

No. 741,476.

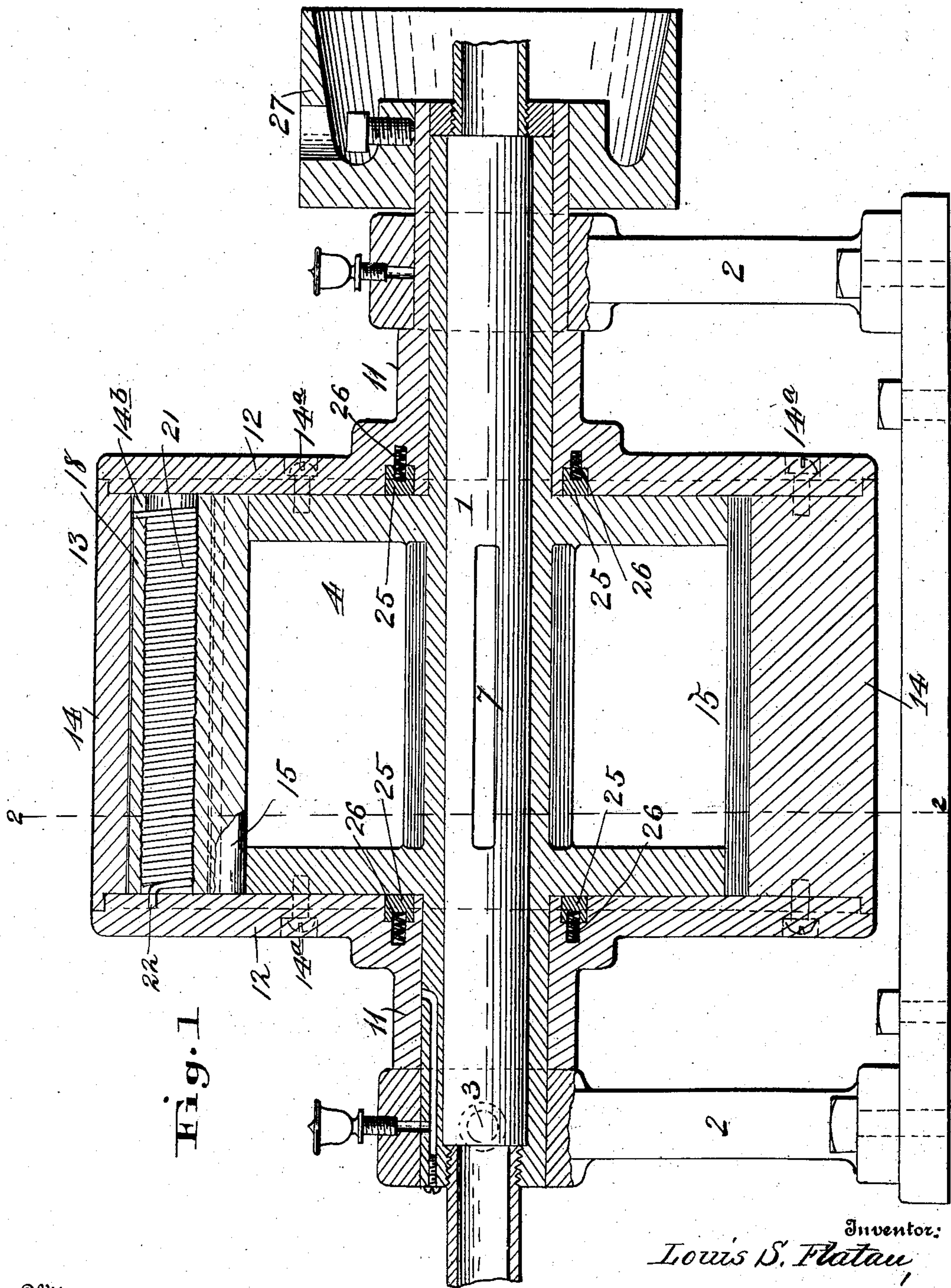
PATENTED OCT. 13, 1903.

L. S. FLATAU.  
ROTARY ENGINE.

APPLICATION FILED MAY 21, 1902.

