

M. Hodgson,

Furnace Grate.

No. 105,942.

Patented Aug. 2. 1870.

Fig. 1.

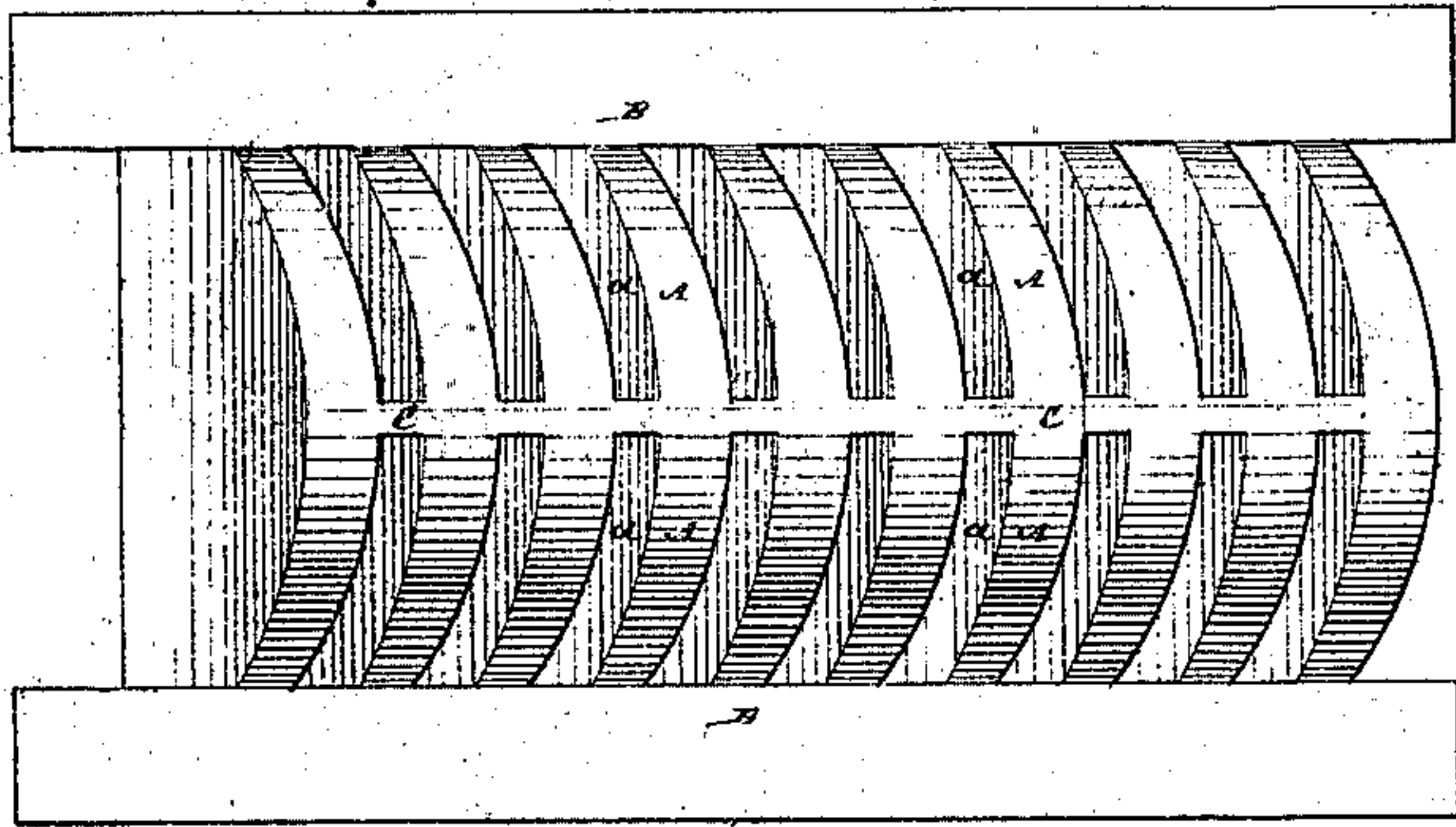


Fig. 2.

