(No Model.)

E. SCANLAN & J. ZIPP.

GRATE AND MEANS FOR OPERATING SAME.

No. 496,006. Patented Apr. 25, 1893.

Fig. 1.

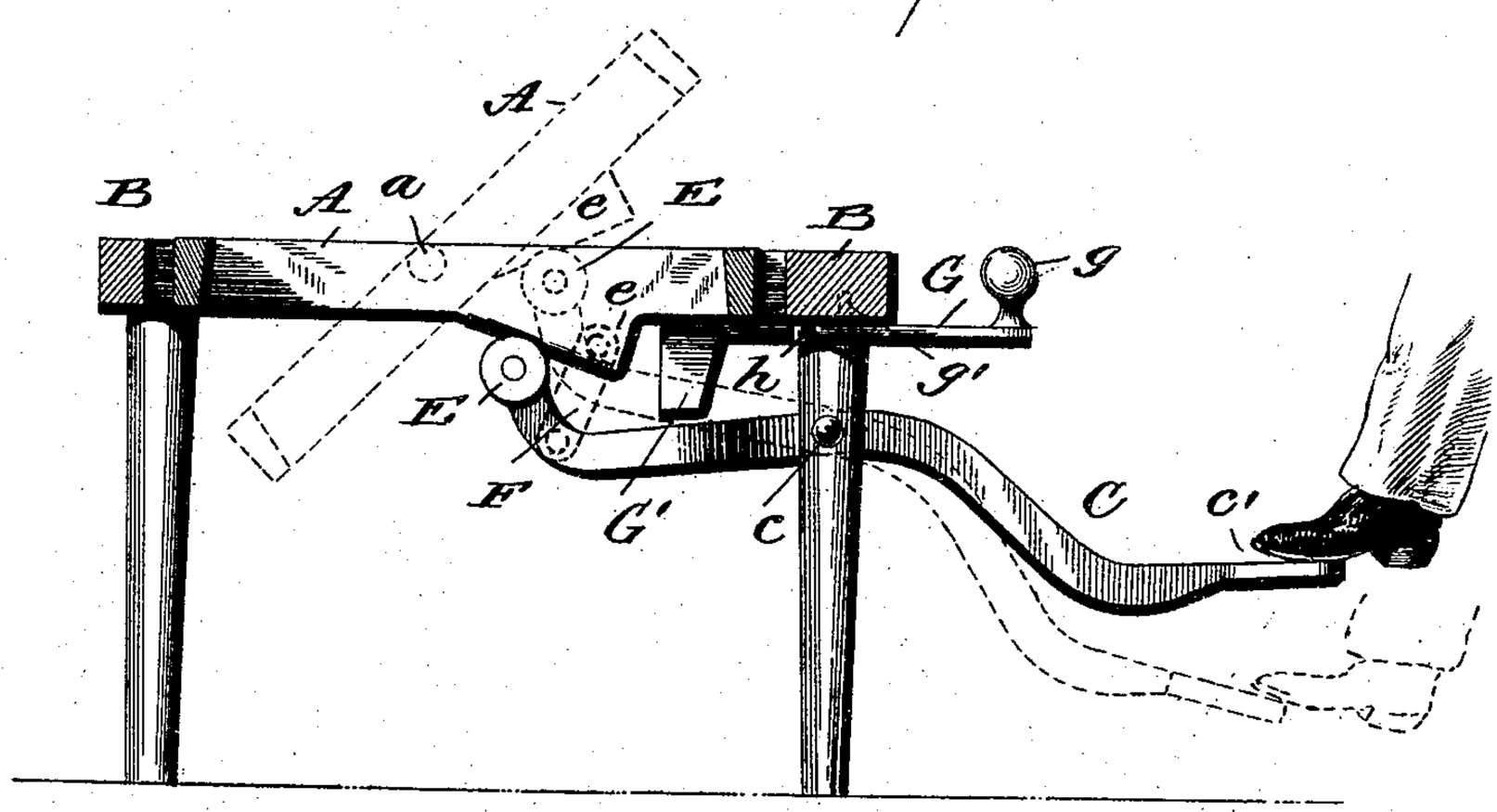
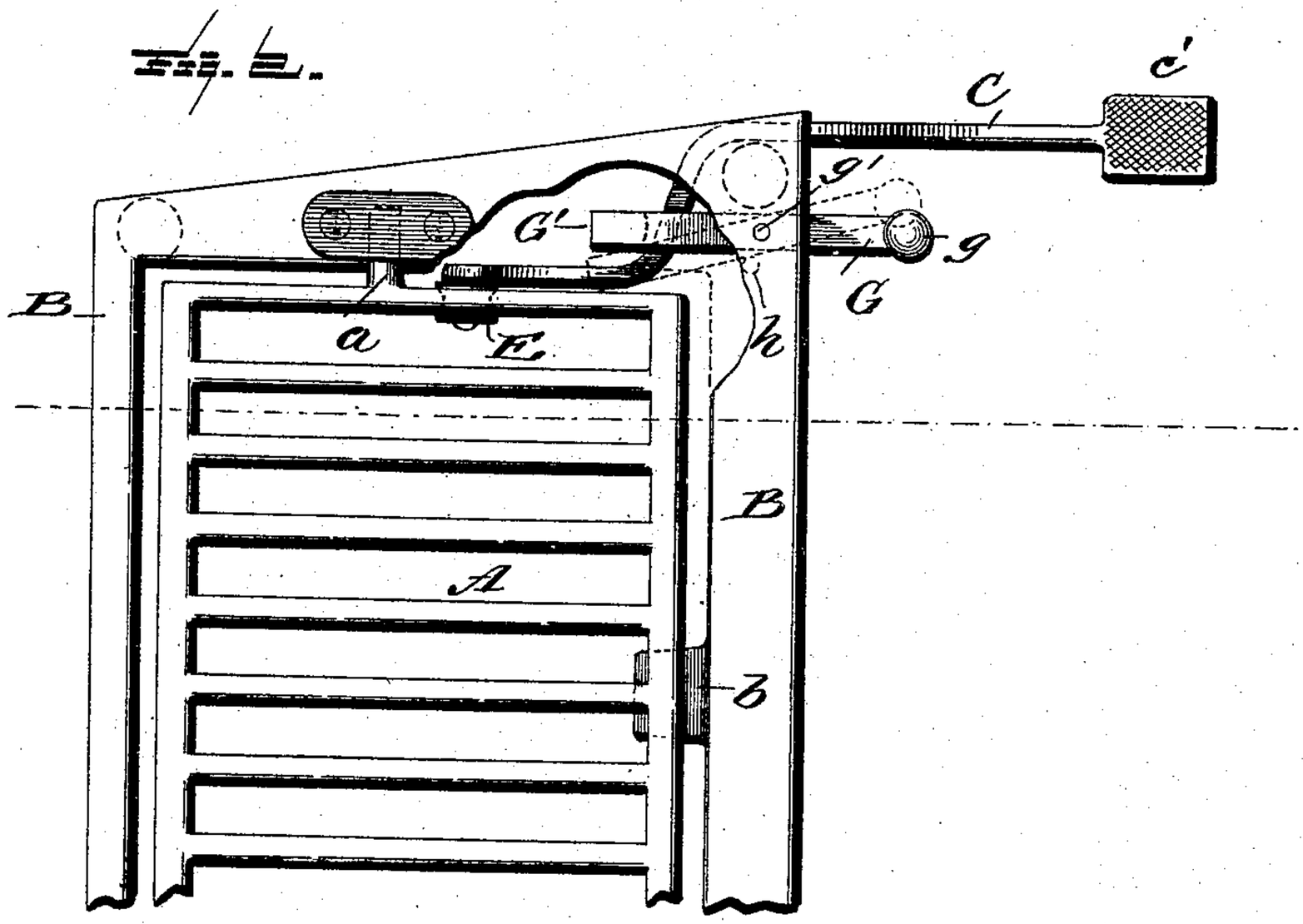


