

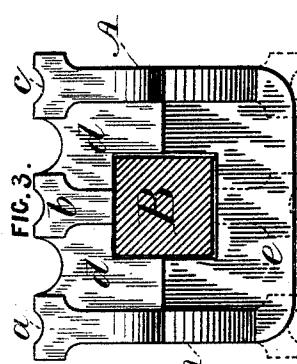
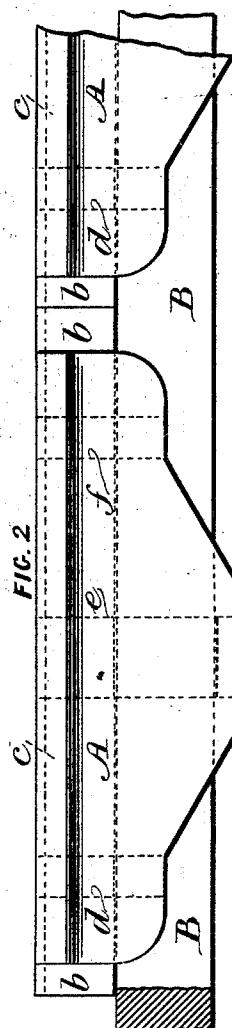
(No Model.)

R. W. PECK.

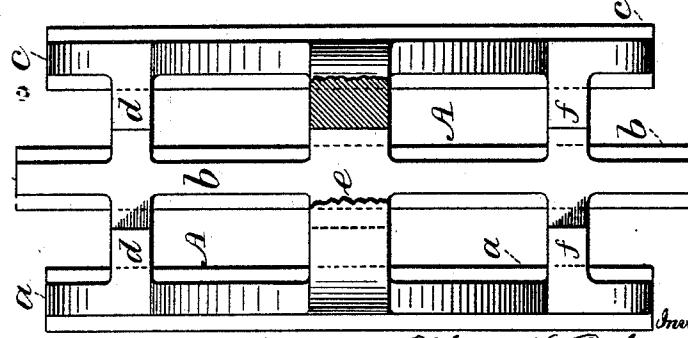
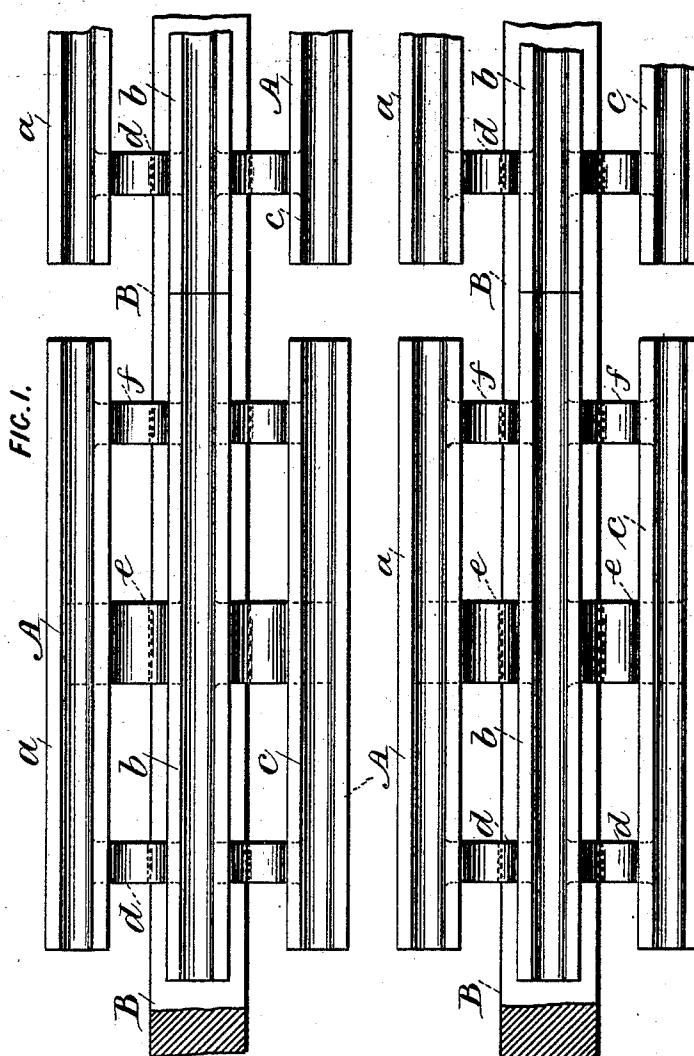
GRATE BAR.

No. 498,024.

Patented May 23, 1893.



