(No Model.)

2 Sheets—Sheet 1.

J. O'KEEFE.

GRATE.

No. 381,886. Patented Apr. 24, 1888.

Fig. 1.

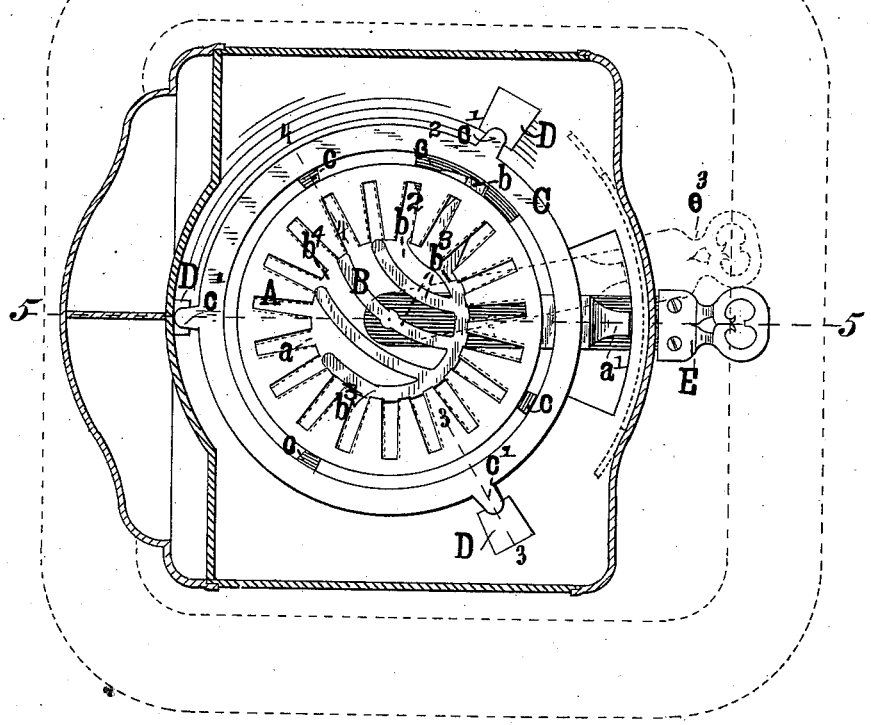


Fig. 3.

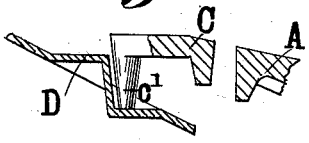
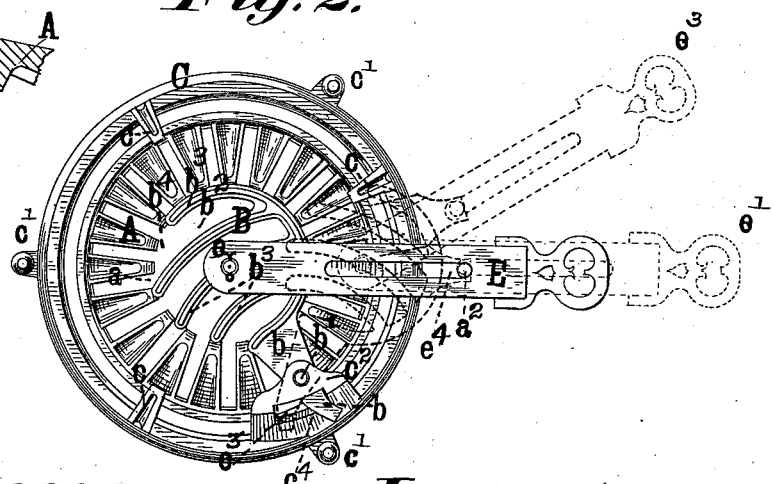


Fig. 4.

Fig. 2.



Witnesses:
C. B. Anderson.
Mattie H. Hoke.

