

H. Phinney,
Rotary Blower

N^o 61,684.

Patented Jan. 29, 1867.

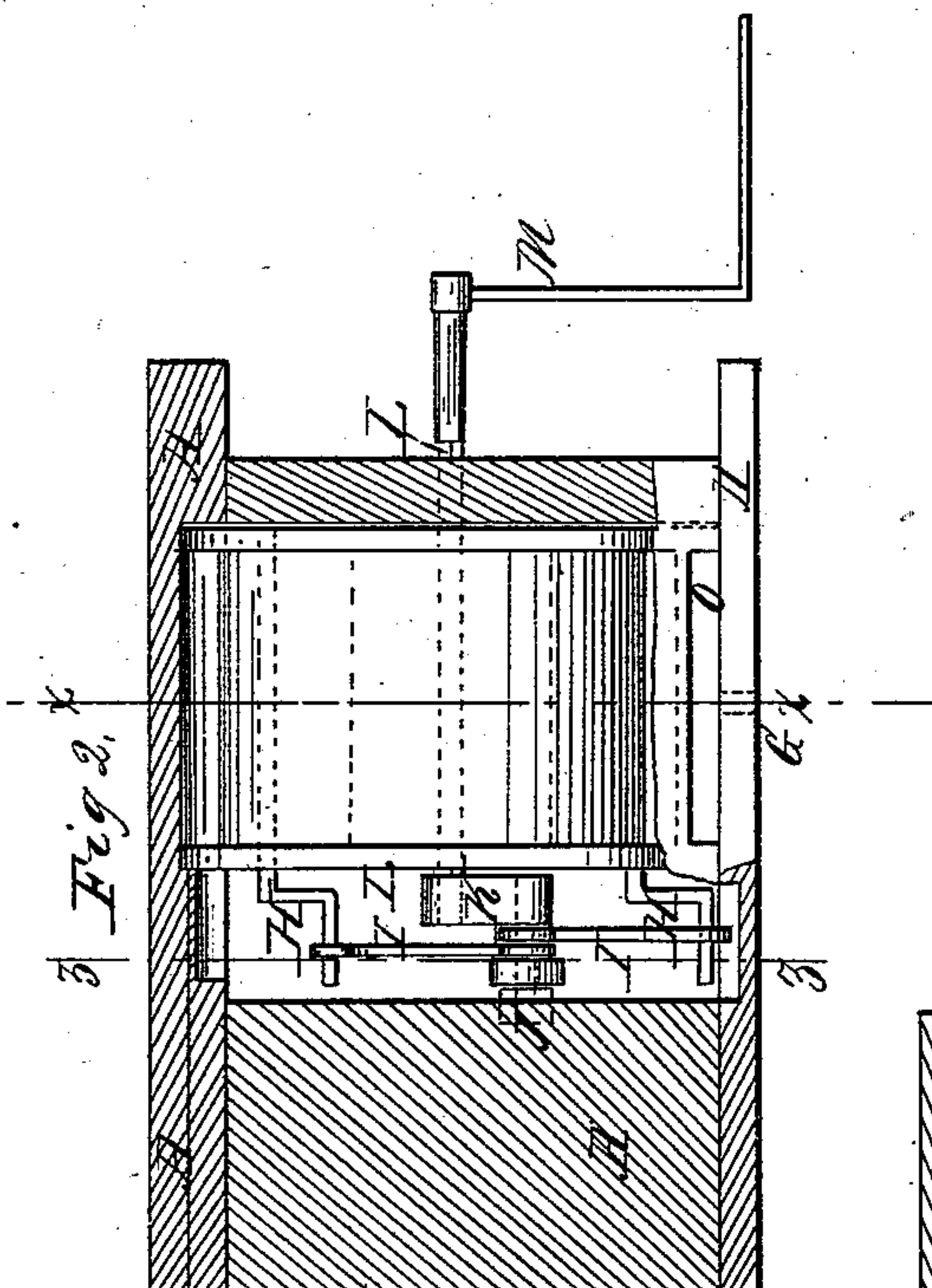


Fig 2.

