(No Model.)

H. R. JUNE.

ROTARY ENGINE.

No. 577,304. Patented Feb. 16, 1897.

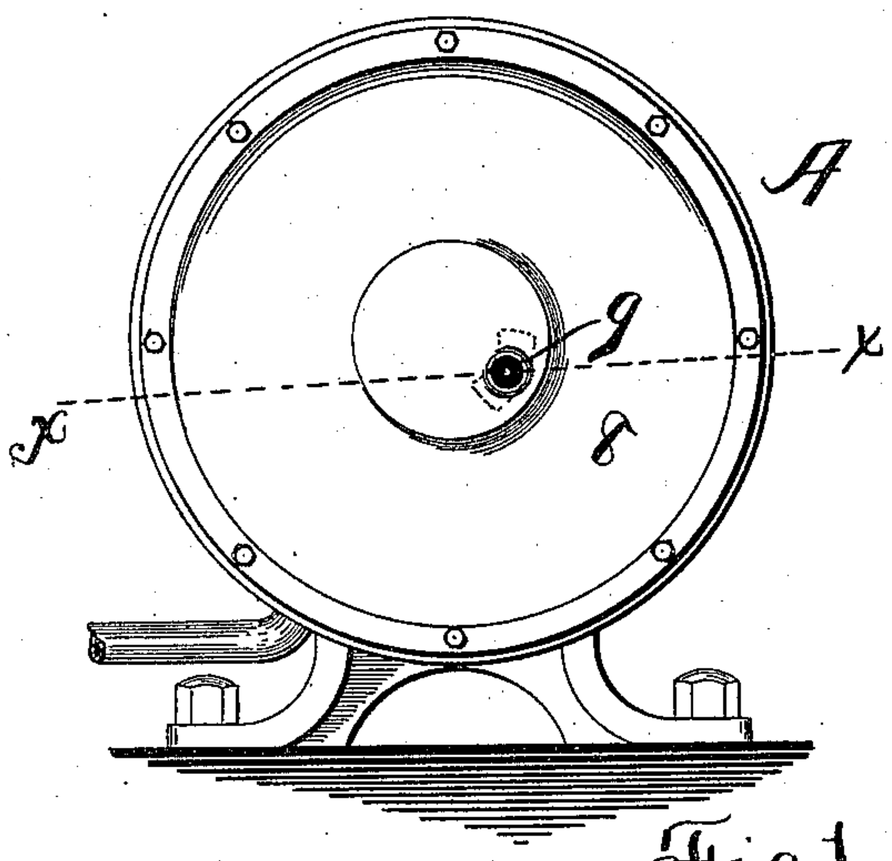

Fig. 1.

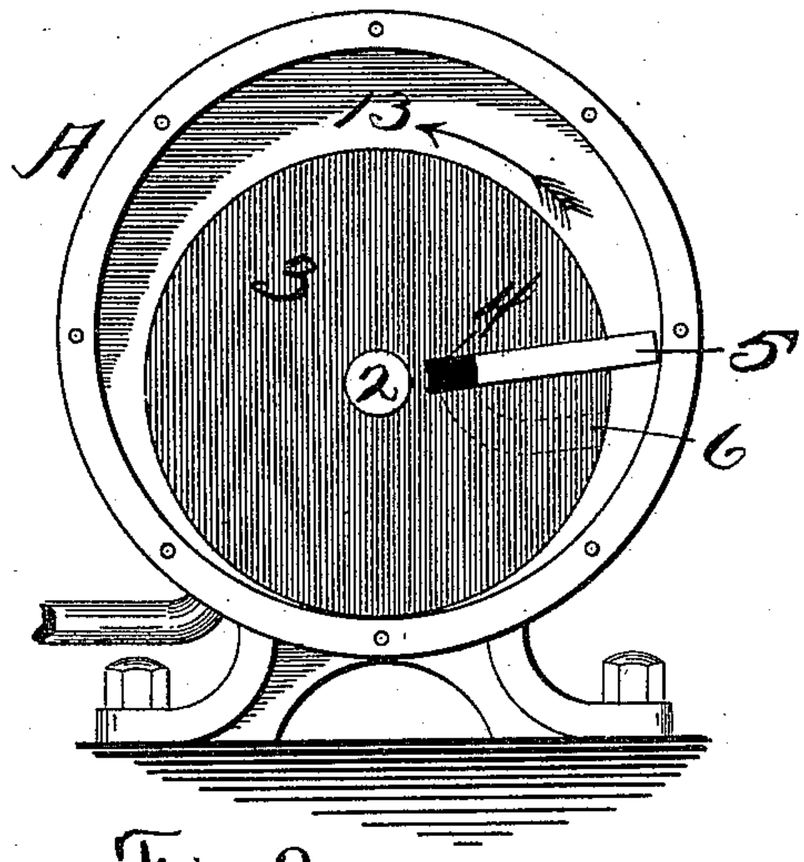

Fig. 2.

