(No Model.) 2 Sheets—Sheet 1.

J. C. BARRY.

FIRE PLACE GRATE.

No. 407,989. Patented July 30, 1889.

Fig. 1.

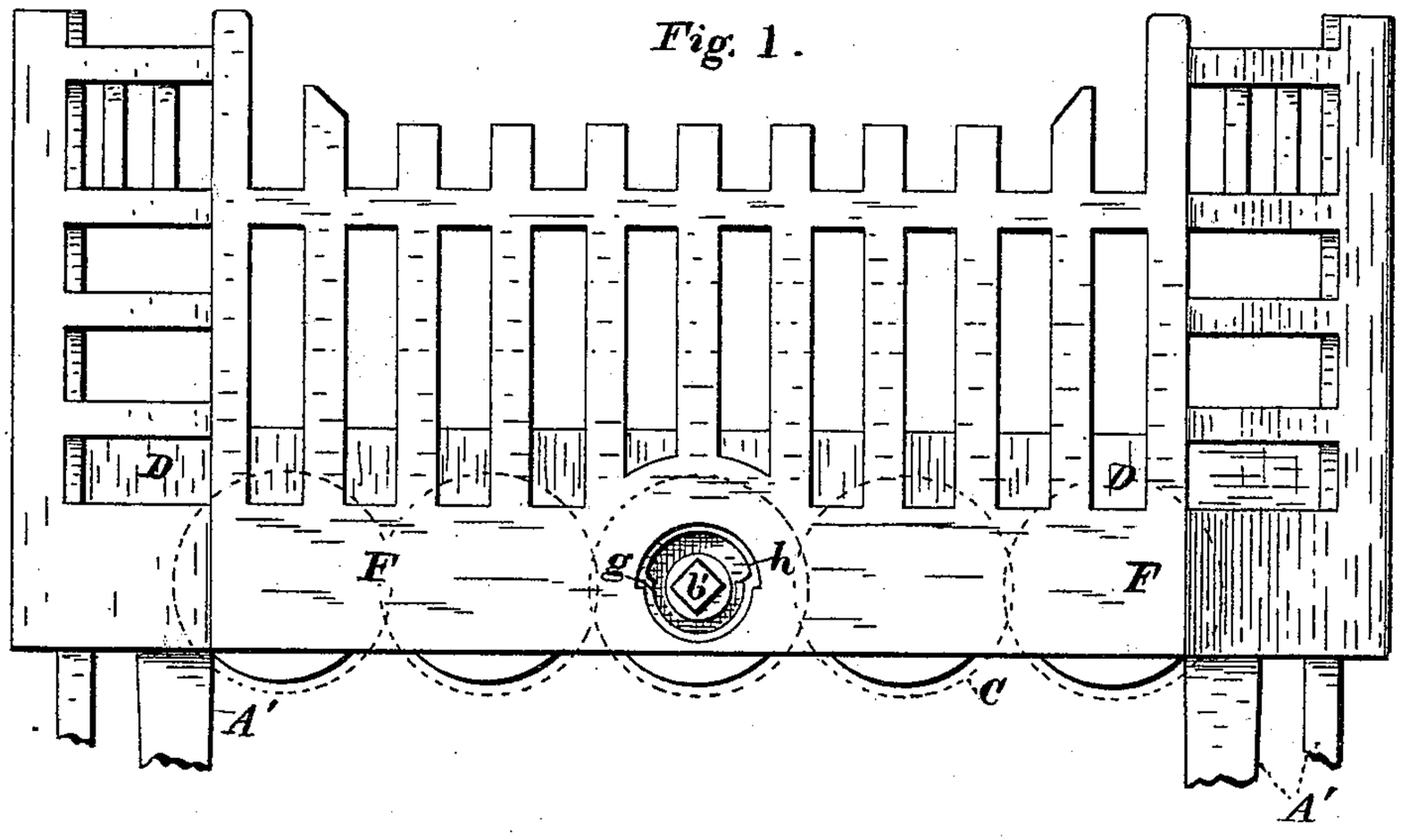
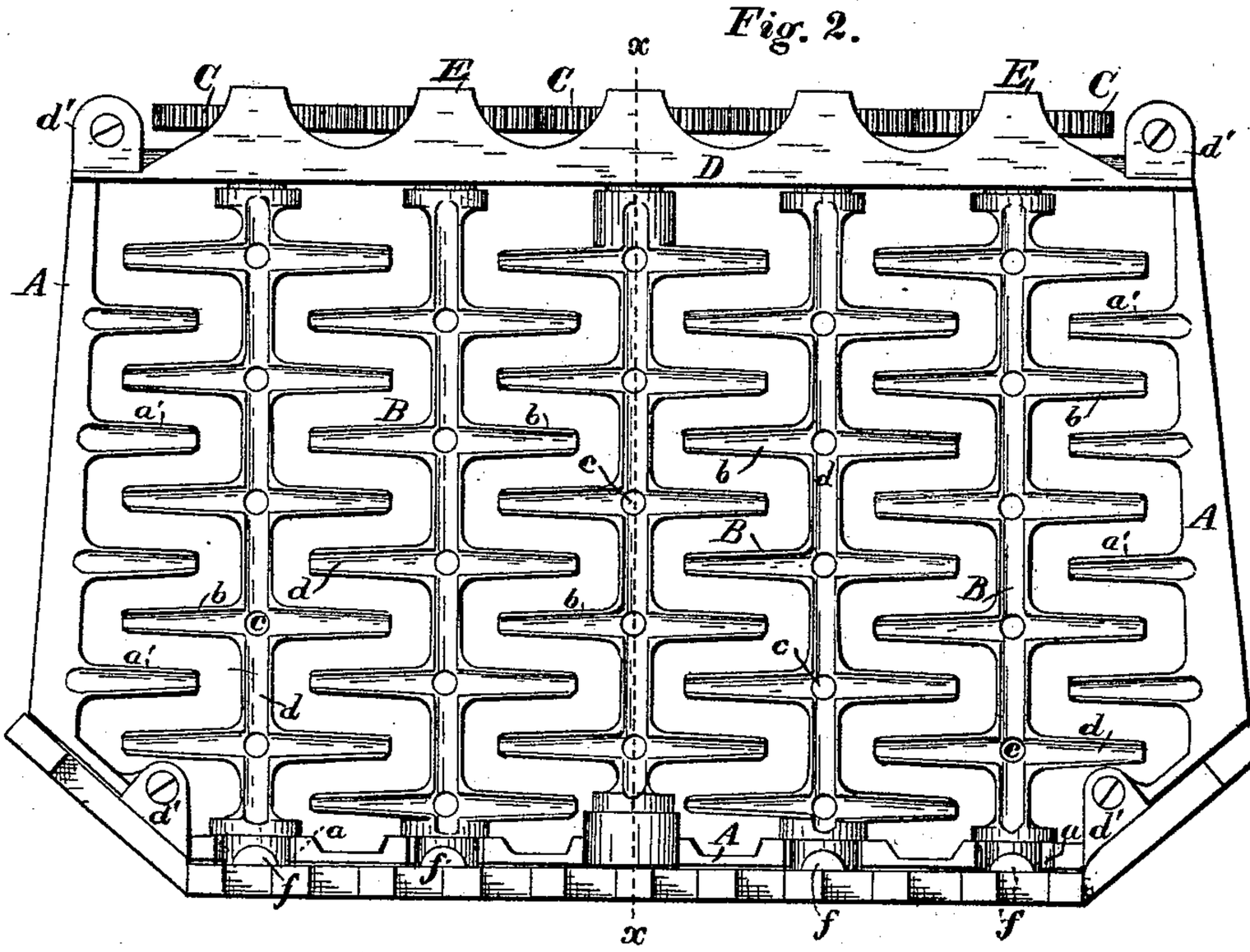