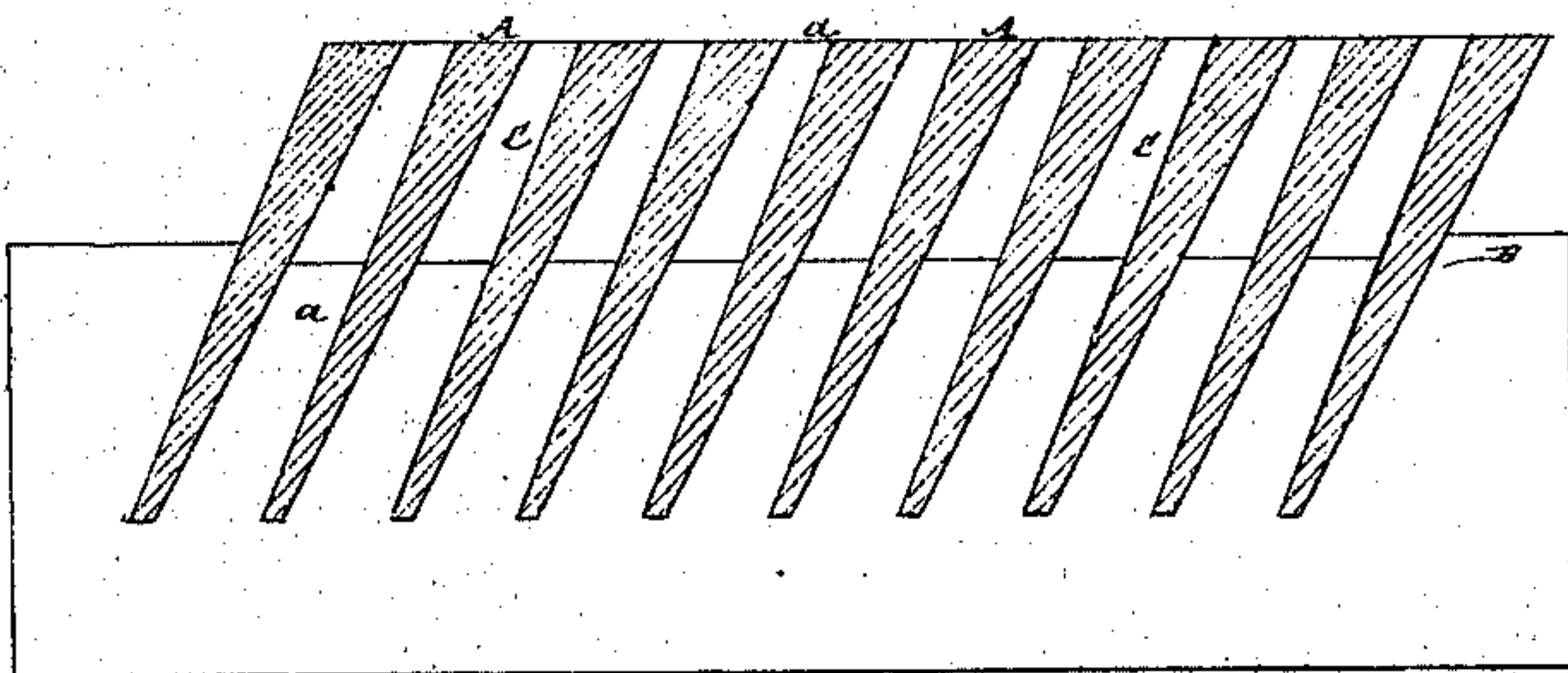
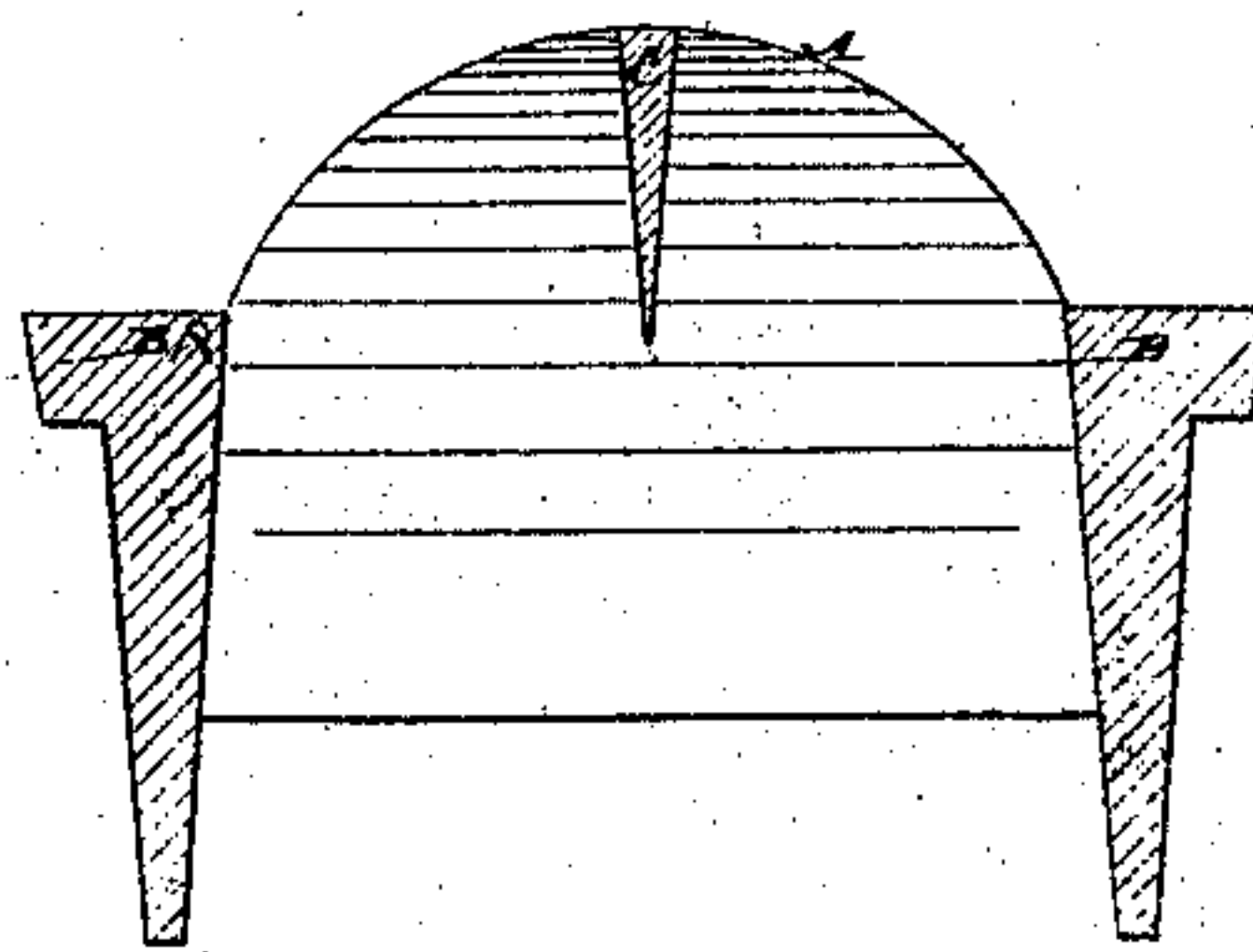