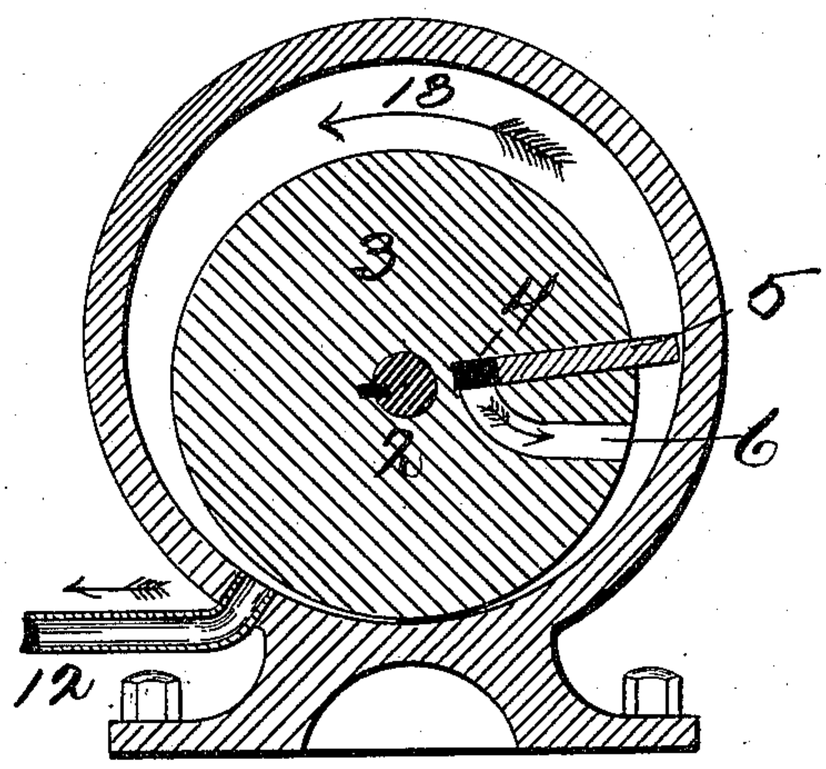

Fig. 3.

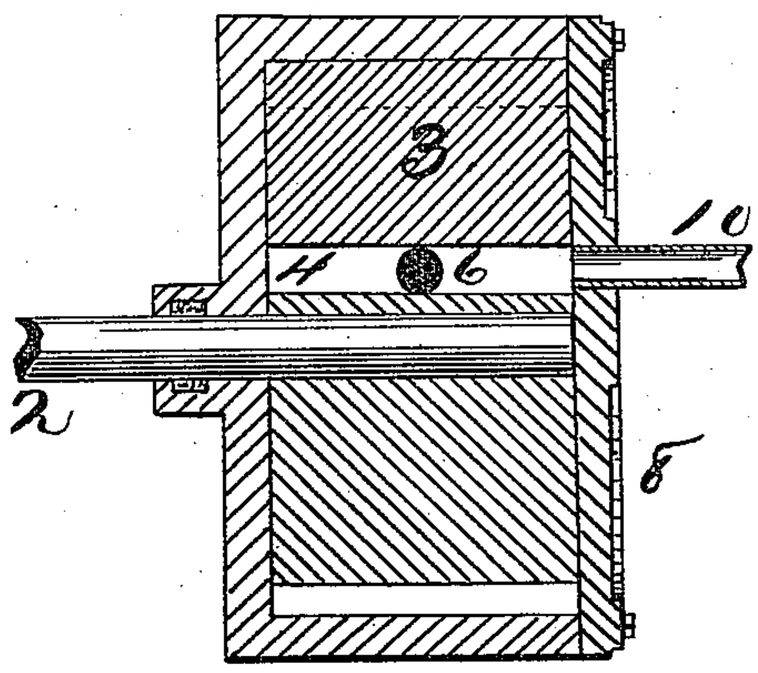

Fig. 4.

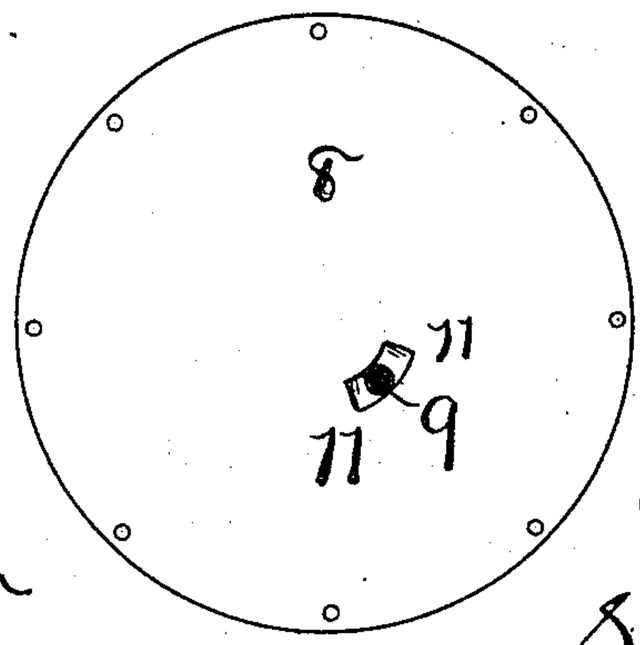

Fig 5

WITNESSES:
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UNITED STATES PATENT OFFICE.

