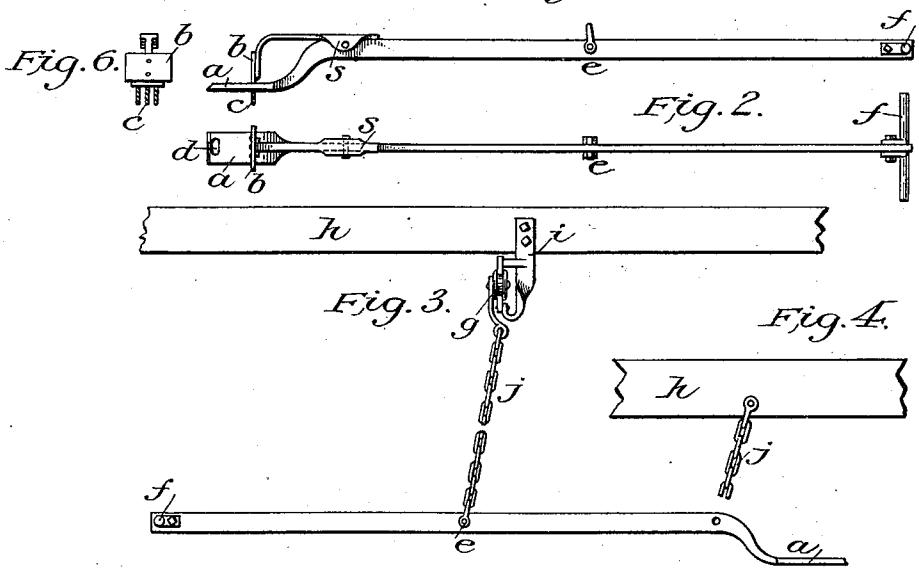
(No Model.)

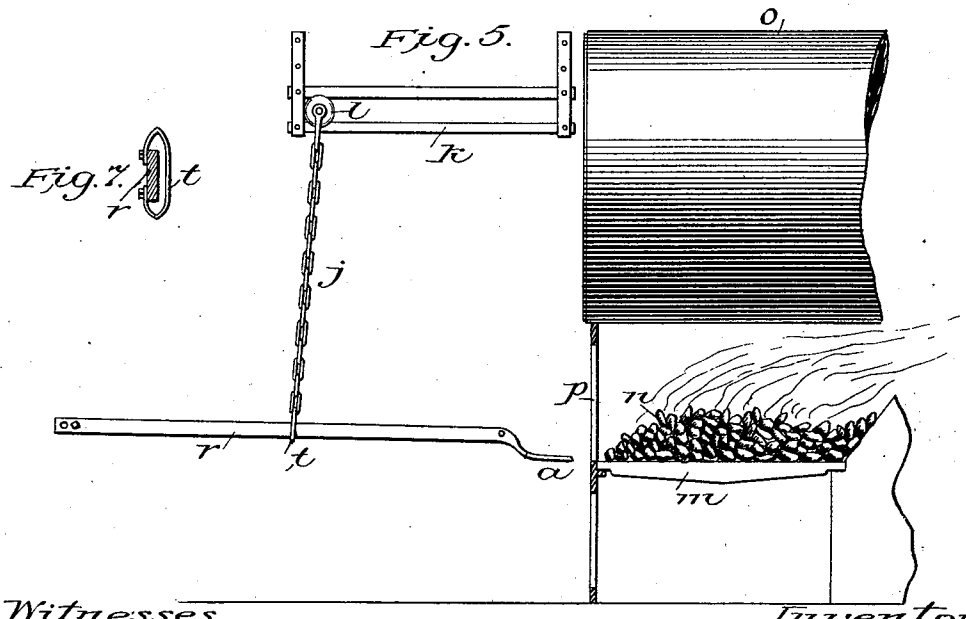
J. W. WETMORE.

SLICE BAR FOR BOILER OR OTHER LEVEL GRATE FURNACES.

No. 563,947. Patented July 14, 1896.

Fig. 1.





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UNITED STATES PATENT OFFICE.

JEROME W. WETMORE, OF ERIE, PENNSYLVANIA.

SLICE-BAR FOR BOILER OR OTHER LEVEL-GRATE FURNACES.

SPECIFICATION forming part of Letters Patent No. 563,947, dated July 14, 1896.