Fig. 3.



Witnesses:

Fred. Harnes
R. Mabeau

M. Hodgson
per C. M. Combs
Attorneys

United States Patent Office.

MARK HODGSON, OF EAST SAGINAW, MICHIGAN.

Letters Patent No. 105,942, dated August 2, 1870; antedated July 19, 1870.

GRATE-BAR.

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, MARK HODGSON, of East Saginaw, in the county of Saginaw and State of Michigan, have invented a new and useful Improvement in Grate-Bars, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figure 1 represents a plan of a grate-bar constructed in accordance with my improvement;

Figure 2, a longitudinal section of the same; and

Figure 3, a transverse section thereof.

Similar letters of reference indicate corresponding parts.

My invention relates to grate-bars, of arched or curved form on their upper surface, and consists in a certain combination of cross-bars, of arched or curved form on their tops, and set inclining, to favor a less thorough or abrupt break in the draught, with side supports, arranged to occupy a lower position, and a central support level with the tops of the arches.

A grate-bar thus constructed will be found both durable and economical in its use, and possesses many advantages over other constructions which form arched supports for the coal.

In the accompanying drawing—

A A represent the cross-bars, of arched or curved form on their upper surface, and set inclining in a backward direction upward, as seen in fig. 2, leaving air and ash-spaces or openings *a a* between them.

This inclined direction of the cross-bars and their intermediate openings improves the draught, inasmuch as the same break or obstruction is not offered to the incoming air as vertical openings, arranged between cross-bars set to occupy a vertical position,

would present; also, such inclined position of said bars, taken in connection with their convex upper surface, does not offer the same facility for fine fuel to fall through the grate, unburnt, that bars of arched form at their tops, but arranged to form vertical openings, do.

These cross-bars A A are supported at their ends, on either side, by longitudinal bars or bar-connecting surfaces B B, which, by their lower position, are free from destructive exposure by the fire, and serve to keep the cross-bars from warping and sagging, a central or intermediate longitudinal bar or tie portion or portions, C C, also serving to thus protect and stiffen the cross-bars A A, and, by arranging such central bar to lie on a level at its top with the upper surfaces of the arches or cross-bars, provision is afforded for working a clinker-bar over the grate to clear it, and that otherwise it would be difficult or impracticable to do.

What is here claimed, and desired to be secured by Letters Patent, is—

1. A grate-bar, composed of suitably-supported cross-bars A A, set to occupy an inclined position, as described, and of curved or arched form on their tops, substantially as specified.

2. The combination of the inclined cross-bars A A, of curved or arched form on their upper surfaces, the longitudinal side bars or portions B B, and the central longitudinal tie-bar or portions C C, arranged to extend upward, so as to lie on a level with the upper surfaces of the cross-bars, essentially as shown and described.

MARK HODGSON.

Witnesses:

ALFRED W. NEWTON.

IRVING M. SMITH.