G. B. MERSHON.

GRATE.

No. 180,616. Patented Aug. 1, 1876.

Fig. 1.

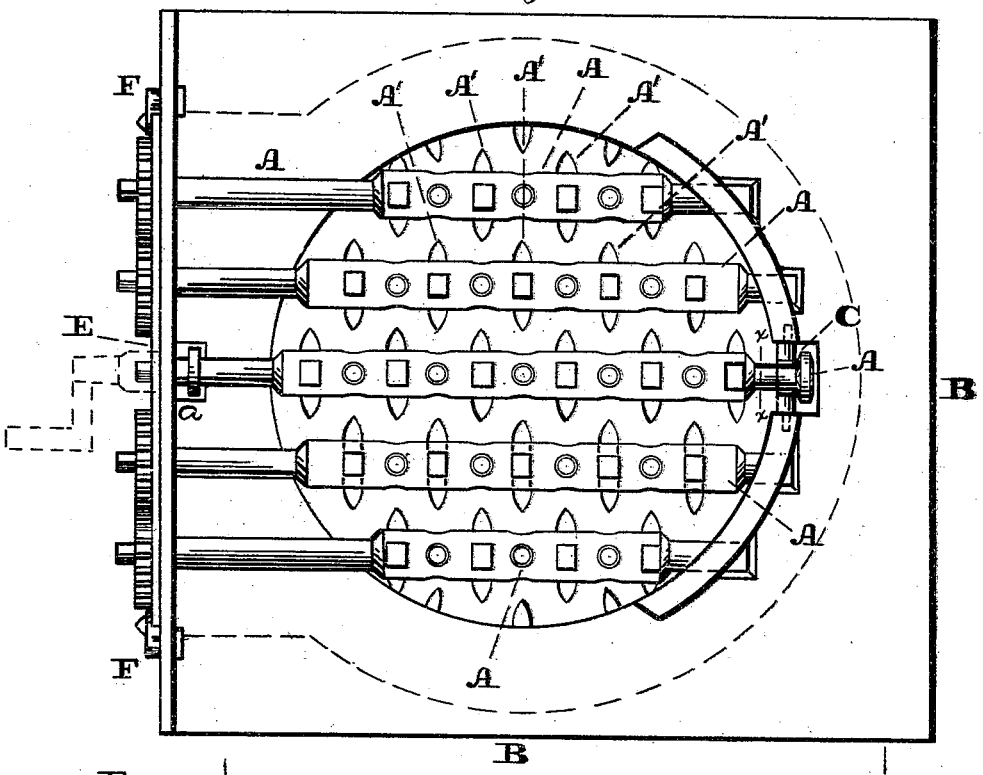


Fig. 2.

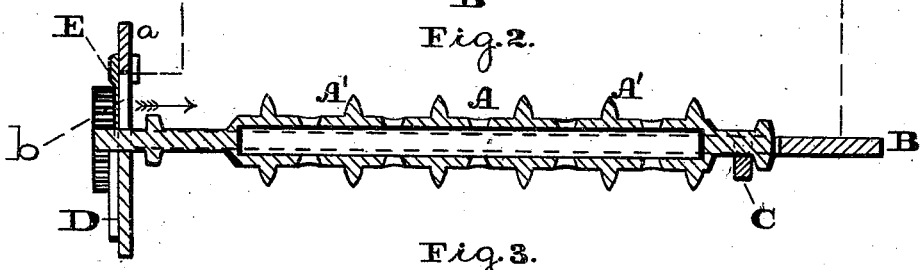


Fig. 3.

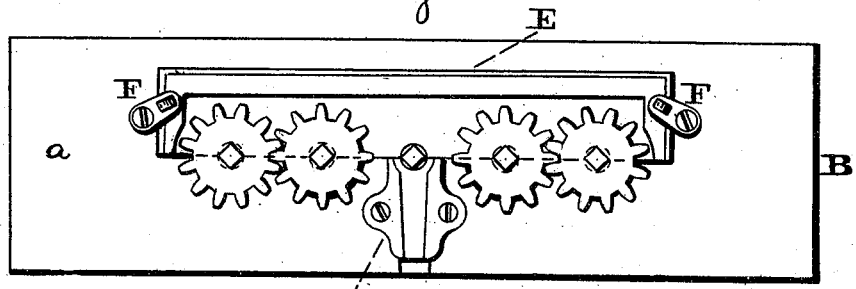
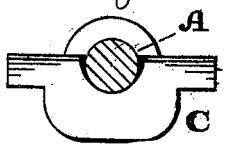


Fig. 4.



