No. 834,255. PATENTED OCT. 30, 1906.

R. V. BRAWLEY.

GRATE.

APPLICATION FILED AUG. 15, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

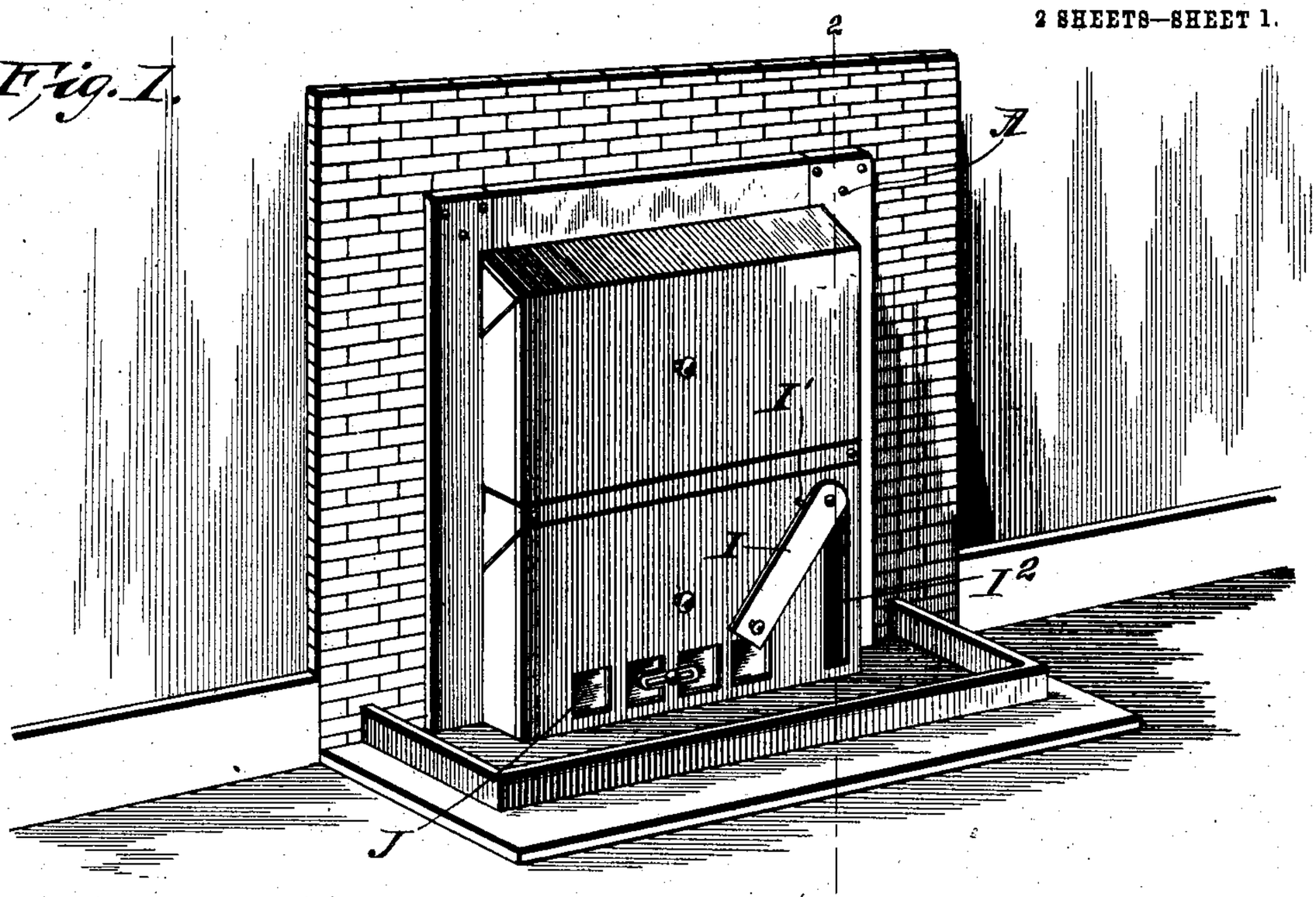
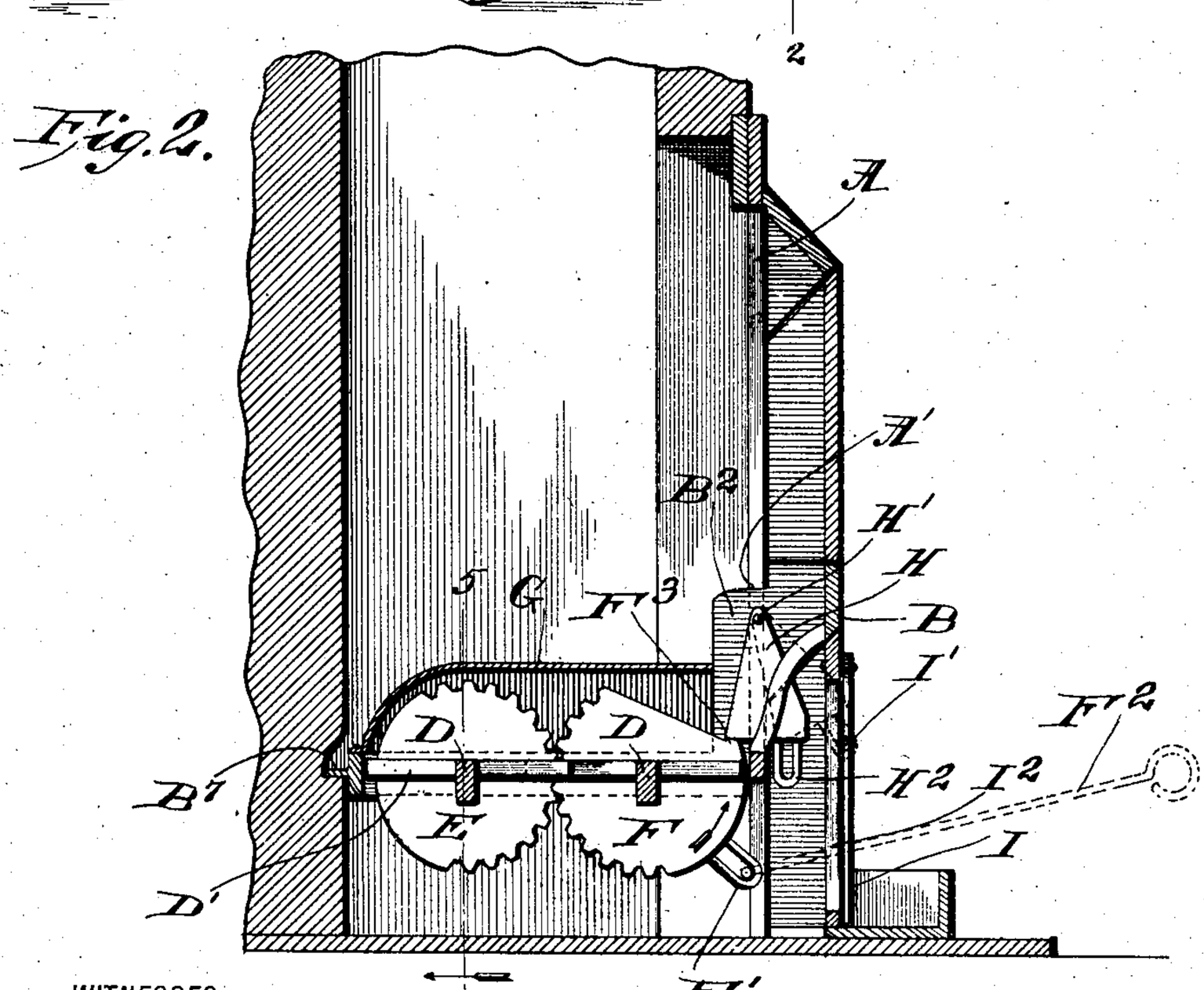