Fig. 2.



WITNESSES:
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Thomas Durant

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

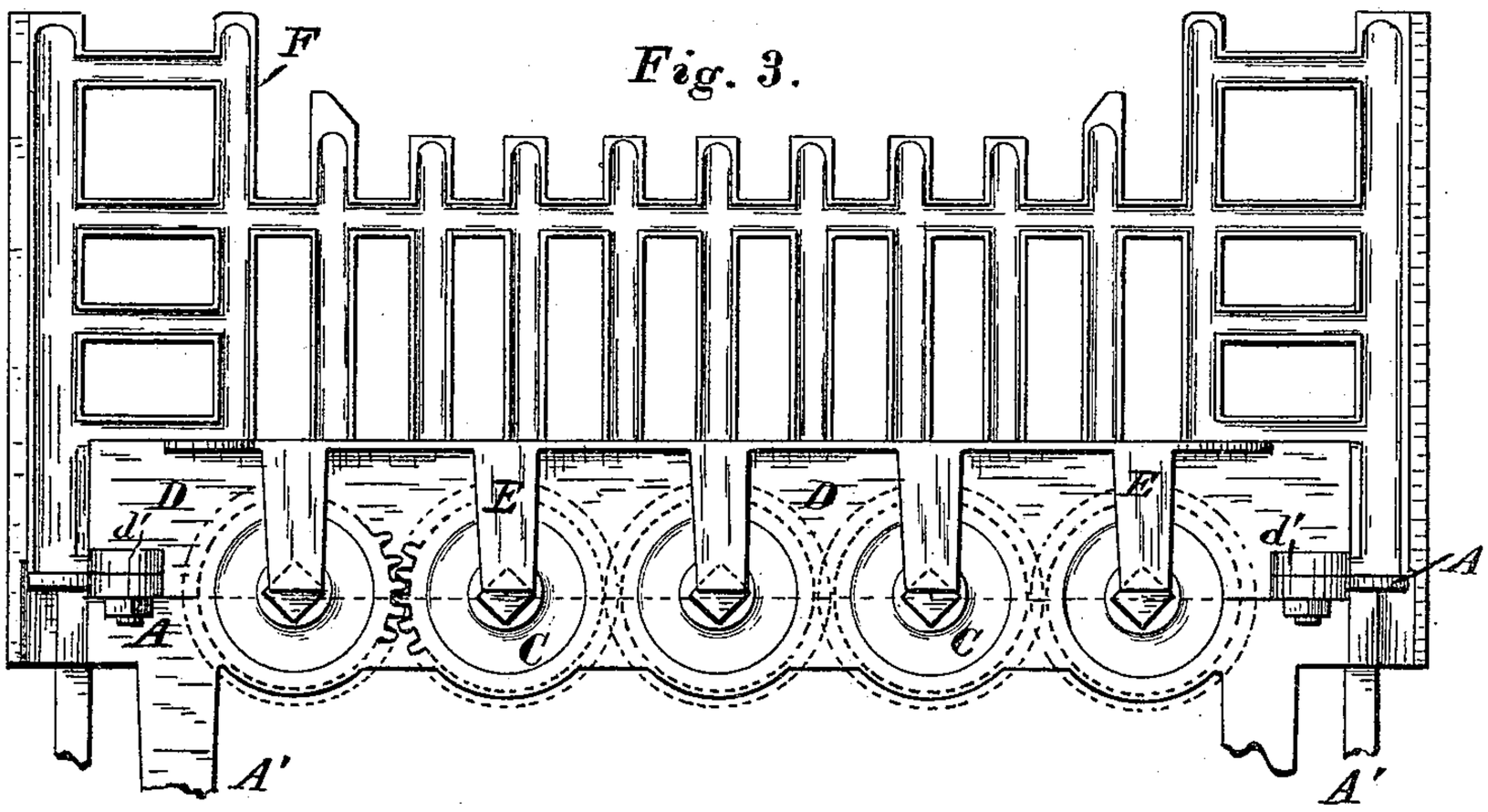


Fig. 4.