NO MODEL.

4 SHEETS—SHEET 1.



Inventor:

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Witnesses:

F. L. Ourand.

Frank S. Radelfinger.

By

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Attorneys.



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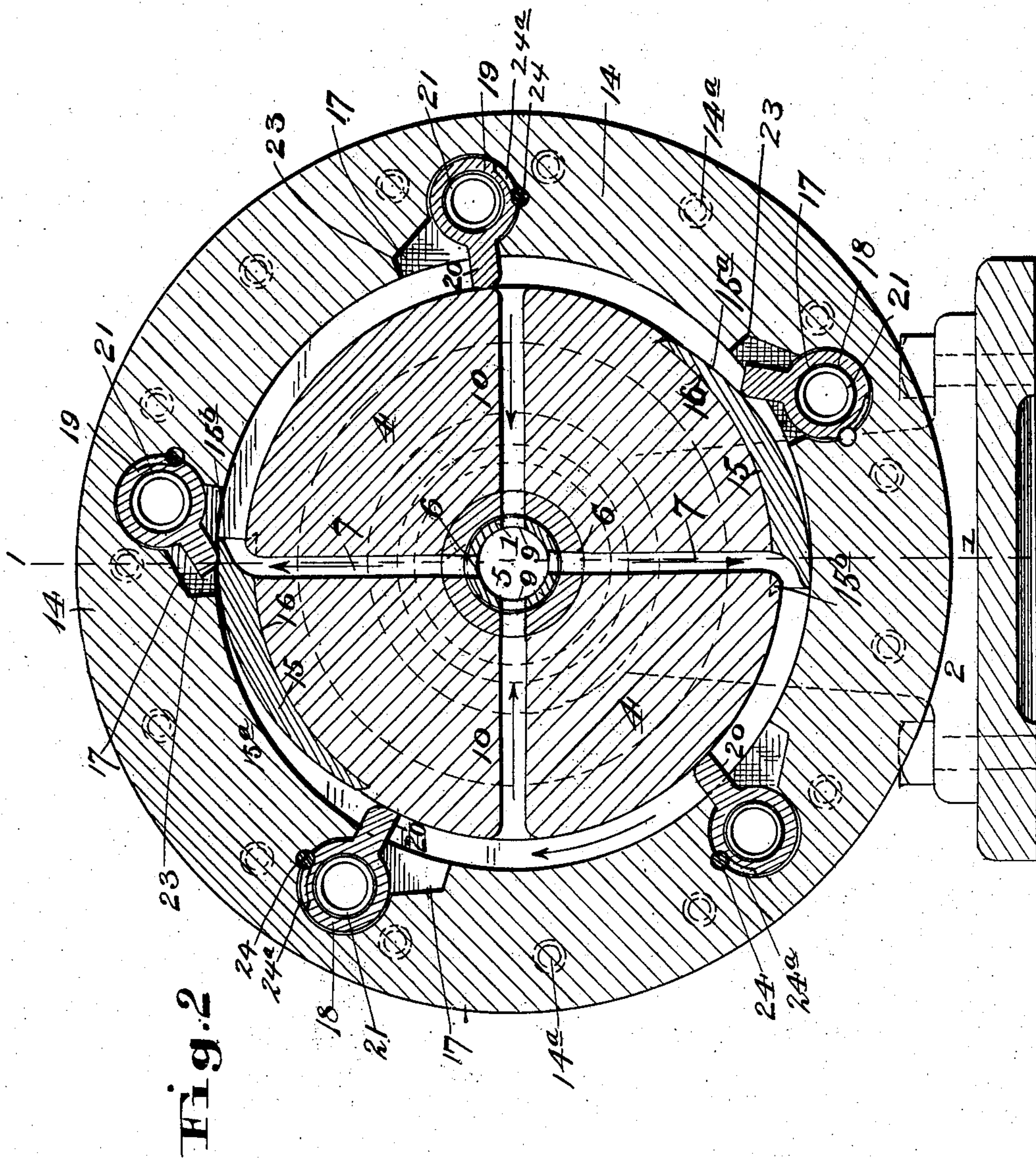
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4 SHEETS—SHEET 2.