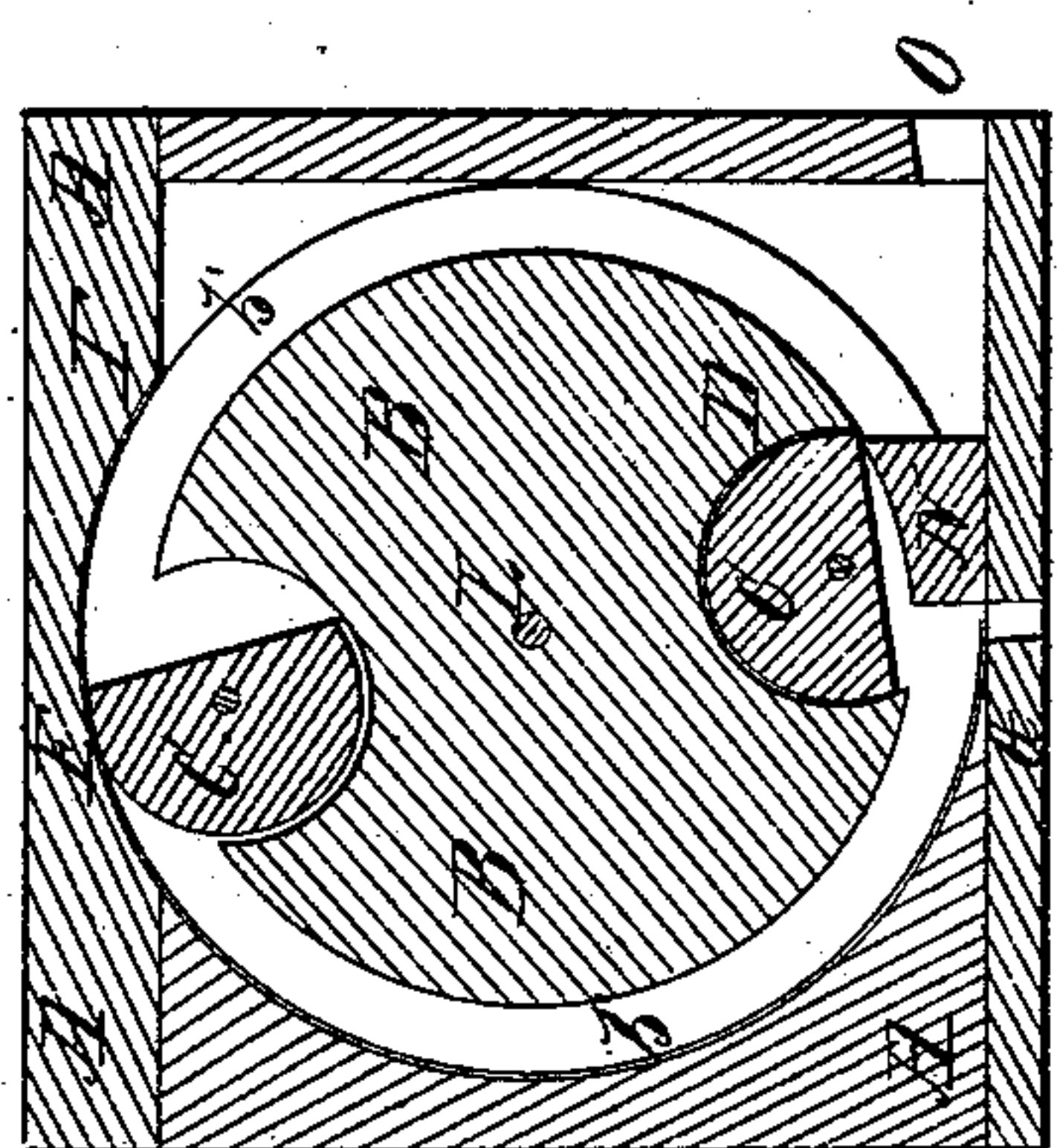
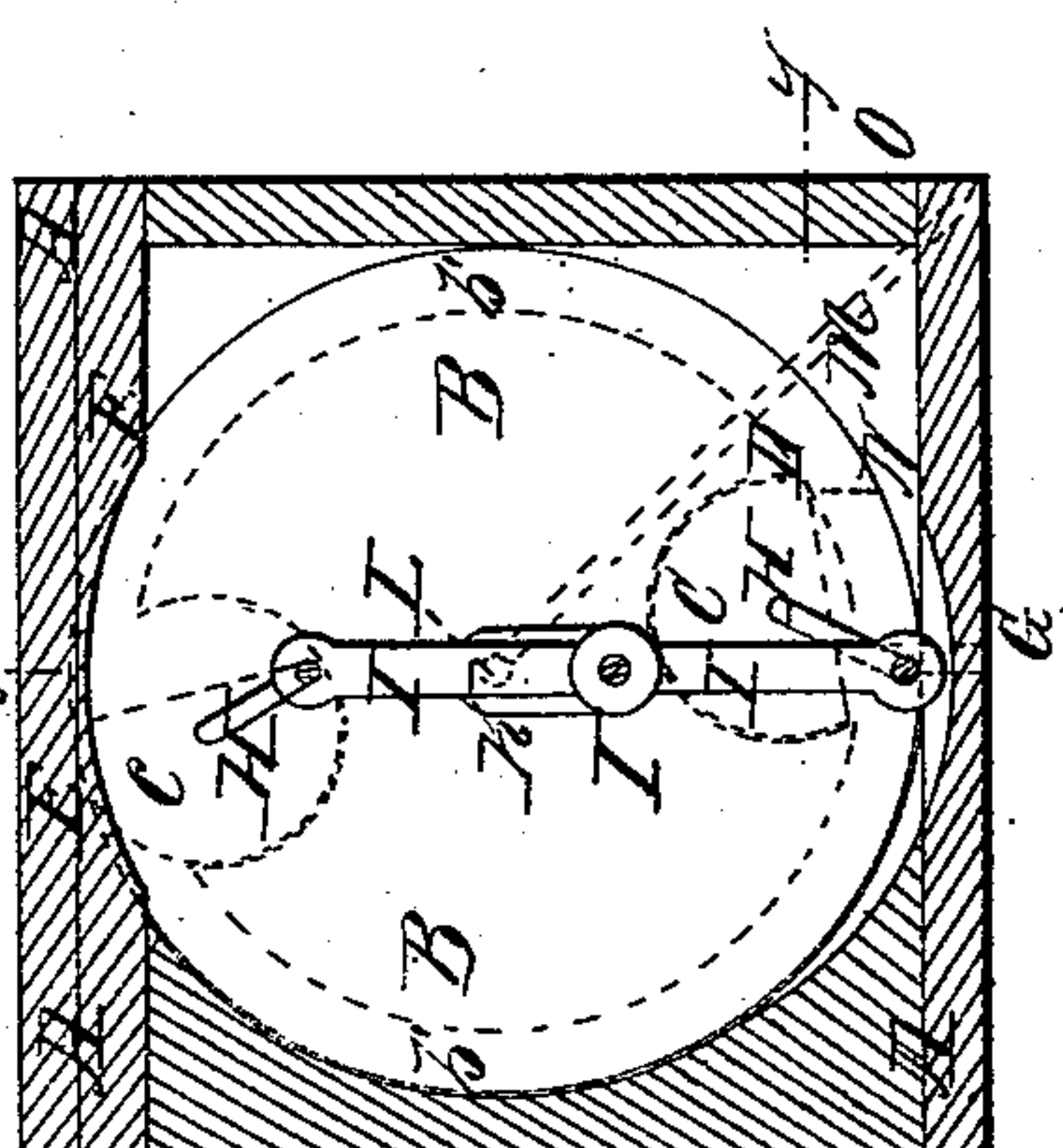


