

ALEXANDER W. FOSTER, Jr.

Improvement in Grate Bars.

No. 120,188.

Patented Oct. 24, 1871.

Fig 1

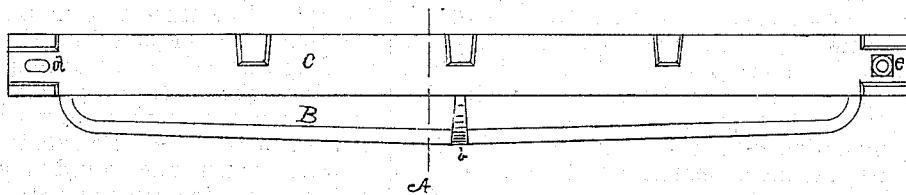


Fig 2

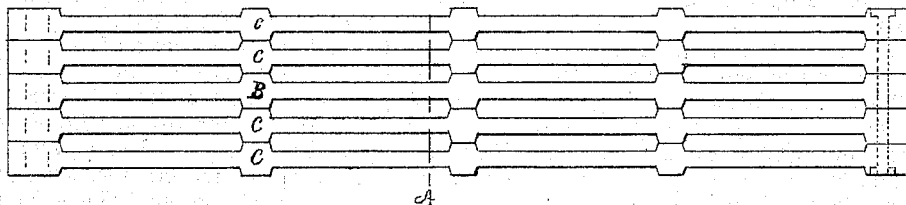
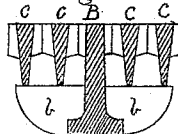


Fig 3



Inventor

Alexander W. Foster Jr

Witnesses

Chas L Foster

Jas E H Foster

UNITED STATES PATENT OFFICE.

ALEXANDER W. FOSTER, JR., OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN GRATE-BARS.

Specification forming part of Letters Patent No. 120,188, dated October 24, 1871.

To all whom it may concern:

Be it known that I, ALEXANDER W. FOSTER, Jr., of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain Improvements in Grate-Bars, of which the following is a specification:

My invention relates to a grate-bar that has the least amount of material with the greatest power to resist destruction from the effects of heat, and also to give the best distribution of air to the fire.

Figure 1 is a side view of a bar embodying my invention. Fig. 2 is a top view. Fig. 3 is a section at A.

B is a heavy bar, with wings cast at *b* to support the lighter bars *c c c c*. *d* is an elongated hole for the reception of a bolt or rivet, as represented at *e*. The bar may be constructed with one or more light bars on each side of the heavy one, and one or more supports, *b*, can be cast or attached to the heavy bar. The advantages of making the middle bar with the heavy part down is to present the least possible amount of metal to the action of the fire, thus keeping it cool and straight.

The advantages in making the side bars light are: First, it divides up the air-space and gives a good distribution of air. Second, they are

much cheaper to replace. Third, they are kept easier in place than a thick bar, for the latter will sometimes become heated on one side, expanding that side and warping or breaking the bar, the light bar heating through more readily and expanding more readily, or rather evenly, than the heavy one. Fourth, if any of the light bars are burned or destroyed they can be replaced without throwing away any other part. The advantage of the elongated hole is that it gives each of the bars a chance to expand or contract independently. The advantage of the support or supports is to hold up or support the light bars against the weight of the fuel.

I claim as my invention—

1. The heavy middle bar B, when made with the heaviest side from the fire, substantially as and for the purpose hereinbefore set forth.

2. The supports *b b*, substantially as and for the purpose hereinbefore set forth.

3. The elongated holes *d* for the reception of the bolts *e*, substantially as and for the purpose hereinbefore set forth.

ALEXANDER W. FOSTER, JR.

Witnesses:

CHAS. G. FOSTER,
JAS. E. H. FOSTER.

(149)