

No. 719,305.

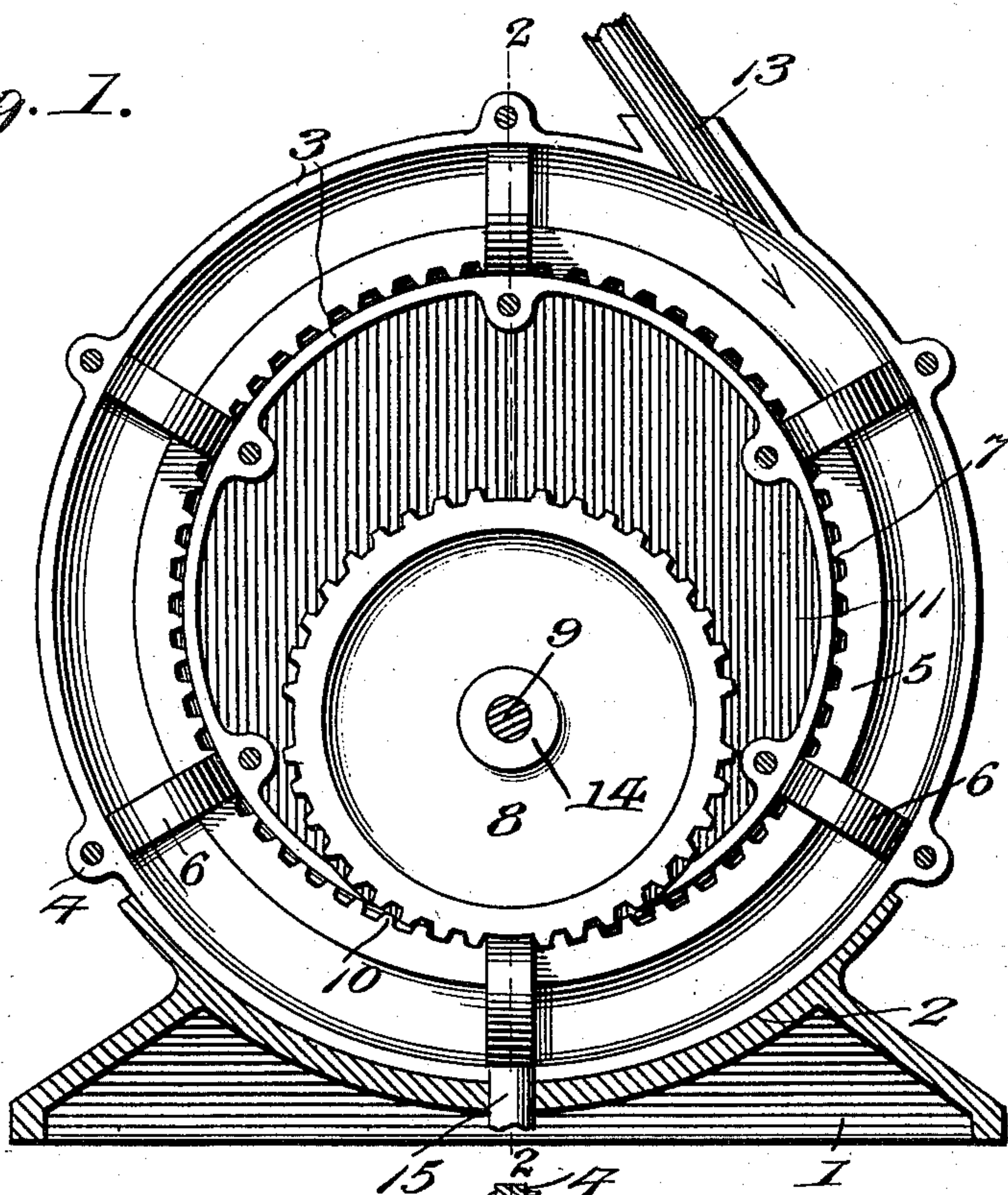
PATENTED JAN. 27, 1903.

