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PATENTED OCT. 23, 1906.

P. McNAUGHTON.

GRATE BAR.

APPLICATION FILED FEB. 17, 1906.

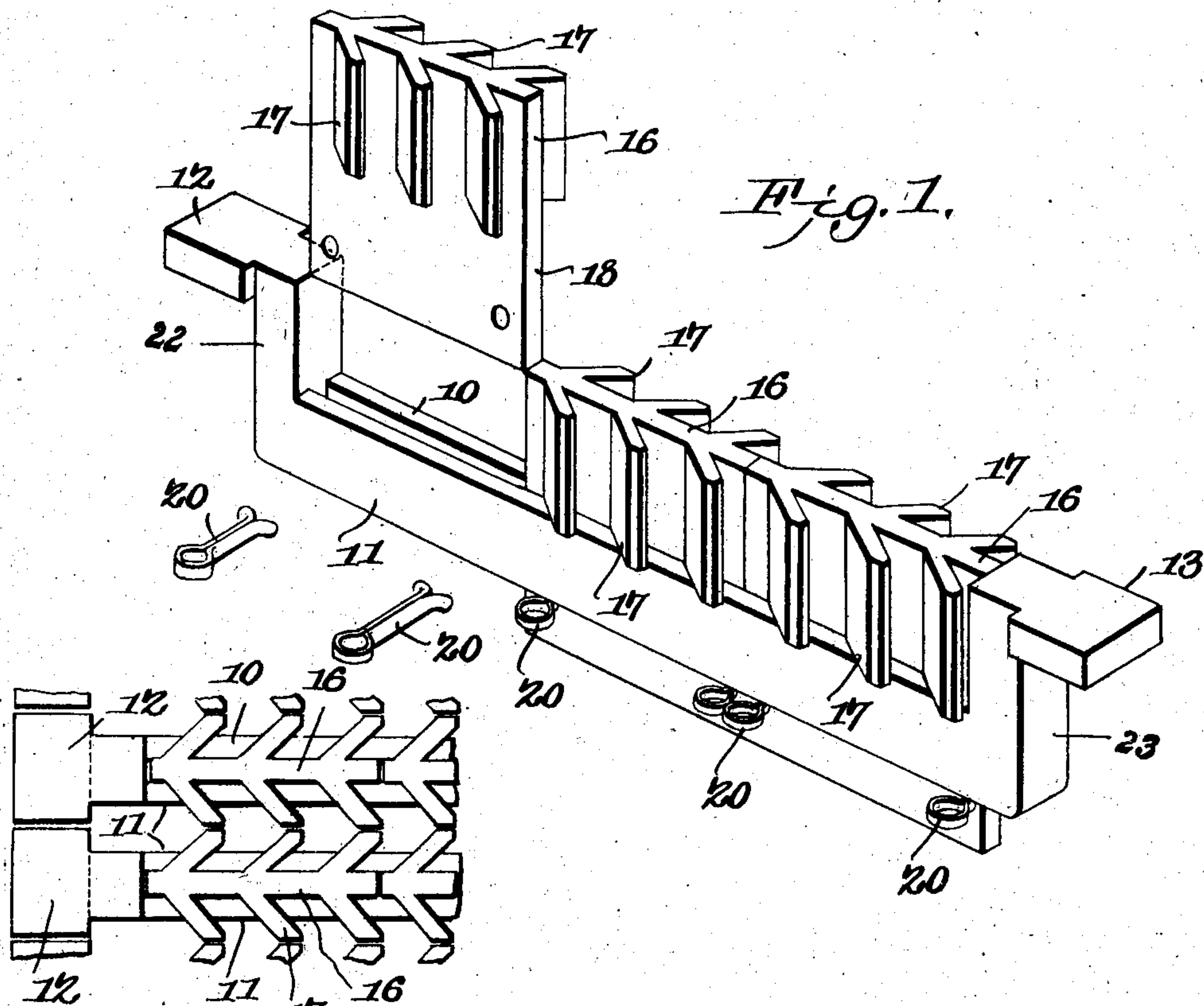


Fig. 4.

