B. BROWN.

ROTARY ENGINE.

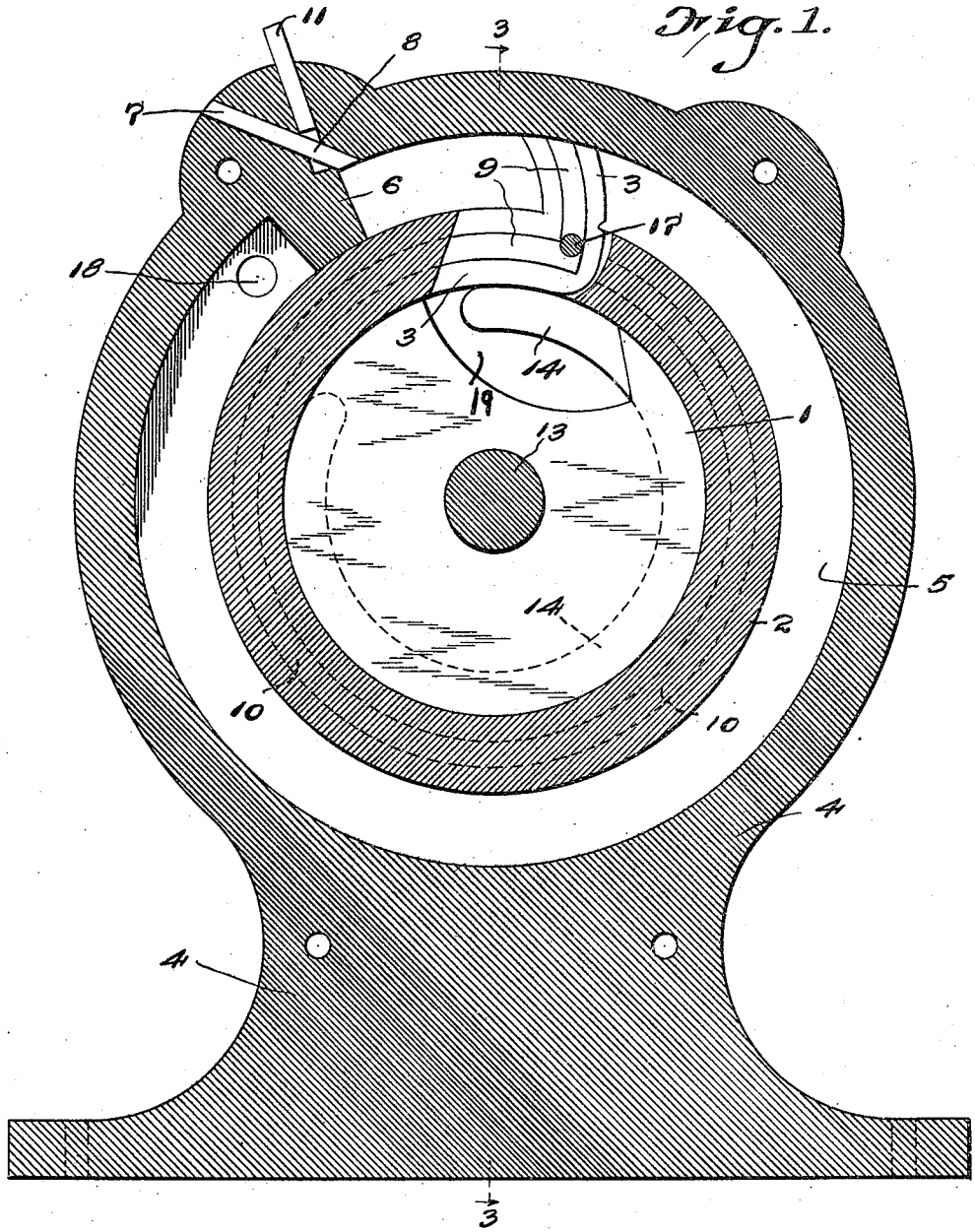
APPLICATION FILED APR. 14, 1917.

1,296,618.

Patented Mar. 11, 1919.

