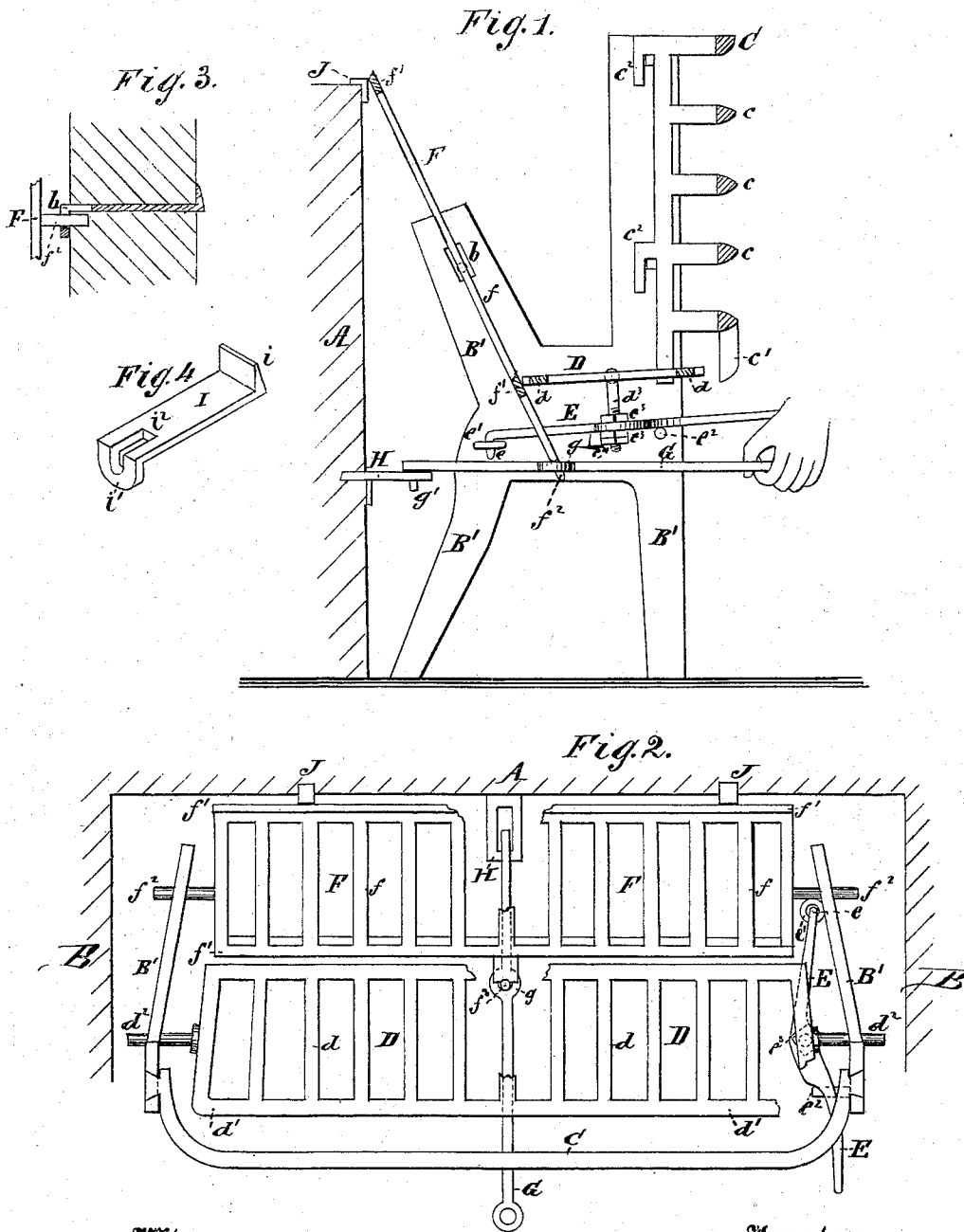


J. M. WOODCOCK.
Fire-Place Grates.

No. 137,993.

Patented April 15, 1873.



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UNITED STATES PATENT OFFICE.

JAMES M. WOODCOCK, OF BRIDGEPORT, OHIO.

IMPROVEMENT IN FIRE-PLACE GRATES.

Specification forming part of Letters Patent No. **137,993**, dated April 15, 1873; application filed February 7, 1873.

