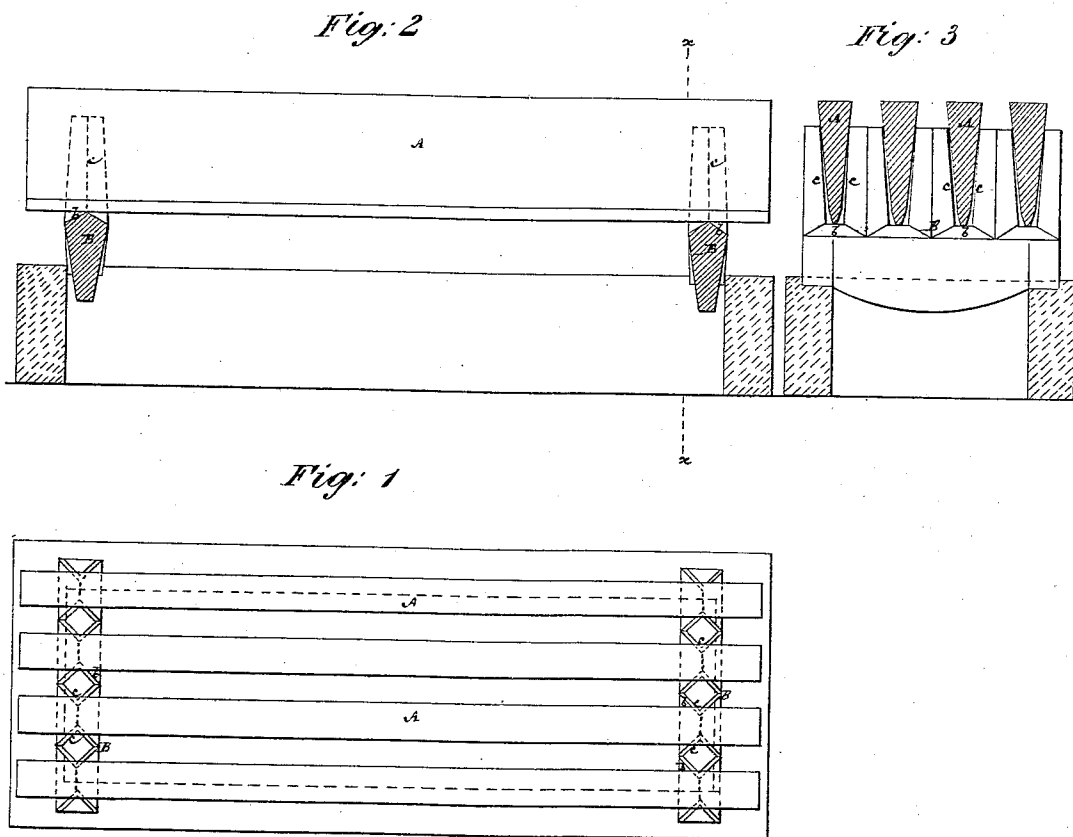


W. BROWN.
Grates for Furnaces.

No. 148,923.

Patented March 24, 1874.



Witnesses:
Michael Ryan
Geo. Haynes

Wm Brown
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

WILLIAM BROWN, OF HOBOKEN, NEW JERSEY.

IMPROVEMENT IN GRATES FOR FURNACES.

Specification forming part of Letters Patent No. **148,923**, dated March 24, 1874; application filed February 7, 1874.

To all whom it may concern:

Be it known that I, WILLIAM BROWN, of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Grates for Furnaces and other purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a plan of a grate constructed in accordance with my invention; Fig. 2, a vertical longitudinal section of the same; and Fig. 3, a transverse section thereof at the line *x x*.

Similar letters of reference indicate corresponding parts.

My invention generally consists in a novel construction of grate-bar and the supports or bearers for the bars of a grate, whereby a free and uninterrupted air-space is provided throughout the whole length of the bar and all around the latter, likewise every facility afforded for putting in and taking out a bar irrespective of the straight or warped condition of it.

Referring to the accompanying drawing, A A represent the bars of a grate made straight in direction of their length, or, in other words, without side lugs or spacing projections, and arranged so that their top edges project above the bearers B B, which support them, whereby a clear air-space is provided throughout the

whole length of the bar. Said bars are of diminishing thickness in a downward direction, and the bottoms *b b* of the bearers on which they rest, as also the sides *c c* of said bearers, between which the bars are slid or arranged, are of such angular construction that they form mere edges where they come in contact with the bar, whereby provision is made for the passage of air all around the bars throughout their length—that is, within the bearers as well as outside of or beyond them—thus serving to keep the bars cool and favoring combustion. Grate-bars thus constructed and fitted to their places may also be put in or taken out with the greatest facility, even though the bars should have become warped.

In the drawing the bars are represented as supported at or near their ends only, but in case of long bars intermediate bearers may be used.

What is here claimed, and desired to be secured by Letters Patent, is—

The bearers B, of angular construction, to form reduced edges at their bottoms and sides *b c*, where they come in contact with the bars, and arranged to stop short of the top edges of the latter, in combination with the bars A, made flush on their sides and spaced by the bearers, essentially as shown and described.

WM. BROWN.

Witnesses:

MICHAEL RYAN,
FRED. HAYNES.