

H. G. WOOD.  
Rotary-Engine.

No. 162,875.

Patented May 4, 1875.

Fig. 2.

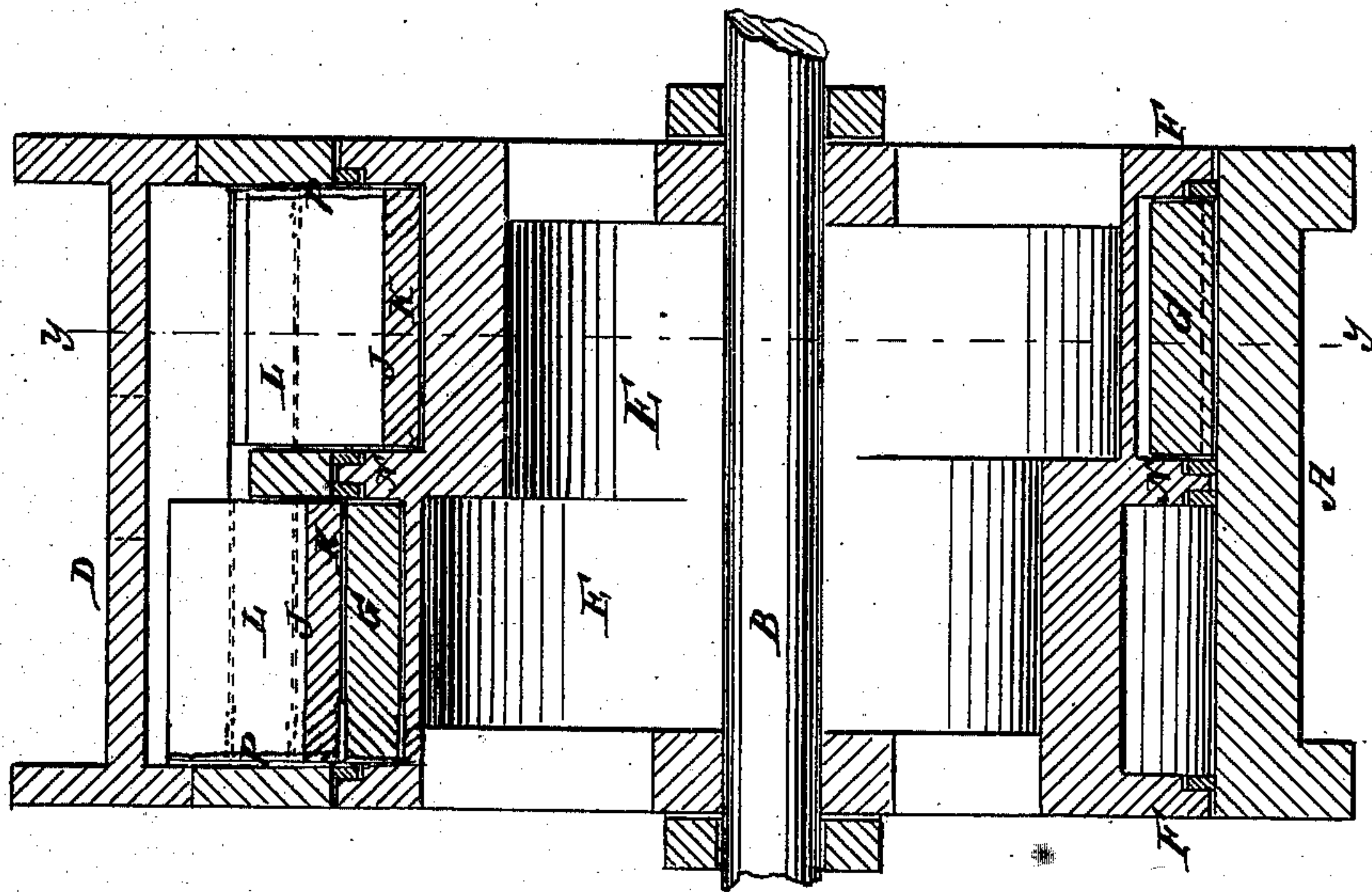
