

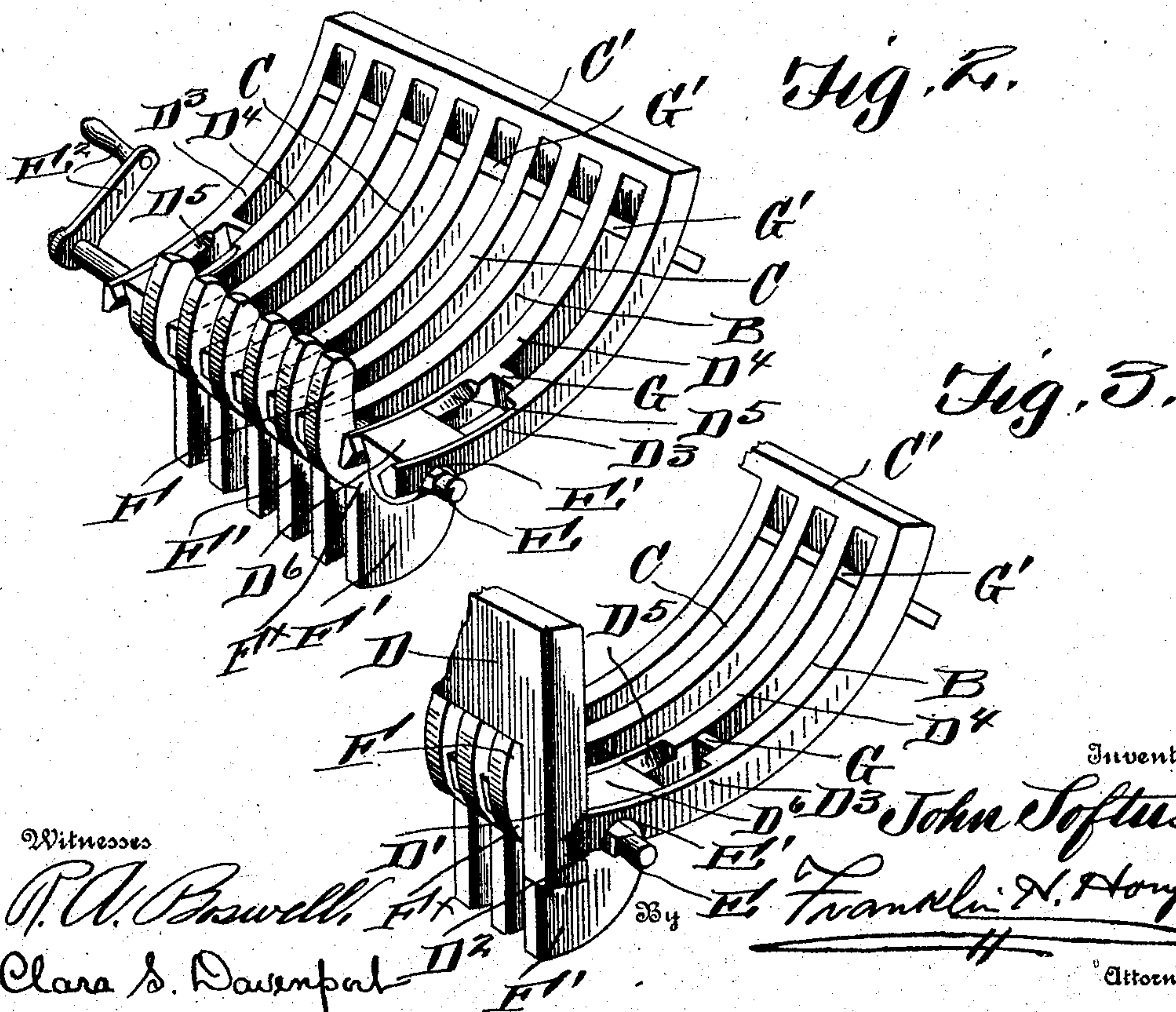
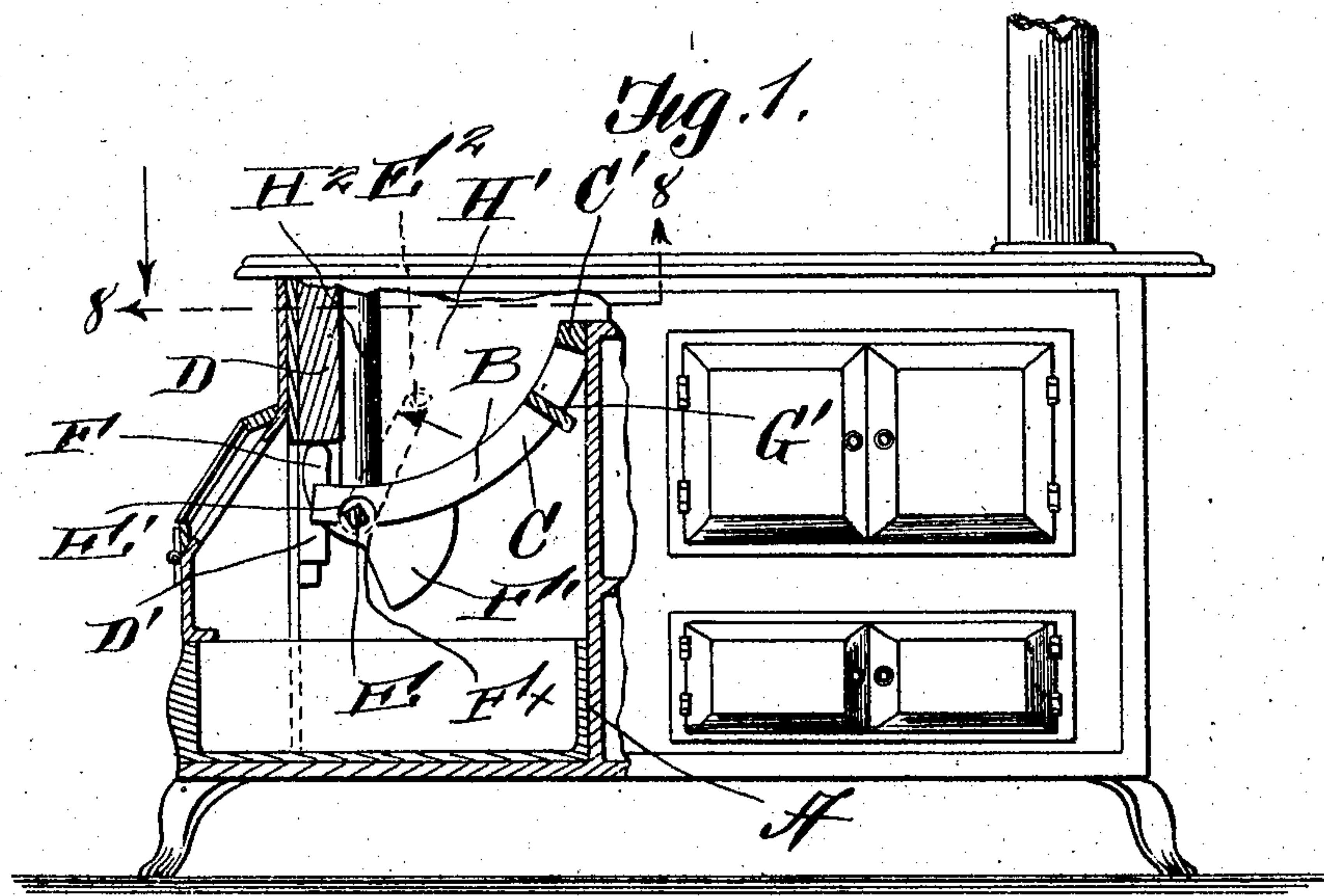
No. 815,445.

