

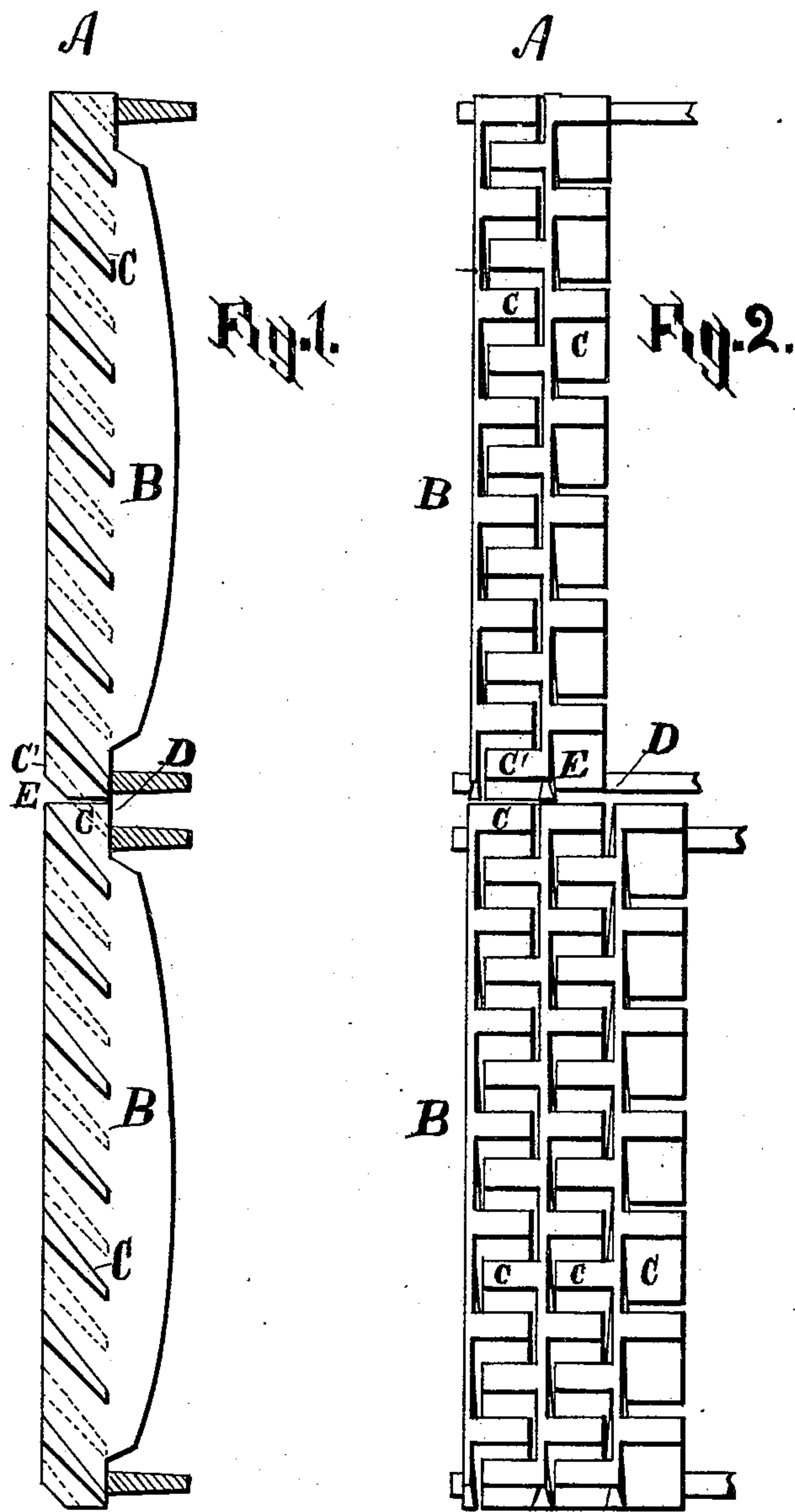
(Model.)

C. HOFFMANN.

GRATE BAR.

No. 356,537.

Patented Jan. 25, 1887.



WITNESSES

John N. McLean  
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INVENTOR

Chas. Hoffmann  
per E. F. Emmert  
his Atty.

# UNITED STATES PATENT OFFICE.

CHARLES HOFFMANN, OF NEW YORK, N. Y.

## GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 356,537, dated January 25, 1887.

Application filed January 25, 1886. Serial No. 189,621. (Model.)

*To all whom it may concern:*

Be it known that I, CHARLES HOFFMANN, of the city, county, and State of New York, have invented a certain new and useful Improvement in Grate-Bars, of which the following is a specification, reference being had to the accompanying drawings, which form part of it.

This invention relates to perfecting the grate-bars for which Letters Patent No. 123,018, issued January 23, 1872, and No. 154,866, issued September 8, 1874, were granted to me; and it consists in constructing the ends of the bars so that when two sets are used in a furnace and come end to end together the blank space or dead-space, due to solid ends of bars, will be prevented and avoided without making it necessary to have a specially-formed traverse bearing-bar, and, furthermore, that the front set of bars is interchangeable with the rear set, and more particularly consists in so casting grate-bars that the front and rear sets of a furnace will be interchangeable.

This invention is shown in the drawings, in which Figure 1 is a longitudinal section, and Fig. 2 a plan view.

Similar letters refer to similar parts in the two views.

A designates a furnace of grate bars B, which bars, as in the patents above referred to, are each provided with oblique ledges C, which interlock, as described in Patent No. 154,866.

In these drawings the letter A designates a furnace-grate, which is composed of grate bars B B', &c. Each of these bars is provided on its sides with oblique ledges *b b'*, &c., (lettered C C' in the drawings herewith,) which are inclined at an angle, and which are so situated that when the bars B B' are placed side by side, as shown in Fig. 2, the ledges *b* of the

bar B will interlock with the ledges *b'* of the bar B', leaving channels *d* between the adjoining ledges, through which air can be forced into the fire. The ends of these bars B are reduced in width, and terminate in a parallel extension, similar to ordinary grate-bars; but they are there also provided with ledges C', and the same air-openings are made to occur there as at other points of the bars. At one end of each bar the upper end angle is beveled or chamfered off, as shown at D, so as to coincide with the top of the terminating ledge C', thus making each bar with differing ends, but so that the one end of one bar is adapted to bunt up against the other end of another bar, when the terminating ledges C and C' will meet each other, and by reason of the bevel form an interstice, E, or opening right through the joint.

Heretofore it has been the case that when the frontal half of a furnace of grate-bars, described in my said patents, were burned out they had to be put aside and a new set substituted. In my improvement the ends are so arranged that when the front half shows any signs of giving out the bars can be interchanged with the rear set, where the fire is usually less hot and where they may last much longer.

Having thus described my improvement, what I claim as new, and desire to secure by Letters Patent of the United States, is—

In a grate-bar provided with oblique-positioned ledges, the terminating ledges arranged at the ends so that they will correspond and meet to form interstices or openings, in the manner and for the purpose specified.

CHAS. HOFFMANN.

Witnesses:

E. F. GENNERT,  
C. F. KELLEY.