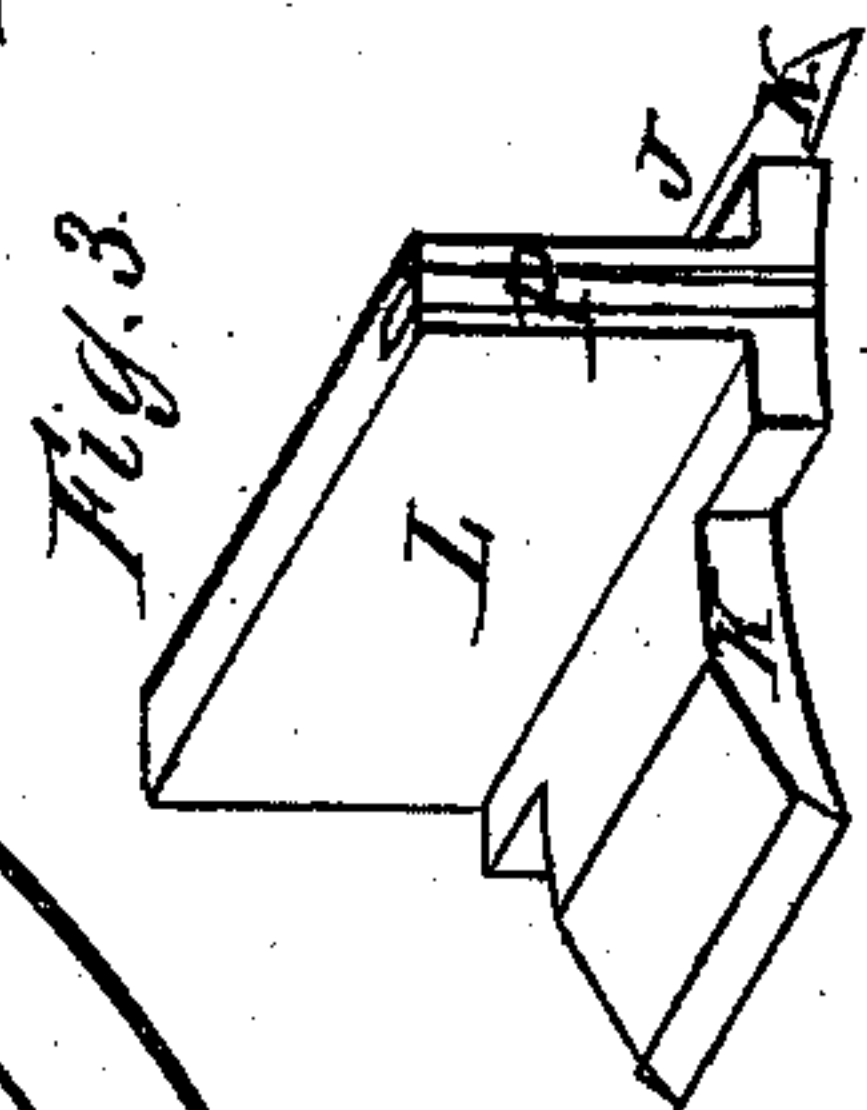
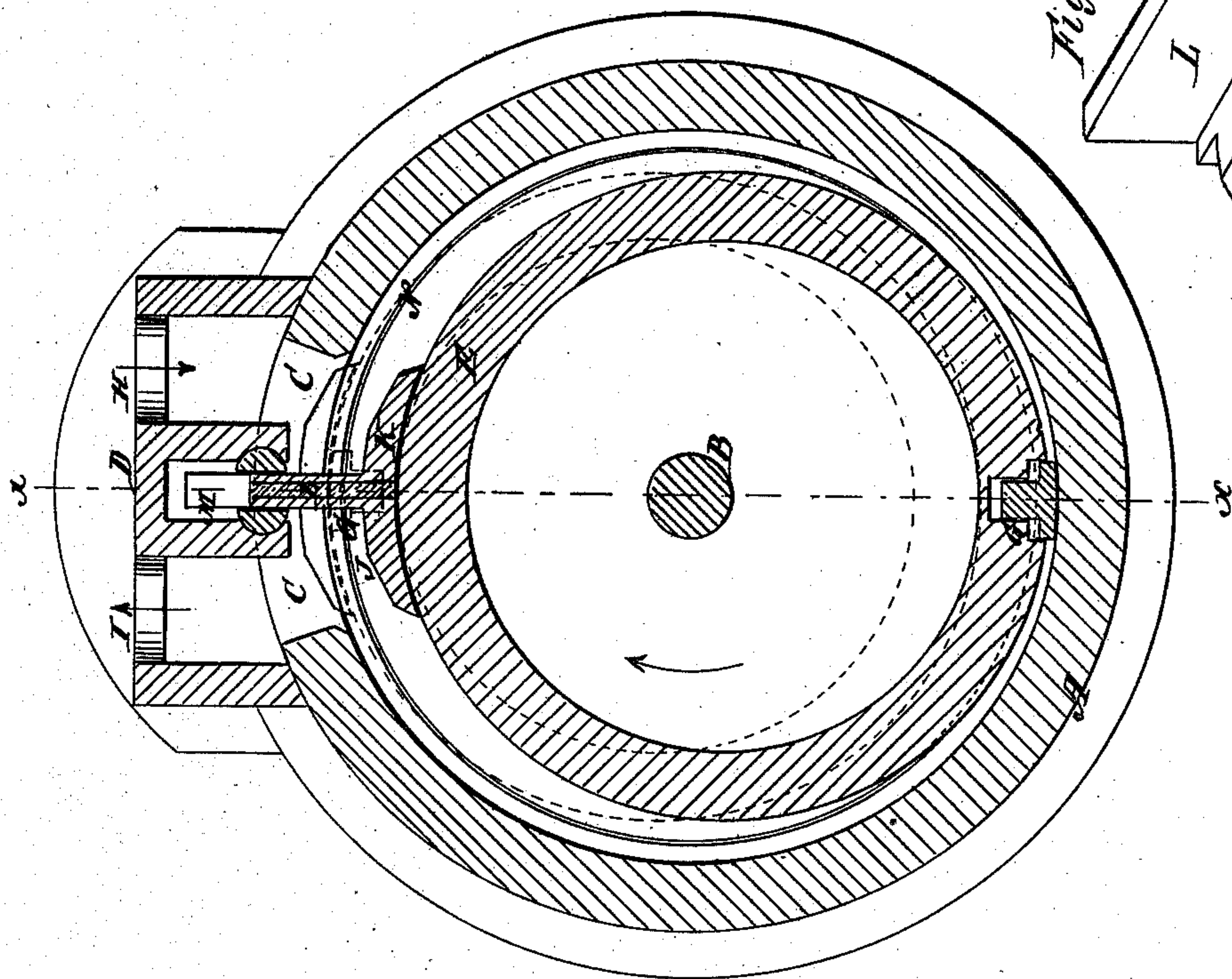