Inventor:
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by C. D. Moody. atty

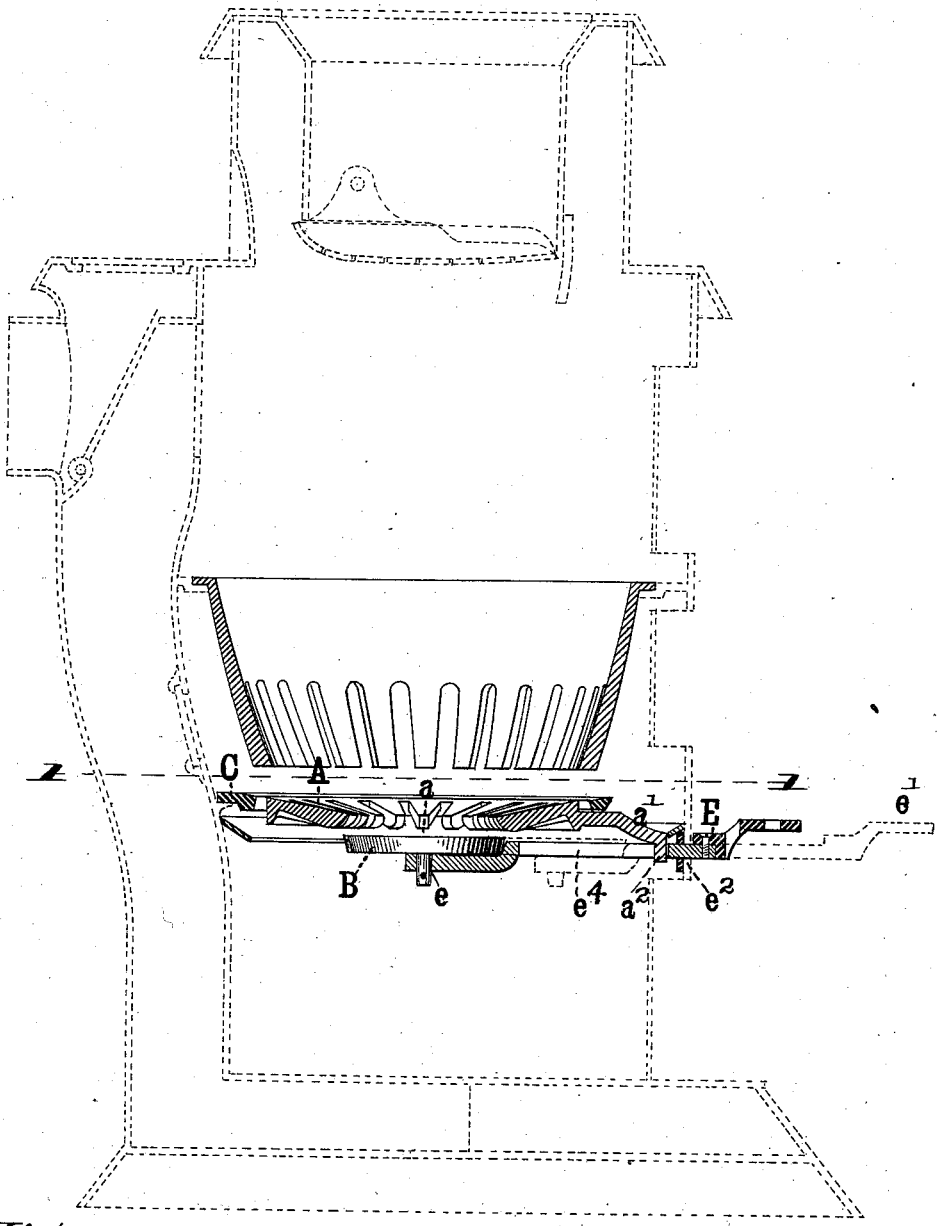
(No Model.) 2 Sheets—Sheet 2.

J. O'KEEFE.

GRATE.

No. 381,886. Patented Apr. 24, 1888.

Fig. 5.



Witnesses:
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John O'Keefe.
by C. D. Moody, atty

UNITED STATES PATENT OFFICE.

JOHN O'KEEFE, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE EXCELSIOR MANUFACTURING COMPANY, OF SAME PLACE.

GRATE.

SPECIFICATION forming part of Letters Patent No. 381,886, dated April 24, 1888.

