

H.B. Scofield,
Furnace-Grate Bar.
N^o 54,415. Patented May 1, 1866.

Fig. 1.

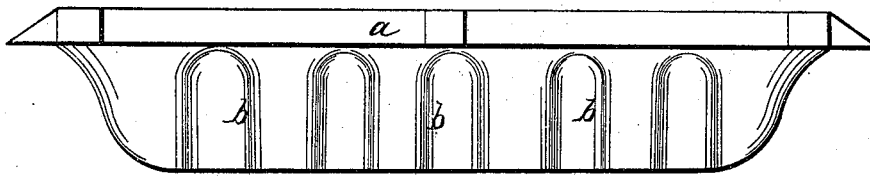
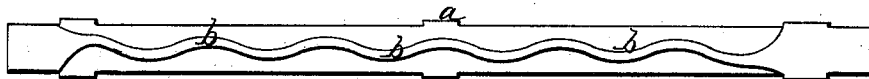


Fig. 2.



Witnesses;
John M. Stebbins
J. R. Bennett

Inventor;
H. B. Scofield,

UNITED STATES PATENT OFFICE.

HORACE B. SCOFIELD, OF NEW YORK, N. Y.

IMPROVEMENT IN GRATE-BARS.

Specification forming part of Letters Patent No. 54,415, dated May 1, 1866.

To all whom it may concern:

Be it known that I, HORACE B. SCOFIELD, of the city and State of New York, have invented, made, and applied to use a certain new and useful Improvement in Grate-Bars for Furnaces; and I do hereby declare the following to be a full, clear, and exact description of my said invention, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a side view of my improved grate-bar, and Fig. 2 is an inverted plan of said bar.

Similar marks of reference denote the same parts.

Grate-bars heretofore constructed are very liable to warp and bend under the action of the fire. The bars very seldom sag downward. They usually arch upward, in consequence of the increased length of the top of the bars in consequence of the expansion by the heat. The ribs heretofore employed upon the under sides of the bars are usually straight, and, not being expanded as much as the top surfaces, there is no opportunity for the bars to remain straight, and nothing to compensate the tendency to warp upward, as aforesaid.

The nature of said invention consists in a grate-bar formed with a rib on its under surface that is corrugated longitudinally, with

vertical or nearly vertical flexures, so that the under or bottom edge of the rib forms a corrugated or waved line, as seen in Fig. 2.

In the drawings, *a* represents the grate-bar, of any usual or desired size or length, with the rib *b* below it, corrugated, as aforesaid, with vertical corrugations throughout its length, or nearly so.

It will be understood that a bar formed with the rib corrugated, as aforesaid, is much less liable to warp or twist, because the corrugations allow the rib to extend slightly in length as the upper part of the bar expands under the action of heat. Hence the top surface of the bar will remain level instead of arching upward, as heretofore usual.

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

A grate-bar for furnaces formed with a straight upper surface and a rib on its under side corrugated in the manner and for the purposes specified.

In witness whereof I have hereunto set my signature this 19th day of February, 1866.

H. B. SCOFIELD.

Witnesses:

JOHN M. STEBBINS,
J. R. BURNETT.