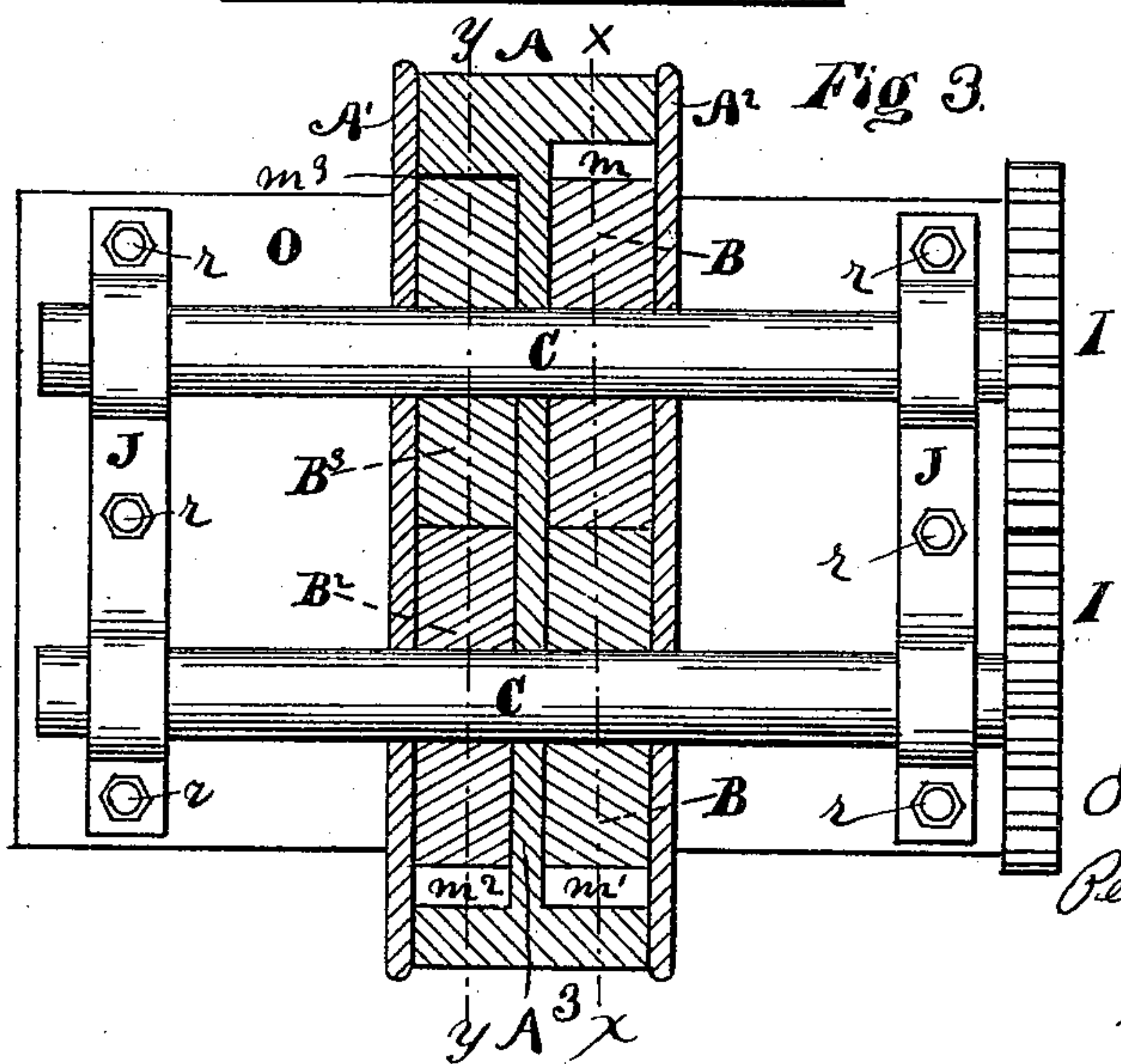
