No. 708,400. Patented Sept. 2, 1902.

T. J. PRITCHARD.

HOLLOW GRATE BAR.

(Application filed Apr. 14, 1902.)

(No Model.)

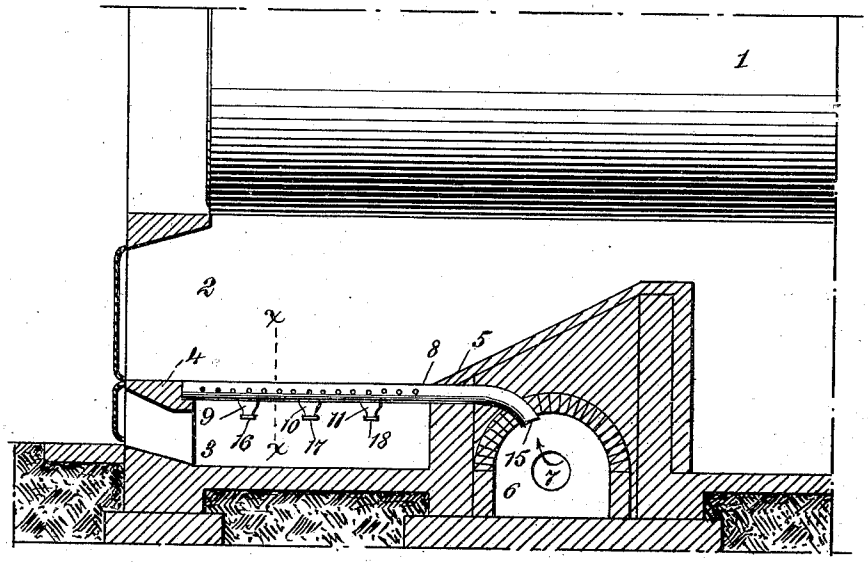


Fig. 1

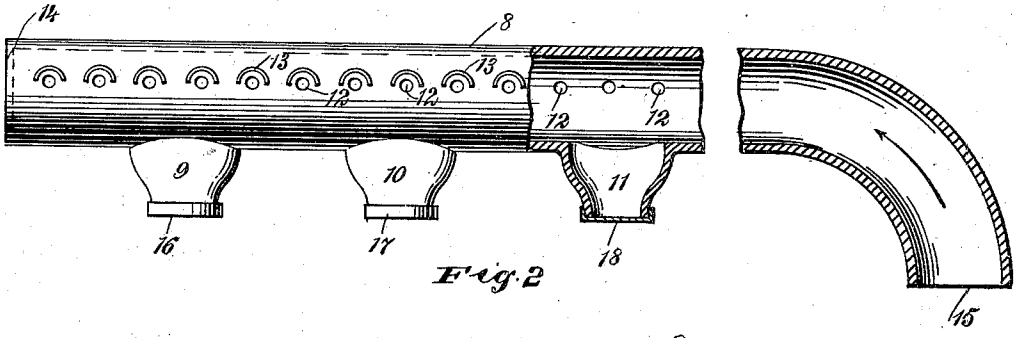


Fig. 2

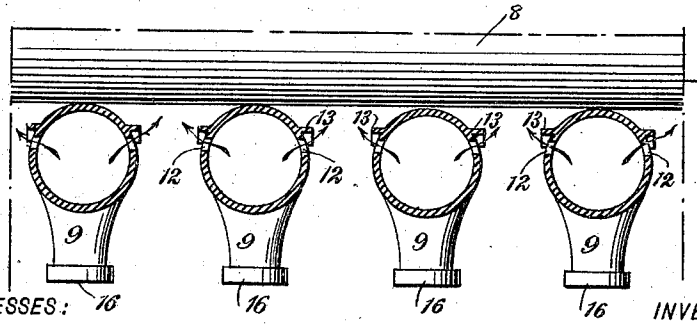


Fig. 3

WITNESSES:

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UNITED STATES PATENT OFFICE.

THEODORE JOSEPH PRITCHARD, OF SUNSHINE, LOUISIANA.

HOLLOW GRATE-BAR.

SPECIFICATION forming part of Letters Patent No. 708,400, dated September 2, 1902.

Application filed April 14, 1902. Serial No. 102,747. (No model.)

To all whom it may concern:

Be it known that I, THEODORE JOSEPH PRITCHARD, a citizen of the United States, and a resident of Sunshine, in the parish of Iberville and State of Louisiana, have invented new and useful Improvements in Hollow Grate-Bars, of which the following is a full, clear, and exact description.

My invention relates to a hollow grate-bar to be used, preferably, in connection with an air-blast for the purpose of causing thorough ventilation in the fire and to some extent acting in the capacity of a smoke-consumer.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation, partly in section, showing my device as applied to a boiler-furnace. Fig. 2 is a side elevation, partly in section, of one of the grate-bars; and Fig. 3 is an enlarged section upon the line $x\,x$ of Fig. 1.

The boiler is shown at 1, the fire-box at 2, the ash-pit at 3, and the masonry at 4 and 5. The air-receptacle 6, fed by an air-blast 7, furnishes the air to the fire through the grate-bars. The hollow grate-bars 8, each substantially J-shaped, are severally provided with ash-pockets 9, 10, and 11 and also with air holes or vents 12, the same being covered by eyelids 13. One end 14 of the bar is closed, the other end 15 thereof opening into the air-receptacle. Caps 16 17 18 are detachably secured upon the ash-pockets 9 10 11 and are removed at intervals for the purpose of discharging any ashes that may accumulate in the pockets.

The operation of my device is as follows: Coal or other fuel being piled upon the grate-bars and a fire being started in the usual manner, the air-blast is put in operation and the air is forced through the opening 7 and into the several open ends 15 of the bars 8. The air thence makes its escape through the several holes or vents 12 into the flames. The air thus being thrown into the flames and being heated by passing through the air-receptacle causes a more thorough admixture of air and combustible gases than would otherwise take place. The result is the combustion is comparatively perfect. The holes 12 are so arranged that comparatively little dust or ashes will pass through the same into the bars, and were such foreign substances to accumulate in the bars they are readily removed therefrom by detaching the caps 16 17 18.

My device effects a great saving of fuel and is clean and neat. It is not liable to get out of order and can be handled by any person of ordinary intelligence.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A hollow grate-bar, comprising a longitudinal tubular member of substantially J shape closed at one of its ends and provided upon each of its sides with a series of separate vent-holes, each hole being provided with an eyelid integral with said tubular member and forming an arch over said hole, said member being further provided with a plurality of substantially funnel-shaped ash-pockets integral therewith, each of said ash-pockets being provided with a removable cap, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THEODORE JOSEPH PRITCHARD.

Witnesses:
A. A. BROWNE,
EUGENE HOLLOWAY.