

No. 768,884.

PATENTED AUG. 30, 1904.

J. J. O'BRIEN.
ROTARY ENGINE.

APPLICATION FILED APR. 13, 1904.

NO MODEL.

2 SHEETS—SHEET 1.

FIG. I.

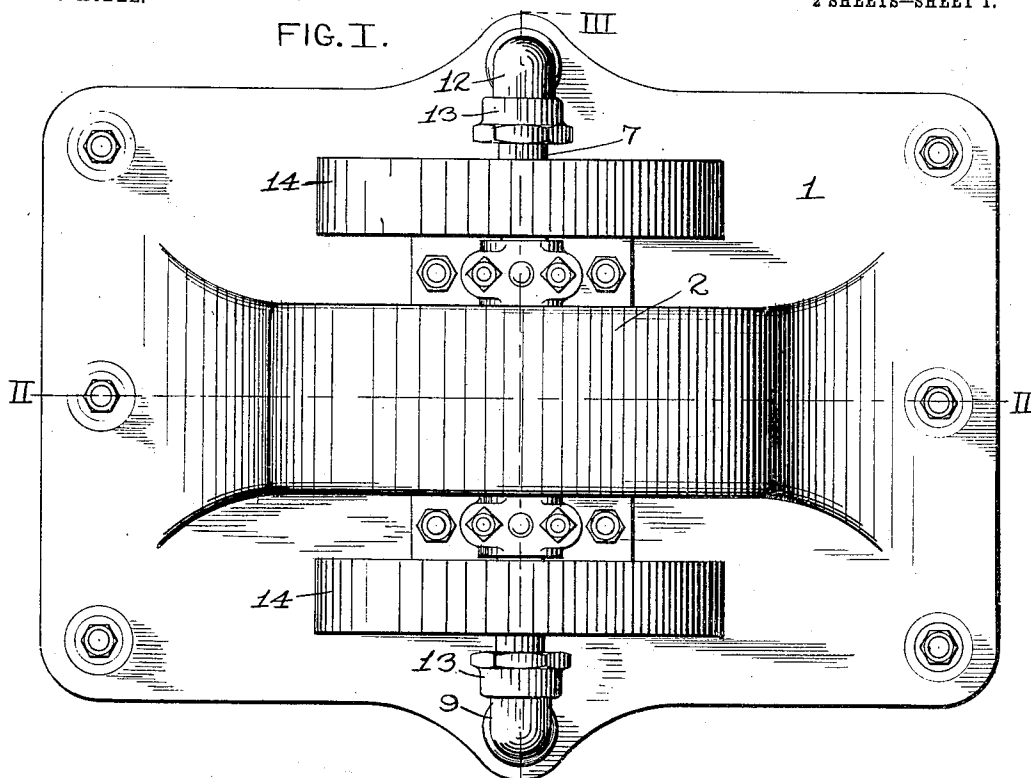
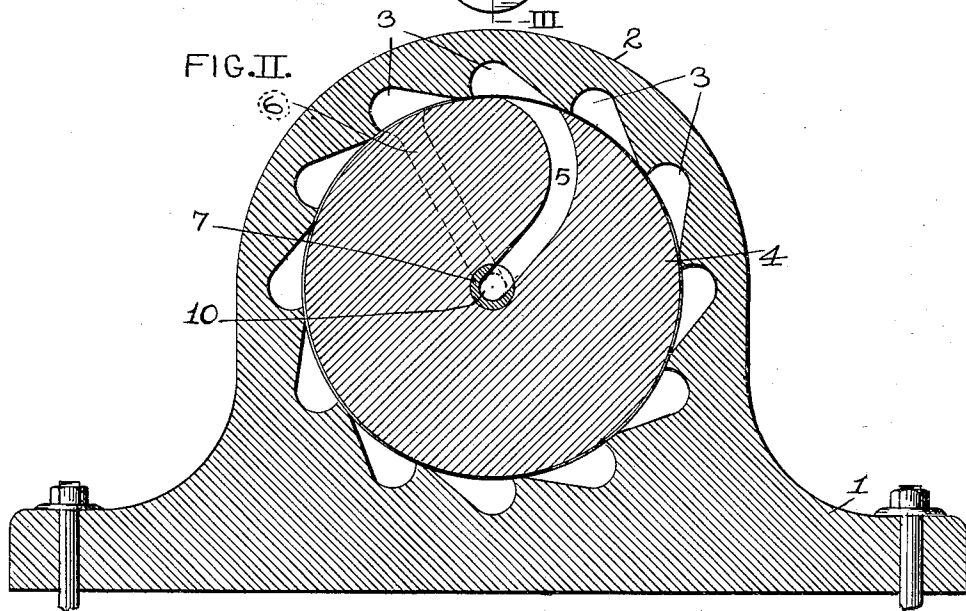