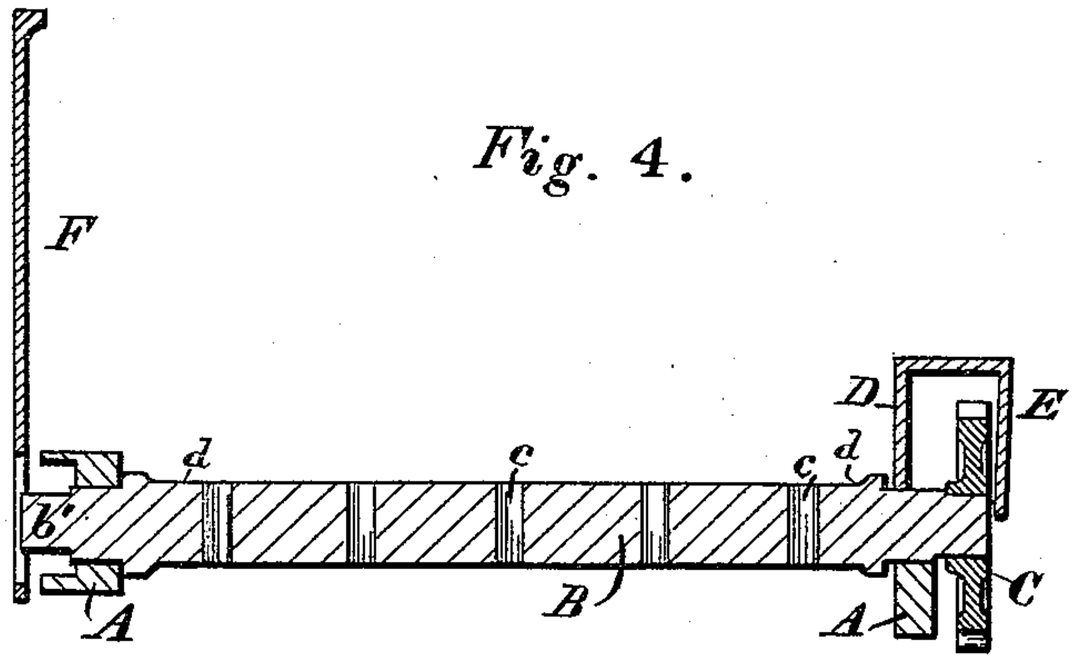
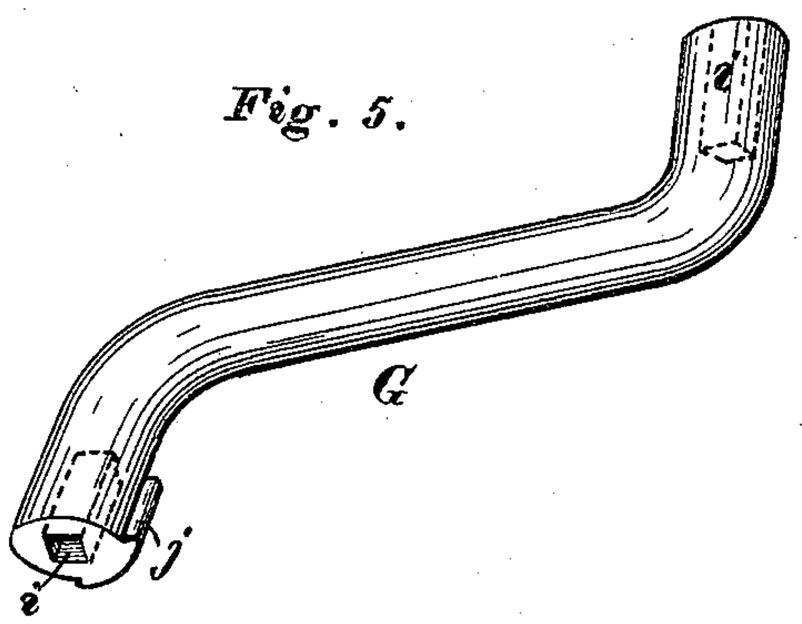


Fig. 5.



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UNITED STATES PATENT OFFICE.

JAMES C. BARRY, OF ROCHESTER, NEW YORK.

FIRE-PLACE GRATE.

SPECIFICATION forming part of Letters Patent No. 407,989, dated July 30, 1889.

Application filed February 25, 1889. Serial No. 301,048. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. BARRY, of Rochester, county of Monroe, and State of New York, have invented certain new and useful Improvements 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 drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My present invention relates particularly to that class of grates adapted to be used in open fire-places, though some of the parts can be used as well in other constructions; and it consists in certain improved constructions and combinations of parts, all as will be hereinafter fully described, and the novel features pointed out in the claims at the end of this specification.

In the drawings, Figure 1 represents a front view of a grate constructed in accordance with my invention; Fig. 2, a top plan view of the same; Fig. 3, a rear view; Fig. 4, a sectional view on the line *x x* of Fig. 2, and Fig. 5 a view of the operating-handle.

Similar letters of reference in the several figures denote similar parts.