Witnesses:

Lewis F. Brous!

R. P. Grant.

Inventor:

George B. Mershon

by John A. Wiedersheim

Attorney.

UNITED STATES PATENT OFFICE.

GEORGE B. MERSHON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN GRATES.

Specification forming part of Letters Patent No. **180,616**, dated August 1, 1876; application filed July 1, 1876.

To all whom it may concern:

Be it known that I, GEORGE B. MERSHON, of the city and county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Grates; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a top or plan view of the grate embodying my invention. Fig. 2 is a longitudinal vertical section thereof. Fig. 3 is a front view thereof, and Fig. 4 is a transverse section in line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists of a rotating grate-bar, mounted at one end on a swinging hanger, and at the other end on a removable bearing, whereby the bar may be readily let down.

It also consists of a removably-fitted lock or plate for holding the grate-bars in position and allowing their displacement when required, besides exposing a poker-hole for removal of clinkers, &c.

Referring to the drawings, A represents a series of bars, which are mounted upon the supporting-plate B, and adapted to rotate thereon, and they may be geared together so as to rotate simultaneously, or to rotate in pairs, or they may have motions independent of each other.

The bars may be hollow or solid, preferably the former, and from the face of each there project studs A′, which are so disposed that the studs of the several bars alternate with each other, so that between the studs of one bar there project the studs of the adjacent bars, as most clearly shown in Fig. 1.

The central bar is mounted at its rear end on a swinging hanger, C, which is hinged to a corresponding portion of the plate B, and at its front end on a bearing, D, which is removably fitted to the front portion *a* of said plate.

The upper bearings for the bars consist of a plate, E, which is removably fitted to the portion *a* of the grate-plate B, and bears against the journals of the bars. In order to hold the plate E, and consequently the bars A, in position, buttons F are attached to the portion *a*, and they are adapted to bear against or over the sides of the plate E.

The outer ends of the bars will be squared for the application of a suitable key, whereby rotary motions may be imparted to the bars, and said bars may be geared together in pairs, or the entire series, whereby they may be correspondingly rotated.

It will be seen that the bars and studs provide a proper support for the bed of fuel, and when the fire is to be raked, the bars will be rotated, whereby the fuel will be agitated by both the bars and the studs, which rotate together, judgment being necessary to rotate all of the bars, or only those bars at the portion of the fire requiring raking.

When the fire is to be let down, it can be conveniently accomplished by lowering the central bar. For this purpose, the bearing or block D will be removed, thus depriving the central bar of the front support. Then said bar is released, its rear turning on the hanger C, as an axis, and the fire falls, the operation being assisted, if desired, by the rotation of the remaining grate-bars.

When the grate-bars are to be removed from the plate B, the buttons F will be turned, and the plate or lock E withdrawn from the front portion *a* of the plate B. The bars being uncontrolled by said plate E, may then be lifted from their bearings.

When clinkers, &c., are to be removed, access will be had thereto through an opening, *b*, in the front plate *a*, which opening is adapted to be occupied or covered by the plate E, by removing which a poker may be introduced, as shown by the arrow, Fig. 2.

After the several removable parts have been displaced, they may again be readily applied in position by properly locating them,

and then securing them at their respective places.

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

1. A rotating grate-bar mounted at one end on a swinging hanger, and at the other end on a removable bearing, substantially as and for the purpose set forth.

2. Rotating grate-bars, in combination with a removable plate or lock, E, substantially as and for the purpose set forth.

GEORGE B. MERSHON.

Witnesses:
JOHN A. WIEDERSHEIM,
A. P. GRANT.