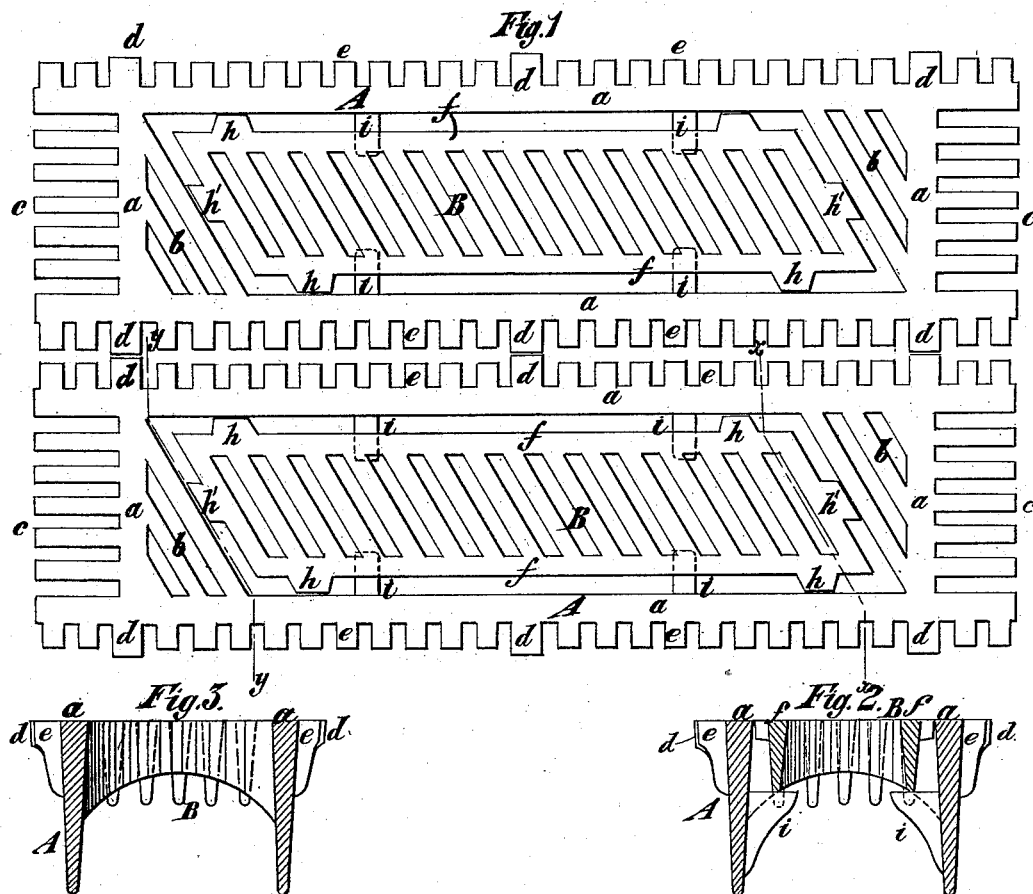


(No Model.)

H. ADAMS.
GRATE BAR.

No. 267,125.

Patented Nov. 7, 1882.



Witnesses
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UNITED STATES PATENT OFFICE.

HAWLEY ADAMS, OF NEW YORK, N. Y.

GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 267,125, dated November 7, 1882.

Application filed September 9, 1882. (No model.)

To all whom it may concern:

Be it known that I, HAWLEY ADAMS, of New York, in the county and State of New York, have invented a certain new and useful Improvement in Grate-Bars, of which the following is a specification.

An important object of my improvement is to render grates more durable and also to provide for readily renewing the portions which become impaired soonest, so that I may thereby extend the usefulness of the grates.

The improvement consists in the combination, in a grate-bar, of an outer frame and a detachable section arranged therein and adapted to be reversed end for end.

It also consists in the combination, in a grate-bar, of an outer frame having a number of short lugs extending from its sides and several longer lugs for extending into proximity with corresponding lugs of adjacent bars, and a detachable section arranged within the same.

In the accompanying drawings, Figure 1 is a plan or top view of two grate-bars embodying my improvement. Fig. 2 is a transverse section of one of them on the planes indicated by the line *x x*, Fig. 1, and Fig. 3 is a transverse section of the same on the planes indicated by the line *y y*, Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

A designates an outer frame of a grate-bar. It has rectangular portions *a*, near the ends of which are several portions *b*, here shown as extending obliquely. An open space of rhomboidal shape is thus formed on the middle or central portion of the bar. At the ends of the frame are long projections or lugs *c*, the spaces between which form passages for air. On the sides of the frame are projections or lugs *d*, which space or regulate the position of the grate-bar relatively to adjacent grate-bars. There are also intermediate shorter projections or lugs, *e*, which serve to support fuel, and the spaces between which form passages for air.

B designates a central section arranged within the frame A. It comprises a frame, *f*, here shown as of rhomboidal shape, and a number of oblique bars, *g*, parallel with the end portions of the frame *f*. Lugs *h* extend from the side portions of the frame *f* into proximity with the sides of the portions *a* of the frame A, so as to maintain the section B in proper relation therewith. On the end portions of the frame *f* are lugs *h'*, which extend into proximity with the oblique portions *b*. The lugs *h* *h'* do not fit tightly within the frame A, sufficient space being left for expansion under the influence of heat. The section B is supported on brackets *i*, extending from the frame A and cast there by means of a core. Owing to the corresponding form of the central space or opening of the frame A and of the section B, the latter may be reversed end for end whenever this may be desirable, and it may be supported in the frame so as to be capable of tilting.

By my improvement a great number of air-passages are provided. Hence durability is increased and the central portion of a grate-bar, which is always the first to become impaired, may be renewed, so as to extend the usefulness of the grate-bar.

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

1. In a grate-bar, the combination of an outer frame and a detachable section arranged therein and adapted to be reversed, end for end, substantially as specified.

2. In a grate-bar, the combination of an outer frame having a number of short lugs extending from its sides and several longer lugs for extending into proximity with corresponding lugs of adjacent bars, and a detachable section arranged within the same, substantially as specified.

HAWLEY ADAMS.

Witnesses:

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