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4 SHEETS—SHEET 3.

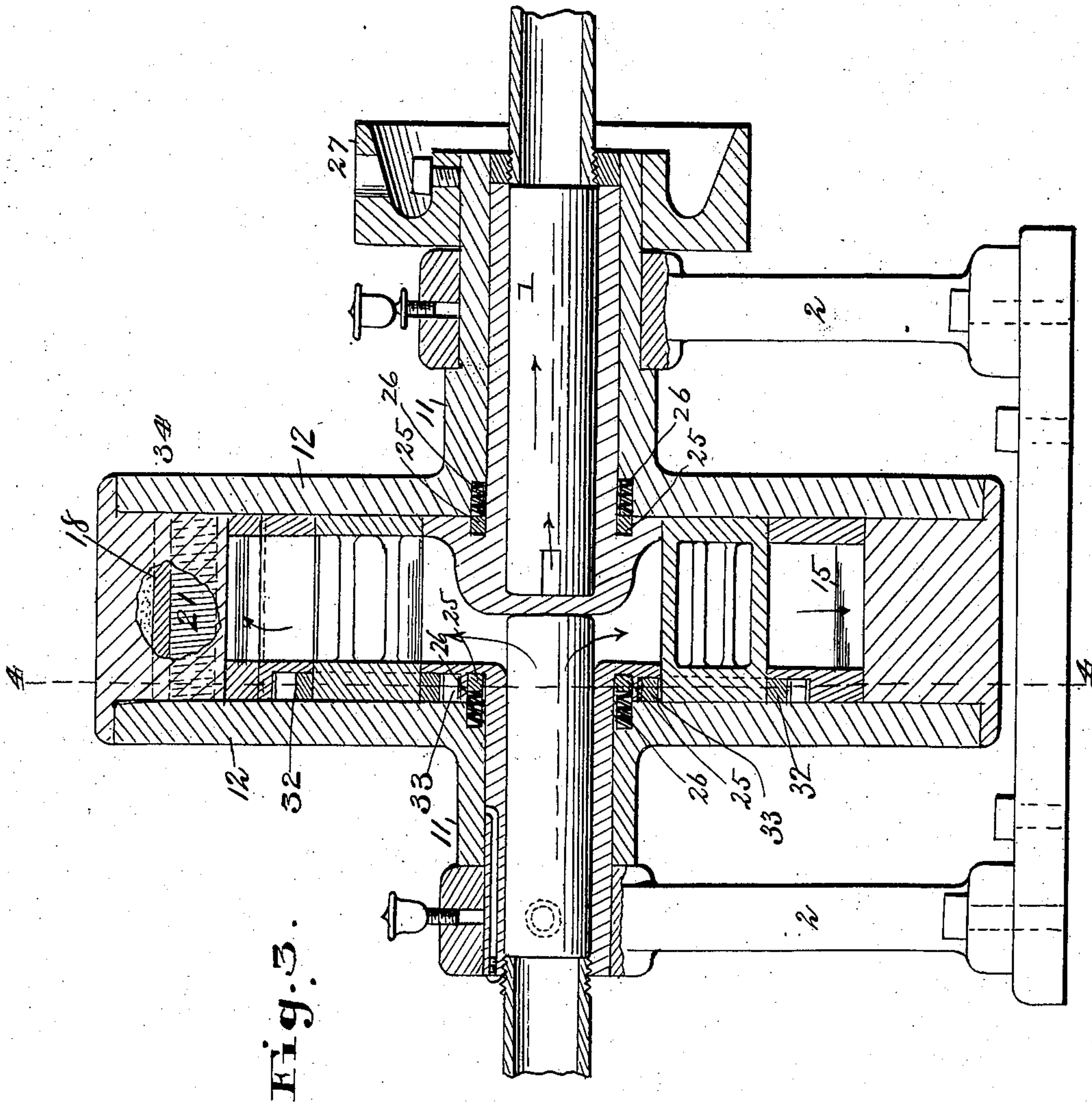


Fig. 3.

