

G. D. PUTNAM.

Bearing-Bars for Furnace-Grates.

No. 150,353.

Patented April 28, 1874.

Fig. 1.

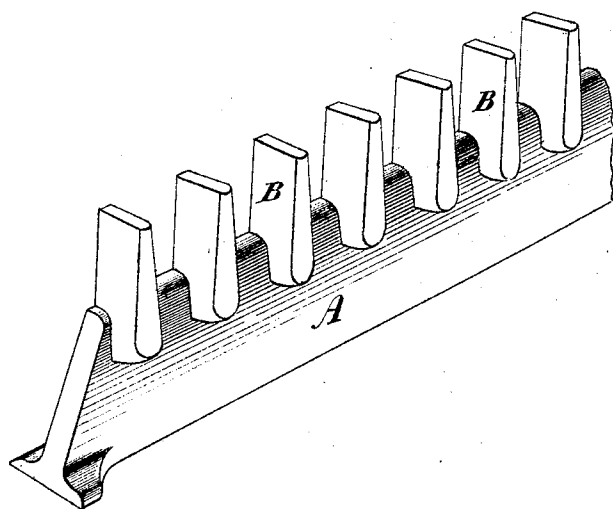
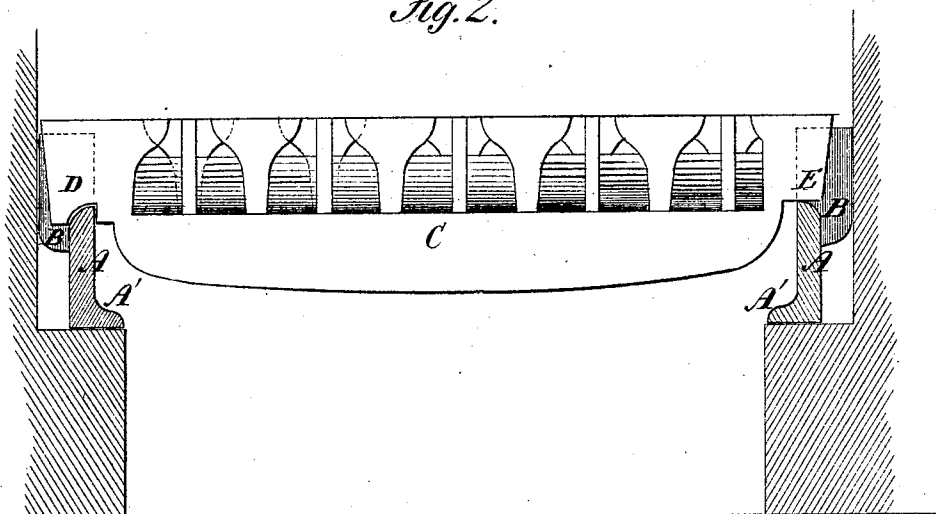


Fig. 2.



Witnesses.
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GEORGE D. PUTNAM, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN BEARING-BARS FOR FURNACE-GRATES.

Specification forming part of Letters Patent No. **150,353**, dated April 23, 1874; application filed March 28, 1874.

CASE A.

To all whom it may concern:

Be it known that I, GEORGE D. PUTNAM, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful Improvement in Bearing-Bars for Grate-Bars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings making a part of this specification, in which—

Figure 1 is a perspective view of a section of a bearing-bar. Fig. 2 is a cross-section of the same, showing the bearing-bars in position, with a grate-bar in place.

The same letters are employed in both figures to designate identical parts.

The object of the bearing-bar which is the subject of my invention is to support the grate-bars in furnaces, so as to allow of their expansion and contraction, and to prevent them from twisting and sagging. In the ordinary bearing-bars, if the grate-bars do not fill out the width of the furnace, they are liable to cant over on their sides, stopping up the air spaces, when they become red hot, and are soon rendered useless. Again, the ordinary bearing-bars are liable to be so placed, or to be so bent after being properly placed, that the ashes cannot escape between them and the walls, and the grate-bars, bearing against the ashes which will accumulate and be packed between their ends and the walls, can no longer expand, and will, consequently, be warped and twisted.

The manner in which my improved bearing-bars obviate these difficulties will readily appear from the following specification and claim.

In the annexed drawings, A is the body of the bar, flat along one face, and having a molding, A', along the lower edge on the other face, forming a foot on which the bar rests, and strengthening it. A series of partitions, B B, are cast upon the upper edge of the bar A, placed at suitable intervals, to receive and sustain the ends of the grate-bars. These partitions project on the sides of the furnace-walls

a sufficient distance to maintain an air-space between the bar and the wall, so that not only may the temperature of the bearing-bar be kept down by the current of cold air ascending between it and the wall, but the accumulation of ashes at that point to prevent the expansion of the grate-bars is avoided.

Instead of attaching the bearing-bars to the walls in the ordinary manner, I prefer to rest them on ledges built in the walls, so as to permit their free expansion and contraction. When the grate-bars are in place, the bearing-bars cannot be displaced, for they will be confined by the grate-bars C, which I prefer to construct, as shown at D, with a hook or concavity at one end, where it rests on the bearing-bar, and flat at the other end, as shown at E, so that the grate-bar may freely expand and contract without straining the bearing-bars.

The length of the partitions B B should be somewhat less than the thickness vertically of the ends of the grate-bars, so that they may be protected, by the thickness of a bed of ashes resting upon their ends between the grate-bars, from the action of the fire.

It is obvious that the form of this bearing-bar may be changed, to adapt it to grates of different forms. I do not, therefore, limit my claim to the precise form shown; but

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

Bearing-bars for furnace-grates, constructed with a series of partitions, B B, projecting from their upper edge, supporting the grate-bars in their proper place, defining the air-spaces between them, and maintaining a constant air-space between the bearing-bar and furnace-walls, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE D. PUTNAM.

Witnesses:

C. H. CROSBY,
HENRY COLLINSON.