Fig. 2.

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# R. V. BRAWLEY.

## GRATE.

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2 SHEETS—SHEET 2.

Fig. 3.

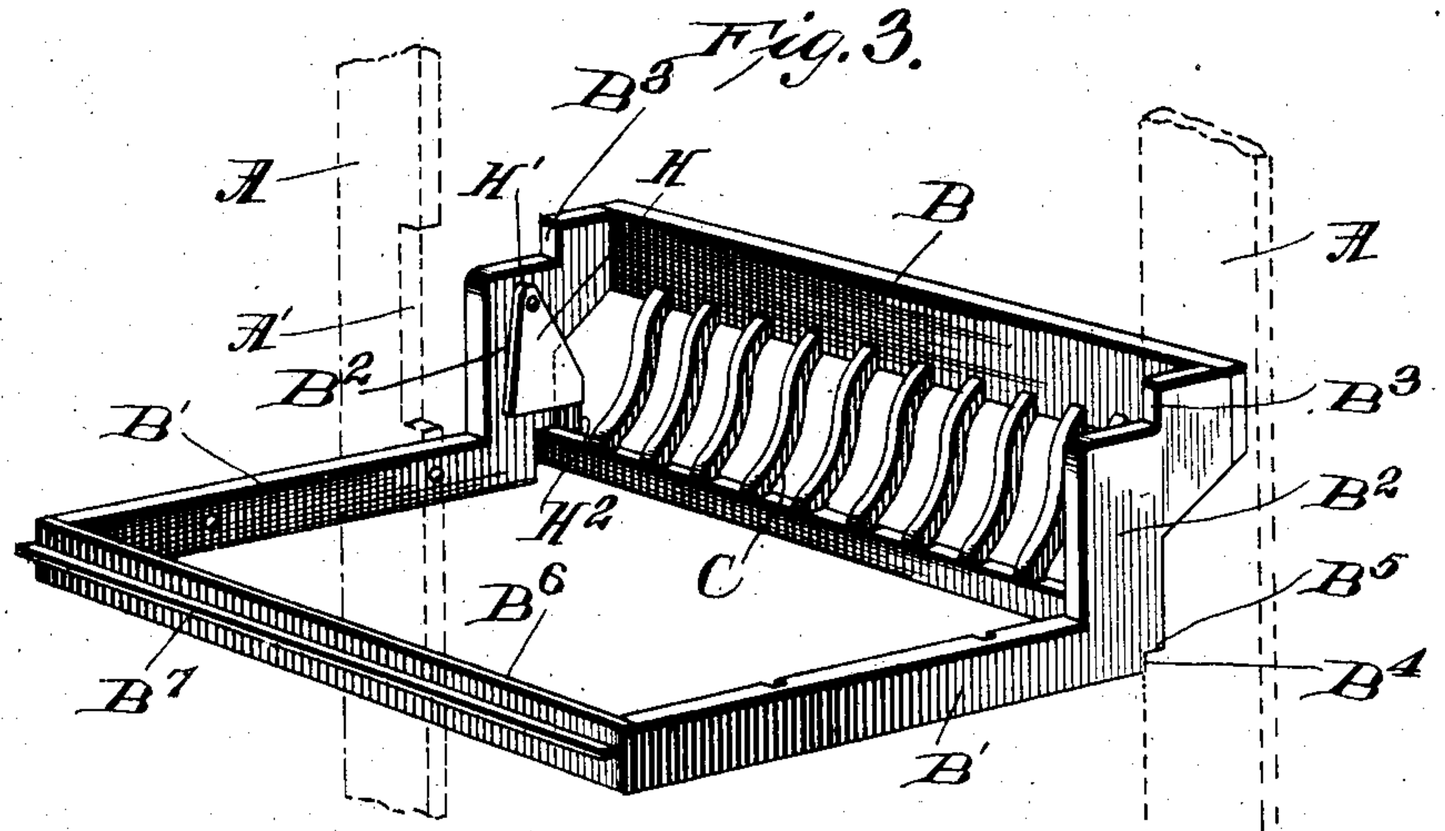



Fig. 4.