Fig. 2.



Witnesses.
L. C. Hills.
E. H. Bond.

Inventors:
Edward Scanlan
John Zipp.
by E. B. Stocking Attorney

UNITED STATES PATENT OFFICE.

EDWARD SCANLAN, OF LOUISVILLE, KENTUCKY, AND JOHN ZIPP, OF NEW ALBANY, INDIANA.

GRATE AND MEANS FOR OPERATING SAME.

SPECIFICATION forming part of Letters Patent No. 496,006, dated April 25, 1893.

Application filed April 25, 1892. Serial No. 430,540. (No model.)

To all whom it may concern:

Be it known that we, EDWARD SCANLAN, residing at Louisville, in the county of Jefferson and State of Kentucky, and JOHN ZIPP, residing at New Albany, in the county of Floyd and State of Indiana, citizens of the United States, have invented certain new and useful Improvements in Grates and Means for Operating Same, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in rocking and dumping grates and means for operating the same.

Heretofore it has been the practice to form grates in sections for instance in fire-boxes and other constructions, and the dumping has been accomplished by means of levers connected with the sections. This has usually been accomplished by hand. In stoves and furnaces the grates have been provided with projections to receive a hand lever which necessitates the stooping of the attendant in close proximity to the hot stove; and besides the handle or lever must be removed as soon as the shaking or dumping is accomplished or it will become so heated as to burn the hand when next it is desired to use it.

