

No. 657,803.

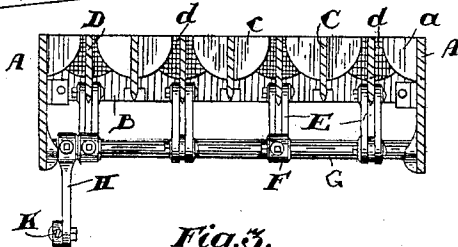
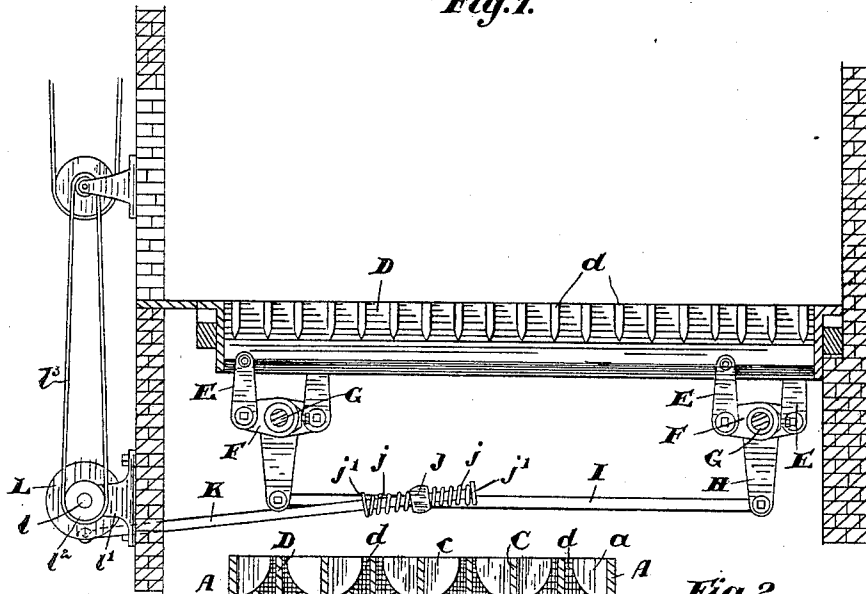
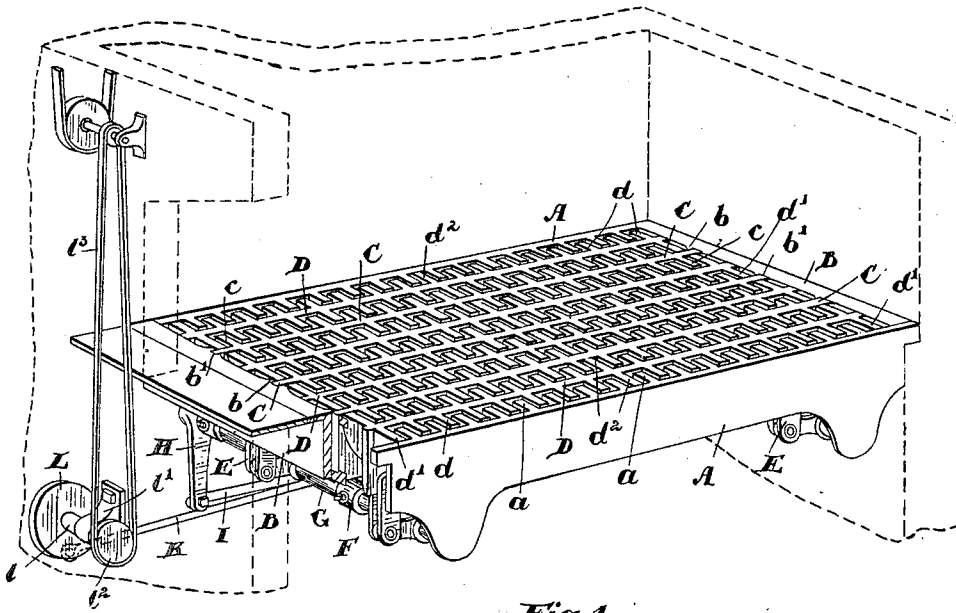
Patented Sept. 11, 1900.

J. WEDGEWOOD.

GRATE FOR FURNACES OR STOVES

(Application filed May 18, 1899.)

(No Model.)



Witnesses.