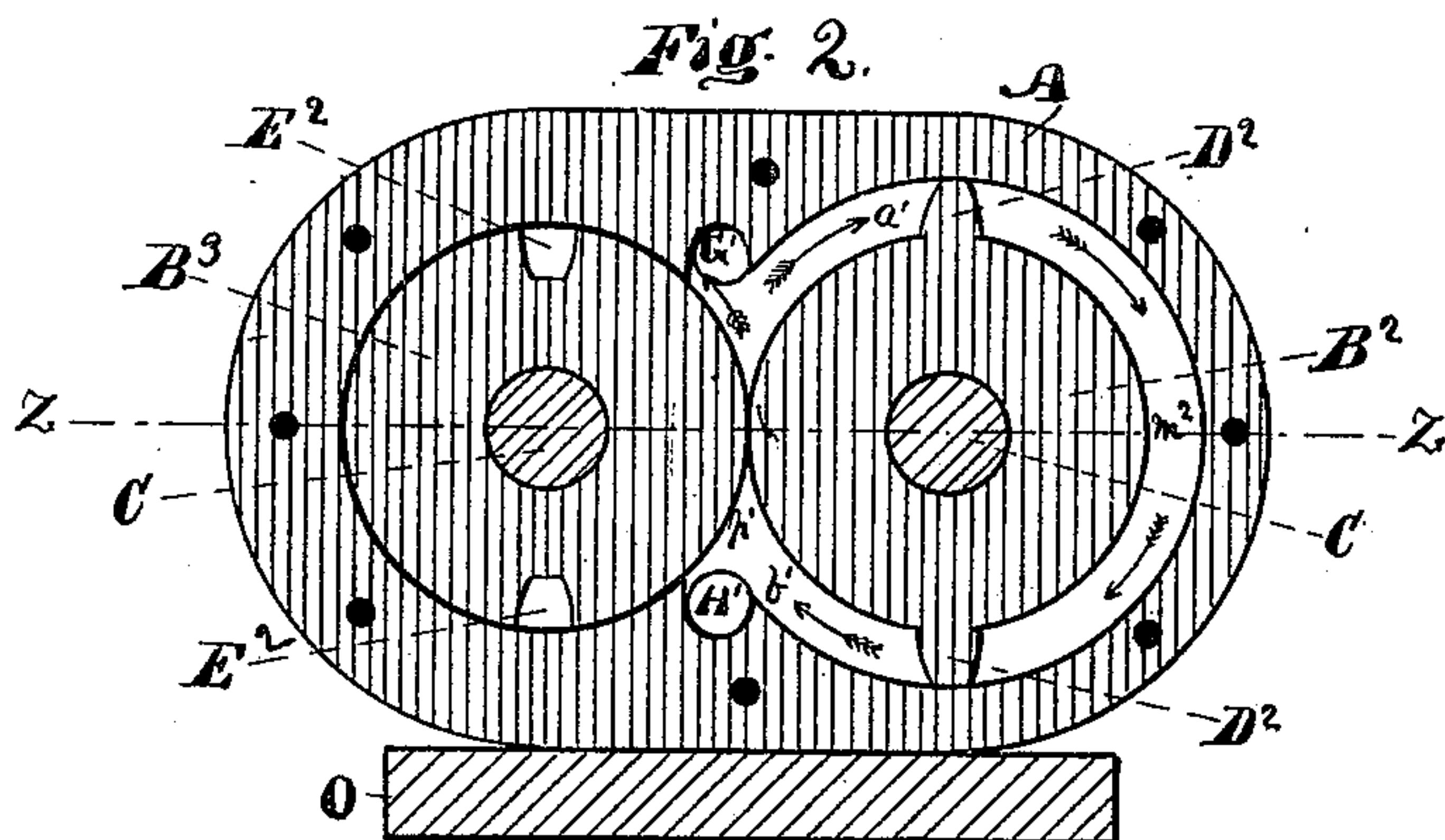
