

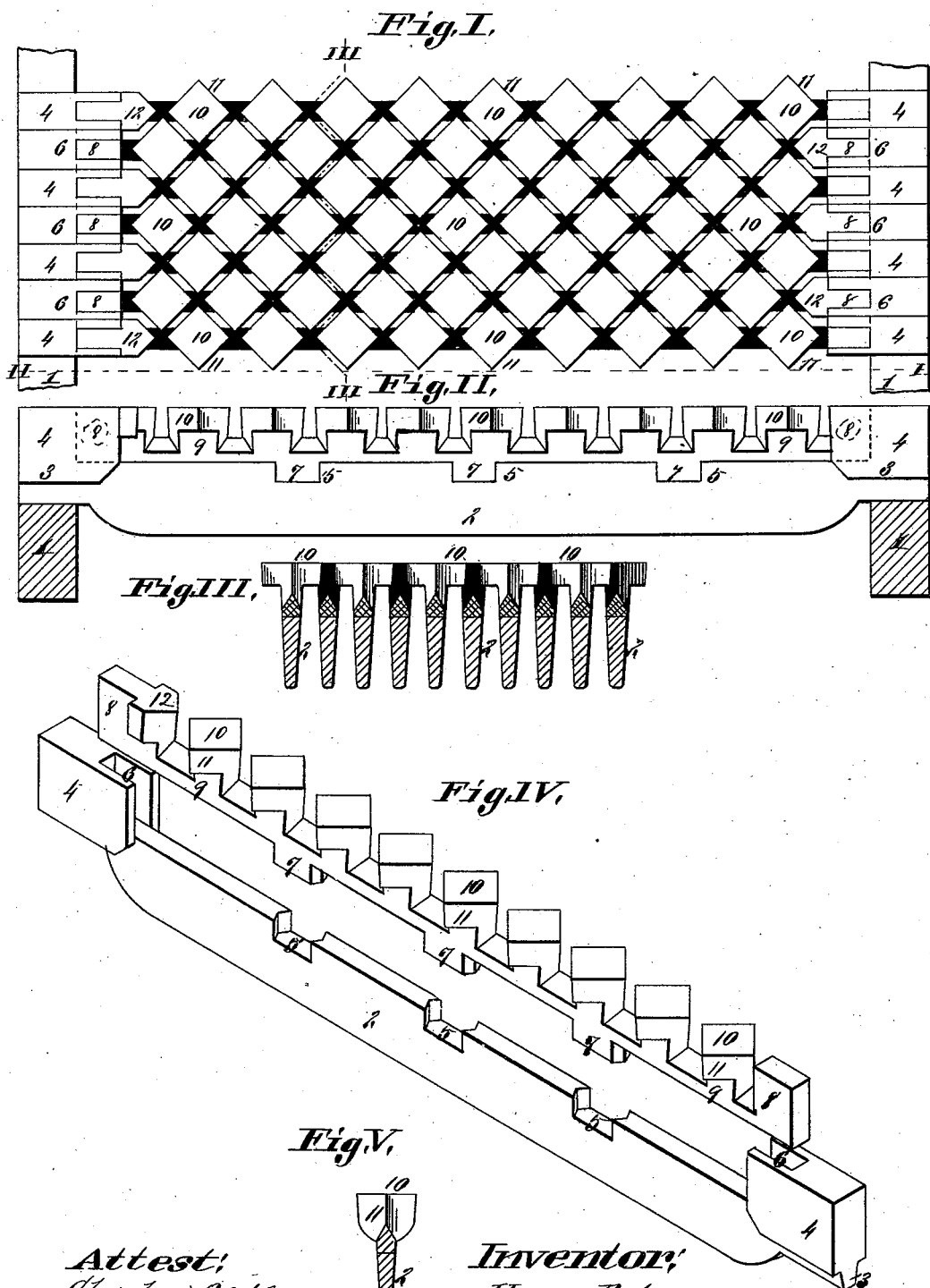
(No Model.)

H. PETERSEN.

SECTIONAL PEDESTAL GRATE.

No. 382,553.

Patented May 8, 1888.



Attest:
Charles Pickles,
Emma Arthur.

Inventor:
Henry Petersen.
By *Knight Bros.*
attys

UNITED STATES PATENT OFFICE.

HENRY PETERSEN, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
CHRISTIAN ANDRISEN, OF SAME PLACE.

SECTIONAL PEDESTAL-GRATE.

SPECIFICATION forming part of Letters Patent No. 382,553, dated May 8, 1888.

Application filed August 27, 1887. Serial No. 248,062. (No model.)

To all whom it may concern:

Be it known that I, HENRY PETERSEN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Sectional Pedestal-Grates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

10 Figure I is a detail top view of the grate-bed, showing a number of the adjacent bars in position. Fig. II is a side view of one of the sectional bars resting on its bed-wall, showing the division-line between the bed-section and the removable section that is renewable when it burns out. Fig. III is an end view of a series of the bars in relative position, showing the pedestal-top of the bars, with a pedestal of one row projecting laterally beyond those of its adjoining rows. Fig. IV is a perspective view of the sectional bar, showing the renewable section elevated from its seat; and Fig. V is an end view of a pedestal and bar that it surmounts, showing their relative position.