HENRY R. JUNE, OF ELMIRA, NEW YORK.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 577,304, dated February 16, 1897.

Application filed June 15, 1896. Serial No. 595,525. (No model.)

To all whom it may concern:

Be it known that I, HENRY R. JUNE, of Elmira, in the county of Chemung, in the State of New York, have invented new and useful Improvements in Rotary Engines, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to rotary engines of the class embodying a casing, a head therein and eccentric thereto, and a sliding piston in a slot or groove, or slots or grooves, in said head. My object is to produce an engine embodying these features. Heretofore the sliding pistons have been mounted in said head either with springs to project them outwardly or two opposite pistons have been connected so that the movement of one piston is transmitted to the other, as when one is forced inwardly in its seat in the head the other is forced outwardly.

In the present construction the steam-inlet pipe conducts the steam into the piston slot or seat, so that it forces said piston outwardly, also passing through a conduit leading from said slot into the steam-chamber behind said piston to rotate the head and drive the shaft upon which said head is secured. The steam-inlet pipe is connected to one of the ends of the casing, and the rotation of the head cuts off the steam as a cut-off valve and then opens the steam-inlet and lets on the steam, each as many times with each revolution of said head as there are pistons in it. In this construction the steam operates expansively to project said piston and also to rotate said head, an exhaust being provided through which all the steam, vapor, or other fluids in the steam-chamber in front of the piston is forced by its forward movement. In this construction as the piston passes the center it is flush with the face of the head, and then as it is carried toward the steam-port it is thrown outwardly by the centrifugal force of the revolving head to open the piston-chamber part way to receive steam.

Means are provided to regulate the quantity of steam admitted for each revolution of the head, and no more can be admitted until substantially a full revolution is completed, where a single piston is used, or a proportionate part of a revolution where two or more pistons are used.

It is constructed as follows, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of the engine. Fig. 2 is a like view of the same with a side removed. Fig. 3 is a vertical section thereof. Fig. 4 is a horizontal section thereof on line $x\,x$, Fig. 1. Fig. 5 is a plan of the inner face of one side thereof, showing the groove therein, to increase and regulate the amount of steam let in and used for each revolution of the piston-head.

In the drawings the piston-head is shown as provided with only a single piston, but it will be readily seen that two or more pistons can be readily used, seating them in the head in the same manner as is shown.

A is a suitable casing, in which a shaft 2 is suitably journaled and upon which a cylindrical piston-head 3 is secured, said head being eccentric to the inner wall of said casing. A suitable slot, groove, or piston-seat 4 is cut in said head, in which a piston 5 is suitably mounted to be readily reciprocated. A steam-conduit 6 is also provided in said head, extending outwardly from a point adjacent to the inner end of said groove or piston-seat 4 through the face of said head.

The casing is provided with a side or end 8, here shown as removable and provided with an inlet opening 9, in which the steam-inlet pipe 10 is secured, and to increase the quantity of steam let in a channel 11 is cut in said end in the inner face thereof on each side of said inlet 9, and said channel and inlet are concentric with said shaft and with the inner end of the piston-seat. A suitable exhaust-pipe 12 is provided, opening outwardly from the steam-chamber 13 in the casing. The rotation of said head operates to let in and cut off steam. The steam enters the piston-seat behind the piston, expansibly forcing it out into close contact with the inner wall of the casing. The piston-head itself makes close contact on one side with the inner wall of the casing, and at that point the outer face of the piston is flush with the outer face of the piston-head. When it passes this point,

the centrifugal force will throw said piston outward enough to more or less open the inner end of its seat to receive steam.

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

In a rotary engine, the combination with a cylindrical casing, closed at the ends, of a piston-head mounted upon a suitable shaft, an eccentric thereto, and provided with a piston-seat, a piston mounted and adapted to reciprocate in said seat, a steam-inlet pipe through a side of said casing and brought intermittently into connection with said piston-seat by the rotation of said head to admit steam into said seat interior to said piston therein, and a steam-conduit in said head connecting said seat to the steam-chamber between said head and casing.

In witness whereof I have hereunto set my hand this 12th day of June, 1896.

HENRY R. JUNE.

In presence of—

A. R. GALATIAN,

WM. F. WENZ.