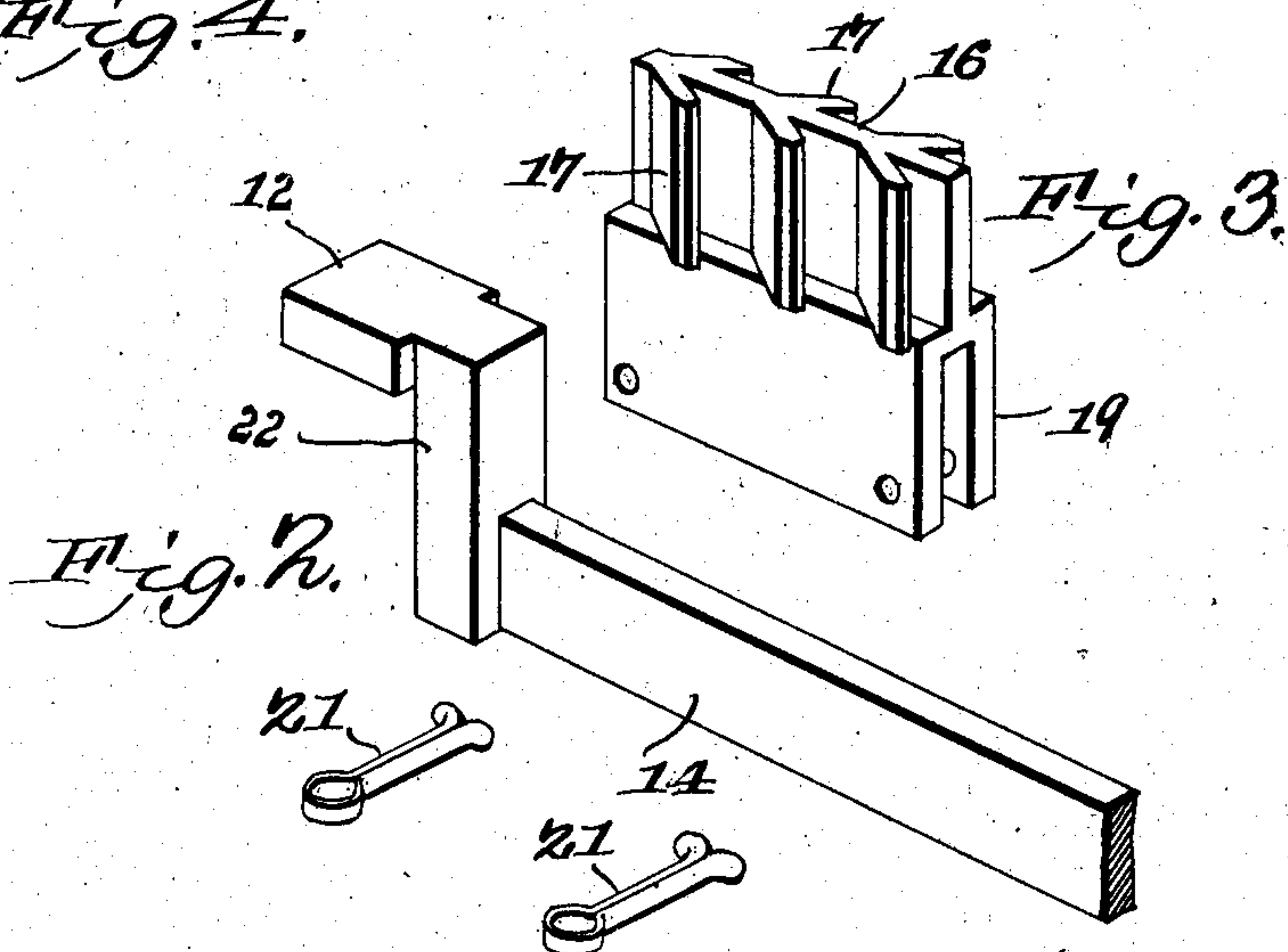


Fig. 3.

