E. D. NEWKIRK.

FEEDING APPARATUS FOR MECHANICAL STOKERS.

APPLICATION FILED MAY 7, 1906.

988,491. Patented Apr. 4, 1911.

2 SHEETS—SHEET 1.

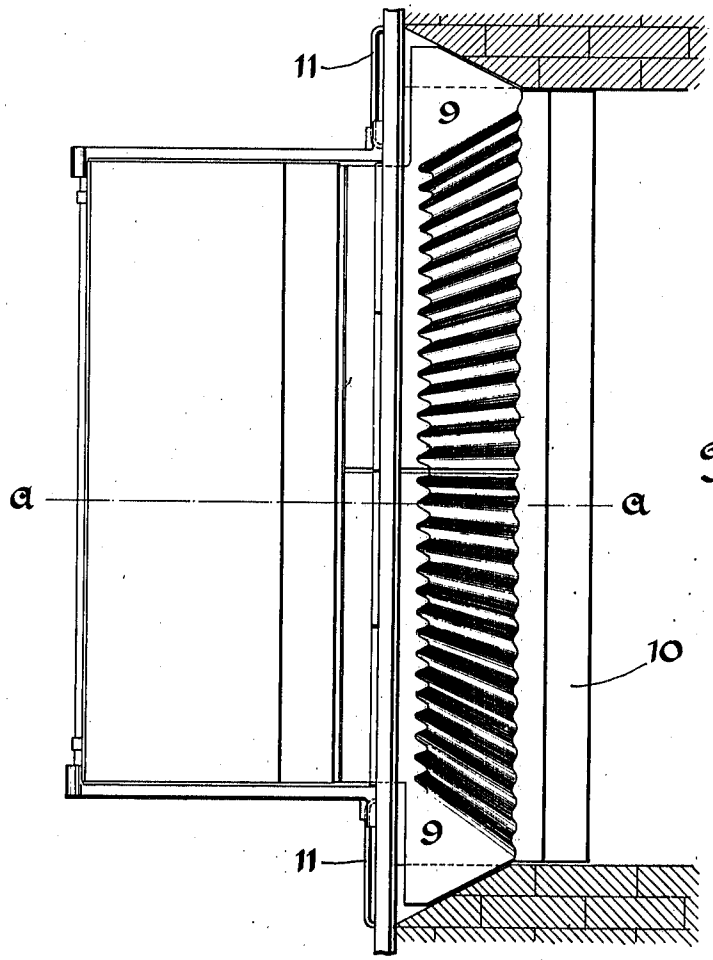

Fig. 1.

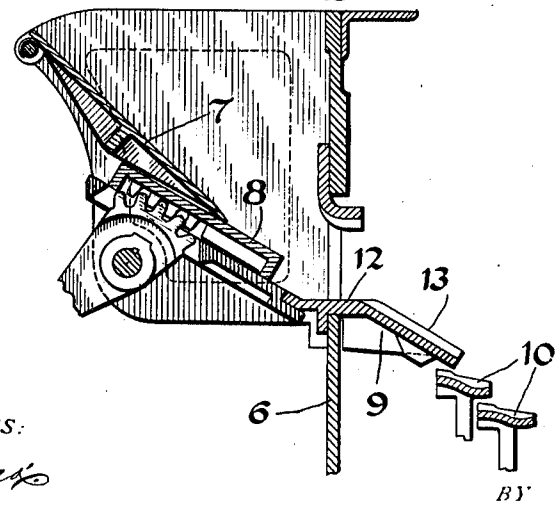

Fig. 2.

WITNESSES:

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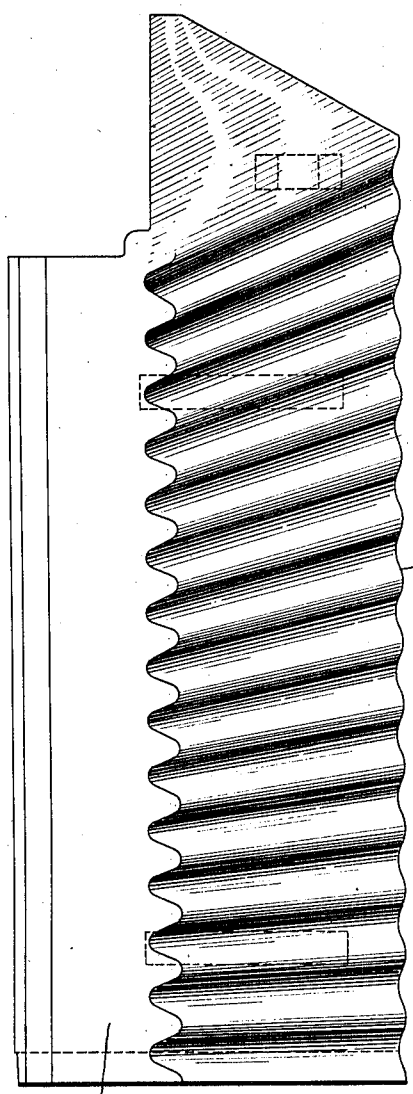

Fig. 3.

