

R. A. HUTCHINSON.

Improvement in Grate-Bars.

No. 130,053.

Patented July 30, 1872.

Fig. 1.

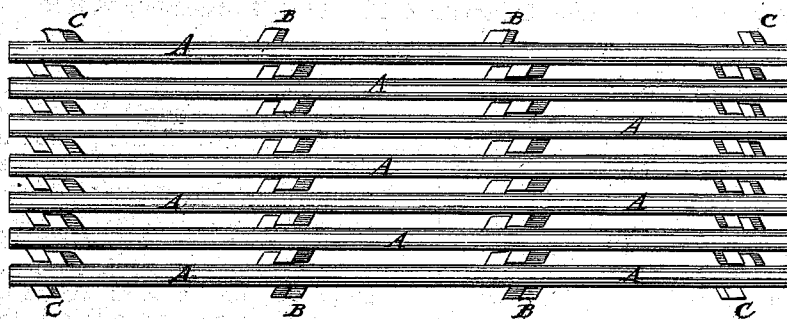


Fig. 2.

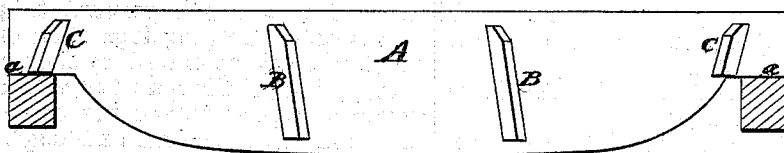


Fig. 3.

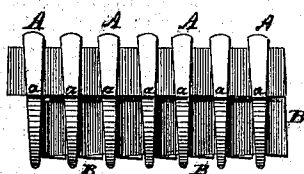
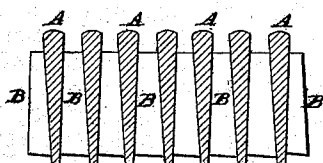


Fig. 4.



Witnesses:

H. Poole
Jno Williams

Inventor,

Ruben A. Hutchinson, by
Orindle and Co. his Attys

UNITED STATES PATENT OFFICE.

REUBEN A. HUTCHINSON, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN GRATE-BARS.

Specification forming part of Letters Patent No. 130,053, dated July 30, 1872.

To all whom it may concern:

Be it known that I, REUBEN A. HUTCHINSON, of Jersey City, in the county of Hudson and in the State of New Jersey, have invented certain new and useful Improvements in Grate-Bars; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a plan view of the upper side of a series of grate-bars constructed and combined in accordance with my improved method. Figs. 2 and 3 are, respectively, a side and end elevation of the same; and Fig. 4 is a vertical cross-section of said bars.

Letters of like name and kind refer to like parts in each of the figures.

My invention has for its object the combination of two or more grate-bars in such a manner as that, while quickly and easily removed when desired, said bars shall so strengthen and support each other as to prevent the action of the heat from warping them, as is usually the case; to which end said invention consists in combining and strengthening two or more grate-bars by means of a series of interlocking lugs, secured upon and extending obliquely across the vertical sides of each bar, substantially as and for the purpose hereinafter specified.

In the annexed drawing, A and A represent a series of grate-bars having a wedge shape, in cross-section, and provided at each end with a horizontal bearing, *a*, all in the usual manner. Secured upon each side of the bars A, between their bearing-ends, are two or more lugs, B, which have, preferably, an inclination of about ten degrees from a vertical line, and are so arranged as that the inner face of one lug exactly coincides in inclination and in transverse position to the outer face of the corresponding opposite lug, so that when two bars are placed together their corresponding lugs shall just meet, as seen in Fig. 1. Upon each side of the bearing-end *a* is placed a short lug, C, which has the same

degree of inclination as in the lugs B, but is set at the opposite angle therefrom, so that when two or more bars are placed in connection the lugs B and C hold the same in longitudinal position by engaging from opposite sides with their corresponding lugs. In order that the relative lateral position of the bars may be assured the abutting faces of the lugs are made to rake forward, so as to engage with each other, as seen in Fig. 1, the rake of the central and end lugs being exactly the reverse. The grate-bars are now complete, and are placed in position, one at a time, by being dropped vertically downward to place, the downward-converging lugs upon one side of the bar being embraced by the upward-converging lugs of the next bar as the latter is lowered to position, and the whole so firmly united in relative lateral and longitudinal position as to prevent any displacement or derangement through or by reason of heat. As the central lugs have the same inclination, by arranging the bars so as to cause said lugs to incline upward and rearward, or the reverse, the current of entering air can be directed toward the rear or front ends of the fuel-chamber, as may be desired.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. A grate-bar provided upon opposite sides with two or more inclined interlocking lugs, substantially as and for the purpose specified.

2. The means employed for directing the course of the current of air as it passes through a grate, consisting of a series of lugs secured upon and extending obliquely across the contiguous sides of the grate-bars, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 15th day of May, 1872.

REUBEN A. HUTCHINSON. [L. S.]

Witnesses:

JAMES W. FISHER,
SAMUEL W. RICH.