WITNESSES:

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PETER McNAUGHTON, OF CHARLOTTE, MICHIGAN.

GRATE-BAR.

No. 833,845.

Specification of Letters Patent.

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Application filed February 17, 1906. Serial No. 301,644.

To all whom it may concern:

Be it known that I, PETER McNAUGHTON, a citizen of the United States, residing at Charlotte, in the county of Eaton and State of Michigan, have invented a new and useful Grate-Bar, of which the following is a specification.

This invention relates to furnace grate-bars of the class having detachable fuel-bearings, and has for its object to improve the construction and increase the efficiency of devices of this character.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists of certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation.

Figure 1 is a perspective of one of the improved grate-bars with one of the fuel-bearings in partly-detached position. Fig. 2 is a perspective view of a modified form of bar. Fig. 3 is a perspective view of the modified form of fuel-bearing employed upon the form of bar shown in Fig. 2. Fig. 4 is a plan view of portions of the improved grate-bars arranged side by side to illustrate their coactive relations.

The improved device when applied comprises in general a plurality of supporting devices having means for suspending them spaced apart in the fire-chamber and a plurality of interchangeable fuel-supports, each embracing in its construction an elongated plate, the plate adapted to be supported end to end upon the supporting devices with their upper faces flush with each other and also flush with the end portions of the supporting devices and each plate also having a plurality of spaced lateral wings.

The supporting devices are formed with end bearings 12 13, depending portions 22 23, and connecting-bars between the lower ends of the depending portions.

The connecting-bars may be arranged in pairs spaced apart, as at 10 and 11 in Figs. 1 and 4, or in a single-bar, as at 14 in Fig. 2.

The elongated plates which form the central portions of the fuel-bearings are represented at 16 and are adapted to be arranged

end to end between the depending portions 22 23, with the end plates abutting against the same and with their upper faces flush with each other and also flush with the upper faces of the end bearings 12 13.

The lateral wings are represented at 17 and are so arranged that the several wings of each fuel-bearing correspond to and bear against the wings of the adjacent bearing, as represented in Fig. 4.

The wings are preferably inclined to the plane of the plate 16, from which they extend, as shown.

When the structure shown in Fig. 1 is employed, the lateral wings 17 bear upon the bars 10 11, and the depending portions 18 are perforated to receive spring-keys 20 or other easily-detachable fastening means.

When the construction shown in Fig. 3 is employed, the forked portion 19 is likewise perforated to receive spring-pins or other fastening means 21.

The fuel-supports are precisely alike and are therefore interchangeable.

The plates 16, with their wings 17 and other portions, may be of any required length and any required number may be employed, and when one section is burned out or broken it can be easily replaced and the grate-bar restored without the necessity for discarding the remaining and unburned fuel-supports and the supporting devices. The "life" of the device is thus materially increased and its value and efficiency correspondingly increased.

The supporting devices and the fuel-supports carried thereby are thus disposed entirely below the upper face of the bearings 12 13, so that the steadiness of the device is materially increased and all tendency to lateral displacement obviated. The upper faces of the bearings 12 13, plates 16, and wings 17 being constantly flush with each other present no obstruction to the poker or other implement employed in clearing the grate of clinkers or in stirring the fuel to release the ashes and clinkers and cause them to fall through the interstices between the bars and fuel-supports.

Having thus described the invention, what is claimed is—

In a grate-bar, a supporting device comprising end bearings having vertical depending portions and with a bar extending between the lower terminals of said depending portions and arranged side by side in the fire-

chamber, fuel-supports consisting of plates arranged end to end upon said bar with their upper faces flush with each other and also flush with the end bearings and each plate provided with spaced lateral wings reversely inclined to the longitudinal planes of the plates, said inclined wings of one bar extending to the inclined wings of the next bar, whereby the incline faces extend constantly away from the line of movement of the implements em-

ployed in manipulating the fuel upon the grate-bars, and means for detachably coupling said plates to said bar.

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

PETER McNAUGHTON.

Witnesses:

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H. M. WILLIAMS.