25 This invention relates to devices to improve the draft-supply and its introduction through furnace-grates, and preservation of said grates from burning out; and the invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, in which similar figures of reference indicate like parts in all the views, 1 represents the bed-walls, on which the bed-section 2 of my improved grate-bars rest. The said section is provided with bevel-feet, 3, that rest on said bed-wall and are surmounted by laterally-enlarged ends 4, that, fitting against those of the adjoining bars, regulate the draft-spaces between the bars. The bottoms of the bars are beveled off to a gradually-reduced thickness toward their lower edge, and at the upper edge of said section are provided with recessed bevel-ended slots 5 at suitable distances apart, and slots 6 in the laterally-enlarged ends 4, which the bevel-lugs 7 at the bottom and rectangular ends 8 of the renewable section 9 of the grate-bar respectively occupy, and thus securely hold the two sections of the bar together.

50 10 represents diamond-shaped pedestals that

surmount the renewable section of the grate-bar. The projecting angle corners 11 of the pedestals project out laterally beyond the thickness of the bar that they surmount. The said renewable section has at one end a detail pedestal, 12, integral with said end, for the purpose, by turning the bars alternately end for end, of locating the projecting angle corners of the pedestals in each row in intervening positions, alternating with and overlapping the projecting ends of those of the adjoining rows on either hand.

It will be seen that the parts of the grate-bars that first burn out and warp are made in separate sections to the bed-pieces, in which are combined the bottoms and ends, so that the detachable sections are renewable when they become unserviceable without the loss of the bed-pieces and ends of the grate-bars, which contain the greater weight of casting, and from their position are not exposed to the intense heat that are the renewable sections with their pedestals; also, by the provision of the pedestal-floor for the fire-bed, the said fire-bed is composed of pedestals in a compact square form to resist the heat, presenting about twice the diameter at top of the thickness of the grate-bar, and in consequence being better able to withstand the heat and shield the bar that they surmount from its destructive effects. At the same time the shape of the pedestals allows of the introduction of the draft through all the varying angles that intervene between them, striking the fuel not only at varied points, but also with a projectile force in varied directions, to conduce to its more complete consumption and prevent the tendency, where there are only single parallel lines of draft, to consolidate into clinkers, that obstruct the draft and otherwise prevent the work of combustion.

It will also be seen that as I provide the same or a larger amount of draft than is usually supplied between straight grate-bars by drawing it through narrower apertures around the various angles of the pedestal, both laterally and vertically, there is not the same opportunity as there is with the wider interstices between the usual straight bars for coal to fall through and be wasted.

100

I claim as my invention—

1. In a furnace-grate, the combination of the sectional grate-bars 2 and 9 with surmounting pedestals 10, substantially as and for the purpose set forth.

2. In a furnace-grate, the combination of the bed-section grate-bar 2, provided with bevel-slots 5 and end slots, 6, in which the bevel-lugs 7 and end pieces, 8, of the renewable section 9 of the grate-bar engage to unite the sections, substantially as and for the purpose set forth.

3. In a furnace-grate, the combination of the sectional grate-bars 2 and 9 and the diamond-shaped pedestals 10, arranged to shelter the bars from the heat of the furnace and to direct the draft at various angles and deliver it with varied projectile inclinations, so that it may find its way through the lines of interstices between the coal in the furnace, substantially as and for the purpose set forth.

4. In a furnace-grate, the combination of the bed-section grate-bar, the bevel-feet 3, whose laterally-enlarged ends rest on the bed-walls 1 of the furnace, said grate-bar provided with bevel-slots 5 and slots 6, in which the bevel-lugs 7 and rectangular ends 8 of the renewable sectional bar 9 engage, said bar 9, with its

pedestals 10, arranged to shield the bar 2 from the heat, and when burned to be renewable by elevation from the bed-bar and the substitution of a duplicate, substantially as and for the purpose set forth.

5. In a grate-bar for furnaces, the combination of the bed-section grate-bar 2 and the renewable sectional grate-bar 9, having diamond-shaped pedestals whose angle corners project between the corresponding projecting corners of the adjoining bars, leaving narrow interstices at varied angles for the ascent of the draft into the furnace, substantially as and for the purpose set forth.

6. In a grate-bar for furnaces, the combination of the renewable sectional grate-bar 9, surmounted and protected by the diamond-shaped pedestals 10, that angularly direct the draft in varied directions, the said bar attachable to the bed-grate bar 2 and renewable when burned out by the substitution of a duplicate, substantially as and for the purpose set forth.

HENRY PETERSEN.

In presence of—

BENJN. A. KNIGHT,
JAS. E. KNIGHT.