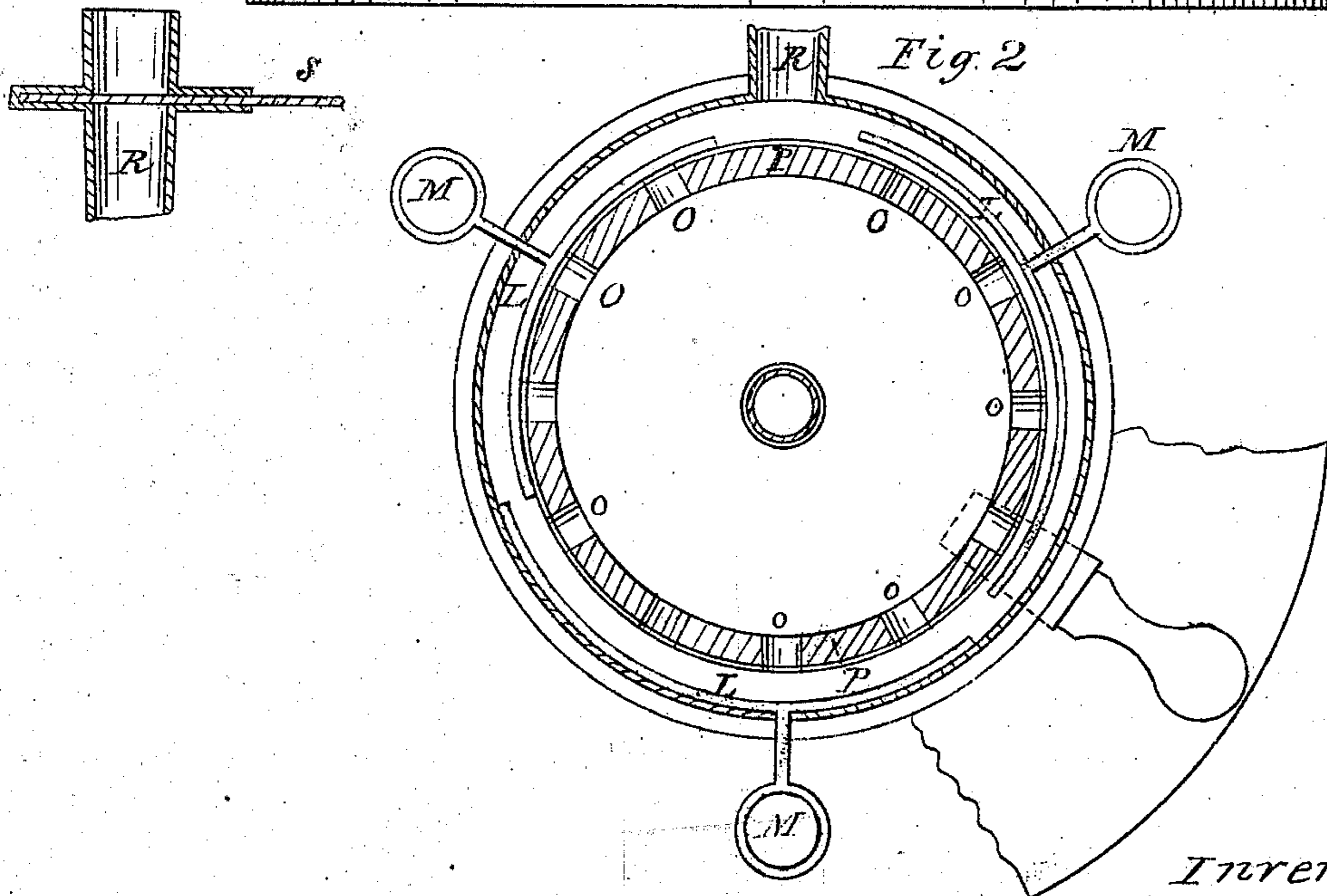
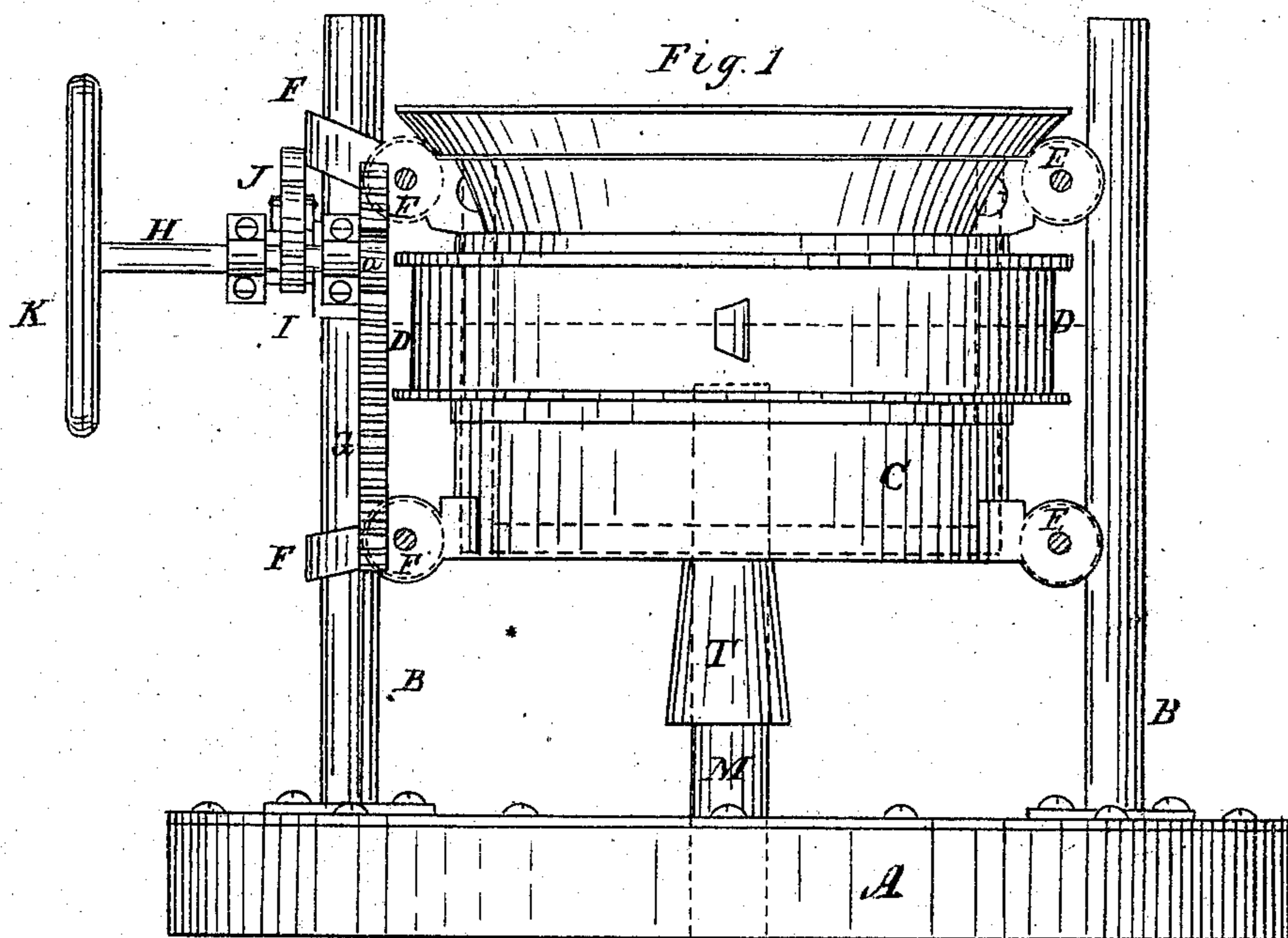