To all whom it may concern:

Be it known that I, JAMES M. WOODCOCK, of Bridgeport, in the county of Belmont and State of Ohio, have invented a new and useful Improvement in Fire-Place 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 drawing, forming a part of this specification, in which—

Figure 1 is a sectional side elevation; Fig. 2, a plan view; and Fig. 3, a detail view of a wall attachment in section; and Fig. 4 is a perspective view of a bearing-bracket for a wall.

The invention consists in making the back of a grate movable on pivots, so that the accumulation of ashes can be readily removed therefrom, and from the mass of fuel, which can thus be more readily shaken and loosened. It also consists in providing this pivoted back with oblong slotted bearings, so that it may be raised and lowered vertically, slid backward and forward horizontally, and vibrated. It also consists in providing this pivoted back with a downward projection, having a tenoned end that works in a hole of a lever, so that it may be conveniently operated. It also consists in the combination of the several parts which make up a fire-place grate. It also consists in the means described for shaking the pivoted grate-bottom.

In the drawing, A represents the chimney-back; B B, side walls of fire-place; and B B', independent jambs, either of which may be employed, and both of which are well known. C is the front of grate, made in the usual manner with the horizontal curved bars *c*, the vertical section-bars *c'*, and the hooks *c''*. D is the grate-bottom, made of the horizontal bars *d*, and with the surrounding frame *d'*. This bottom is also provided with elongated journals *d'' d'''* to allow of the sliding horizontal movement desired, and also with the downwardly-projecting pin *d''*, to which is swiveled a lever, E. The latter is arranged horizontally, and has a turned end, *e*, which works in the eye or fulcrum-bearing *e'*, from which it is readily detached when the grate-bottom is to

be oscillated vertically. This lever E is placed upon the side pin *e''*, and in the fulcrum-bearing *e'*, whenever the grate-bottom is to be prevented from turning. The lever cannot become detached from the pin *d''* on account of the washers *e''* and nut *e''*. F is the independent grate-back, formed of the vertical bars *f* and the horizontal bars *f'*, of which the latter are beveled or made sharp upon their upper edges to prevent the settlement of ashes thereon. This grate-back has the elongated journals *f''*, which allow its horizontal and vertical as well as vibratory movement in the oblong slots *b* of jambs or bearings; and it has on the bottom a pendent tenoned arm or projection, *f''*, which allows it to be operated by a vertically-apertured lever, G. The latter has not only the vertical hole *g* but also a turned end, *g'*, that is applicable to the fulcrum-bearing H. I I are bearing-brackets to support the grate-journals against the side walls when the jambs B' are not used. It is provided with two ends, *i i*, turned in reverse directions, and with a scalloped oblong slot, *i''*, in which the journals *f'' d''* work. This is applied to the wall during the building thereof, as shown in Fig. 3 of drawing.

From the above description it will be perceived that my grate is made in three parts, so that the back and bottom may be easily moved without unduly exposing the person who shakes it to the intense heat. The front is similar to grate-fronts generally, and can be attached with jambs or to fire-place fronts in the usual manner, while the back is sufficiently wide to extend from the bottom to a height coequal with that of the front. By this construction the grate can be easily shaken and dumped, while the coal can always and readily be kept free for the circulation of air therethrough.

J is a projection, of which there may be one or more made somewhat in the form of a letter L, and attached to the back wall, to enable the lateral sliding movement of grate-back to be made with as little friction as possible.

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

1. The inclined independent grate-back F

provided with journals f^2 , and combined with oblong slots b in bearing-bracket I or jambs B', so that the grate-back may be moved in a vertical or a horizontal direction, as and for the purpose specified.

2. The pivoted grate-back F, supported on oblong slots b , and provided with the pendent tenoned arm f^2 , in combination with the lever G and fulcrum-bearing H, as and for the purpose specified.

3. The pivoted and laterally-movable grate-bottom D, provided at one end with pendent pin d^3 , in combination with the lever E, ful-

crum-bearing e , and side pin e^2 , as and for the purpose specified.

4. The fire-place grate herein described, consisting essentially of the inclined pivoted fire-back F, the pivoted grate-bottom D, front C, and independent jambs B' or bearing-brackets I, combined and arranged as and for the purpose specified.

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Witnesses:

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