Application filed November 23, 1894. Serial No. 529,779. (No model.)

To all whom it may concern:

Be it known that I, JEROME W. WETMORE, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Slice-Bars for Boiler or other Level-Grate Furnaces; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to improvements in slice-bars and slice-bar mechanism in which the bar is suspended and operated by the fireman.

The objects of my improvement are to relieve the fireman from carrying the heavy bar, and to enable him to work the fire more readily and completely.

My invention consists in the improvements in slice-bars for furnace-grates hereinafter set forth and explained, and illustrated in the accompanying drawings, in which—

Figure 1 is a side view in elevation of the slice-bar. Fig. 2 is a top or plan view of the same. Fig. 3 illustrates the slice-bar suspended from an overhead trolley traveling transversely to the front of the boiler. Fig. 4 illustrates the slice-bar suspended from a fixed point in an overhead beam. Fig. 5 shows a side view in elevation of the front end of a boiler, with the side wall of the furnace removed and with the slice-bar suspended from an overhead trolley traveling on a track parallel with the boiler. Fig. 6 is a front view in elevation of the push and rake attachment of the slice-bar detached therefrom. Fig. 7 is a cross-section of the slice-bar, illustrating the connection thereon to which the suspending-chain is attached.

In the construction of my invention illustrated in the accompanying drawings the slice-bar portion of the device consists of a bar *r*, having on one end thereof a curved end terminating in a shovel *a*, provided near its end with a slot *d*, adapted to engage the furnace-door handle for opening it, and on this shovel, near the rear part thereof, there is a rectangular push-plate *b*, having teeth *c*, which project down through openings in the shovel *a*, so as to form a rake, the push-plate *b* being supported in place by an arm *s*, projecting back along the bar *r* and being secured thereto by means of a pin passing through ears thereon and the bar *r*, as illustrated in Figs. 1 and 2, and when not needed can be swung back upon the bar *r* or detached therefrom, as desired, this attachment operating in conjunction with the shovel *a* as a push-plate and as a rake to level up the fire when desired. The opposite end of the bar *r* is provided with a cross-handle *f*, by means of which the operator handles the slice-bar. Near the center of the bar *r* there is secured thereto, by means of pivots *e*, an elliptical link *t*, to which is secured a chain *j*, depending from an overhead support, which operates as a fulcrum to the bar *r* and enables the operator to swing or tilt the bar thereon, as desired.

In Fig. 3 I show the chain *j* depending from an overhead trolley *g*, traveling on a track *i*, parallel to the front of the boiler-furnace, secured by means of suitable supports to the overhead beams *h*, making the construction of my device adapted to travel along in front of a series of furnace-doors, so that the slice-bar can be carried from one to the other and operated in any of them with equal facility.

In Fig. 4 I show a modified construction having the chain *j* suspended from a fixed point on a beam *h*, suited for operation in one furnace-door only, and in Fig. 5 I show the chain *j* depending from an overhead trolley *l*, traveling on an overhead track *k*, secured to overhead beams (not shown) and extending longitudinally back from the front of the furnace, so that the slice-bar can be carried thereon in and out of the furnace *n*, as desired.

It will be observed that the boiler *o*, the furnace *n*, and the grate-bars *m* are of ordinary construction, and are no part of my invention.

It will be observed that aside from the details of the construction of the slice-bar itself I combine therewith a traveling suspending mechanism on which the bar is at all times fulcrumed at or near its center, whether car-

ried back from or toward the furnace, or moved laterally from one furnace-door to another, so that the slice-bar can always be operated with the minimum amount of manual labor.

Having thus described my invention so as to enable others to construct and operate the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination of a slice-bar, a link pivoted to the central part thereof, an overhead fulcrum, and a flexible connection between said overhead fulcrum and the link secured to the central part of the slice-bar, substantially as and for the purpose set forth.

2. The combination of a slice-bar, a link pivoted to the central part thereof, a trolley traveling on an overhead track, and a flexible connection between said traveling trolley and the link pivoted to the central part of the slice-bar forming a fulcrum for said slice-bar, substantially as and for the purpose set forth.

3. The combination in a slice-bar, of a main bar *r*, a handle *f*, a shovel end *a* and a push and rake attachment *b*, *c*, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JEROME W. WETMORE.

Witnesses:
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