2-SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

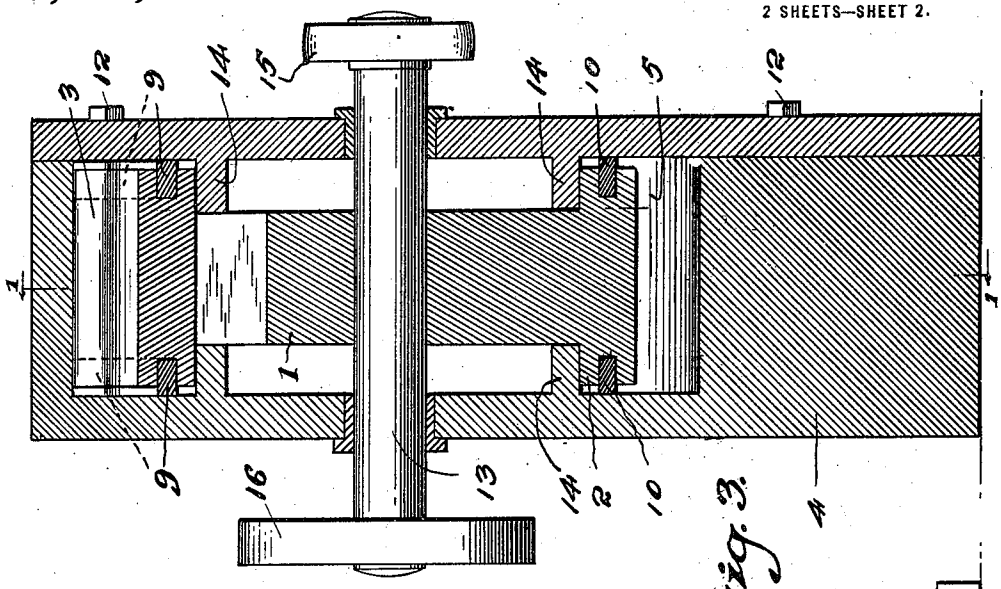


Fig. 3.

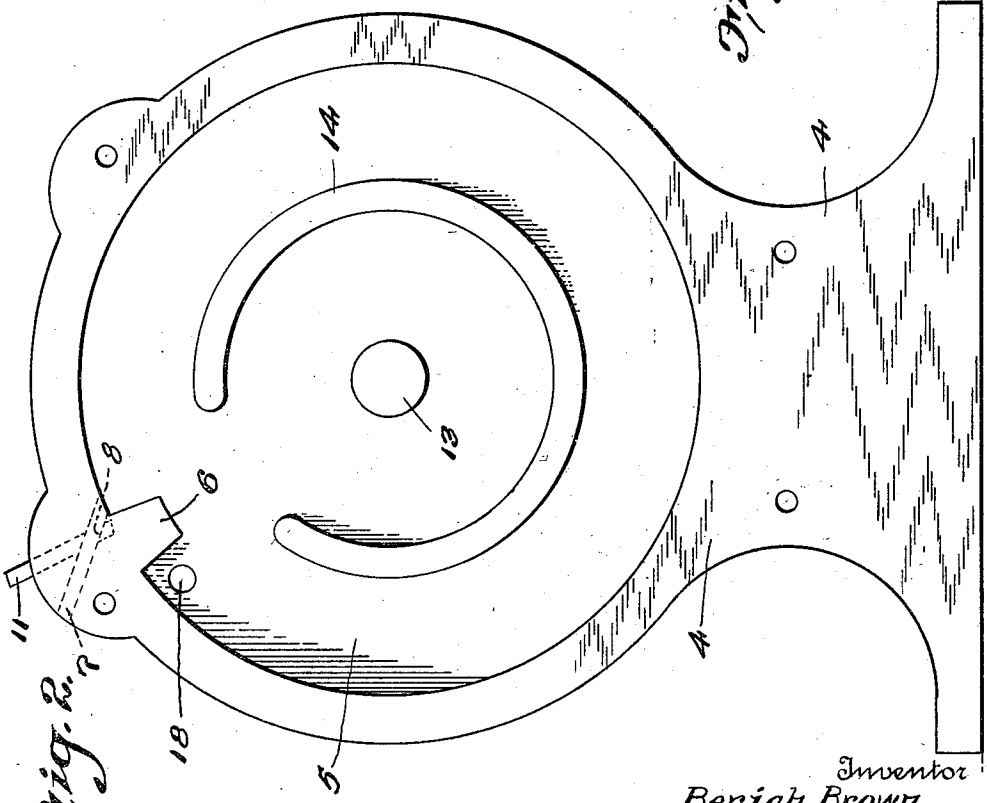


Fig. 2.