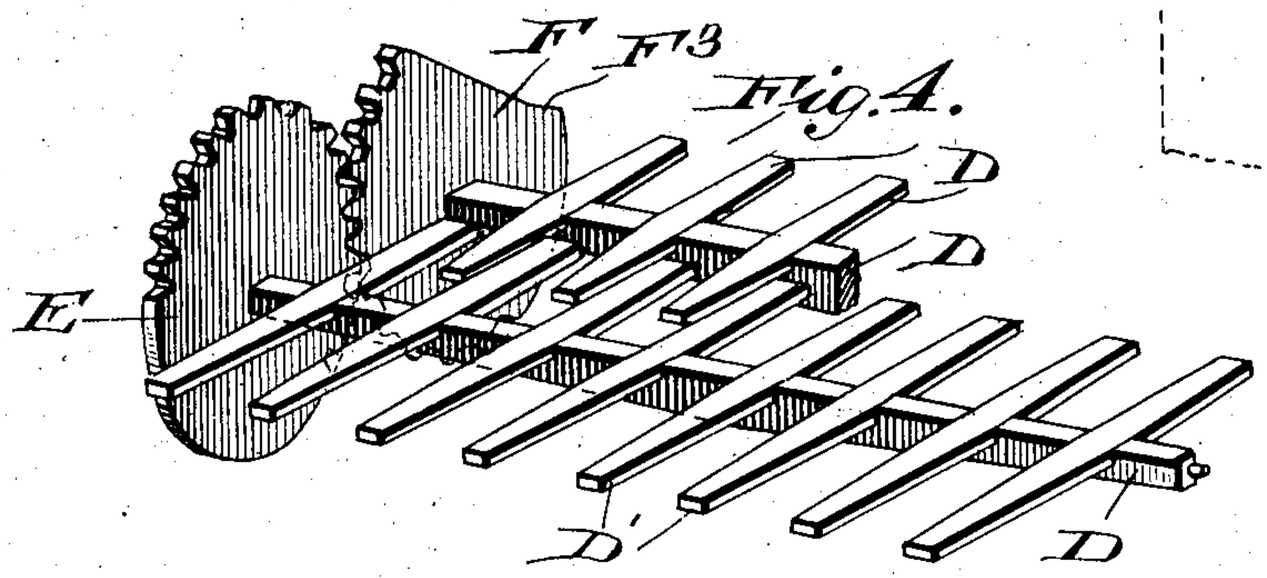



Fig. 6.

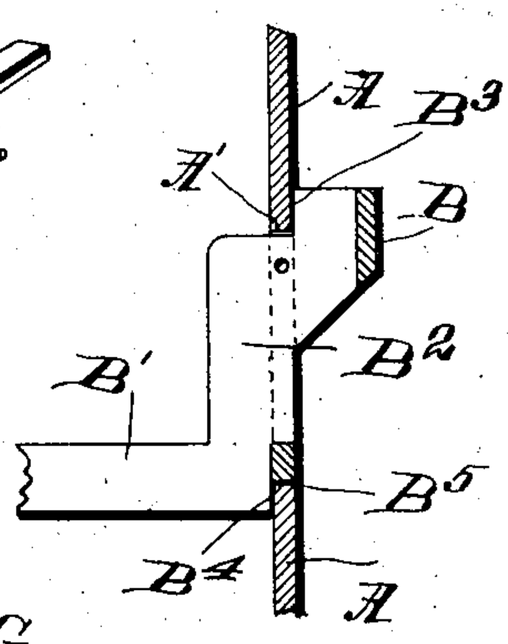
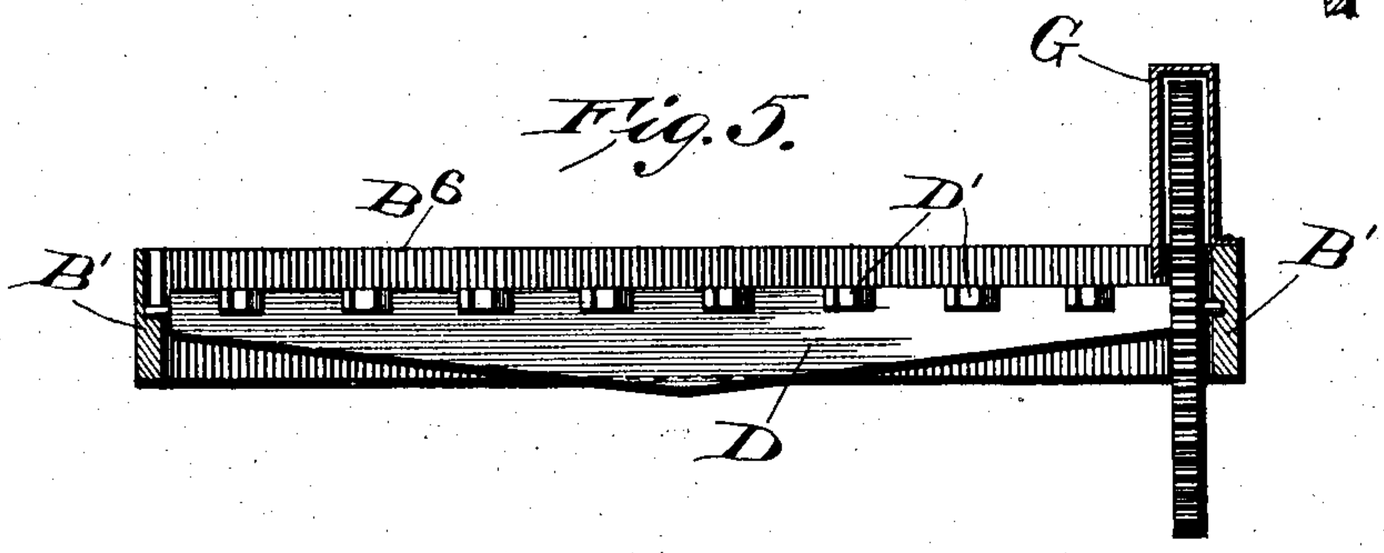