FIG. II.



ATTEST.

H. Q. Fletcher.
Blanche Hogan

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J. J. O'BRIEN.

BY *Wright Bros*
ATTYS.

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2 SHEETS—SHEET 2.

FIG. III.

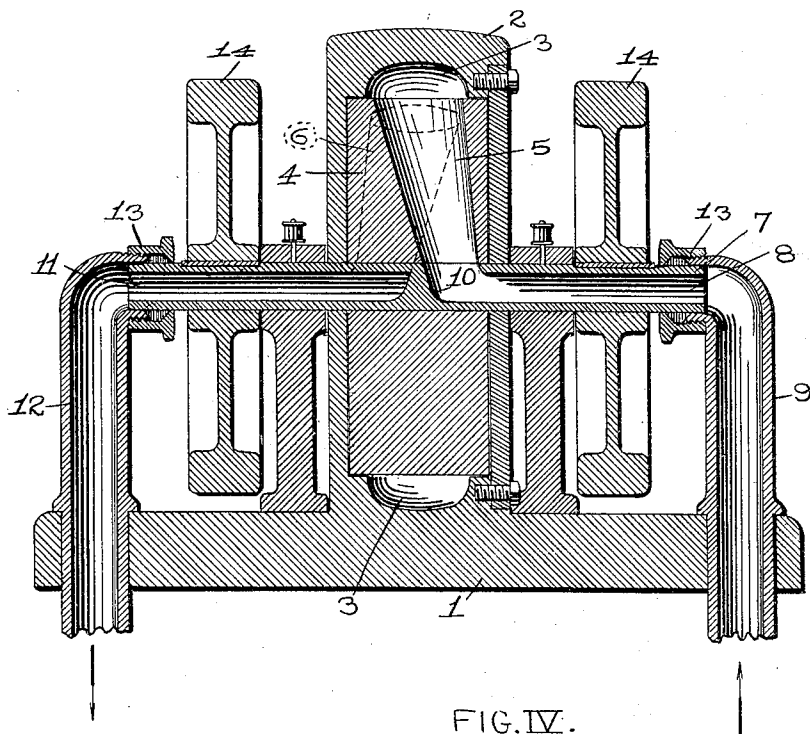
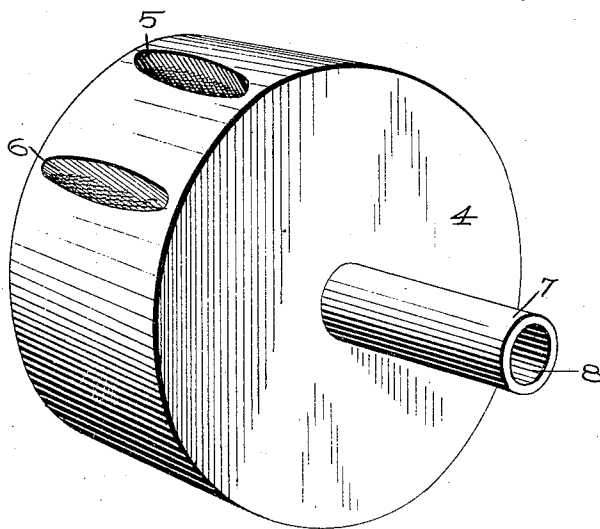


FIG. IV.