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UNITED STATES PATENT OFFICE.

BERIAH BROWN, OF SEATTLE, WASHINGTON.

ROTARY ENGINE.

1,296,618. Specification of Letters Patent. Patented Mar. 11, 1919.

Application filed April 14, 1917. Serial No. 162,146.

To all whom it may concern:

Be it known that I, BERIAH BROWN, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented a new and useful Rotary Steam or Internal-Combustion Engine, of which the following is a specification.

The object of my invention is to provide an engine of the rotary type of simple construction and design to meet the usual objections to such engines that they are liable to leak and also that they are liable to develop too much friction.

In the accompanying drawings illustrating my invention—

Figure 1 is a vertical section on line 1—1 of Fig. 3, but with the puppet valve 3 shown in elevation;

Fig. 2 is an elevational view of the interior of the engine; and

Fig. 3 is a vertical section on line 3—3 of Fig. 1.

Like numerals designate like parts in each of the views.

Referring to the accompanying drawings I provide a suitable engine casing 4, in which is mounted horizontally, the shaft 13 which carries a circular piston 1, cut away as shown in the drawing to permit of the mounting of puppet valve 3 which is pivotally mounted on axis 17. Piston 1 is provided with a thickened rim 2. Between the rim 2 and the casing of the engine is a chamber 5, into which there projects the back check 6. Adjacent to member 6 I provide the port 7, as shown in Fig. 1, with which port 8 communicates. Slidably mounted in port 8 is a sliding valve 11 which is suitably operated by an eccentric connection with shaft 13 (not illustrated). 19 designates the cut away portion of the piston 1, as shown in Fig. 1.

Mounted in the thickened rim 2 I provide a suitable piston ring 10; and mounted in swinging blade 3 I provide a similar packing member. The engine casing 4 is provided with suitable rings 14 engaging the thickened rim 2, as shown in Fig. 3. Shaft 13 is provided on one end with the pulley 15, and on the opposite end with the flywheel 16 as shown in Fig. 3. Swinging blade 3 is pivotally mounted on the axis or pin 17 as shown in Fig. 1.

In operation, shortly before the puppet valve reaches the position shown in Fig. 1, the sliding valve 11 is raised through an eccentric connection (not shown) with the shaft 13. Thereupon steam enters through port 8 and pressing against the puppet valve causes the piston to rotate. The swinging blade is held in the position shown in Fig. 1 by the contact of its lower limb with the rim 2 of the piston until the piston has rotated to a point where the swinging blade 3 reaches the other free end of the rings 14. At this point the support of the rings being withdrawn from swinging blade 3 the steam pressure pivots the swinging blade so that the upper limb or arm of the valve takes the place in the rim of the piston formerly occupied by the lower limb or arm of the swinging blade. In this position it passes under the back check 6, while the steam exhausts through port 18. After passing the back check 6 the lower limb of the swinging blade 3 engages the rings 14, and the valve pivots back to the position shown in Fig. 1, and the cycle is complete.

What I claim is:

1. In a rotary engine, the combination of an engine casing having intake and exhaust ports, a rotary piston mounted in the engine casing and having a thickened rim, rings extending but part way around the engine casing and engaging the inner portion of said thickened piston rim, the piston having a cut away portion, a reciprocating L-shaped blade pivotally mounted on the piston and arranged to engage the peripheral inner wall of the engine casing at predetermined times to rotate the piston, said rings serving to operate the swinging blade, the engine casing having an inwardly projecting back check member adjacent the intake port, and a valve regulating the intake of steam or gas through said port, substantially as described.

2. In a rotary engine, the combination of an engine casing having intake and exhaust ports, a circular rotary piston mounted in the engine casing, said piston having a projecting rim, a packing member in the rim, rings extending but part way around the engine casing and positioned to engage the inner portion of the aforesaid projecting rim, the piston having a cut away portion, an

L-shaped blade pivotally mounted on the piston, said rings serving to operate the swinging blade, the engine casing having an inwardly projecting back check member adjacent the intake port and adapted to engage an arm of the L-shaped valve, and a valve regulating the intake of steam or gas through said port, substantially as shown and described.

BERIAH BROWN.

Witnesses:
G. M. FARLEY,
R. E. MAXFIELD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."