Fig. 1.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. **162,875**, dated May 4, 1875; application filed March 13, 1875.

*To all whom it may concern:*

Be it known that I, HERMON G. WOOD, of Sharon, Mercer county, Pennsylvania, have invented a new and useful Improvement in Rotary Engines, of which the following is a specification:

The object of this invention is to furnish a steam-engine in which the steam will act continuously with uniform force, and thereby dispense with a crank, and also with valves; and it consists in a rotary engine constructed with movable abutments in an open cylinder, having two drums or wheels attached eccentrically to the shaft, the construction and arrangement of parts being as hereinafter described.

Figure 1 is a section of the engine, taken on the line *y y*, Fig. 2; and Fig. 2 is a section of Fig. 1, taken on the line *x x*.

Similar letters of reference indicate corresponding parts.

A is the cylinder. B is the shaft. The cylinder is turned out straight through, and open at each end, (or without heads,) having openings C C, over which is placed the steam-chest D. E E are two drums or wheels, placed eccentrically on the shaft, and revolved thereby, connected together, but having wheels or flanges F F placed concentrically on the shaft, which wheels or flanges close the ends of the cylinder, and are made steam-tight by suitable packing. The throw of these eccentric drums or wheels is placed in opposite directions, as seen in Fig. 2, so that they act alternately while running in close proximity to the cylinder at each revolution, as seen in Fig. 2. At this point the steam is entirely cut off by the packing-pieces G, which are let into the eccentrics, and revolve therewith. H is the induction, and I the eduction, port. J J are the abutments, a perspective view of one of which is seen in Fig. 3. P is packing of the same. These abutments consist each of a crescent-shaped

bed-piece, K, the concave side being of the same circle as the eccentric, to the opposite side of which are attached wings L. These abutments play up and down as the eccentrics revolve, the wings being confined in the box *m* of the steam-chamber between semicircular packing-pieces. (Seen in Fig. 1.) The steam acts upon the eccentric drums or wheels alternately, but gives a constant and uniform motion to the shaft. The two eccentrics are divided by the central wheel or flange N, which is packed on its periphery, as seen in Fig. 2, so that it runs steam-tight with the cylinder. The concentric flanges F F are packed, so as to run steam-tight with the cylinder, and packing is placed under the steam-chest to render the joints steam-tight. The steam-chest may be cast with the cylinder.

By this arrangement there is no need of a cut-off, the ports being open to both apartments of the eccentrics.

The abutments are self-adjusting, and there may be more than two eccentrics, if desired.

This engine is very cheaply constructed. It needs no balance-wheel, and affords a constant and uniform power, and occupies but little space compared with reciprocating engines of equal power.

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

A rotary steam-engine constructed as shown and described—that is, having movable abutments J J and two or more eccentric drums or wheels, E E, with side wheels or flanges and a central dividing wheel or flange, revolving in an open cylinder on a central shaft, as shown and described.

HERMON GAYLORD WOOD.

Witnesses:

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