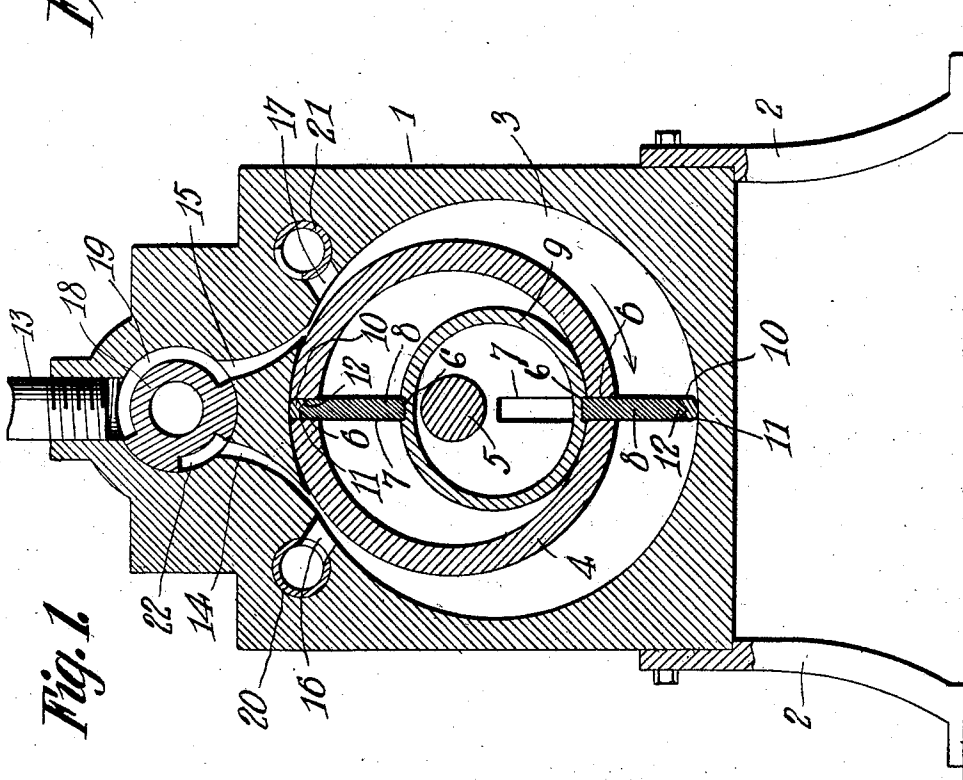
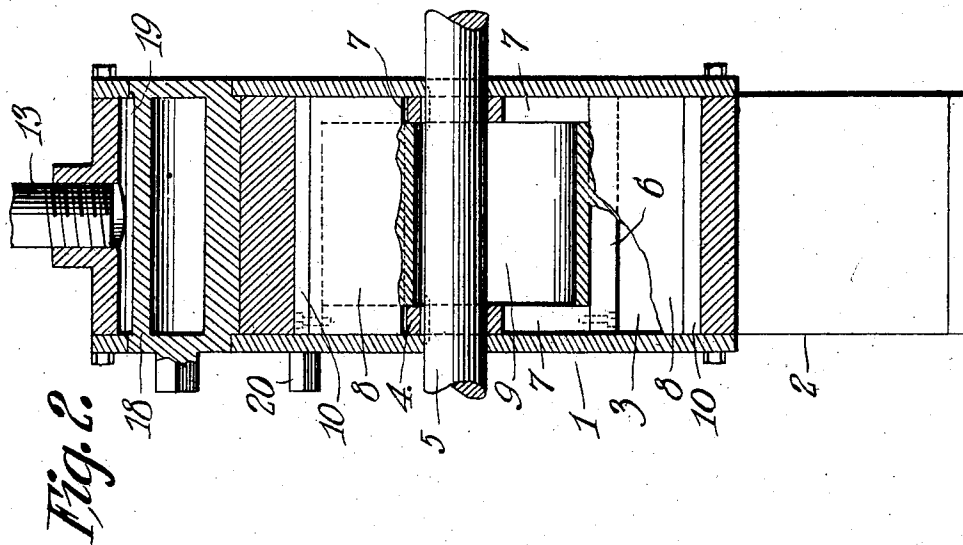


No. 859,068.

PATENTED JULY 2, 1907.