The primary object of this invention is to provide a foot pedal so constructed and arranged as to serve for shaking and also for dumping the grate, which pedal or lever is arranged to be depressed by the foot to actuate the parts, the grate being so pivoted as to automatically return to its normal position when pressure is removed from the foot pedal. We provide means for preventing full movement of the foot pedal whereby the grate may be shaken without dumping, or, by the moving of which, the grate may be dumped by the said foot lever. The lever is permanently affixed in position, is always ready for use, and even should it become warm it makes no difference. In the present form we provide the grate with a cam-shaped projection upon its under face upon which travels a roller carried by the inner end of the foot pedal to force the grate against its preponderance of weight, the grate automatically returning to its normal position and the roller traveling in the opposite direction on said cam-shaped projection when downward pressure is removed from the foot pedal.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a vertical section through a grate equipped with my improvements. Fig. 2 is a top plan with parts broken away.

Like letters of reference indicate like parts in both views.

Referring now to the details of the drawings by letter, A designates a grate which may be of any well known or preferred form of construction, suitably pivotally mounted in its frame or support B, being provided at each end with a pintle *a* supported in suitable bearings in the frame or support, the pintles being considerably to one side of the longitudinal center as seen best in Fig. 2 to throw the preponderance of weight toward the front so that normally the grate seats itself in a horizontal position and is held there by gravity against any tendency to dump the same. A suitable lug *b* may be provided on the frame B as seen in Fig. 2 to limit the downward movement of the grate at the front.

C is a foot lever or pedal pivoted between its ends as at *c* to some fixed part, its outer end extending to a sufficient distance beyond the frame or support and formed with a footpiece *c'* the upper face of which may be roughened as seen in Fig. 2. As shown in the present instance this lever is formed with a curve but it will of course be understood that the shape of the lever will depend upon the circumstances under which it is used. The inner end of the lever is arranged to act upon the under side of the end bar of the grate as shown, and in Fig. 1 we have shown this end bar as provided with a cam-shaped lug *e* against which the said inner end of the lever works, and this inner end preferably carries a small roller E which may be grooved and is loosely journaled on the end of the lever.

Or, instead of this construction and arrangement of parts we may connect the inner end of the lever with the grate bar by a pivotally connected link F as shown by dotted lines in Fig. 1.

In order to limit the movement of the foot lever so that it may be used for shaking the grate instead of dumping and also to prevent dumping when shaking we provide a pivoted arm G the outer end of which may be provided with a suitable knob or handle *g*, the said arm being pivoted on a vertical pivot *g'* on the frame and its inner end carries a depending lug G'. When the arm is moved horizontally on its pivot so as to throw this lug in the path of the foot lever it permits the lever to move but slightly as will be readily understood from Fig. 2, but when it is moved in the opposite direction the foot lever is free to move its entire limit to throw the grate into the position in which it is shown by dotted lines in Fig. 1. The curvature of the lever permits of this movement without touching the arm or its lug. A stop pin *h* may be provided to limit the movement of the arm G. This arm may be moved by the foot. The advantages of such a construction and arrangement of parts as above described will be at once apparent. The foot pedal is operated by the foot as illustrated in Fig. 1, in a vertical direction, not horizontally, there is no necessity of stooping down to grasp it by the hand; the same lever and the same downward pressure serve to both shake and dump the grate. The grate automatically returns to its horizontal position when pressure is removed from the foot pedal. The improvement can be readily applied to grates now in use.

What we claim as new is—

1. The combination with a dumping grate, of a foot pedal with its inner end operatively arranged with the grate for shaking and dumping the same, and an interposed arm pivoted so as to bring its inner end over the foot pedal to limit its movement for shaking the grate and out of the path of the foot pedal for dumping the grate, substantially as specified.

2. The combination with a dumping grate, of a pivoted foot pedal having a bend, a roller at the inner end thereof, and a movable arm with a lug to engage the pedal at said bend, as and for the purpose specified.

3. The combination with a pivoted grate having cam-shaped lug on its under face, of a pivoted foot pedal carrying a roller to engage said lug and a pivoted arm having a lug to engage said pedal, as set forth.

4. The combination with a dumping grate, of a substantially horizontal foot pedal having its inner end disconnected from and mounted to act upon the grate, and a horizontal arm pivoted on a higher plane and having depending lug to engage the pedal to hold the same against movement, as set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD SCANLAN.
JOHN ZIPP.

Witnesses:
PATRICK JOYCE,
JAMES B. COCKE.