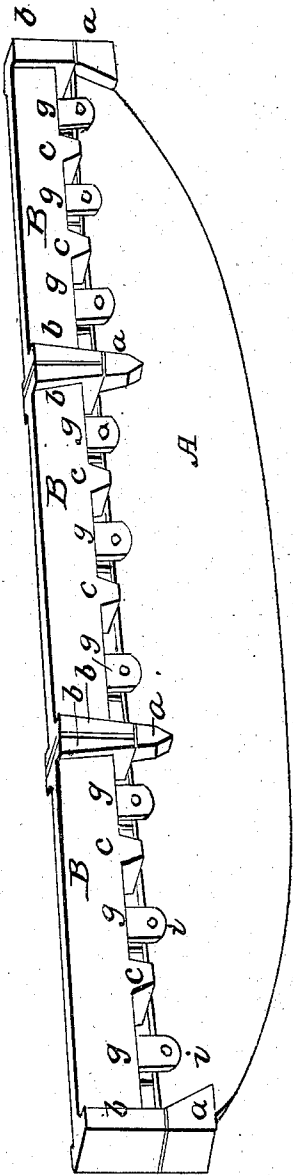


Fig. 2.

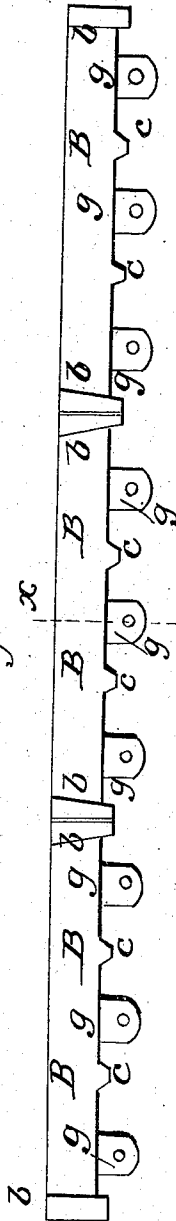


Fig. 3.

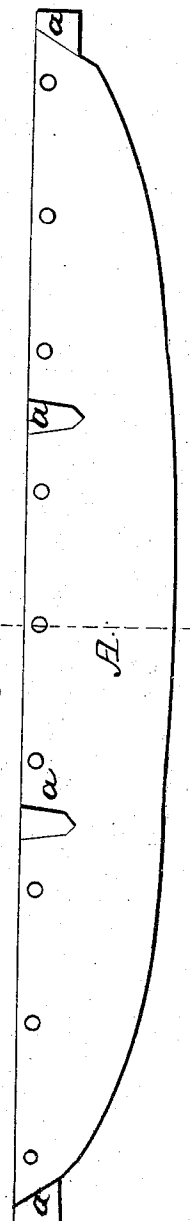
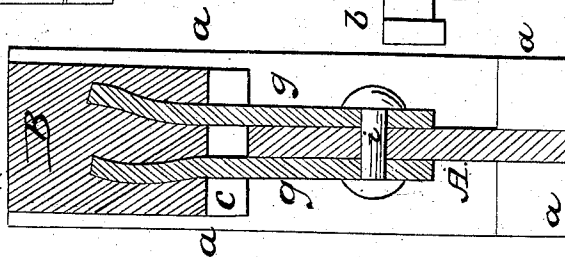


Fig. 4.



Witnesses

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JAMES YOCOM, JR., OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 88,355, dated March 30, 1869.

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, JAMES YOCOM, Jr., of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and improved Grate-Bar; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of one of my improved grate-bars complete.

Figure 2 is a side view of three grate-sections, and their wrought-metal attaching-pieces.

Figure 3 is a side view of the bearer, detached from the grate-sections.

Figure 4 is a cross-section through the grate-bar, showing the mode of attaching the sections to their bearer.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to improve that class of furnace-grates which are composed of sections, applied to bearers, so that they can be removed from the latter when too much injured by heat, and other sections applied in their stead.

The improvement consists in uniting the sections, composing the upper exposed portion of a grate, to their bearers, or supporting-bars, by means of wrought-metal straps, or ear-pieces and rivets, in such manner that the expansion and contraction of the parts shall not impair the fastenings, nor render it difficult to remove from the bearers any one or more of the sections which may have been burned too much for use, as will be hereinafter explained.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, I have shown one of the improved grate-bars, having three sections, B B B, secured upon the upper straight edge of a fish-belly bearer, A, by means of wrought-metal ear-pieces, *g g*, and rivets, *i i*.

The bearer A is constructed with laterally-enlarged bearing-points, *a a*, at its ends, and also at intermediate points between its ends, as clearly shown in figs. 1 and 3.

The sections B B B, which are supported upon the upper edge of the bearer, at the points *a a a a*, are constructed with lateral and vertical enlargements, *b*

b, which afford side-spacing abutments between the grate-sections, and also rest on feet for sustaining the sections upon the upper edge of the bearer A, at points *a*, so as to leave, between these sections and bearer, air-circulating spaces, as shown in fig. 1.

The ear-pieces *g g* are permanently applied to the sections B, by casting their upper portions into these sections, as indicated in fig. 4. This can be readily done by arranging the ear-pieces *g* in a proper manner with the mould in which the sections are produced, and pouring the metal around them, so that their upper ends will be firmly embedded in the metal of the sections.

These ear-pieces *g g* are arranged in pairs, and extend from the lower edge of each section B far enough to receive between them the upper edge of the bearer A. By means of the rivets *i*, passed transversely through the ears *g*, and bearer, as shown in the drawings, the sections are firmly secured in their places.

By the use of wrought-metal fastenings, as above described, the sections B B B and bearer A, can be firmly secured together, so that neither shrinking nor expansion of the parts can effect a detachment.

The wrought-metal fastenings will not casually break when exposed to heat, nor will they be liable to burn out as I have them arranged.

The rivets *i*, which connect the ears *g* to the bearer, can be readily removed when it is desired to substitute a new section for one which has been burned so as to render it useless. This is done by cutting off the heads of the rivets, and driving them out of their places.

I am aware that it is not new to connect sections, composing a furnace-grate, to their bearers, by means of dovetail and other fastenings, composed of the same metal of which the sections are made, and, therefore, I do not claim such contrivances as my invention.

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

1. A sectional grate-bar, having the sections B connected to the bearer A by wrought-metal ear-pieces, *g*, substantially as described.

2. Grate-bar sections B, which are cast with wrought-metal pieces *g g*, substantially as described.

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Witnesses:

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