

FURNACES.

Furnace structure,  
Progressive feed,  
Grate, Chain.

Draftsm

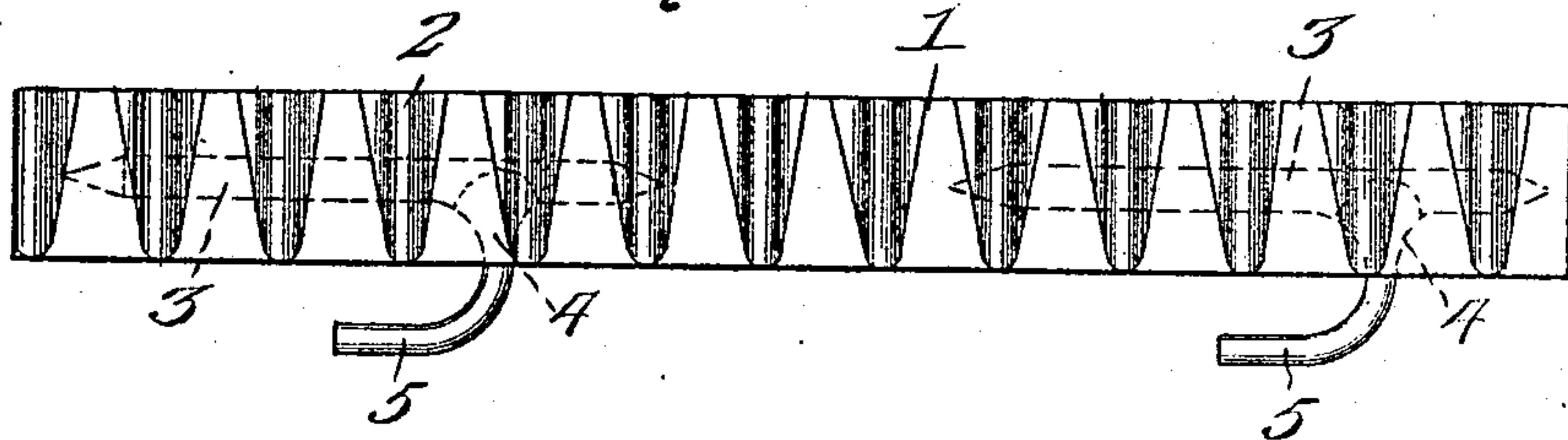
No. 849,986.

PATENTED APR. 9, 1907.

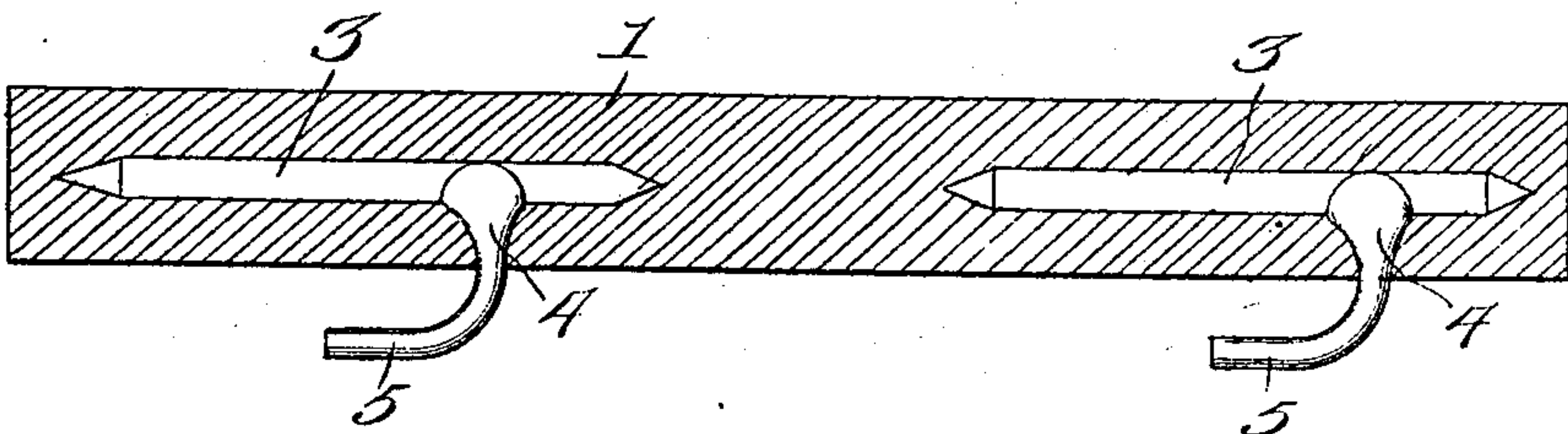
C. H. EATON.  
GRATE BAR.

APPLICATION FILED JAN. 7, 1907.