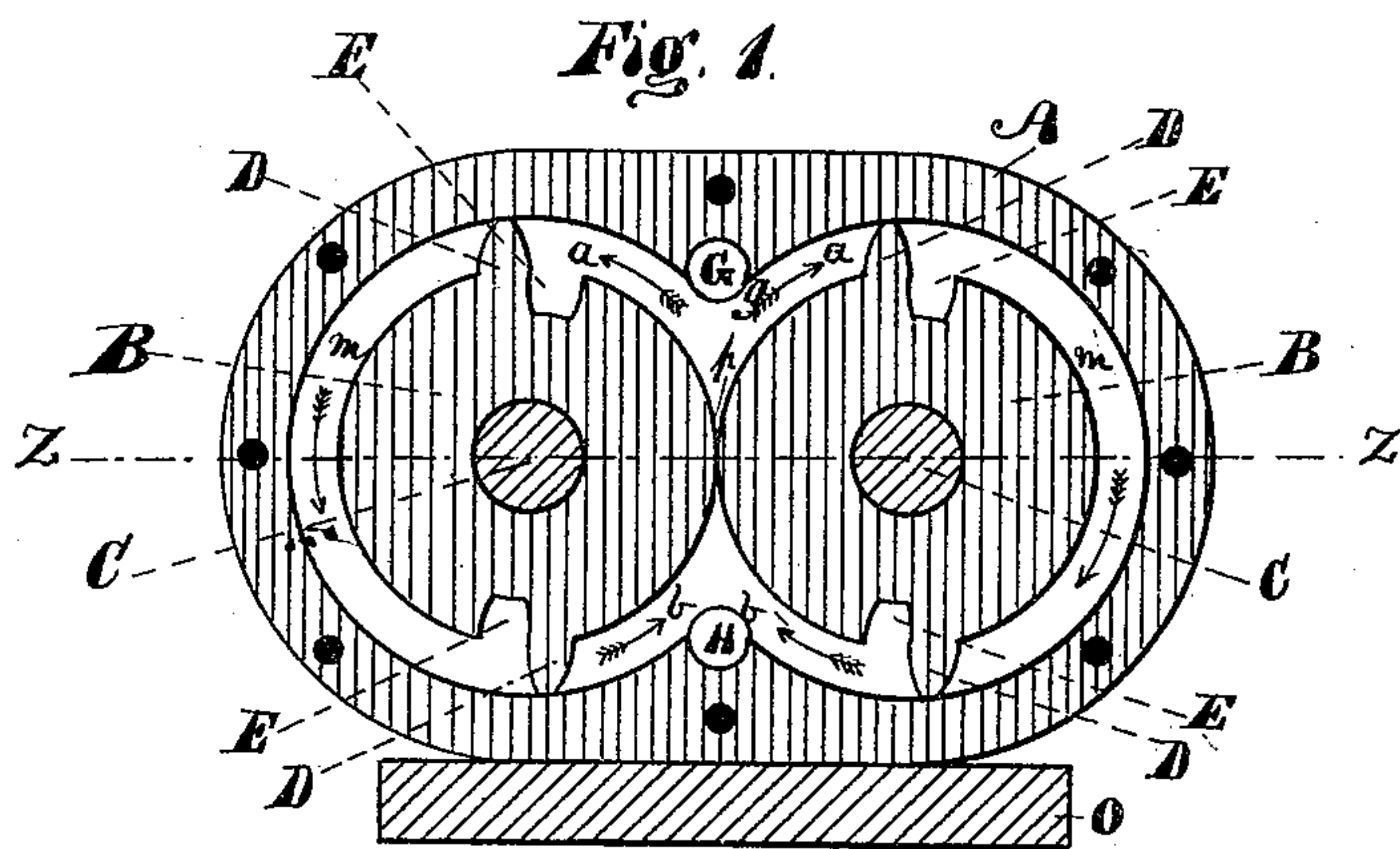