W. J. JONES.  
 ROTARY ENGINE.  
 APPLICATION FILED JAN. 29, 1907.



William J. Jones Inventor.

Witnesses

C. C. Smith.  
 C. H. Griesbauer.

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 Attorneys

# UNITED STATES PATENT OFFICE.

WILLIAM J. JONES, OF HERON LAKE, MINNESOTA.

## ROTARY ENGINE.

No. 859,068.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed January 29, 1907. Serial No. 354,726.

*To all whom it may concern:*

Be it known that I, WILLIAM J. JONES, a citizen of the United States, residing at Heron Lake, in the county of Jackson and State of Minnesota, have invented certain new and useful Improvements in Rotary Engines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to rotary engines and has for its object to produce a device of this kind, which will be powerful in proportion to its size, simple in construction and will have great efficiency with a minimum of friction and absence of vibration, all of which will be accomplished with great economy with the use of steam. And the invention consists in the construction and arrangement of parts, as will be hereinafter described and particularly pointed out in the claim.

In the accompanying drawings, which illustrate the invention,—Figure 1 is a vertical, transverse sectional view of an engine embodying my invention; and Fig. 2 is a longitudinal sectional view of the same.

Referring more particularly to the drawings, the numeral 1 indicates the body of the engine, which may be of any desired size and construction, and is preferably supported upon legs 2. A cylindrical cavity 3 is formed in the body within which is rotatably mounted a cylindrical piston 4. The piston is rigidly secured to a shaft 5, which is journaled in the base eccentrically relatively to the cavity 3, through which it imparts motion to any desired point. The periphery of the piston is provided with oppositely located through openings 6, which extend radially toward the center of each end of the piston, as shown at 7.

Mounted in the openings 6—7 are two blades or wings 8, the inner edges of which are adapted to engage with an elastic ring 9, and the outer edges are adapted to engage with the wall or periphery of the cavity 3. The ring 9 is preferably in the form of an open ended cylinder adapted to fit within the piston 4 said ring being provided with peripheral slots 6' to receive the inner ends of said blades. The outer ends of the blades 8 are constructed in V-shaped form.

Wearing shoes 10 having longitudinal V-shaped recesses 11, which fit over the V-shaped ends of the blades said shoes serving to engage with the wall of the cavity and take up the wear which would otherwise occur upon the edges of the blades and require the renewal of the entire blade, whereas the shoes may be replaced with but little trouble and expense.

Steam is admitted to the cavity 3 through a pipe 13 and ports 14 and 15 and is discharged through the ports 16 and 17, in the usual manner. A rotary valve 18 is located in the pipe 13 and has its periphery recessed, as at 19, to open communication with either one of the ports 14 and 15 to cause the piston 4 to rotate in either direction and the ports 16 and 17 are provided with valves 20 and 21 to close or open them in accordance with the direction of rotation of the piston, all of said valves being actuated synchronously to control the movements of the engine by any ordinary mechanism, not shown.

In operating an engine as above described, the steam is admitted through one or the other of the inlet ports, as 14, which will engage with the blade or wing ahead of it and drive it forward until the opposite blade is moved past said inlet port, when the steam will immediately impinge against it and drive it forward. As soon as either blade passes the outlet or exhaust port the steam which is behind it and has been forcing it forward will begin to escape and the further movement of the blade and cylinder forward is continued by the steam pressure on the other blade until the first mentioned blade passes the inlet port and begins to receive the impact of the steam from behind it. Any steam or air that may not have escaped through the exhaust port will be driven into the inlet port upon that side and will be compressed therein, or in a cavity 22 formed in the throttle valve 18.

As the piston revolves, the blades are caused by the eccentric location of the piston within the cavity to be constantly moving radially within said slots from the one extreme shown in the drawings to the other. And during all of these movements they are yieldingly held outward by the elastic ring within the piston, thereby always causing the blades to fit steam-tight within the cavity of the base.

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

A rotary engine comprising a cylindrical casing provided with inlet and outlet ports, a shaft with a piston mounted in said casing, the piston having openings, an elastic ring having peripheral slots, blades passing through the openings of the piston and having their inner ends connected to said peripheral slots of said ring, the blades having their outer terminals V-shaped, and shoes having V-shaped recesses to contact with the V-shaped terminals of the blades, substantially as specified.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM J. JONES.

Witnesses:

I. N. YOUNG,  
O. P. PETERSON.