J. W. COLLINS.

Stove-Grate.

No 165,983. Patented July 27, 1875.

Fig. 1

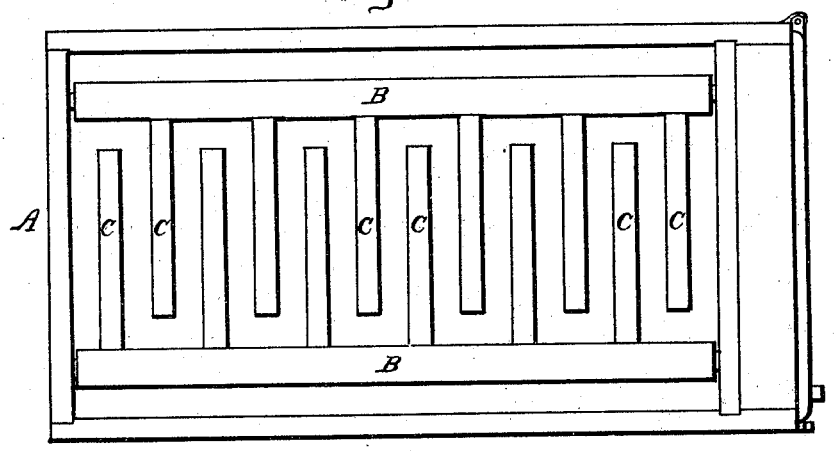
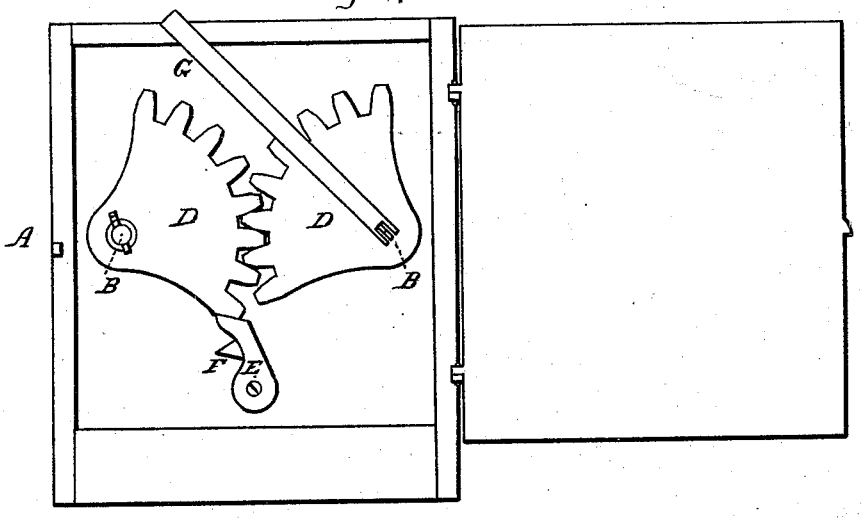


Fig. 2.



WITNESSES

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IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. **165,983**, dated July 27, 1875; application filed November 14, 1874.

To all whom it may concern:

Be it known that I, JOHN WEB. COLLINS, of Chicago, in the county of Cook and State of Illinois, have invented a new, useful, and Improved Stove-Grate, of which the following is a full, clear, and exact description, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawing, forming a part hereof, and in which—

Figure 1 represents a top or plan view of my improved grate, and Fig. 2 an end elevation thereof.

Like letters of reference indicate like parts.

In the drawing, A represents the fire-box. B B are bars, the ends of which rest freely in the ends of the box A, or are otherwise so supported as to be capable of being easily rotated or rocked. C C are bars projecting from each bar B in the manner shown. The bars C C, on each bar B, interlace or lap the bars C C projecting from the other or opposite bar B, and are arranged at such a distance from each other on the bars B B that a considerable space will exist between the interlaced parts. The bars C C are also short enough not to meet the bar to which they are not attached. The grate thus formed may be supported in various ways so as to retain the coal or fuel thereon, and so as to be capable of being rocked for the purpose of shaking the ashes from the fuel. In order that the ashes and cinders may easily fall into the ash-pit when the grate is shaken, I deem it preferable to make the under sides of the bars the narrowest, the vertical sides thereof being beveled off toward the bottoms, but I here make no claim to the manner of beveling the bars for this purpose, and do not intend to limit myself to beveled bars.

The bars B B may be supported, for example, by passing one end of each through an end of the fire-box, as represented in Fig. 2, and on each of these projecting ends may be attached the segmental gear D D, one of which is supported by the pivoted stop E, resting against the pin F. One of the bars B B may extend through one of the parts D D sufficiently to receive a shaker, G. In order to shake the grate, the shaker G is moved back and forth in such a way as to lift from the support E the gear resting thereon, and so as to rock the bars B B. In this manner the ashes and cinders will be shaken thoroughly from the fuel. In order to dump the fuel into the ash-pit, the support or stop E is moved from the pin F until the gear is released. The bars C C will then fall into vertical position, thus allowing the ashes, cinders, and unconsumed fuel to drop into the ash-pit. The grate may then be restored to its original position by means of the shaker, and when so restored the stop E should be returned to the pin F.

I am aware, however, that means substantially the same as herein described have been heretofore employed for the purpose of shaking tilting grates, and I do not here claim the same, but have referred thereto only for the purpose of showing one way in which the grate may be shaken and dumped; neither do I here intend to limit myself to this particular way.

It will be perceived, from the foregoing description, that the grate thus made is simple in construction and effective in operation.

It will be perceived that the bars B B and C C are so arranged that the whole mass of coal will be agitated by being moved up and down vertically when the former bars are diversely rotated, or when, in other words, they are each rotated in an opposite direction from the other. All the movable fuel-supporting surface or parts of the grate rise simultaneously, and fall in like manner, when thus shaken, and the fuel is not only thus raised and lowered in the central part of the fire-box, but also about the walls thereof.

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

The combination of the fire-box, the diversely-rotary bars B B, each arranged horizontally along opposite sides or ends of the box, and the horizontal and interlacing bars C C having spaces between them and projecting from the bars B B, all operating together substantially as and for the purposes specified.

JOHN WEB. COLLINS.

Witnesses:

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