

T. S. Davis,

Grate Bar.

No. 100,016.

Patented Feb. 22. 1870.

Fig. 2.

Fig. 3.

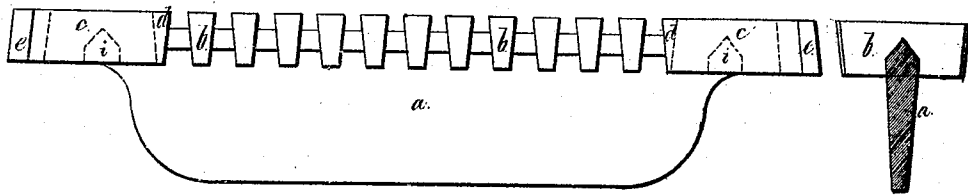
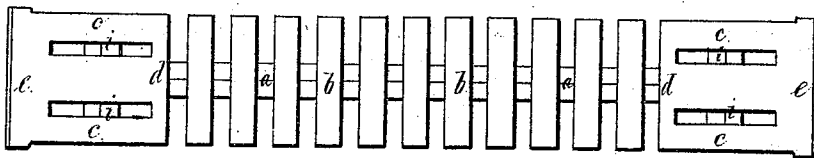


Fig. 1.



Thomas S. Davis,

Witnesses

Chas. Smith,

Geo. D. Walker.

United States Patent Office.

THOMAS S. DAVIS, OF LANCASTER, PENNSYLVANIA.

Letters Patent No. 100,016, dated February 22, 1870.

IMPROVEMENT IN GRATE-BARS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, THOMAS S. DAVIS, of Lancaster, in the county of Lancaster, and State of Pennsylvania, have invented and made a 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 the said invention, reference being had to the annexed drawing making part of this specification, wherein—

Figure 1 is a plan of the said grate-bar;

Figure 2 is a side view of the same; and

Figure 3 is a cross-section of the same at the line *x x*.

Similar parts are denoted by the same letters.

The object of this invention is to give a large extent of air-space for the passage of draught to the fire, and to secure uniformity in the distribution of the air over the entire surface, and at the same time present a nearly flat upper surface for the poker or slice in stirring the fire.

My invention consists in a grate-bar formed with a longitudinal bearer, having a V-shaped upper edge to shed off the ashes, combined with short bars running transversely of said bearer at suitable distances apart, and having flat upper surfaces, the whole being formed of one piece of cast-iron, and the ends of the grate-bar are strengthened by side connections.

By this construction, the proper surface is formed by the bars for the slice to rest upon in stirring the fire.

In the drawing—

a represents the longitudinal bearer formed sectionally, as seen in fig. 3.

Upon this the cross-bars *b b* are supported, said cross-bars being flat on their upper sides, and at such a distance apart that the fuel will not fall through, and said cross-bars and bearer are cast together, the surfaces of the bars *b b* being above the V-top of the bearer *a*.

At the ends of the bar the longitudinal bars *c c* run from the cross-bar *d* to the end bearing piece *e*, and the bearer *a* extends up between these bars *c c*, and unites with the bars *d* and *e*.

I introduce connecting V-shaped bars *i*, between the bearer *a* and bars *c c*, to strengthen said bars.

I am aware that grate-bars have been made with a longitudinal bearer, having cross-pieces of a heart-shape projecting above such bearer, but the same form a rough fire-surface, with nothing to support the poker or "slice."

I claim as my invention—

1. The grate-bar formed of the longitudinal bearer, having a V-shaped upper edge, and with the transverse bars *b b*, the upper surfaces of which are flat or nearly so, and are above the upper edge of the bearer *a*, as set forth.

2. The grate-bar formed by combining the bearer *a*, cross-bars *b*, longitudinal bars *c c*, and transverse bars *d e i*, as and for the purposes set forth.

In witness whereof I have hereunto set my signature this 10th day of September, 1869.

THOMAS S. DAVIS.

Witnesses:

CHAS. H. SMITH,
GEO. T. PINCKNEY.