H. W. Garrison.

St. Armand

Fig. 2.

Inventor.

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UNITED STATES PATENT OFFICE.

JOSIAH WEDGEWOOD, OF BRAMPTON, CANADA, ASSIGNOR OF ONE-HALF
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GRATE FOR FURNACES OR STOVES.

SPECIFICATION forming part of Letters Patent No. 657,803, dated September 11, 1900.

Application filed May 18, 1899. Serial No. 717,344. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH WEDGEWOOD, of the town of Brampton, in the county of Peel, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Grates for Furnaces or Stoves, of which the following is a specification.

My invention relates to improvements in grates for furnaces and stoves; and the object of the invention is to devise a simple and efficient grate-bar which may be readily shaken so as to remove the surplus ashes and yet leave a layer of ashes upon the top of the grate sufficient to preserve such grate from burning out; and it consists, essentially, of inclosing within a suitable grate-frame a series of longitudinal stationary and movable bars having laterally-extending teeth on both sides of each which project past each other, the movable bars being held on suitable uprights and being pivotally connected by suitable arms to arms on cross-rods, which are provided with hangers connected together and designed to be swung so as to impart a direct vertical movement to the movable bars, as hereinafter more particularly explained.

Figure 1 is a perspective view showing a grate constructed in accordance with my invention, the corner being broken away to exhibit a portion of the construction. Fig. 2 is a longitudinal section. Fig. 3 is a cross-section.

In the drawings like letters of reference indicate corresponding parts in each figure.

A indicates the side bars of the grate, which have inwardly-extending teeth *a*, of equal length throughout, flat at the top and preferably curved at the bottom, as indicated in Fig. 3. B indicates the end bars, which are suitably held and supported in the brickwork or other frame of the furnace. The end bars have inwardly-extending lugs *b*, with recesses *b'*, within which at each end fit and rest the stationary bars C, having the laterally-extending teeth *c* extending out from each side. The teeth *c* are preferably of equal length and arc-shaped at the bottom.

D indicates a series of movable bars alternately arranged to the bars C and having laterally-extending teeth *d*, preferably of equal

length to the teeth *c* of the stationary bar C and fitting between them from end to end. The end teeth *d'* and central teeth *d''* of the bars D fit closely to the central portion of the bars C, thereby forming a guide whereby the vertical movement of the bars D may be effected without undue vibration or shake. The teeth *c* and *d* fit between each other from end to end, but do not touch the center portion of either bars C or D, but leave an opening from end to end something of the form of a Greek fret. The movable bars D are pivotally connected by arms E to cross-arms F, secured to the rods G. Each alternate movable arm is connected to an arm E at both ends at the opposite side of the rods G, as indicated in Fig. 2, and the rods G are provided with downwardly-extending hangers H, which are connected together by a rod I.

J is a collar pivotally connected to the rod I, and K is a pitman extending through the collar J. *j* indicates spiral springs extending at each side of the collar J, between such collar and outside collars *j'*. The opposite end of the pitman K is pivotally connected to the crank-wheel L, which is secured on the shaft *l*, supported in suitable bearing-brackets *l'*. The crank-wheel is driven through a pulley *l''* and belt *l'''*, as indicated. The pitman K may also be manipulated by means of a lever connected to it; but in many cases I prefer to use the construction shown, as power can in many cases be very conveniently arranged to be applied for the shaking of the grate.

The operation is as follows: When the pitman K is given a longitudinal reciprocating movement, a like movement is imparted to the rod I, which rocks the rods G, and consequently throws the arms E on one side of the rods upwardly and the alternate arms E on the opposite side downwardly, thereby imparting a like vertical movement to each alternate bar D. It will thus be seen that each alternate bar D, with its teeth, is below the stationary bars at one movement and above upon the opposite movement being made. I find in practice that such an arrangement effectually removes the ashes, and yet allows sufficient lying on the top thereof to prevent the grate from being burned out.

What I claim as my invention is—

A grate comprising a frame and grate-bars provided with interlocking teeth, said bars being arranged in two series, one stationary
5 and the other vertically movable, said movable bars being arranged alternately with the stationary bars, and means for operating the

movable bars so that the alternate ones ascend while the remaining descend, substantially as described.

JOSIAH WEDGEWOOD.

Witnesses:

ALEX HUNTER,
L. D. SANDERSON.