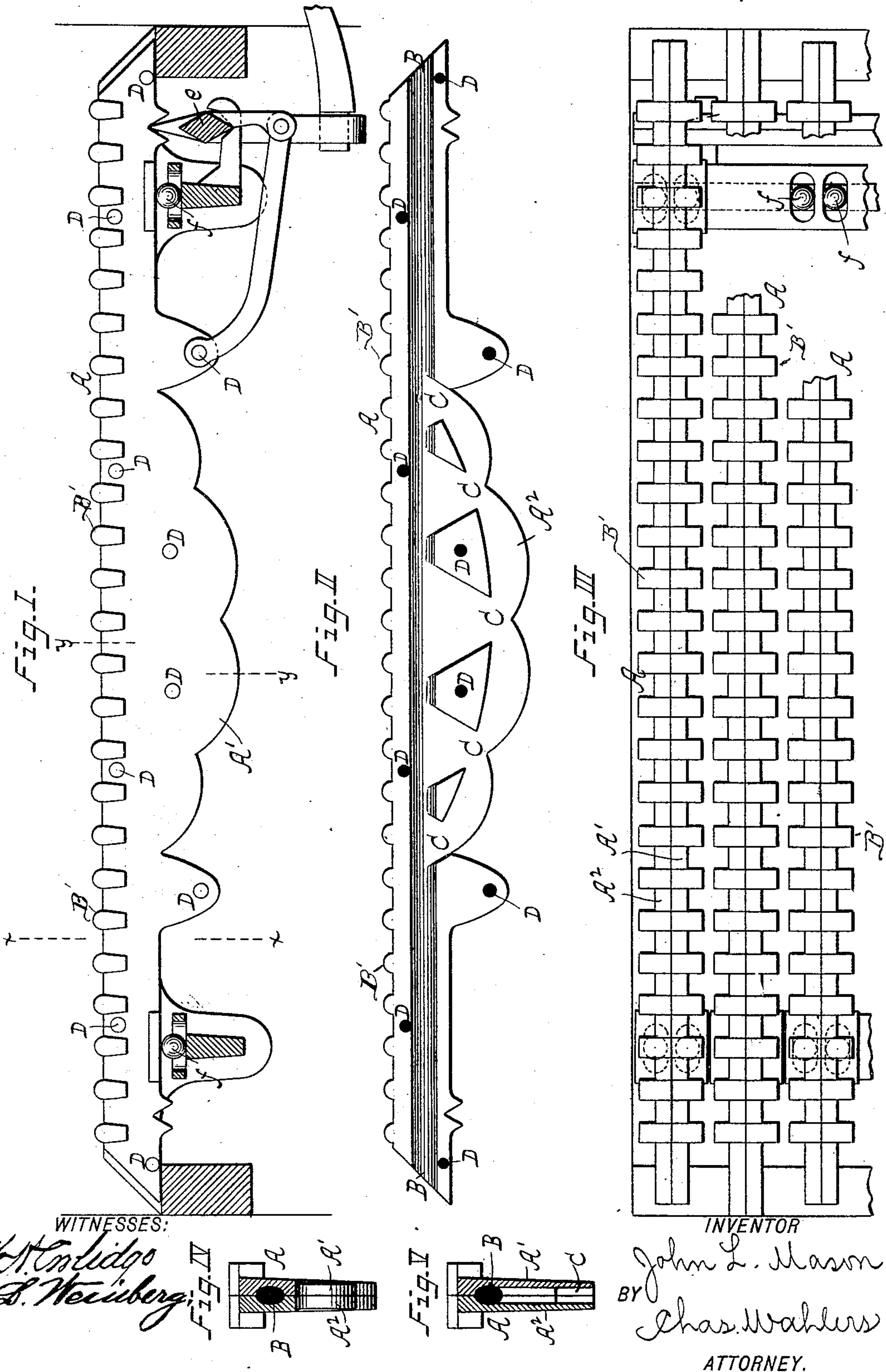


(No Model.)

J. L. MASON.
GRATE BAR.

No. 506,922.

Patented Oct. 17, 1893.



UNITED STATES PATENT OFFICE.

JOHN L. MASON, OF BROOKLYN, NEW YORK.

GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 506,922, dated October 17, 1893.

Application filed July 16, 1892. Serial No. 440,248. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. MASON, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Grate-Bars, of which the following is a specification.

The general object of my invention is to so construct a grate-bar as to permit a circulation of air through the body of the article, with a view to counteract the effect of the heat to which it may be exposed; and to this end it consists of the novel features hereinafter described.

In the accompanying drawings: Figure I, represents a side view of a grate-bar embodying my invention as it appears when mounted in a furnace. Fig. II, represents a vertical longitudinal section thereof. Fig. III, represents a plan or top view of a series of the bars. Fig. IV, represents a cross section of the bar on the line $x-x$ Fig. I. Fig. V, represents a like section thereof on the line $y-y$ Fig. I.

Similar letters of reference indicate similar parts.

The letter A, indicates the body of the grate-bar which is hollow and has an opening B, at each of its ends, together with a series of openings C, at the bottom, intermediate of the ends thereof. The effect of the end-openings B, is to permit a circulation of air in a longitudinal direction and that of the bottom openings C, to permit a circulation of air in a vertical direction, through the hollow bar; and it will be apparent that by this means the bar is kept in a comparatively cool state, tending to counteract the effect of the heat thereupon; the result being to produce an extremely durable bar, by its requiring least frequent renewal in the furnace.

The central portion of each of the bars in which the openings C are made, is of increased depth, and the walls of said openings diverge from the bottom upward to the passage B, so that the said openings are of increasing

width, whereby the air finds a ready inlet to said passage B. The depth of the bar at the mouth or lower end of the openings is less than the depth at the solid part of the lower wall or bottom of the bar between the openings, so that air can readily enter the bar and at the same time the strength of the bar be not impaired.

The body of the bar is provided with external ribs B' on the top and sides, thereby strengthening the same.

In order to facilitate the hollow construction of the body A, with its openings B, C, the same is divided into two sections A', A², which are united by rivets D, or other suitable means; such division being in the vertical longitudinal plane of the bar, and the openings being at points between the sections, partly in one and partly in the other, as shown.

In applying the bar to use it may be connected with a rocking bar e, for imparting thereto a longitudinally reciprocating motion, as upon rollers f, supporting the bar.

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

1. A grate bar composed of two sections, each having a passage in its side extending from end to end, and vertical grooves in its central portion of increased width at top, and means for connecting said sections, said parts being combined substantially as described.

2. A grate bar consisting of two longitudinal sections having the passage B extending from end to end thereof, a central portion of increased depth, and external ribs on top and sides, said central portion having a series of openings, the walls of which diverge from the bottom upward, forming openings of increased width from the bottom to the said passage B, said parts being combined substantially as described.

JOHN L. MASON.

Witnesses:

CHAS. WAHLERS,
GEO. BREWSTER.