Grunert & Bingham.

Portable Flue Brazier.

N^o 75899

Patented Mar. 24, 1868



Witnesses.

A. M. Mann

V. D. Streetbridge

Inventor:

Grunert
G. E. Bingham

Heardtman
att'y

United States Patent Office.

W. GRUNERT AND G. E. BINGHAM, OF MILWAUKEE, WISCONSIN, ASSIGNORS
TO THEMSELVES AND O. L. PACKARD, OF SAME PLACE

Letters Patent No. 75,899, dated March 24, 1868.

IMPROVEMENT IN PORTABLE UPRIGHT-FLUE BRAZER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, W. GRUNERT and G. E. BINGHAM, of Milwaukee, in the county of Milwaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Portable Upright-Flue Brazers; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the annexed drawings, making part of this specification, A represents the base upon which the furnace is erected. B B represent two standards, which are secured upon the base, A, at suitable distance apart to contain the furnace between them. C represents the furnace, which consists of a cylindrical metallic vessel, lined with fire-brick, which are perforated, as seen at *o o*, Figure 2, to allow air to pass into the furnace. Upon the outside of the furnace is formed an annular chamber, D, for air. This chamber is around the furnace at that point where the brick are perforated. L L represent valves, which are provided with handles M M, and are for the purpose of opening or closing the perforations through the brick, to admit or cut off air when desirable. E E represent ears upon one side of the furnace, and F F represent loops upon the other side, between which are secured concave rollers, which fit against the uprights B B, to prevent binding against said uprights when the furnace is raised and lowered as it is in its operation. A metallic frame is secured to one of the uprights, in which a horizontal shaft, H, has its bearings. This shaft is provided with a hand-wheel, *k*, at its outer end, and a gear-wheel, *a*, at its other, and near its centre with a ratchet-wheel, I. The gear-wheel *a* works in a rack-bar, G, which is secured in a vertical position to the loops F F on the furnace.

When the wheel K is turned in one direction, the wheel *a*, working in the rack-bar, causes the furnace to rise, and when it (the wheel K) is turned in an opposite direction, the furnace is caused to fall. A tooth, J, catches into the ratchet-wheel I, to station the furnace at any desired position, when necessary.

An opening is formed in the centre and bottom of the furnace, and in said opening a flaring pipe, T, is secured, its upper end being flush with the bottom of the furnace. Secured in a vertical position on the base, A, is a pipe, *u*, which passes up through the pipe T to any desired height in the furnace. There is a sufficient space left between pipes T and *u* to allow another pipe to be slipped over the pipe *u*, if desirable. An opening through the base, A, communicates with the pipe *u*.

To use this machine, it is placed upon the floor or ground, and a hole made either through the floor or into the ground to admit a pipe. A pipe a little larger than the one to be brazed is then inserted, with its end reaching down through the furnace and floor beneath. The flue to be brazed is let down into the furnace, and its end inserted in the other pipe which is to be brazed to it. The spelter and borax are then put upon the seam, and the furnace is raised to the seam, and heat applied to it to fuse the spelter and braze the joint. As soon as brazed, the furnace is lowered. The spelter runs into the joints better when the pipes are in vertical than when in horizontal position. R represents the air-pipe for supplying air to the furnace, and *s* is a valve in it, to be opened or closed at will.

What we claim as new, and desire to secure by Letters Patent, is—

The furnace C, capable of vertical adjustment, for adapting the heat to the seams of pipes or flues, when brazing in an upright position, substantially as herein represented.

In testimony that we claim the foregoing invention, we have hereunto set our hands, this 13th day of May, 1867.

W. GRUNERT,
G. E. BINGHAM.

Witnesses:

WM. PRESCOTT,
JAMES AUSTIN.