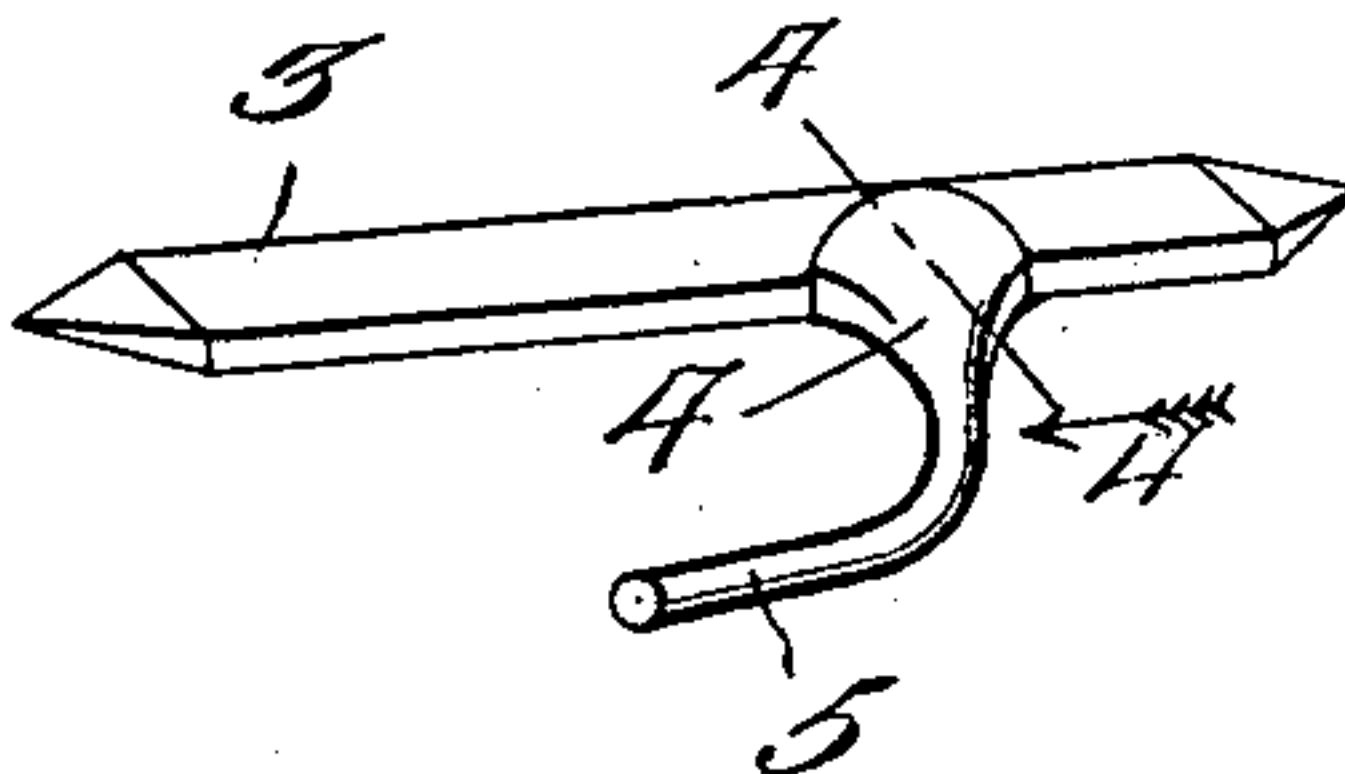
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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Witnesses

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# UNITED STATES PATENT OFFICE.

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## GRATE-BAR.

No. 849,986.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed January 7, 1907. Serial No. 351,152.

*To all whom it may concern:*

Be it known that I, CHARLES H. EATON, a citizen of the United States, residing at Ridlontonville, in the county of Oxford and State of Maine, have invented new and useful Improvements in Grate-Bars, of which the following is a specification.

This invention relates to grate-bars of the type employed in the construction of movable endless grates and in which the bars are connected by chains or the like through the medium of pivoting members or trunnions formed on the bars, it being customary under the present general practice to recess the bars at suitable points between their ends in the operation of forming the trunnions, which mode is, however, seriously objectionable, owing to the extreme liability of the bars breaking at the weakened points, resulting from the formation of the recesses.

This invention has for its objects to provide a comparatively simple inexpensive bar of this type wherein the practice of recessing the bars, together with the objectionable features attendant thereon, are avoided and one wherein the bar is materially strengthened at the points of attachment of the trunnions therewith.

With these and other objects in view the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a side elevation of a grate-bar embodying the invention. Fig. 2 is a section taken centrally and longitudinally therethrough. Fig. 3 is a perspective view of one of the pivoting members and the core by which it is carried. Fig. 4 is a detail sectional view taken on the line 4 4 of Fig. 3.

Referring to the drawings, 1 designates a grate-bar cast or otherwise formed from metal or other suitable material and provided, as usual, on its vertical side faces with transversely-extending laterally-projecting lugs 2, the bar being adapted in practice to perform its ordinary functions.

In accordance with my invention there is during the casting operation embedded centrally in the bar 1 at appropriately-spaced in-

tervals a pair of longitudinally-extending strengthening members or cores 3, composed of wrought-iron or other tough metal, while welded or otherwise fixedly attached, respectively, to the cores 3 is a pair of substantially L-shaped pivoting members or fingers 4, which are in part embedded in the material of the bar 1 and terminated beyond the face of the latter in horizontal chain-engaging portions or trunnions 5, spaced from and extended parallel with the adjacent face of the bar.

In practice the portions 5 of the pivoting members are pivotally engaged, as usual, with the endless chains or belts to which a series of the bars 1 are attached in the formation of the grate, it being noted that under the improved construction the necessity for recessing the bar, with consequent weakening of the latter, is obviated, and, further, that the cores 3, to which the pivoting members are attached, serve the twofold function of maintaining the pivoting members in secure engagement with the bars and of strengthening the latter.

Having thus described my invention, what I claim is—

1. A grate-bar having a strengthening-core embedded therein and a pivoting member attached to the core and terminated beyond the face of the bar in the pivoting-trunnion.

2. A grate-bar having a strengthening-core embedded therein and a pivoting member attached to said core and embedded in part in the bar, said pivoting member being terminated beyond the face of the bar in a chain-engaging portion.

3. A cast-metal grate-bar having a longitudinally-extended strengthening-piece embedded therein and a pivoting member attached to said piece and embedded in part in the bar, said pivoting member terminated beyond the face of the bar in a chain-engaging portion.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES H. EATON.

Witnesses:

ARETAS E. STEARNS,  
J. G. D. LE BEL.