

(No Model.)

A. ALITTO.
STOVE OR OTHER GRATE.

No. 605,242.

Patented June 7, 1898.

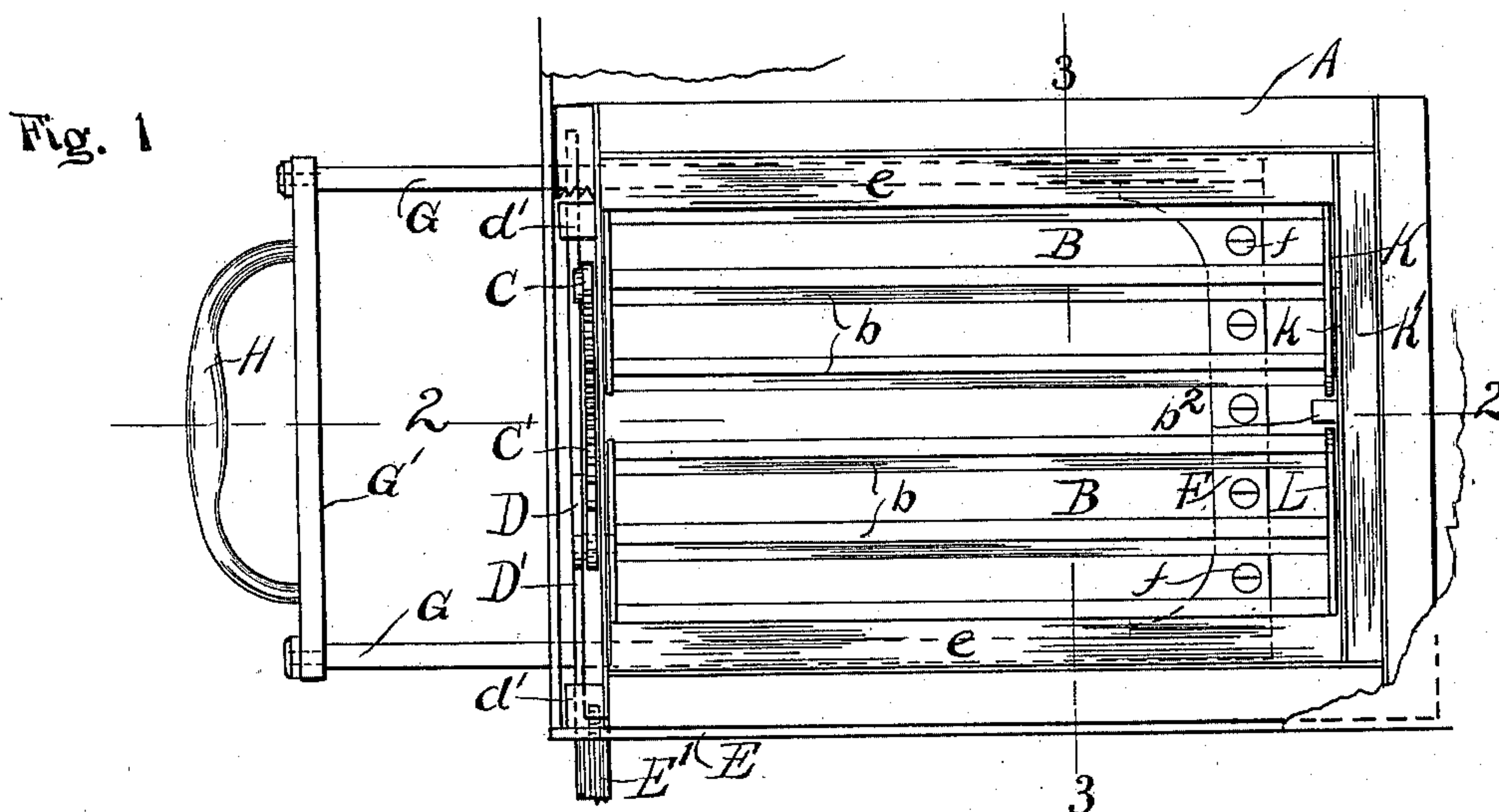


Fig. 2

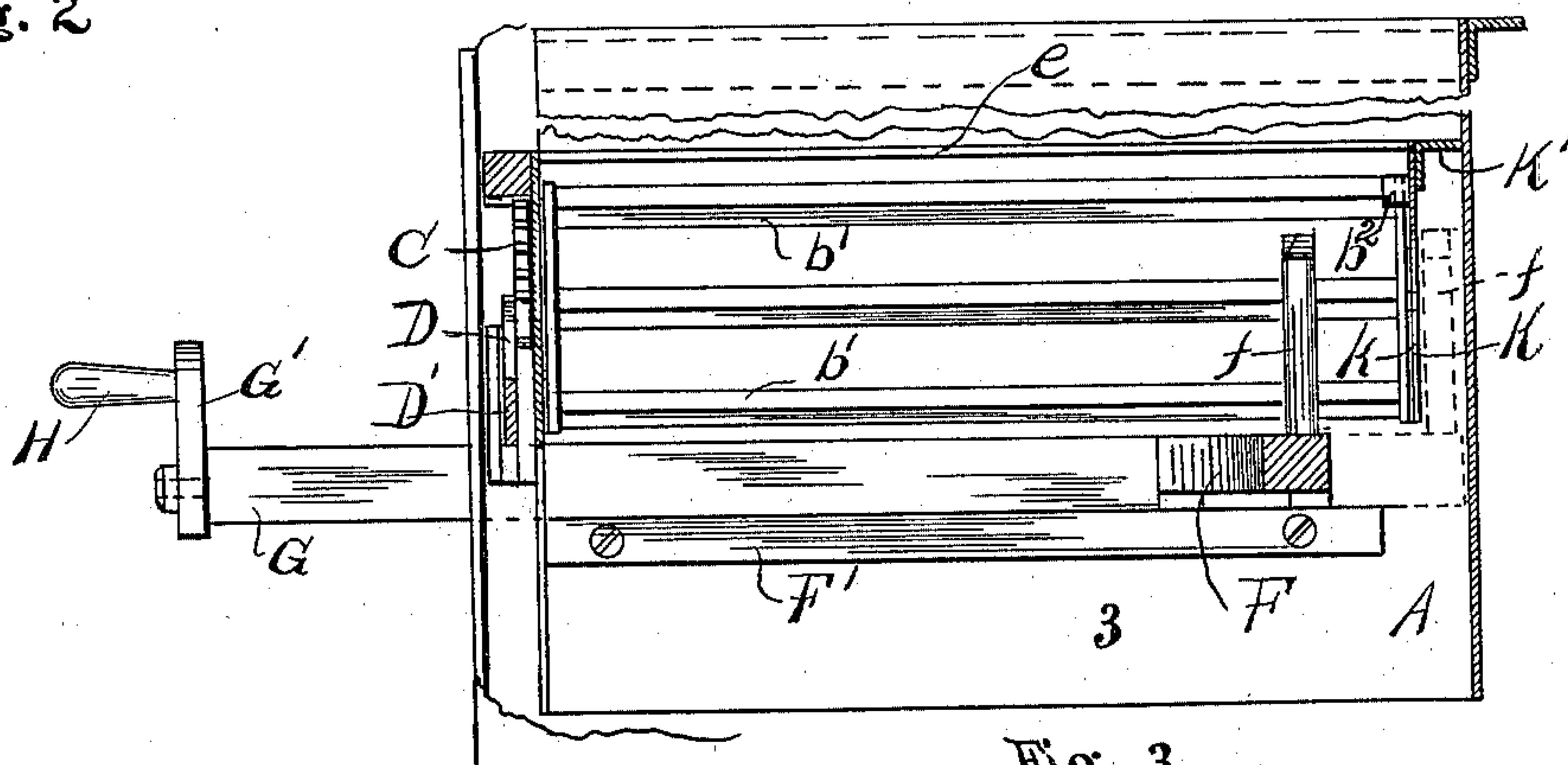