ATTEST.

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UNITED STATES PATENT OFFICE.

JOHN J. O'BRIEN, OF ST. LOUIS, MISSOURI.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 768,884, dated August 30, 1904.

Application filed April 13, 1904. Serial No. 202,900. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. O'BRIEN, a citizen of the United States, residing in the city of St. Louis, in the State of Missouri, have
5 invented certain new and useful Improvements in Rotary Engines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to a rotary fluid-propelled engine into which steam or other fluid is admitted to drive a rotating cylinder therein and exhausted immediately after it has acted to propel the cylinder, the construction,
15 briefly stated, comprising inlet and exhaust fluid-conducting pipes, a cylinder having a plurality of pockets interior thereof, a piston provided with inlet and exhaust ducts leading from its axis to its perimeter and communicating with said pockets, and a piston-carrying
20 shaft with ducts leading from the inlet-pipe to the piston inlet-duct and from the piston exhaust-duct to the exhaust-pipe.

Figure I is a top or plan view of my engine.
25 Fig. II is a vertical longitudinal section taken on line II II, Fig. I. Fig. III is a vertical transverse section taken on line III III, Fig. I. Fig. IV is a perspective view of the engine-cylinder.

30 1 designates the base of my engine, and 2 the cylinder surmounting said base. On the interior of said cylinder are a plurality of pockets 3, that are inclined forwardly with respect to the direction in which the piston of
35 the engine operates.

4 is a piston that is provided with an inlet-duct 5 and an exhaust-duct 6, both leading from the center of the piston to its perimeter, so that they communicate with the pockets 3
40 in the engine-cylinder.

7 designates an engine-shaft that is provided at one end with an inlet-duct 8, leading from an inlet fluid-conducting pipe 9 to the inlet piston-duct 5, at which point said duct
45 8 terminates, as seen at 10, Fig. III. In the opposite end of the shaft 7 is an exhaust-duct 11, that extends from the point 10, at which it

communicates with the exhaust piston-duct 6, to an exhaust-pipe 12, fitted to the shaft. The terminations of the shaft 7, to which the inlet
50 and exhaust pipes 9 and 12 are fitted, are encircled by stuffing-boxes 13, secured to said pipes to thereby provide fluid-tight joints at the junctions of these members.

14 represents pulleys mounted on the shaft
55 7 to receive driving-belts to convey power from the engine and either of which may, if desired, be made of utility as a fly-wheel.

In the practical service of my engine the steam or other fluid passes from the inlet-pipe
60 9 into the inlet-duct 8 of the shaft 7 and flows therefrom through the piston inlet-duct 5 to enter in succession the various pockets 3 in the cylinder 2 and by impact against the walls of said pockets be caused to rebound into the
65 inlet-duct and exert driving action against the forward face of said duct to propel the piston. The piston is thereby rotated to carry the inlet-duct in a circular path past the successive cylinder-pockets with the same
70 driving action occurring at each pocket, and as the exhaust-duct 6 is advanced to the pockets into which steam was previously projected the steam therein is permitted to flow into the exhaust-duct and is discharged there-
75 through and through the exhaust-duct 11 in the piston-shaft to the exhaust-pipe 12.

I claim as my invention—

In a rotary engine, the combination of a fixed cylinder provided with a plurality of in-
80 clined pockets interior thereof, a shaft passing through said cylinder and having at one end an inlet-duct, and at the other end an exhaust-duct, a piston mounted on said shaft within said cylinder and provided with inlet
85 and exhaust ducts communicating with said shaft-ducts, said piston-ducts being arranged so as to communicate simultaneously with two adjacent pockets and being of a less diameter than said pockets, substantially as set forth. 90

JOHN J. O'BRIEN.

In presence of—

NELLIE V. ALEXANDER,
E. S. KNIGHT.