A. STROH.

GRATE-BAR.

No. 189,281. Patented April 3, 1877.

Fig. 1.

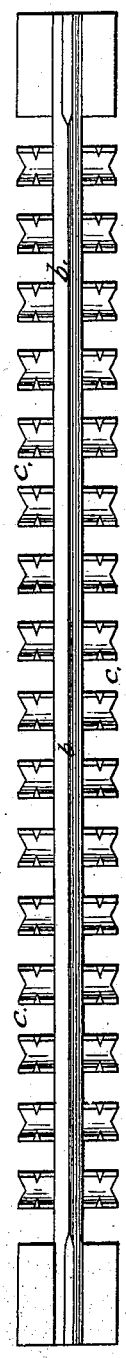


Fig. 2

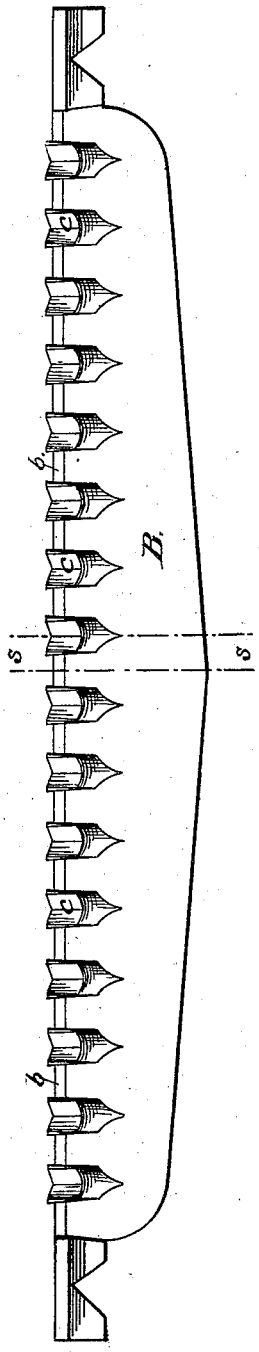
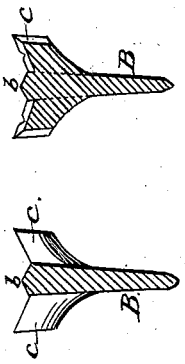


Fig. 3.



Witnesses:

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UNITED STATES PATENT OFFICE.

ABRAHAM STROH, OF MAUCH CHUNK, PENNSYLVANIA, ASSIGNOR TO CHARLES ALBRIGHT AND WILLIAM H. STROH, OF SAME PLACE.

IMPROVEMENT IN GRATE-BARS.

Specification forming part of Letters Patent No. **189,281**, dated April 3, 1877; application filed March 15, 1877.

To all whom it may concern:

Be it known that I, ABRAHAM STROH, of Mauch Chunk, in the county of Carbon and State of Pennsylvania, have invented certain new and useful Improvements in Grate-Bars. I hereby declare that the following is a full, clear, and exact description thereof, which will allow others skilled in the art to which it belongs to make and use the same, reference being had to the drawings accompanying specification, and letters of reference marked thereon, which form a part of this same specification.

The object of my invention is to furnish a grate-bar that will not only have more bearing for the fuel, but also a concave and corrugated fuel-surface in grate, the lowest point being at the central bars, and the highest point being at the end of projecting ribs.

The object of this is to give more bottom surface to fire, and more air-space, and, also, to allow a free circulation of air around and over the central bars and ribs; also, making the bars less liable to spring and warp, and not so easily burned, while the ribs can be made longer, fixing the space between bars wider, reducing the number and cost and increasing air-space.

The invention consists of a central bar, beveled on its upper surface to a thin edge with projecting ribs on both sides of the bar, ribs concave on upper surface, and fluted at their ends, also projecting upward from central bar, and parallel with each other, these ribs projecting higher at their outer ends than at the central bars, being concave on top, and ends fluted, thereby increasing the supply of air and free circulation of the same around and over the grate, making the grate not so liable to spring, warp, or burn, increasing the draft, and exposing the surface of fuel to the grate.

In the accompanying drawing, Figure 1 is a plan view of my grate-bar. Fig. 2 is a side view of the same. Fig. 3 are cross-sections on lines *s s*.

B represents the central bar, which is beveled on top, (shown at *b*,) thus giving an additional free air-supply over the bar, and more fuel-surface exposed to the air. From the sides of the bar concave and fluted ribs *c* project outward and upward parallel with each other, the lowest point being at the central bar, and the highest point at the outer and fluted ends of the ribs, the bar and ribs extending in depth according to the length of grate.

By my improved grate-bar it will be seen that the number and weight of bars are reduced according to the length of ribs. The inclination of the ribs gives more surface for the fuel, at the same time gives more room for the supply of air to the fuel, and free circulation of air around the grate, and more fuel-surface exposed to the air. The upper surface of the grate being concave and corrugated, greatly increases the fire-bottom, all which intensifies the life of the fire, and greatly reducing weight and cost of grate, burning, warping, and springing being greatly prevented.

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

The grate-bar herein described, consisting of the central bar B, raised and beveled on its upper surface *b*, and the concave and grooved ribs *c*, projecting outward and upward from the central bar, making the fire-surface concave, raised, and corrugated, each bar being independent, substantially as described.

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Witnesses:

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