

(No Model.)

J. A. PRICE.

FURNACE GRATE.

No. 282,565.

Patented Aug. 7, 1883.

Fig. 1.

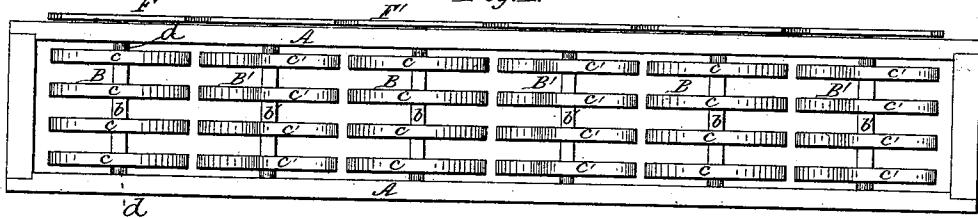


Fig. 2.

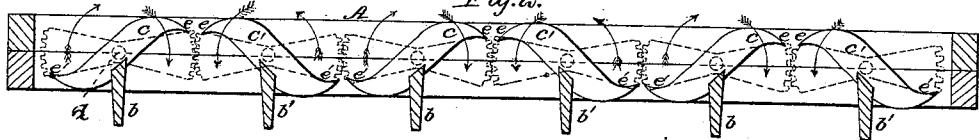


Fig. 3.

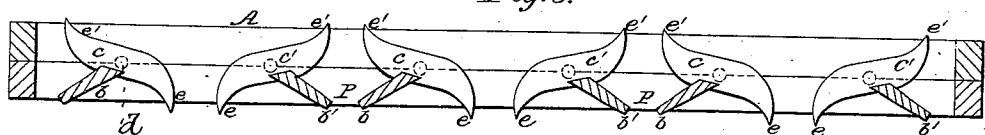
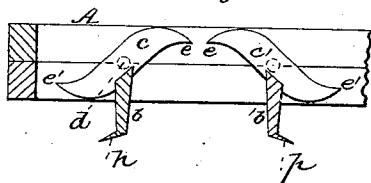


Fig. 4.



Witnesses:

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# UNITED STATES PATENT OFFICE.

JOHN A. PRICE, OF SCRANTON, PENNSYLVANIA.

## FURNACE-GRAVE.

SPECIFICATION forming part of Letters Patent No. 282,565, dated August 7, 1883.

Application filed May 23, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. PRICE, of Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Furnace-Grates; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

This invention relates to that class of furnace-grates composed of independent sections which are adapted to be rocked, so as to cut out and withdraw the ashes from the fire; and it consists in certain novel improvements, which I will first describe, and then point out particularly in the claims at the end of this specification.

Referring to the accompanying drawings, Figure 1 represents a bottom plan view of a grate constructed in accordance with my invention; Fig. 2, a longitudinal sectional view of the same, the sections of the grate being shown in the position which they occupy when normally supporting the fire. Fig. 3 is a similar view, showing the position of the sections when rocked to dump the ashes. Fig. 4 is a view of a modification of the grate.

Similar letters of reference in the several figures indicate the same parts.

A indicates the frame of the grate, and B' the several pairs of rocking sections arranged therein. Each section B consists of a cross-bar, b, extending from side to side of the furnace, and having a number of  $\sim$ -shaped fire-supporting bars, c, which are permanently or removably connected to said bar b, and project laterally in planes oblique thereto, as shown clearly in Fig. 2. The end bars, c, of the sections are provided with journals d, which have bearings in the grate-frame A, and serve as pivots on which the sections rock. The sections B' correspond to the sections B, except that the bars c' thereof are of  $\sim$  form, instead of  $\sim$  form, and are arranged obliquely to the cross-bars b', oppositely to the direction of inclination of the bars c.

A grate composed of sections thus constructed and arranged presents a fire-sup-

porting surface of wavy undulating form extending from end to end of the furnace and of great area.

Any suitable means may be employed for rocking the sections together all in the same direction; but I preferably operate them oppositely, in pairs, by means of suitable gearing, F F', connected, respectively, to each section, or by any other efficient contrivance.

It will be observed that when the sections of each pair are rocked toward each other in the direction indicated by the arrows from their normal position supporting the fire, as in Fig. 2, the elevated ends e e of the bars c c go down, while their lower ends, e' e', rise up, 65 sweep through the lower part of the mass of fuel, cut the latter out and discharge it down between the sections into the ash-pit below, while at the same time the cross-bar b' of one pair of sections co-operates with the cross-bar b of the next adjoining pair of sections to form a pocket, P, Fig. 3, for the collection of another charge of material, which charge is likewise dumped into the ash-pit when the sections are rocked back to their original positions. At each movement of the sections, therefore, a portion of the mass of material sustained by the grate, consisting of ashes and other refuse material, is cut out and dumped 75 into the ash-pit below.

If desired, the depending cross-bars b b' may each be provided with a short downwardly-inclined projection, p, as shown in Fig. 4, to assist in forming the pockets when the sections are rocked. These projections p are not 85 essential.

The grate herein described is somewhat similar to that for which Letters Patent of the United States, No. 276,876, were granted and issued to me May 1, 1883; but it differs from 90 said patented grate in the arrangement of the supporting-bars with respect to the fire-bars, and also in the form and arrangement of the projections at the lower ends of the cross-bars.

I claim as my invention—

1. A grate consisting of a series of rocking sections composed of  $\sim$ -shaped fire-bars mounted on depending supporting cross-bars, whereby when the sections are rocked the ashes, &c., will be cut off and discharged into 100

the ash-pit below, while at the same time the depending supporting-bars will assist in forming pockets, substantially as described.

2. A grate consisting of rocking sections composed of  $\sim$ -shaped fire-bars mounted upon depending cross-bars, the said fire-bars being arranged obliquely to the cross-bars, substantially as described.

3. A grate consisting of rocking sections

composed of the  $\sim$ -shaped fire-bars, combined with the depending cross-bars, having the short downwardly-inclined projections, the said fire-bars being arranged obliquely to the cross-bars, substantially as described.

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Witnesses:

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