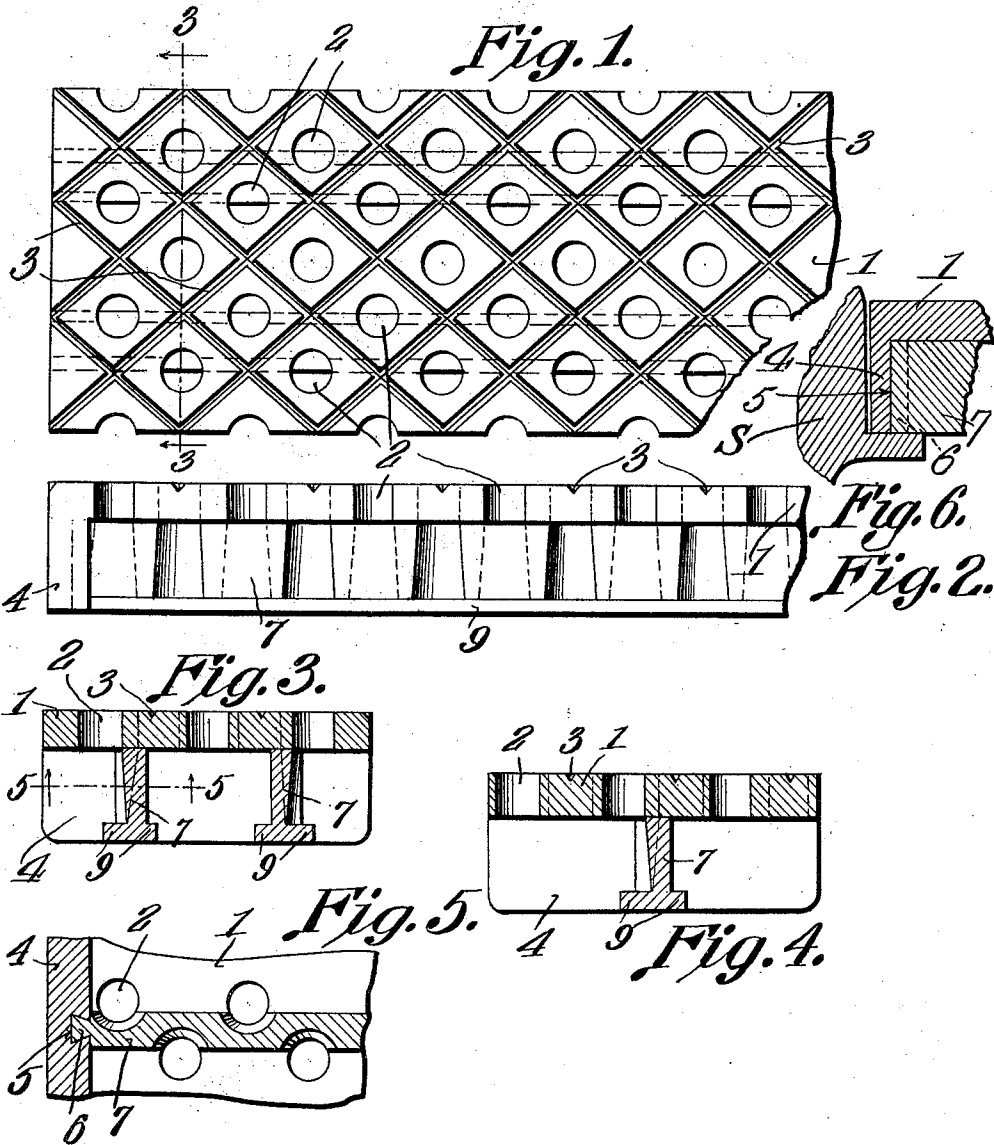


G. L. HOFFER.
GRATE BAR.

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1,030,303.

Patented June 25, 1912.



Witnesses
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UNITED STATES PATENT OFFICE.

GEORGE LINTON HOFFER, OF HATTIESBURG, MISSISSIPPI.

GRATE-BAR.

1,030,303.

Specification of Letters Patent.

Patented June 25, 1912.

Application filed December 24, 1910. Serial No. 599,094.

To all whom it may concern:

Be it known that I, GEORGE L. HOFFER, a citizen of the United States, residing at Hattiesburg, in the county of Perry and State of Mississippi, have invented a new and useful Grate-Bar, of which the following is a specification.

This invention relates to grate bars and one of its objects is to provide a bar of this type having a top plate combined therewith, said plate being formed with a plurality of orifices whereby air may be freely admitted to the fuel, the ribs supporting the said plates being formed with air passages so that the supply of air to the orifices in the plate will not be interfered with.

A further object is to provide a device of this character the top plate of which can be removed in the event of wear, breakage or burning thereof and a new one substituted without the necessity of disturbing the supporting ribs used in connection with the top plate.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed can be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawings the preferred forms of the invention have been shown.

In said drawings:—Figure 1 is a plan view of a portion of a grate bar constructed in accordance with the present invention. Fig. 2 is a side elevation of the parts shown in Fig. 1. Fig. 3 is a section on line 3—3 Fig. 1. Fig. 4 is a view similar to Fig. 3 but showing a slightly modified structure. Fig. 5 is a section on line 5—5 Fig. 3. Fig. 6 is a vertical longitudinal section through one end portion of the grate bar and showing the connection between the web and flange thereof.

Referring to the figures by characters of reference, 1 designates a top plate which is formed of any suitable metal such as cast

iron. This plate is provided with diagonally arranged intersecting cuts or grooves 3, forming substantially rectangular blocks, each having a perforation 2 arranged therein. The forward end of the plate is formed with a flange 4, provided with dove-tailed grooves 5, to receive the tongues 6 of corrugated ribs 7, said ribs resting at each end on a suitable support S. By this arrangement the corrugated ribs are detachably engaged, so that when the plate becomes worn or burned, it is only necessary to raise it out of the fire-box, thus disconnecting it from the said ribs. The concavities in each side of each rib register with the adjacent perforations in the plate. When the burned or used plate is removed a new one may be inserted in its place. The lower edge of each rib 7 has reinforcing flanges 9, which extend the entire length of the corrugated ribs.

What is claimed is:—

1. A grate bar including an apertured plate, a flange extending throughout the width of the plate and extending downwardly from one end of the plate, said flange having a groove in its inner face and perpendicular to the plate, and a rib extending longitudinally under, and supporting the plate, said rib having a tongue upon one end of the rib and detachably seated within the groove, said plate being liftable off of the tongue.

2. A grate bar including a rib having a tongue upon one end of the rib and extending from the top to the bottom thereof, an apertured plate normally resting upon the rib and extending longitudinally thereof, and a flange extending transversely of and depending from one end of the plate and having a groove perpendicular to the plate, said grooves being adapted to receive the tongue, the flange and plate being liftable off of the tongue.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE LINTON HOFFER.

Witnesses:

C. L. SIMPSON,
F. A. SIMPSON.