

P. UMHOLTZ & A. UMHOLTZ.

Improvement in Grate-Bars.

No. 131,641.

Patented Sep. 24, 1872.

Fig. 1.

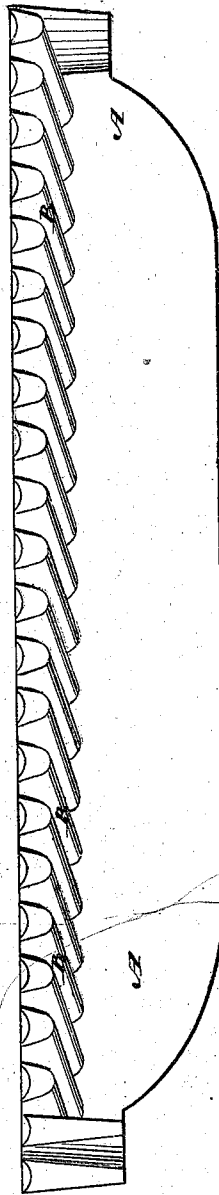
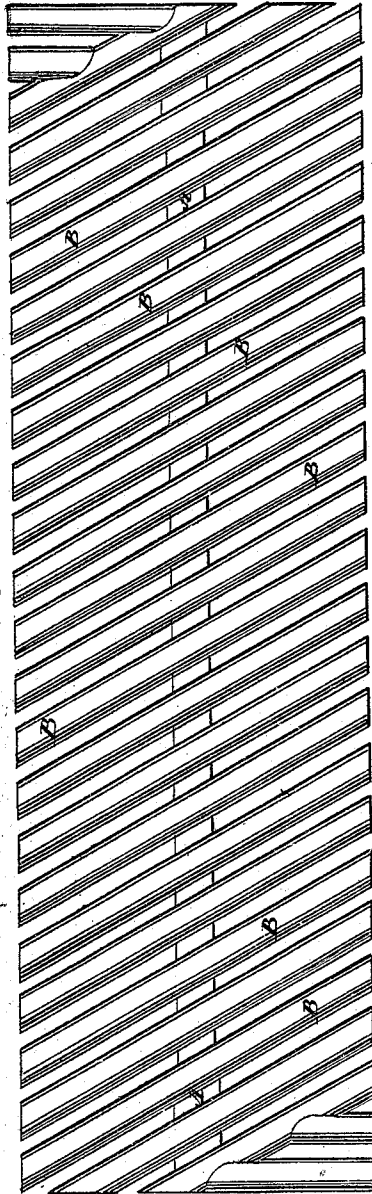


Fig. 2.



Witnesses:

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PER

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UNITED STATES PATENT OFFICE.

PHILIP UMHOLTZ AND AUGUSTUS UMHOLTZ, OF TREMONT, PENNSYLVANIA.

IMPROVEMENT IN GRATE-BARS.

Specification forming part of Letters Patent No. 131,641, dated September 24, 1872.

To all whom it may concern:

Be it known that we, PHILIP UMHOLTZ and AUGUSTUS UMHOLTZ, of Tremont, in the county of Schuylkill and State of Pennsylvania, have invented a new and useful Improvement in Grate-Bars, of which the following is a specification:

In the accompanying drawing, Figure 1 is a side view of our improved grate-bar; and Fig. 2 is a top view of the same.

Similar letters of reference indicate corresponding parts.

Our invention has for its object to furnish an improved grate-bar, which shall be so constructed that its parts may expand freely in all directions without breaking or straining said parts, and without interfering with each other; and it consists in the construction and combination of the various parts, as hereinafter more fully described.

A is the main or carrying bar, which is made deep except at the ends that rest upon the grate-frame or seat. B are the fire-bars, which are cast upon the upper edge of the carrying-bar A so as to project equally upon each side of said bar. The fire-bars B are made deeper at their middle parts, and taper gradually upon their lower sides toward their ends, as shown in Fig. 1. The fire-bars B project an inch or more above the carrying-bar A, so that the cold air may pass between the top of the carrying-bar A and the fire and thus in a measure protect the said carrying-bar from the heat. The fire-bars B are arranged obliquely with respect to the carrying-bar A, and they

are grooved longitudinally upon their upper sides to retain ashes to protect the said bars from the heat, the diagonal position of the bars B preventing the said ashes from being removed by the scraper, and preventing the scraper from catching upon the said bars. The outer ends of the last two inclined bars B, at each end of the grate-bar, are cut off, and the angular space left at the side of the inner end of the last-inclined bar B is filled up with two short bars at right angles with the carrying-bar A. The bars B at the ends of the grate-bar are made as deep as the shoulders at the ends of the carrying-bar A, as shown in Fig. 1. By this construction the ends of the fire-bars, being left entirely free, can expand in any direction as the fire may be hotter in one part than in another, so that the parts will not interfere with each other or be strained or broken.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

As a new article of manufacture, the compound grate-bar described, consisting of the center bar A and the top-grooved and free-ended fire-bars B, constructed and relatively arranged, as shown and described, for the purpose set forth.

PHILIP UMHOLTZ.
AUGUSTUS UMHOLTZ.

Witnesses:

JAMES BROWERS,
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