

Arthur O'Leary's Improved Rotary Engine.

No. 122,641.

Patented Jan. 9, 1872.

Fig. 1.

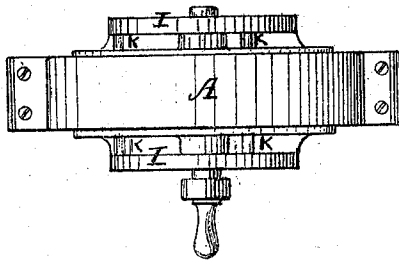


Fig. 2.

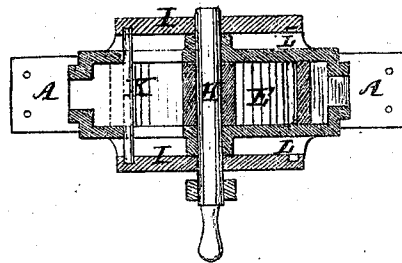


Fig. 3.

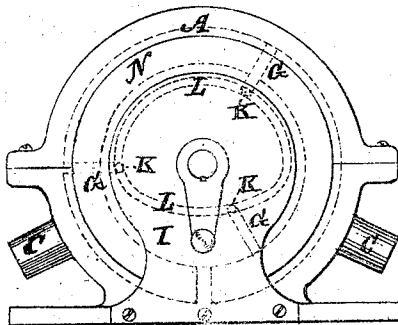


Fig. 4.

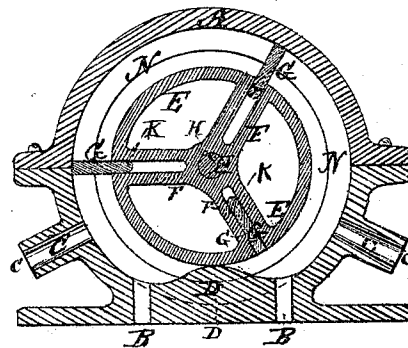
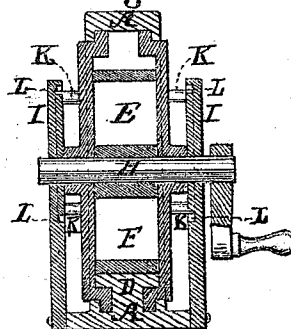


Fig. 5.



Witnesses:

Wm. Allen
Wm. Dodder

Inventor:

Arthur O'Leary

UNITED STATES PATENT OFFICE.

ARTHUR O'LEARY, OF IOWA CITY, IOWA.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. 122,641, dated January 9, 1872.

I, ARTHUR O'LEARY, of Iowa City, county of Johnson and State of Iowa, have invented certain Improvements in Rotary Engines, of which the following is a specification:

The object of my invention has been to produce a simple and effective rotary engine, to be operated by hot air or steam, and by means of which direct rotary power could be obtained, the nature of which consists in a self-sustaining cylinder or case, provided with ports of injection and discharge, said cylinder encompassing a rotary piston whose shaft or axis is sustained in uprights, said uprights having grooved cams on the inside, into which arms attached to sliding valves play, and by means of which the valves are made to slide radially through an annular steam or air space formed between the periphery of the piston-block and the inner surface of the cylinder or case, said valves being made to abut against the concave surface of the cylinder and recede from said surface at the proper times for inlet or discharge of the motive power, as I will further explain by reference to the accompanying drawing, in which—

Figure 1 is a top view of my rotary engine, showing uprights and valve-arms; Fig. 2, a horizontal section; Fig. 3, a side elevation, showing valves, valve-arms, and cams in dotted lines; Fig. 4, a vertical section, showing radial sliding valves, ports of injection and discharge, and steam or vapor bridge; and Fig. 5, a transverse section of engine.

In the said drawing, A indicates the self-sustaining cylinder or case; B C, the ports of injection and discharge, of which there are two sets for reverse movements of the engine; and D, the stationary steam or vapor bridge at-

tached to the case A. E is the piston-block, provided with radial ways F F, &c., in which the valves G play back and forth; and H is the axis or shaft of the piston-block supported in the uprights I I. These valves G are provided with arms K, which play in the cam-grooves L in the standards I I, and are pushed forward to abut against the concave surface of the cylinder A, and recede from said surface as they approach the vapor-bridge D at the bottom of the cylinder, for the purpose of receiving and discharging the steam or hot air; and N N are the annular receptacles or buckets for reception of the motive power formed by the cylinder, the piston-block, and the sliding valves. As already stated, the sliding valves, by means of the cams, are made to press against the cylinder immediately after they pass the injection-pipe until they reach the discharge-port, when they recede from the cylinder, passing the stationary bridge, which is always in contact with the convex surface of the piston-block, as shown in Fig. 4.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the peripheral case A, uninclosed revolving piston E, and outer standards I I, provided with the cam-grooves L L, all constructed and operating together substantially as and for the purpose herein specified.

In testimony whereof I have hereunto set my signature this 7th day of August, 1871.

ARTHUR O'LEARY, M. D.

Witnesses:

IRA J. ALDER,
G. W. DODDEE.

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