Fig. 3

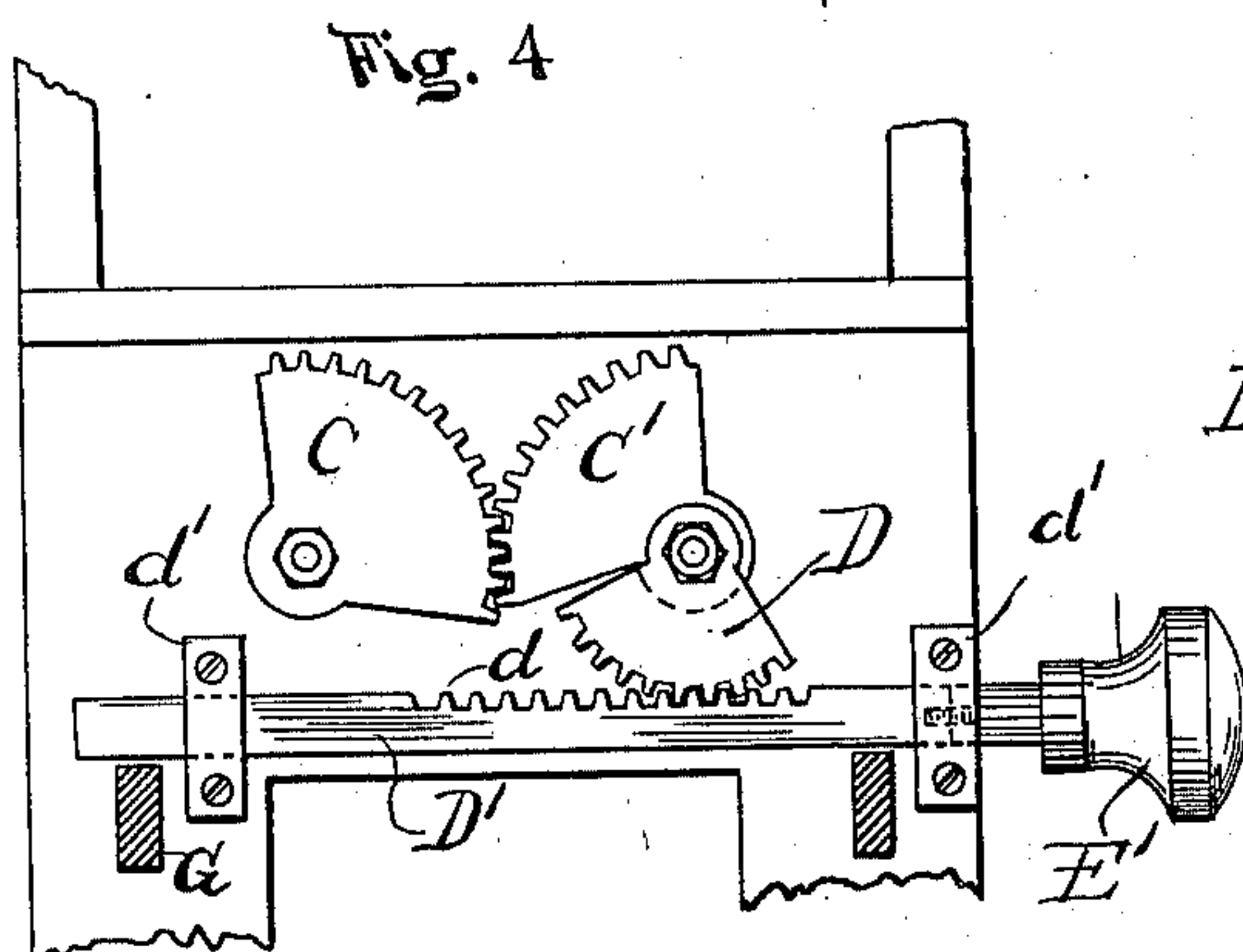
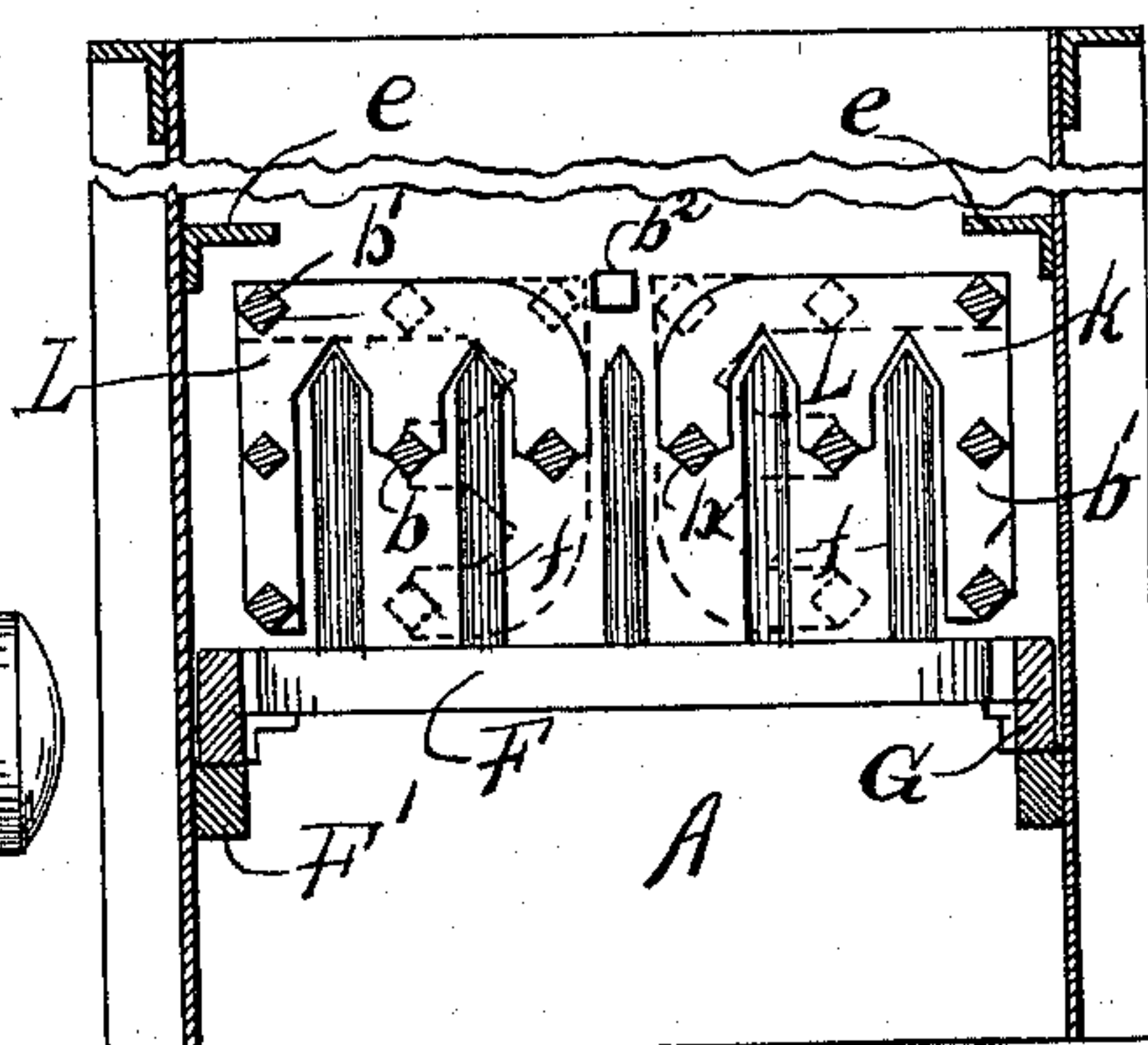