The base of the grate consists of an open frame A, provided with the supporting-legs A′ at the corners, and at front and rear with half-bearings or recesses *a*, in which the rocking and rotating grate-sections B are mounted. These grate-sections are provided with laterally-projecting arms *b* and at either end with round portions adapted to rest in the recesses *a* in the frame, on which they may be rocked or rotated to dump the contents of the grate, and the projections are so disposed on adjacent sections as to interlock, as shown in Fig. 2, the projections on one entering the space between those on the next section. The frame A is also provided at the sides with projections *a′*, corresponding to those on the sections B, projecting between the ones on the end sections, thus forming, when the sections are horizontal, a fuel-supporting surface with apertures through it for the passage of air from below. In addition to the passages between the projections, the sections may be perforated, as shown at *c*, for the purpose of supplying more air to the fire and keeping them cool, and they may be provided with grooves *d* on their faces adapted to contain fine ashes, which will prevent in a measure intense heating, thus diminishing their liability to warp.

The rear ends of the section are made angular, as shown, and upon each of them is loosely slipped a gear-wheel C, the gears on all the sections intermeshing, so that all will be moved simultaneously in opposite directions when desired to agitate and dump the contents of the grate, and as means of holding the sections in position on the frame and at the same time holding the gears on their ends without the necessity of positively fastening them I provide a plate D, bolted to frame A by ears or lugs *d′*, extending over the bearing portions of the sections B, holding them in the recesses in the frame, which plate is further provided with fingers or arms E, extending over the tops of the gears and down to about the level of the bearings, thus preventing any longitudinal movement of the gears sufficient to permit their coming off. The front ends of the sections B are also disposed in recesses *a* in the frame, excepting the middle one, (five being shown in the present construction,) which passes through a perforation in the front of frame A and is made angular for the application of a suitable operating-handle, and they are held in said recesses by a front plate F, preferably made somewhat ornamental and provided on the rear side with lugs *d′ d′* and *f f*, the former serving as the means of attachment to the frame and the latter projecting over and holding the grate-sections in the bearings, as shown. The lugs *d′ d′*, it will be noted, hold the plate a short distance in front of the frame A, and thus prevent its being highly heated and the nickel-plated portions discolored.

In the front of the frame A (and also the plate F) is provided a perforation for the passage of the extended portion *b′* of the central section B, and around it a slight circular recess *g* and a larger recessed portion *h*, and for the purpose of moving the grate-sections I provide a double-cranked handle G, (shown in Fig. 5,) having at each end a recess *i*, arranged to fit over *b′*, and on one end a projecting rib or lug *j*, adapted to co-operate with the stops formed by the ends of recess *h* when

this end of the handle is engaged with the section, permitting only a partial oscillatory movement of the sections for the purpose of shaking the fire; but when the other end of the handle G is engaged the sections can be rotated and the contents of the grate dumped.

By forming the recesses *g* and *h* in the front of the frame instead of providing projecting lugs, as heretofore, I am enabled to give the front a better finish, and by employing an uneven number of grate-sections am enabled to place the opening in the center of the grate, making the device more symmetrical.

The double-cranked handle G, one end constructed so as to permit free rotation of the sections and the other to permit only a partial rotation for the purpose of shaking, is an advantageous feature, as it necessitates the use of but one attachment for operating the grate, the end not in use forming a handle by which to operate it.

The location of the connecting-gearing at the rear of the grate simplifies the construction and throws the fire forward slightly without causing unnecessary projection of the grate structure from the fire-place or exposing the gears to view.

The construction of this grate is extremely simple. The parts are all formed of cast metal, not requiring finishing, and it can be put together by an unskilled operator, requiring but four bolts, two for each of the plates holding the grate-sections in position.

The manner of operating will be apparent, the operator using either end of the handle and causing the shaking of the grate or the revolution of the sections, dumping the contents as may be desired.

I claim as my invention—

1. The combination, with the main frame having the open bearings formed therein, of the grate-sections resting in said bearings having the angular rear ends, the intermeshing gears mounted on said ends, the rear plate secured to the frame co-operating with the grate-sections to hold them in their bearings, and having the fingers thereon extending over the gears and projecting in proximity to the ends of the sections for holding the gears in position on them, and the front plate secured to the frame, having the lugs co-operating with the sections to hold them in their bearings, substantially as described.

2. The combination, with the main frame having the open bearings, of the grate-sections resting in said bearings and geared together for simultaneous operation, the front plate covering the front of the frame, having the rearwardly-projecting lugs adapted to be secured to the frame, and the series of lugs projecting over the ends of the sections for holding them in their bearings, substantially as described.

JAMES C. BARRY.

Witnesses:
FRED F. CHURCH,
S. E. TRUE.