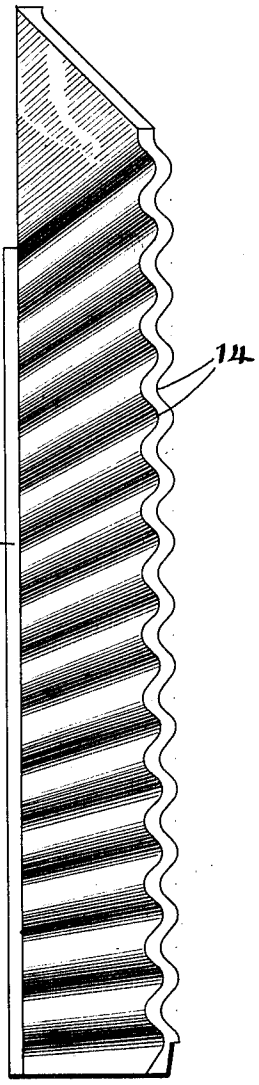

Fig. 5.

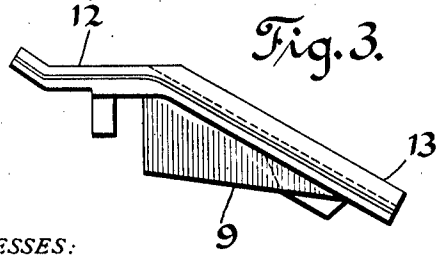

Fig. 4.

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UNITED STATES PATENT OFFICE.

EDGAR D. NEWKIRK, OF CANASTOTA, NEW YORK, ASSIGNOR TO THE WESTINGHOUSE MACHINE COMPANY, A CORPORATION OF PENNSYLVANIA.

FEEDING APPARATUS FOR MECHANICAL STOKERS.

988,491. Specification of Letters Patent. Patented Apr. 4, 1911.

Application filed May 7, 1906. Serial No. 315,641.

To all whom it may concern:

Be it known that I, EDGAR D. NEWKIRK, a citizen of the United States, and a resident of Canastota, in the county of Madison and State of New York, have made a new and useful Invention in Feeding Apparatus for Mechanical Stokers, of which the following is a specification.

This invention relates to mechanical stokers and more particularly to fuel-feeding apparatus for such stokers.

The object of this invention is the production of improved means, in connection with the fuel-feeding apparatus of a mechanical stoker, for delivering the fuel uniformly over the entire width of the furnace grates. This and other objects I attain in a stoker embodying the features herein described and illustrated in the drawings accompanying this application and forming a part thereof.

Figure 1 is a partial plan view of a stoker embodying my invention; Fig. 2 is a section along the line A—A of Fig. 1; Fig. 3 is a plan view of a detail embodied in my invention; Fig. 4 is an end view of a detail shown in Fig. 3; and, Fig. 5 is a side elevation of the detail shown in Figs. 3 and 4.

The fuel-feeding device, as illustrated, is suitably attached to the front portion 6 of a furnace and comprises a fuel hopper 7, a reciprocating pusher 8 for feeding the fuel from the hopper into the furnace and a dead-plate 9, over which the fuel passes in entering the furnace. The fuel is delivered by the dead-plate onto reciprocating grate bars 10, which are arranged in stepped relation and extend transversely of the furnace. The grate bars are mounted on side bearers (not shown), which are supported at one end on the hearth portion and at the other on the front portion 6 of the furnace.

Sight doors or openings 11, arranged in the front portion of the furnace, are located at either side of the fuel-feeding device and are utilized in ascertaining the condition of the fuel bed, which is supported by the grate bars 10. The fuel hopper 7, because of the sight doors, is necessarily not as long as the grate bars 10 and consequently in order that each grate bar shall be effective throughout its entire length as a fuel-carrying agent, means are utilized for spreading the charge of fuel delivered from the hopper 7 so that it will be equally distributed throughout the length of the receiving grate bar.

The dead-plate 9, which, for the sake of convenience, is cast in a number of parts, consists of a horizontal portion 12 which cooperates with the front portion of the furnace to form a discharging throat for the fuel hopper 7, and an inclined portion 13, which extends into the furnace and over which the fuel is delivered to the grate bars. The inclined portion is provided with diverging corrugations 14 so arranged that the fuel discharged from the fuel hopper 7 will be equally distributed and spread over the entire length of the grate bars 10.

In accordance with the provisions of the patent statutes, I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best embodiment thereof; but I desire to have it understood that the apparatus shown is only illustrative and may be utilized in connection with any stoker employing a hopper that is narrower than the furnace width; and

What I claim is:

1. In combination in a mechanical stoker, a fuel hopper, a reciprocatory pusher and a corrugated dead plate, the corrugations of which diverge and extend in the direction of the flow of the fuel passing over said plate.

2. In combination in a mechanical stoker, a fuel hopper, a reciprocatory pusher and a dead plate provided with corrugations in the direction of the flow of the fuel passing over said plate.

3. In combination in a mechanical stoker, a fuel hopper, a reciprocatory pusher and a dead plate comprising a horizontal portion and an inclined corrugated portion, the corrugations being in the direction of the flow of the fuel passing over said plate.

4. In combination in a mechanical stoker, a fuel hopper, a reciprocatory pusher and a dead plate comprising a horizontal portion and an inclined portion provided with di-

vergent corrugations, the corrugations being in the direction of the path of the fuel passing over said plate.

5. In a mechanical stoker, a stationary dead plate having divergent corrugations in the direction of the fuel passing over said plate and means for feeding fuel on to said plate.

In testimony whereof, I have hereunto subscribed my name this 27th day of April, 1906.

EDGAR D. NEWKIRK.

Witnesses:
DAVID WILLIAMS,
E. W. MCCALLISTER.