L. J. COLLINS.  
ROTARY ENGINE.

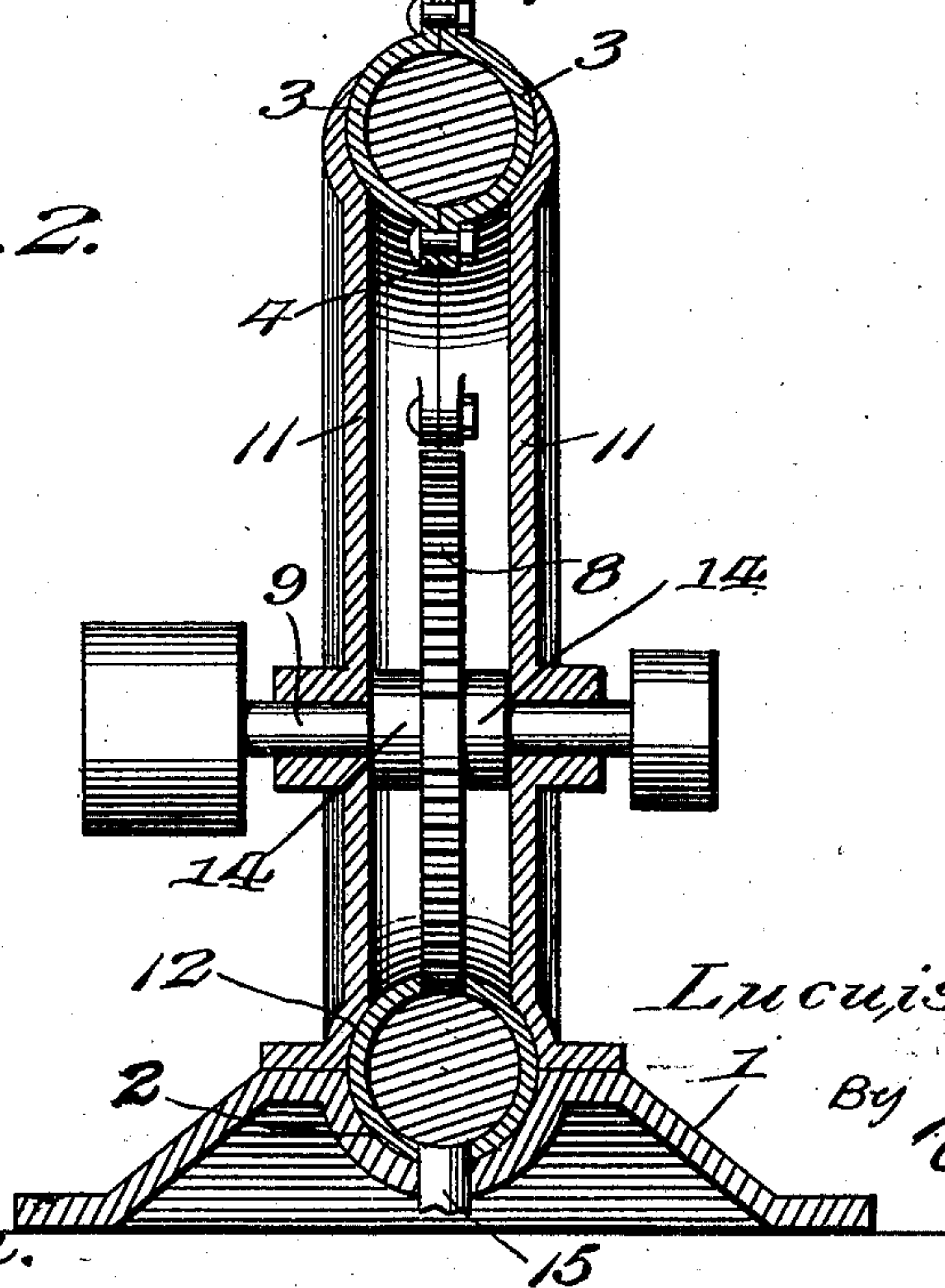
APPLICATION FILED JUNE 21, 1902.