Fig 3.



Witnesses,

T. A. Jackson
Thos. Gush

Inventor,
H. Phinney
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Attorney's

United States Patent Office.

HIRAM PHINNEY, OF KINGSTON, NEW YORK.

Letters Patent No. 61,684, dated January 29, 1867.

IMPROVEMENT IN ROTARY BELLOWS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HIRAM PHINNEY, of Kingston, in the county of Ulster, and State of New York, have invented a new and useful Improvement in Rotary Bellows; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical cross-section of my improved bellows, taken through the line *z z*, fig. 2.

Figure 2 is a side view of the same, partly in section, through the line *y y*, fig. 1.

Figure 3 is a vertical cross-section of the same, taken through the line *x x*, fig. 2.

Similar letters of reference indicate like parts.

My invention has for its object to furnish an improved rotary bellows, simple in construction and not liable to get out of order; and it consists of an improved rotary bellows or pump, formed by the combination and arrangement of the semi-cylindrical valves, chambered cylinder, cranks, connecting-rods, and shafts with each other, as hereinafter more fully described.

A is the framework in which the apparatus is placed. B is the revolving cylinder, the ends *b'* of which project beyond its curved sides, as shown in figs. 1, 2, and 3, so as to form an air space or chamber all around the said cylinder. In the opposite sides of the cylinder B, between the flanges *b'*, are formed two curved grooves or semi-cylindrical chambers, as shown in fig. 3. C are semi-cylindrical valves, placed within the curved grooves of the cylinder and pivoted at their ends to the end pieces *b'* of the cylinder B. These valves C, as the cylinder revolves, gradually pass from the position shown at D, in fig. 3, to that shown at E, and then move back to their former position. As the valves C reach the point F in the revolution of the cylinder, the edge of the valves projects, so as to equal the height of the flanges *b'*, and come in contact with the interior of the casing, and thus form a close air-chamber, in which the air is carried forward and forced out through the discharging orifice G. One end of the shafts, by means of which the valves C are pivoted to the end pieces *b'* of the cylinder B, projects through the said end piece and is formed into, or to them are attached, cranks H, to the ends of which are pivoted the ends of the connecting-rods I, through the other ends of which passes the short stationary shaft J, upon which they turn as the cylinder B is revolved. To the inner end of the stationary shaft J is attached a block, K, in the upper end of which is formed the bearing for one end of the shaft L of the cylinder B. By this construction I obtain the necessary eccentricity to give the required movements to the valves B. The other end of the shaft L passes out through the side of the frame A, and to it is attached the crank M, or pulley by means of which motion is communicated to the bellows. N is a block fitting into the space between the flanges *b'* of the cylinder B, which prevents the air, which enters through the orifice O, from finding its way beneath the said cylinder, and compels it to pass up in the direction in which the cylinder is revolving. This block N also stops the air as it is being carried around by the revolution of the cylinder B, and compels it to escape through the discharging orifice G.

I claim as new, and desire to secure by Letters Patent—

An improved rotary bellows or pump, formed by the combination and arrangement of the semi-cylindrical valves C, chambered cylinder B, cranks H, connecting-rods I, and shafts J and L, with each other, substantially as herein shown and described.

The above specification of my invention signed by me this 26th day of September, 1866.

HIRAM PHINNEY.

Witnesses:

WM. F. McNAMARA,

JAMES T. GRAHAM.