Fig. 5.

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# UNITED STATES PATENT OFFICE.

ROBERT V. BRAWLEY, OF STATESVILLE, NORTH CAROLINA.

## GRATE.

No. 834,255. Specification of Letters Patent. Patented Oct. 30, 1906.

Application filed August 15, 1905. Serial No. 274,302.

*To all whom it may concern:*

Be it known that I, ROBERT V. BRAWLEY, a citizen of the United States, residing at Statesville, in the county of Iredell and State of North Carolina, have made certain new and useful Improvements in Grates, of which the following is a specification.

My invention is an improvement in grates, and especially in grates designed for use in open fireplaces; and the invention consists in certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a perspective view of a fireplace embodying my invention, the upper and lower covers being applied and the swinging door being adjusted to one side of the opening it normally covers. Fig. 2 is a vertical longitudinal section of the fireplace. Fig. 3 is a detail perspective view of the grate-frame, the side plates of the front frame being indicated in dotted lines and the plate at the left being spaced away from the grate-frame to show the edge recess therein. Fig. 4 is a detail perspective view of the rocking grate-sections, partly broken away. Fig. 5 is a cross-section on about line 5 5 of Fig. 2, and Fig. 6 is a detail vertical section.

The fireplace has its side plates A notched or recessed in their inner edges at A′ (see Figs. 2 and 3) to receive the side plates of the grate-frame, and this grate-frame fits in these recesses and interlocks therewith when applied, as shown in Fig. 2.

As shown, the grate-frame comprises the front cross-plate B, set vertically edgewise and extending between the front ends of the side bars B′ of the grate-frame. These side bars B′ are provided near their front ends with body portions $B^2$, adapted to fit in the recesses A′ of the side plates A of the front frame, and at the upper and lower edges, respectively, of this body portion I provide the inwardly-facing shoulders $B^3$ and the outwardly-facing shoulders $B^4$, and adjacent to the outwardly-facing shoulder $B^4$, I provide the downwardly-facing shoulder $B^5$, as best shown in Fig. 3 of the drawings. When applied as shown in Fig. 2, the body portions $B^2$ of the side plates fit in the recesses A′, the upper shoulder $B^3$ abuts the front faces of the plates A above the recesses A′, the shoulders $B^4$ abut the rear faces of the side plates A below the recesses A′, and the shoulders $B^5$ rest upon the lower walls of the recesses A′, and the preponderance of weight being in rear of the plates A the grate-frame will be held securely in place by its interlocking with the front frame, as will be understood from Figs. 2 and 3. To support the grate-frame at its inner end, its inner cross-bar $B^6$ is provided with a lug or flange $B^7$, which rests upon the back wall of the fireplace, as shown in Fig. 2.

Upright grate-bars C extend downwardly and inwardly from the front cross-plate B of the grate-frame and form the front of the grate.

In the side bars B′ are journaled the ends of the cross grate bars or shafts D, which are provided with the projecting grate-bars D′, which form the grate-bar surface, as shown in Fig. 2 of the drawings. At one end the bars D are provided with the cog-segments E and F, meshing with each other, so that the rocking of one will effect a corresponding rocking of the other, and by preference a housing G is arranged over the cog-wheels and protects the same from ashes and the like.