J. R. COOK.  
Rotary Motor.

No. 230,862.

Patented Aug. 10, 1880.



WITNESSES;  
*G. H. Remond.*  
*L. G. Speer.*

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*Per C. H. Munk.*  
*his Atty.*



# UNITED STATES PATENT OFFICE.

JOHN R. COOK, OF INDIANAPOLIS, INDIANA.

## ROTARY MOTOR.

SPECIFICATION forming part of Letters Patent No. 230,862, dated August 10, 1880.

Application filed May 20, 1879.

*To all whom it may concern:*

Be it known that I, JOHN R. COOK, of the city of Indianapolis, county of Marion, and State of Indiana, have invented certain new and useful Improvements in Rotary Motors, of which the following is a specification, reference being had to the accompanying drawings, which are made a part hereof, and on which similar letters of reference indicate similar parts.

Figure 1 is a transverse vertical section of my improved motor on the dotted line  $x x$ . Fig. 2 is a similar view, on the line  $y y$ , of a pump to which my improved motor may be applied. Fig. 3 is a view showing the motor and pump in horizontal section and the gearing which connects the shafts together in plan view.

In said drawings, the portions marked A, A', A<sup>2</sup>, and A<sup>3</sup> represent the various portions of the casing of my improved motor, and the pump shown in connection therewith; B B, solid pistons or wheels which completely fill the space in the casing in the direction of their axes, but which are of such diameter that an open space,  $m$ , is left around their periphery, except where they come in contact; C C, shafts upon which these pistons and also the pistons B<sup>2</sup> B<sup>3</sup> of the pump are mounted; D D, wings upon the pistons B B, which extend entirely across their faces, thus dividing the space  $m$  transversely into separate compartments, and form piston-heads against which the motive power acts; E E, spaces cut into the periphery of the pistons B B, immediately alongside the wings or piston-heads D D, to receive said wings as said pistons revolve, and allow them to pass each other.

The advantage of having these recesses immediately alongside the wings consists in that where they are so arranged there can be but very little back action of the motive power. The only portion of the revolution where back action can occur in the operation of my device is from the point where the wings part contact at the point  $p$  to where they again come in contact with the casing at the points  $g$ . This occurs but twice in each revolution in the arrangement shown, whereas, were the wings and recesses at an angle with each other, as is common to other constructions, it would occur four times, and the device would be subject to the additional disadvantage incident thereto of a proportionately more fre-

quent interruption of the action of the motive power.

My device has been principally employed as a water-motor; but steam may be also used as the motive power.

G indicates the inlet or live-steam port, and H the outlet or exhaust-steam port.

The portions marked I I' represent gear-wheels upon the shafts C, which are employed to secure the uniform rotation of said shafts and the disks thereon, and J J bearing-blocks.

I am fully aware that motors of various kinds have been constructed in some respects similar to mine. Of these, such as have the revolving pistons geared directly together are objectionable, in that they are liable to quickly wear out, and thus occasion a leakage, do not operate so easily, and are unnecessarily expensive in construction. Others having smooth pistons have had the piston-heads set quartering, or have had the piston-heads extending only half-way across their faces, and thus, by reason of furnishing a large surface for back action of the motive power or a reduced surface for direct action, have been less efficient than they would otherwise have been. I therefore disclaim all such constructions and confine myself to that defined by my claim.

The various portions of the pump are in many respects similar to those of the motor, and, so far as may be, are indicated by similar letters of reference, except that numerals are attached. As no claims are made upon it, no further description is thought necessary.

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

A rotary motor consisting of two plain solid disks revolving against each other, the faces of which are unbroken except that each has two projecting wings extending entirely across its face, which act as piston-heads, and a recess immediately alongside of each wing to afford a passage-way for the corresponding wing of the other disk, all substantially as shown and described, and for the purpose specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN R. COOK.

Witnesses:

G. A. ELBERTSON,  
JOSEPH COOK.