Fig. 4



Witnesses:

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Inventor

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UNITED STATES PATENT OFFICE.

ANTONIO ALITTO, OF CHICAGO, ILLINOIS.

STOVE OR OTHER GRATE.

SPECIFICATION forming part of Letters Patent No. 605,242, dated June 7, 1898.

Application filed October 18, 1897. Serial No. 655,618. (No model.)

To all whom it may concern:

Be it known that I, ANTONIO ALITTO, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stove or other Grates, of which the following is a specification.

My invention has for its primary object to so construct a sectional grate that by rocking the sections grate-surfaces at higher or lower levels may be presented; further, to provide for the clearing of a sectional rocking grate; also, to control the rocking of the grate-sections upon their pivots, and, finally, to improve the construction of the clearing-rake to render its operation more convenient and lessen the liability to cramping and binding; and it consists in combining in a grate two rocking sections, each of which has a horizontal series and a vertical series of grate-bars rocking upon the longitudinal axis of the horizontal series, the vertical series normally forming the sides of a basket-like grate and being swung up and brought together when the sections are rocked to afford an elevated grate; in combining with a sectional grate the sections of which rock upon independent axes a rake movable longitudinally of the grate-bars and a guard-recess at the rear, beyond the ends of the grate-sections, into which the rake head and teeth enter at the extreme of their inward movement, out of the way of the grate-sections when they rock; in combining with such rocking sections and recessed end bar a rake-head movable upon ways longitudinally of the grate-bars, and lateral draw-rods extending from the ends of the rake-head alongside but exterior to the grate to the outside of the stove and there united by a cross-bar, whereby the space beneath the grate is left clear and all danger of twisting or binding the rake is obviated, and in the various other combinations and details of construction herein-after described and claimed.

In the drawings, Figure 1 is a top plan view of a fire-box and grate embodying my invention. Fig. 2 is a vertical longitudinal section therethrough on the correspondingly-numbered line in the preceding figure. Fig. 3 is a vertical transverse section on the line 3 3 of Fig. 1, showing the elevated position

of the grate in dotted lines; and Fig. 4 is a detail of the mechanism for rocking or dumping the grates.