NO MODEL.

*Fig. 1.*



*Fig. 2.*



Witnesses  
*Edwin L. McKee*  
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# UNITED STATES PATENT OFFICE.

LUCIUS J. COLLINS, OF DASH, NORTH DAKOTA.

## ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 719,305, dated January 27, 1903.

Application filed June 21, 1902. Serial No. 112,658. (No model.)

*To all whom it may concern:*

Be it known that I, LUCIUS J. COLLINS, a citizen of the United States, residing at Dash, in the county of Towner and State of North Dakota, have invented new and useful Improvements in Rotary Engines, of which the following is a specification.

My invention relates to new and useful improvements in rotary engines; and its object is to provide a light, simple, and compact device of this character which is cheap to manufacture and which is free of all vibration during its operation.

With the above and other objects in view the invention consists in the novel construction and arrangement of parts, all as hereinafter described, and pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a vertical longitudinal section through the engine; and Fig. 2 is a section on line 2 2, Fig. 1.

Referring to the figures by numerals of reference, 1 is a base having a concave groove 2 in the top thereof, within which is vertically arranged a circular tubular casing 3. This casing is preferably formed of two similar sections having ears 4 extending therefrom, which are bolted together and clamp the two sections together, and thereby prevent the escape of the motion fluid therebetween. A circular ring 5 is mounted in the tube 3 and is held close to but out of contact with the inner wall of said tube by means of piston-heads 6, secured to the ring at regular intervals and mounted in the tube. The inner edge of ring 5 is provided with teeth 7, adapted to be engaged by a gear 8, arranged vertically within the tubular ring 3 and mounted on a shaft 9. The edge of gear 8 extends down into a slot 10, formed in the lowest portion of the inner face of tube 3, and shaft 9 of said gear is journaled in circular face-plates 11, secured upon base 1 and having concave concentric grooves 12 at the edges which are secured or clamped upon the opposite sides of casing 3.

An inclined inlet 13 is arranged within the outer edge of the casing 3 and is adapted to direct the motion fluid successively against the piston-heads 6. This will cause said heads to travel within the casing and carry the toothed ring 5 therewith. A gear 8 meshes with the teeth of said ring. It will be re-

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be imparted to the shaft 9. Collars 14 are preferably secured on the shaft and bear against the side or face plates and prevent longitudinal movement of said shaft.

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An outlet or exhaust 15 is arranged in casing 3 to permit the escape of the motion fluid. This outlet is located adjacent to the slot 10, for the reason that more or less of the fluid will escape at this point into the chamber between plates 11 and the casing 3.

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As plates 11 are secured to the base and clamped against the casing, vibration of the working parts is prevented and a smooth-running engine is secured.

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In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing any of the advantages thereof, and I therefore reserve the right to make all such changes as fairly fall within the scope of the invention.

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Having thus fully described the invention, what is claimed as new is—

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1. In a rotary engine the combination with a base and a tubular circular casing mounted thereon and having an inlet and an outlet; of a toothed ring concentric to and revolubly mounted within the casing, piston-heads secured to the ring and adapted to travel in the casing, face-plates secured to the base and clamping the casing therebetween, a shaft journaled in said plates and a gear on the shaft extending into the casing and meshing with the ring.

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2. The combination with a base having a circular tubular casing thereon formed of similar half-sections secured together and having an inlet and an outlet, of a ring concentric to and mounted in the casing, teeth on the ring, face-plates secured to the base and clamped upon opposite sides of the casing, a shaft journaled in said plates, means for preventing longitudinal movement thereof, and a gear secured to said shaft and extending through a slot in the casing and engaging the teeth of the ring.

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In testimony whereof I affix my signature in presence of two witnesses.

LUCIUS J. COLLINS.

Witnesses:

ETHEL J. GATHERWOOD,  
ENOCH PHARES.