Application filed June 6, 1887. Serial No. 240,394. (No model.)

To all whom it may concern:

Be it known that I, JOHN O'KEEFE, of St. Louis, Missouri, have made a new and useful Improvement in Grates, of which the following is a full, clear, and exact description.

The improvement has relation to the grate of a stove, and the particular feature of the grate is the mode of constructing and operating its movable center, substantially as is hereinafter described and claimed, and exhibited in the annexed drawings, making part of this specification and presenting the most desirable mode of carrying out the improvement, in which—

Figure 1 is a horizontal section of a stove having the improved grate, the section being on the line 1 1 of Fig. 5. Fig. 2 is a bottom view of the grate, the view including the parts immediately connected with the grate. Fig. 3 is a detail, being a vertical section on the line 3 3 of Fig. 1. Fig. 4 is a detail, being a vertical section on the line 4 4 of Fig. 1, and Fig. 5 is a central vertical section of the grate in position in a stove whose outline is indicated in broken lines.

The same letters of reference denote the same parts.

The grate belongs to that class having an outer annular portion, A, and an inner central part, B. The portion A is upheld upon the projections *c* of the grate-ring C, which in turn, by means of the legs *c'*, rests upon the supports D of the stove-frame. The center B, as it is generally called, is attached and upheld by means of its arm *b*, which at *b'* is pivoted to a bearing, c^2, which is attached to or made part of the grate-ring C. The bearing projects downward and inward from its point of attachment to the grate-ring, and it is slotted at c^3 to permit of the end of the arm *b* extending through the bearing, as shown in Fig. 2. In consequence of the arm *b* bearing down upon the bearing c^2 at *b'* and upward against the bearing at c^4, the center is upheld beneath the opening *a* in the annular part of the grate, and by reason of the slot c^3 being elongated horizontally, substantially as shown in Fig. 2, the center B can be swung around so as to close the opening *a*, as shown in the full lines, Fig. 1, or so as to be at the side of the opening *a*, as indicated by the broken lines, Fig. 2. The spaces b^2 between the bars b^3 of the center are preferably left open at b^4, as thereby the liability of the center becoming clogged is diminished and the center more easily swung upon its pivot, and it may be said a prominent advantage derived from the above-described mode of supporting the grate is being able to swing it readily to and fro to close and open the opening *a*, as described.

The adjustment of the center B is preferably effected by means of the rod E, which at its inner end, *e*, is pivoted to the center, and thence extends outward to without the shell of the stove, substantially as shown. By drawing and pushing the rod, as indicated by the full and the broken lines *e'*, Fig. 2, the opening *a* is opened and closed. The rod E works through a slotted bearing, e^2, in the shell of the stove, and is capable of being moved sidewise, as indicated by the broken lines e^3, Figs. 1, 2, for the purpose of shaking the grate, to which end the annular portion A of the grate has an arm, *a'*, which extends outward from the grate and is shaped at a^2 to engage in a slot, e^4, in the rod E. By this means the rod E, whether it is pushed inward to entirely close the opening *a* or is partly or wholly drawn outward, so as to cause the opening *a* to be partly or wholly opened, can be used to agitate the grate, as well as to operate its center B. I desire, however, not to be restricted to the rod E in operating the center B by itself.

I am aware that it is not broadly new to slot the shaker-bar of a grate in the direction of its length.

I claim—

1. The combination of the ring C, the slotted bearing c^2, and the center B, having the arm *b* pivoted to and extending through said bearing, as described.

2. The combination of the ring C, the slotted bearing c^2, the annular portion A, the center B, the arms *b a'*, and the rod E, slotted at e^4, substantially as described.

3. The combination of the ring C, the slotted bearing c^2, the center B, having the arm *b*, pivoted to and extending through said bearing, the rod E, slotted at e^4, and the arm *a'* engaging therein, whereby the grate can be agitated and the center can be drawn out and swung around, substantially as set forth.

Witness my hand this 12th day of May, 1887.

JNO. O'KEEFE.

Witnesses:
C. D. MOODY,
A. M. EVERIST.