A is a fire-box, in which are mounted the rocking grate-sections B, which, so far as relates to the first feature of my invention, are two in number and are constructed with a normally horizontal row of bars *b* and a vertical row *b'*, rigid with the horizontal row, giving in cross-section the form of a letter T, with the stem horizontal, the upper bars of the vertical rows normally constituting the side walls of the grate. The horizontal row of each section rocks upon the axis of its central bar for dumping or discharging the contents of the grate, and if this rocking movement is continued sufficiently the side rows or vertical rows will be carried up overhead until they meet in the position indicated in dotted lines in Fig. 3, striking the stop *b*², and form an elevated grate-surface, thus permitting a small fire to be built close to the top of the stove for hasty work or to suit the temperature of the season. To insure this action of the grate-sections in forming lower and upper grate-surfaces at will it is necessary that they should rock simultaneously and in opposite directions. Convenient means for thus controlling them are provided by carrying the front trunnions of the pivotal central bars to the exterior of the fire-box and there keying to them two intermeshing equal segment-gears C C', one of which carries a second segment-gear D, which meshes into the rack *d* of a slide-bar D', supported in suitable guides *d'* to extend horizontally across the front of the fire-box. The end of this rack-bar is or may be flush with the fire-box when in its normal position, to permit the box to be removed from the stove, and in such relation the lower grate-surface is in effective position; but it is extended through the side E of the stove or range by means of a knob and shank E', the shank part of which screws into the end of the rack-bar, as shown in Fig. 4, and by means of this knob it can be drawn out to dump the contents of the lower grate or to bring into effective position the sections of the upper grate or pushed in to dump the upper grate or close the lower grate.

To prevent coal from falling between the

vertical rows of grate-bars and the side walls of the fire-box when the lower grate is in use, shield-ledges *e* are arranged along said walls immediately above the spaces thus formed
5 and extending into close proximity with the upper bar of each vertical row.

The upper grate, being intended for quick fires of a temporary character, does not need any special clearing arrangement; but for the
10 lower grate I have provided the cleaning-rake *F*, having upright teeth *f*, rigid with the rake-head, passing up a short distance between the grate-bars. This rake moves upon the ways
15 *F'*, arranged along the sides of the fire-box, and is operated by means of the parallel rods *G*, which extend above said bars outside the path of the grate-sections in their rocking movement and pass through apertures in the front of the fire-box and of the stove or range
20 and are connected outside of the latter by a cross-bar *G'*, carrying a handle *H*, whereby the rake can be pushed to and fro. This arrangement leaves a clear space beneath the grate and insures against the twisting, cramp-
25 ing, or binding of the rake-head, since both ends will be drawn upon equally whatever the obstruction.

In order that the rake may not interfere with the rocking of the grate-sections, the rear
30 trunnions of the pivotal grate-bars are journaled in hangers *h* from a journal-plate *K*, set out from the rear wall of the fire-box by means of a horizontal spacing-bar *K'*, thus forming a guard-recess into which the rake
35 may enter at the extreme of its rearward stroke and not only be out of the way of the sections when they rock, but be completely sheltered against choking by the lodging of coal or cinders. Access to this recess is
40 gained by mounting the rear ends of the grate-bars in frame-plates *L*, which are pierced, as

at *l*, to permit the passage of the rake-teeth so long as the lower grate is in position. When the upper grate is used, the rake will be locked within the guard-recess by the trans- 45
verse position of the frame-plates; but this is immaterial, as it will not be needed then.

It is evident that the presence of the vertical rows of grate-bars is all that limits the number of rocking grate-sections with which 50
the rake can be employed to the number shown.

I claim—

1. The combination with grate-sections arranged side by side, bearings located in line 55
with the central longitudinal ends of each section, upon which they rock, and means for rocking said sections simultaneously, of a clearing-rake reciprocable on ways beneath said sections and having teeth extending up 60
between the longitudinal grate-bars, and means whereby said rake is allowed to pass beyond one end of said sections, to permit them to be rocked.

2. The combination with grate-sections arranged side by side, an inclosing fire-box, a 65
journal-plate set out from the rear wall of said fire-box to form a guard-recess, pierced frame-plates for the rear ends of the grate-bars, bearings in the journal-plates and in 70
the front wall of the fire-box in line with the central longitudinal axis of each grate-section for the support of such section, means for rocking the sections simultaneously, and a reciprocable clearing-rake arranged to pass 75
said pierced support and into the guard-recess.

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

ANTONIO ALITTO.

Witnesses:

PETER BESANT,
OLOF R. SATHER.