(No Model.)

W. W. FORREST.

GRATE BAR.

No. 375,870. Patented Jan. 3, 1888.

Fig. 1

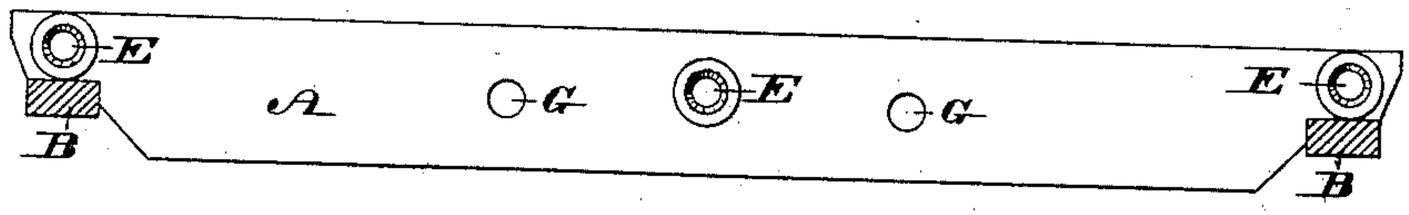

Fig. 2.

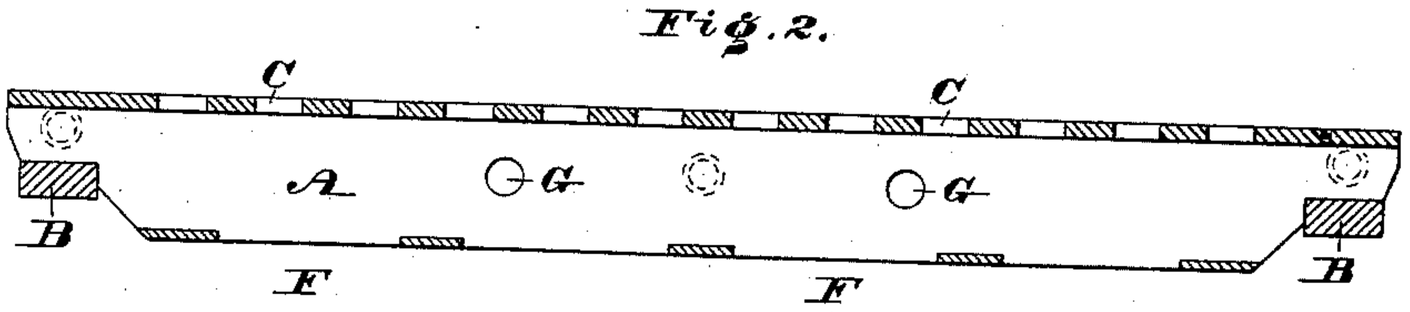

Fig. 3.

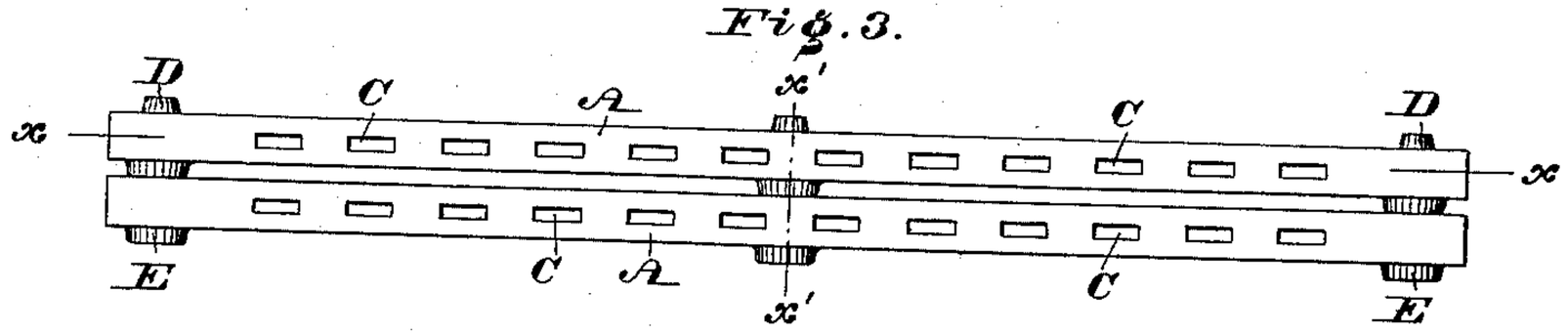

Fig. 4.

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WILLIAM W. FORREST, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO STEPHEN B. COLLADAY AND GEORGE S. HENSEL, BOTH OF SAME PLACE.

GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 375,870, dated January 3, 1888.

Application filed April 15, 1887. Serial No. 234,878. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. FORREST, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Grate-Bars, which improvement is fully set forth in the following specification and accompanying drawings.

My invention consists in an improvement upon a grate-bar patented to me September 21, 1886, No. 349,639, and has a special relation to the better ventilation of my patent grate-bar, and to means for locking the bars together at their ends and middle.

Figure 1 in the drawings is a side elevation of my improved grate-bar, showing the grate-bar supports in cross-section. Fig. 2 is a longitudinal sectional elevation taken on line *x x*, Fig. 3. Fig. 3 is a plan view showing two of my improved grate-bars and locking attachments. Fig. 4 is a cross-section taken on line *x' x'*, Fig. 3, showing the locking and spacing parts.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A represents a grate-bar; B, the supports therefor, and C C ventilating-holes in the top of the bar, and G similar holes in the sides thereof.

D and E represent dowels or joints for locking the bars together at the ends and centers thereof, and F F ventilating-holes in the bottom of the bar, as clearly shown in Figs. 1, 3, and 4.

In my patent above referred to I have clearly set forth the advantages of my improved ventilated grate-bar, and deem it unnecessary to repeat the same here. With this improvement, however, I obtain increased advantages by reason of the fact that the draft is equally distributed throughout the body of the bar, thus keeping all parts at substantially the same temperature and preventing the accumulation of clinkers at any part of the bar. This bar has also special advantages in that it is rendered exceedingly light and strong, and, by reason of the ventilating-holes in the top thereof, causes increased effects in the draft of the fire located above the grate.

The operation of the locking-dowels D and E is obvious, the male part D fitting into the female part E.

It will be understood that a series of bars will be nested together above the bearing-supports B in the manner shown in Fig. 3, and that said bars will be capable of independent contraction and expansion, thus oftentimes avoiding breakage.

I am aware that it is not new to construct a hollow grate bar; neither is it new to provide a grate bar with means integral therewith for locking said bars in place; but I am not aware that it is common to construct a hollow bar, as herein shown and described, wherein the dowel-connections project outward from the sides of the bars, so that when they are locked together the bars are separated, as shown, along their entire length at the top of the sides thereof.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is--

A hollow grate-bar having openings at top, sides, and bottoms, and having the under side of its end portions cut away, forming lips, and having on one side male dowels projecting therefrom and on the other side female dowels, the walls of which project from the side of said bar, substantially as and for the purpose set forth.

WM. W. FORREST.

Witnesses.
JAS. F. KELLY,
TH. ROLLÉ.