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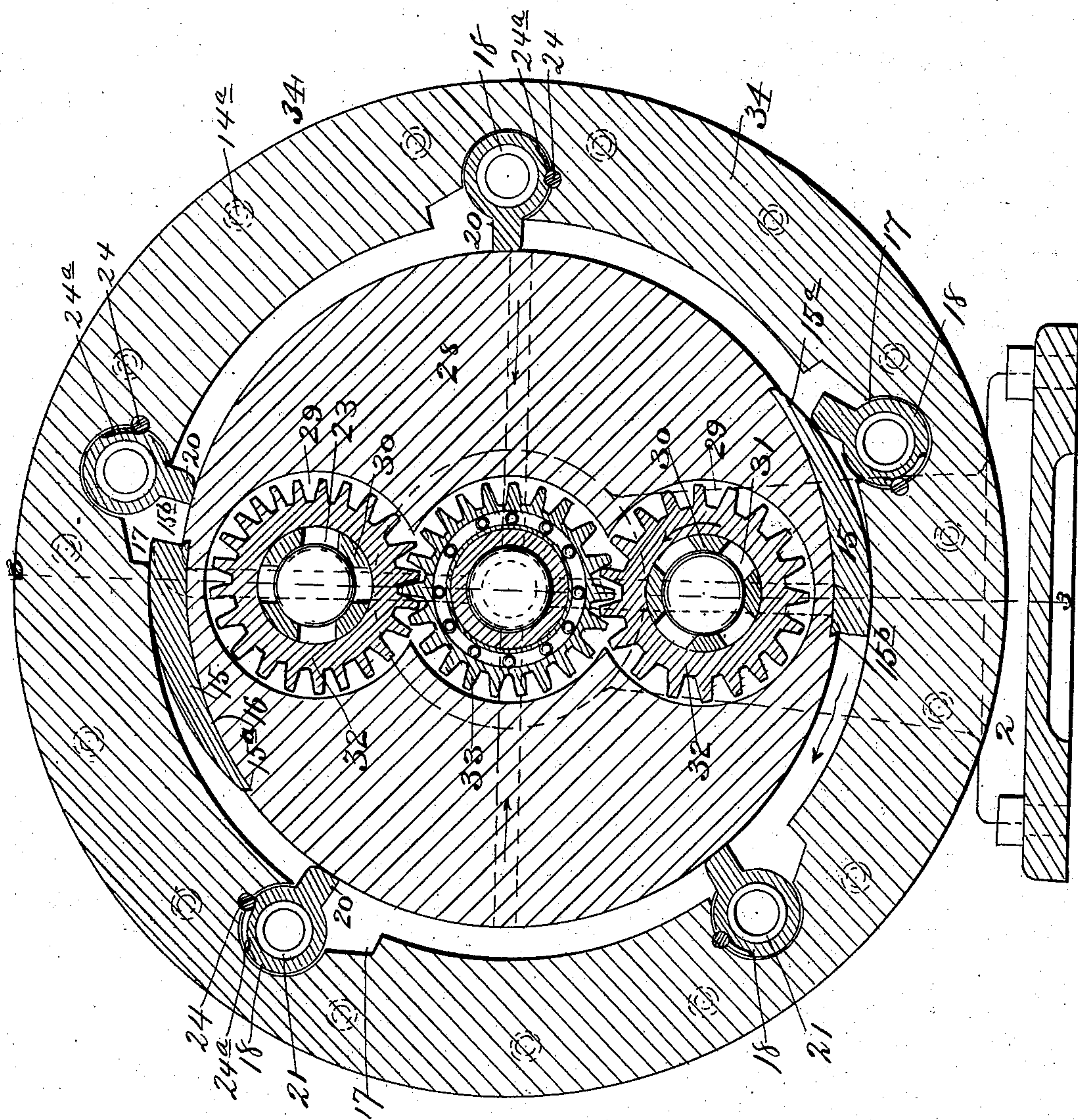


Fig. 4.

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# UNITED STATES PATENT OFFICE.

LOUIS S. FLATAU, OF ST. LOUIS, MISSOURI.

## ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 741,476, dated October 13, 1903.

Application filed May 21, 1902. Serial No. 108,402. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS S. FLATAU, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented new and useful Improvements in Rotary Engines, of which the following is a specification.

My invention relates to rotary engines, and has for its object to produce an engine in which the outer casing revolves while the inner core remains stationary, and thus be adapted to be used on motor-vehicles. My engine is also adapted to employ acetylene as a motive power instead of gasoline, and thereby give increased power for the amount of fuel consumed.

The novel construction employed by me in carrying out my invention is fully described in this specification and claimed, and illustrated in the accompanying drawings, forming a part thereof, in which—

Figure 1 is a section on the line 1 1, Fig. 2. Fig. 2 is a section on the line 2 2, Fig. 1. Fig. 3 is a section of a modified form of my device, taken on the line 3 3, Fig. 4. Fig. 4 is a section on the line 4 4, Fig. 3.

Like numerals of reference designate like parts in the different views of the drawings.

The numeral 1 designates an axle, which is mounted in standards 2 and held against rotation by a set-screw 3. Formed integral with the axle 1 is a core or stationary piston 4. The axle 1 is bored out at 5 to permit the passage of steam and is apertured at 6 to form inlet-ports, which communicate with oppositely-extending radial inlet-ports 7. The axle 1 is apertured at 9 to form exhaust-ports which communicate with oppositely-extending radial exhaust-ports 10, formed in the piston 4 at a quadrant's distance from the ports 7.

Rotatably mounted on the axle 1 are sleeves 11, which are integral with the heads 12 of a cylinder 13, having a rim 14. The heads 12 are secured to the rim 14 by screws 14<sup>a</sup>.

Mounted on the periphery of the piston 4 adjacent to the inlet-ports 7 are cams 15, which fit transversely-extending dovetailed grooves 16, formed in the piston. These cams round off very gradually on the front at 15<sup>a</sup>, but are cut off sharp on the rear at 15<sup>b</sup>.

Recesses 17 are formed in the inner side of

the rim 14 to accommodate abutments 18, having hollow cylindrical bodies 19, bearing wings or followers 20, located to be engaged by the rounded faces 15<sup>a</sup> of the cams 15. Stiff spiral springs 21 are mounted within the bores of the cylinders 19 and each engages a recess 22 in one of the heads 12. These springs serve to hold the followers 20 in contact with the piston. Niches 23 are formed in the rim adjacent to the recesses 17 to accommodate the followers and permit the cams 15 to pass. The movement of the abutments 18 is limited by pins 24 engaging grooves 24<sup>a</sup>. Packing-rings 25 held by springs 26 prevent all leakage.

In operation a combustion-chamber is attached to communicate with the bore 5 and is fitted with means for exploding a mixture of acetylene gas and air. The vapor of this explosion will flow through the ports 7 and will act on the followers and rotate the cylinder 13 to drive a pulley 27, keyed on the sleeve 11. Each abutment will retain the pressure for a quarter-revolution, when it will permit exhaust for the next quarter, after which it will once more retain the pressure.

In the modified form shown in Figs. 3 and 4 a piston 28 of slightly-modified form is used, which is apertured at 29 to accommodate rotary valves 30, having ports 31 and bearing-gears 32. The gears 32 are arranged to mesh with a gear 33, formed integral with a revolving cylinder 34 of substantially the identical structure with the cylinder 13. This modified form is designed to be operated by steam or other fluid pressure. The ports 31 are located so as to cut off the steam after about one-eighth of a revolution has been accomplished, thereby compelling the engine to run by expansion during the next succeeding eighth of a revolution, after which steam is again admitted, and so on. In this manner the engine is running by expansion half the time.

I do not wish to be limited as to details of construction, as these may be modified in many particulars without departing from the spirit of my invention.

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

In a rotary engine, an abutment comprising a hollow cylindrical body bearing a wing formed integral therewith and a spiral spring mounted within said cylinder and arranged  
5 to actuate said abutment, substantially as described.

In testimony whereof I have hereunto set

my hand in presence of two subscribing witnesses.

LOUIS S. FLATAU.

Witnesses:

J. E. LEITH,  
WM. E. HALL.