Witnesses  
Charles H. Smith  
J. Stahl



Richard W. Peck  
Per Lammel W. Terrell  
Inventor

# UNITED STATES PATENT OFFICE.

RICHARD W. PECK, OF SPARKILL, ASSIGNOR TO GEORGE H. CLARKE, OF BROOKLYN, NEW YORK.

## GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 498,024, dated May 23, 1893.

Application filed June 3, 1892. Serial No. 435,351. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD W. PECK, a citizen of the United States, residing at Sparkill, in the county of Rockland and State of New York, have invented a new and useful Improvement in Grate-Bars, of which the following is a specification.

Heretofore it has been usual to make grate bars for furnaces long enough to extend from one wall of the furnace across to the other and to support such grate bars upon end bearings, and frequently these long bars would be burned out in part and frequently from overheating would sag and change their shape, in both of which cases their usefulness was impaired. Stationary grate bars have also heretofore been made in supported sections of various forms to overcome this objection.

My invention relates to sectional grate bars adapted for use in connection with such large furnaces as are employed in factories and in steam-ships, the object of my invention being to provide a device that is simple and not expensive.

In carrying out my invention I employ grate bars in sections that are alike, and which sections are threaded upon central supporting bars which are adapted to be moved back and forth or rotated, and the surfaces of my improved sections come sufficiently above the supporting bar for protecting the same from injury by the fire, and my sections are of such shape that they cannot readily be warped or injured by the heat, and where they may be injured or in part burned, it is only necessary to remove from the supporting bar the injured section and replace it with a new one. Thus the small section only is destroyed and not the whole bar.

In the drawings, Figure 1 is a partial plan view of my improvement showing part of a grate surface. Fig. 2 is a side view of the same. Fig. 3 is an end view of one section with the supporting bar in section; and Fig. 4 is an inverted plan of one section broken away to show the hole through the center web.

A A represent my improved sections and B the central supporting bars upon which said sections are threaded and supported. The respective ends of the supporting bars B are to be supported or carried by bearings in the

walls of the fire chamber in any desired and usual manner, so as to be capable of rotating back and forth or revolving completely for the removal of ashes or clinkers. Each section A is composed of the longitudinal parallel bars *a b c* connected together by the webs *d e f*, which webs extend across between and are at right angles to said bars. The bars *a b* are also preferably parallel with the bars B.

The central web *e* is made the heaviest and deepest of the three and with a hole (see specifically Fig. 4) for threading the section over the supporting bar B. The shorter end webs *d f* are preferably notched so as to straddle and rest upon the supporting bar B, and these end webs are by preference less in thickness than the central web, and the longitudinal parallel bars *a c* are shorter than the central bar *b*.

When the grate sections are threaded end to end upon the supporting bar B, the ends of the bars *b* come together and leave spaces between the respective ends of the bars *a* and *c*, or in other words, keep the ends of said bars apart. These spaces are about equal to the spaces between the parallel bars *a b c*. I prefer to groove the upper faces of the bars *a b c*, as shown in the drawings, to lessen the action of the fire on the same as used.

As seen in edge view Fig. 2, the under edges of the outer parallel bars *a c* are inclined upwardly toward their respective ends from the central web *e*. This construction permits of economy of material without detracting from the efficiency of the sectional bars.

The respective ends of the supporting bars B may be carried in the usual manner in bearings so as to be capable of rotating back and forth or revolving completely. Thus a shaking action or a complete revolution of the bar B and grate sections may be effected to remove ashes and clinkers from the fire. Each section may also be composed of two sets of parallel bars *a b c* upon opposite sides of the section as shown by dotted lines in Fig. 3 in cases where only a half rotation of the bars is to be employed.

I claim as my invention—

1. The combination with the bar B, of separate removable grate sections, each section having longitudinal bars connected together

by cross webs, the central web being the deepest and perforated to receive the bar B through it and the end webs resting upon the bar B, substantially as specified.

5 2. The combination with the bar B, of separate removable grate sections, each section having longitudinal bars connected together by cross webs, the central web being the deepest and perforated to receive the bar B through it and the end webs notched and adapted to straddle and rest upon the bar B, substantially as specified.

10 3. The combination with the bar B, of separate removable grate sections, each section

having longitudinal bars connected together by cross webs, the central web being the deepest and perforated to receive the bar B through it and the end webs resting upon the bar B, the center bars of the sections being the longest and in line with each other, so as to keep the ends of the shorter side bars apart, substantially as specified. 15 20

Signed by me this 26th day of May, A. D. 1892.

RICHARD W. PECK.

Witnesses:

ANDREW FALLON,  
JOHN C. HEYN.