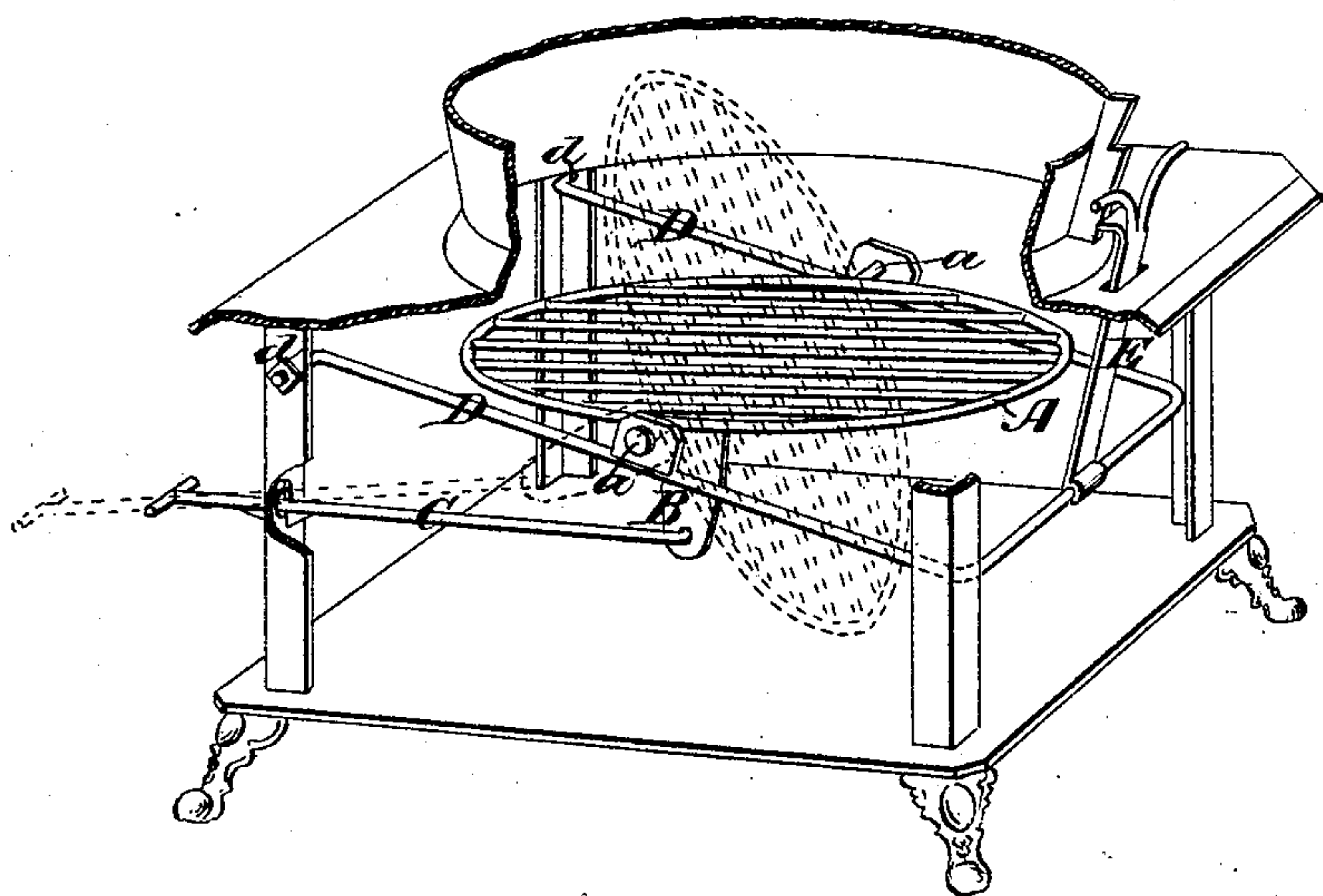


G. R. MOORE.
Stove-Grates.

No. 145,360.

Patented Dec. 9, 1873.



Witnesses.

Richard J. Ellsworth

C. F. Brown

Inventor.

Geo. R. Moore

UNITED STATES PATENT OFFICE.

GEORGE R. MOORE, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. **145,360**, dated December 9, 1873; application filed May 9, 1873.

To all whom it may concern:

Be it known that I, GEO. R. MOORE, of the city and county of Philadelphia and State of Pennsylvania, have invented certain Improvements in Stove and Heater Grate-Hangings, of which the following is a specification:

The object of my invention is to provide facilities for operating stove and other grates for coal-fires. It relates to the grate-hangings, to provide for a vertical motion to be given to the grate; to means of tipping the grate; and to the two combined.

It is well known that combustion is completed first in the lower portion of a mass of coal in process of combustion in all ordinary fire-chambers, and from the mass of ash and cinder left—the refuse of combustion—removals must frequently be made to provide room for fresh supplies of coal to perpetuate the fire.

The drawing is a perspective view of a skeleton base of an ordinary stove containing my improvements.

A is the grate. It is hung on journals *a a*, and has a descending arm, B, into which is jointed a draw-rod, C, in the use of which the grate is conveniently tipped back and forth upon its journals. D D are horizontal levers, with their fulcrums at *d d*, so that the grate, being sustained at a distance from the fulcrums of the levers, may receive nearly a vertical motion when the said levers are operated, either by the rod E or any equivalent.

The operation of all these devices is as follows: The grate is moved up and down as the rod E is moved up and down; and when the grate is down it is free from the fire-chamber, and has room to be tipped either way by the operator, at will, in the use of the draw-rod C.

It will be seen that the rod E plays into a ratchet, thus affording means of holding the levers D D, and thus the grate, at any desired height.

The advantage of dropping the grate down before tilting it is that space is thus obtained for a free movement, and, by a rapid tilting motion, the grate will clear itself until the mass above is reduced as much as may be desired, by which it is cleared of ashes and cinders.

I claim—

1. The grate A, hanging upon and in combination with the horizontal lever D, extending around it and across the ash-pit, affording it a free space for revolving or tipping, and the rod E for raising and lowering the grate at will, substantially as and for the purpose herein set forth.

2. The combination of the grate A, arm B, and rod C with the levers D D and rod E.

GEO. R. MOORE.

Witnesses:

N. K. ELLSWORTH,
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