PATENTED MAR. 20, 1906.

J. LOFTUS.
STOVE GRATE.

APPLICATION FILED MAR. 15, 1905.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

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STOVE-GRATE.

No. 815,445.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN LOFTUS, a citizen of the United States, residing at Albany, in the county of Albany and State of New York, have invented certain new and useful Improvements in Stove-Grates; and I do 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, which form a part of this specification.

This invention relates to grates for cook-stoves, and especially to inexpensive means for removing the ashes from the fire-chamber without a back and forward movement of the grate and also for making the grate curved, as shown in Figures 1 and 2, so as to allow the fire in the fire-chamber to be close to the oven-plate, causing a large amount of heat to radiate from the grate to the oven.

Furthermore, the invention provides a plurality of arms mounted upon a rocking stoker-shaft, which is disposed across the stove at the dividing-line of the fire-chamber and ash-pit and at the lower point of the grate, said members being provided with sector ends adapted to move between the bars of the grate for the purpose of stirring the fire and allowing the ashes and cinders to drop there-through.

This invention may also be adapted for use in connection with steam-heating apparatus.

To these ends and to such others as the invention may pertain the same consists in the novel arrangement, adaptation, and combination of features, which will be hereinafter more fully described and then pointed out in the appended claims.

The invention is illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this application, such letters of reference indicating like parts in the views, in which—

Fig. 1 is a side elevation of a cook-stove, partly in section, showing the improved grate in position. Fig. 2 is a perspective view of the grate and arms removed therefrom. Fig. 3 is a fragmental perspective view of the grate, showing the engagement with the lower end of the abutment-plate. Fig. 4 is a detail view of one of the rocking members.

Fig. 5 is a detail perspective view of the rear supporting-bar. Fig. 6 is a detail sectional view of one of the bearing-blocks for the ends of the shaft. Fig. 7 also is a detail perspective view of a bearing-block employed at each end of the shaft. Fig. 8 is a sectional view on line 8 8 of Fig. 1 looking in the direction of the arrow. Fig. 9 is a side elevation of a cook-stove, partly in section, showing a slightly-modified form of grate. Fig. 10 is a perspective view of the form shown in Fig. 9; and Fig. 11 is a fragmental perspective view of the form of grate shown in Figs. 9 and 10, showing the engagement with the lower end of the abutment-plate.