The cog-wheel F has a depending staple F′, which may be engaged by the shaker-bar $F^2$, and at its upper side the said cog-wheel F is broken away or mutilated, forming a shoulder $F^3$ for engagement by the swinging latch H. This latch H is pivoted at its upper end at H′ and normally stands in the position shown in Fig. 2 above the stop-shoulder $F^3$ of the cog F, so that the said cog-wheel cannot be moved in the direction of the arrow on said cog-wheel beyond the position shown in Fig. 2 until the latch H is released. The latch H is provided with a staple $H^2$ and when drawn outwardly to the position indicated in dotted lines in Fig. 2 may be held by the pin I′ on the swinging door I, engaging in said staple $H^2$, as will be understood from Fig. 2 of the drawings. This cover-door I operates to close the slotted opening $I^2$, through which the shaker-bar $F^2$ may be inserted when it is desired to shake the grate. To release the latch H in order to dump the grate, it is only necessary to draw the same out to the position indicated in dotted lines, Fig. 2, and adjust the pin I′ into the staple $H^2$, when the grate may be dumped by the proper operation of the shaker-bar. When the grate is dumped, the door I may be released by the foot from engagement with the latch, and the latter will swing inwardly

to adjust itself above the shoulder $F^3$ when the cog-wheel F is returned to the position shown in Fig. 2 of the drawings.

The upper and lower covers may be utilized for closing in the fireplace whenever desired, and I prefer in practice to provide the lower cover with a damper, as shown at J in Fig. 1 of the drawings.

It will be noticed that when desired the entire grate may be readily lifted from the front frame of the fireplace, so that in summer or other times when a fire is not desired in the grate the entire fireplace may be open and unobstructed.

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

1. The combination substantially as herein described, of the fireplace front frame, having its side plates provided in their inner edges with recesses, a grate-frame having the front plate, grate-bars connected with the front plate, side bars provided near their front ends with body portions having at their upper sides the rearwardly-facing shoulders and at their lower sides the forwardly and downwardly facing shoulders and formed between said shoulders to fit in the recesses of the said side plates of the front frame with the upper shoulders bearing against the front side of said plates above the recesses, and the lower shoulders engaging with the bottom walls and in rear of the side plates at the lower edges of the recesses, rocking grate-sections journaled in the grate-frame and provided with coacting gear-wheels, one of said wheels having an upwardly-facing shoulder for engagement by a hanging latch, a hanging latch pivoted at its upper end and adapted to swing to position for engagement by said shoulder and having a projecting staple at its swinging end, a lower cover having a slot for the introduction of a shaker-bar, and a door for covering said slot and provided with a pin or projection to enter the staple of the swinging latch when the latter is adjusted to position to release the cog-wheel, substantially as set forth.

2. The combination with a fireplace front frame having its side plates recessed in their inner edges, of a grate-frame having its side bars provided with body portions adapted to fit in said recesses and provided at the upper and lower sides of said body portions with reversely-facing shoulders to bear upon the opposite sides of the front plates at the upper and lower ends of the said recesses, substantially as set forth.

3. The combination with a fireplace front frame, the grate-frame having portions interlocking with the front frame by engagement with the front and rear faces thereof, the rocking grate-sections journaled in said grate-frame and geared together, and a swinging latch pivoted to the grate-frame and movable into engagement with one of the rocking grate-sections to prevent the dumping of said grate-sections, substantially as set forth.

4. The combination with the grate-frame and the rocking grate-sections having cog-wheels meshed together, and one of said cog-wheels being mutilated or shouldered on its upper side, a swinging latch adjusted by gravity to position to engage the shoulder on said cog-wheel and adapted to swing out of said position to release said cog-wheel, a cover-section having a slot or opening for the introduction of a shaker-bar and arranged in alinement with the said latch, whereby the latter may be swung in released position out through said slot, and a cover for the slot having means for engagement with the latch to hold the same in position to release the cog-wheel.

5. The combination of a fireplace front frame having opposite side plates recessed in their edges, and a grate-frame having its side bars provided at their front ends with portions fitting within said recesses and with parts bearing against the front and rear faces of the frame side plates, substantially as set forth.

6. The combination with a fireplace front frame, having its side plates recessed in their inner edges, and a grate-frame having body portions fitting in the recesses of the said side plates and having upper and lower reversely-facing portions engaging with the opposite faces of the front frame-plates above and below said recesses, to interlock with the said side plates, the preponderance of weight of said grate-frame being in rear of the front plates, rocking grate-sections supported in the grate-frame and gearing between said grate-sections, substantially as set forth.

ROBERT V. BRAWLEY.

Witnesses:

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DE WITT M. COINER.