Reference now being had to the details of the drawings by letter, A represents an ordinary cook-stove, having located in the usual place a grate B, composed of a plurality of bars C, said bars being integral with the rear bar C', extending at right angles to the bars B. Located adjacent to the casing of the front portion of the stove is an abutment-plate D, having on each end thereof bars D' projecting downward and having notches D² adapted to receive the ends of the end bars D³ of the grate. The bars of the grate are recessed, as at E', to allow a rock-shaft E to rotate freely therein. The two end bars D³ and the bars D⁴ adjacent thereto have their edges near their ends beveled, as at D⁵, to provide a bearing for bearing-blocks D⁶. Said bearing-blocks are provided with apertures D⁷, which are slightly larger in diameter than the rock-shaft in order to allow said shaft to have a slight play, so that clinkers or other obstructions will not prevent the shaft from being rocked. The ends of said shaft are circular in cross-section for the purpose of having a bearing in the side of the casing of the stove and also to allow the shaft to rotate smoothly. E² designates an operating-handle at one end of said shaft. Mounted upon the square portion of the shaft is a plurality of rocking members F^x, having arms F at their upper ends, the normal positions of which are substantially vertical. Said members F^x have their lower ends sector-shaped and located, respectively, just below the spaces between the bars of the grate for the purpose of holding the cinders and ashes from falling therethrough until said shaft is rocked, and the sector ends of said members serve to cause the clinkers and ashes to be

loosened as the shaft carrying the same is rocked. Said arms F are designed to contact with the abutment-plate D, whereby their throw in one direction is limited.

5 To firmly hold the end bars D³ and the bars D⁴ together, the grate when cast is provided with integral joining-webs G. To prevent the bars of the grate when said grate is in position from being laterally bent, a toothed
10 supporting-bar G' is provided which extends across the fire-chamber at right angles to the bars of the grate. The sides of each bar are slightly inclined, as shown in Fig. 2 of the drawings, said inclined sides being adapted
15 to rest in or engage the inclined spaces between the toothed bar G'. Thus by reference to the drawings it will be clearly understood how the bars are prevented from being laterally bent.

20 Located at each end of the fire-chamber is the usual fire-brick or casting H, and adjacent to said fire-brick is a plate H', which is provided with a rib H², which is adapted to hold the abutment-plate from falling rear-
25 ward when the fire-chamber is empty.

The operation of the device is as follows: When the handle E² is turned in the direction of the arrow, the arms F will be thrown outward and downward, which will allow a cer-
30 tain amount of the ashes and clinkers to fall from the fire-chamber, and at the same time that the arms are being thrown outward and downward the sector-shaped ends F' will be thrown upward, which will thoroughly stir
35 the fire.

Of course it is distinctly understood that various changes in the details of construction and combination of parts other than those illustrated in the accompanying drawings
40 may be made, if desired, without in any way departing from the spirit and scope of the invention.

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

1. In combination with a grate, bearing-blocks mounted thereon near the front of the grate and adapted to have a slight play, a rock-shaft mounted in said blocks, a series of

members secured to said shaft, the lower ends 50 of which are sector-shaped, and their other ends formed into arms, said members being mounted between the bars of the grate, and adapted as the shaft is rocked to cause the clinkers and ashes to be loosened from the 55 grate, as set forth.

2. In combination with a grate, bearing-blocks mounted thereon near the front of the grate and adapted to have a slight play, a rock-shaft mounted in said blocks, a series of 60 members secured to said shaft, the lower ends of which are sector-shaped, and their other ends formed into arms, said members being mounted between the bars of the grate and adapted as the shaft is rocked to cause the 65 clinkers and ashes to be loosened from the grate, an abutment-plate to limit the inner throw of said arms, and a notched plate spacing and bracing the grate-bars, as set forth. 70

3. In combination with a grate, bearing-blocks mounted thereon and adapted to have a slight play, a rock-shaft mounted in said blocks, a series of members secured to said shaft, the lower ends of which are sector- 75 shaped, and their other ends formed into arms, said members being mounted between the bars of the grate and adapted as the shaft is rocked to cause the clinkers and ashes to be loosened from the grate, and a notched bar 80 spacing and bracing the grate-bars, as set forth.

4. In combination with a grate, means for supporting the same, bearing-blocks provided with apertures and having beveled 85 edges adapted to have a play upon the bars of the grate, a rock-shaft mounted in the apertures in said bearing-blocks, a series of members secured to said shaft between the grate-bars, and having their lower ends sec- 90 tor-shaped, and their opposite ends upwardly turned, as set forth.

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

JOHN LOFTUS.

Witnesses:

CHARLES LOFTUS,
WILLIAM MAURICE LANGE.