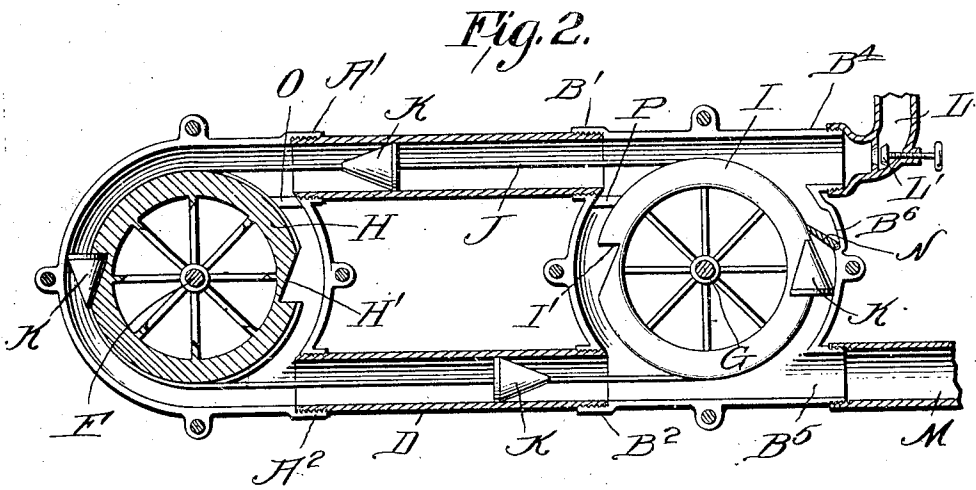
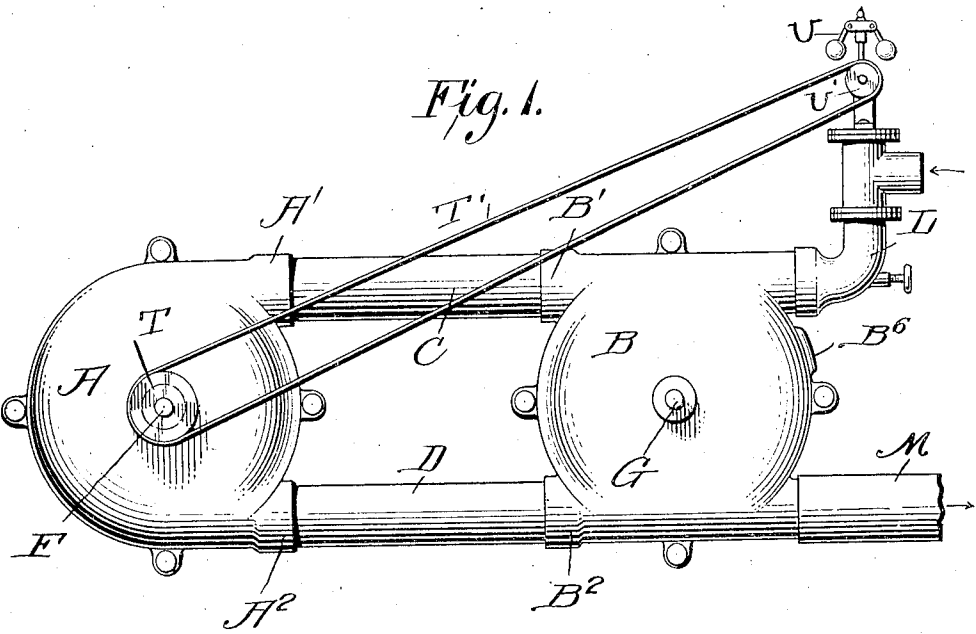


J. MURRAY.
ROTARY ENGINE.
APPLICATION FILED APR. 15, 1907.

2 SHEETS—SHEET 1.



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Witnesses

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No. 882,576.

PATENTED MAR. 24, 1908.

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2 SHEETS—SHEET 2.

Fig. 3.

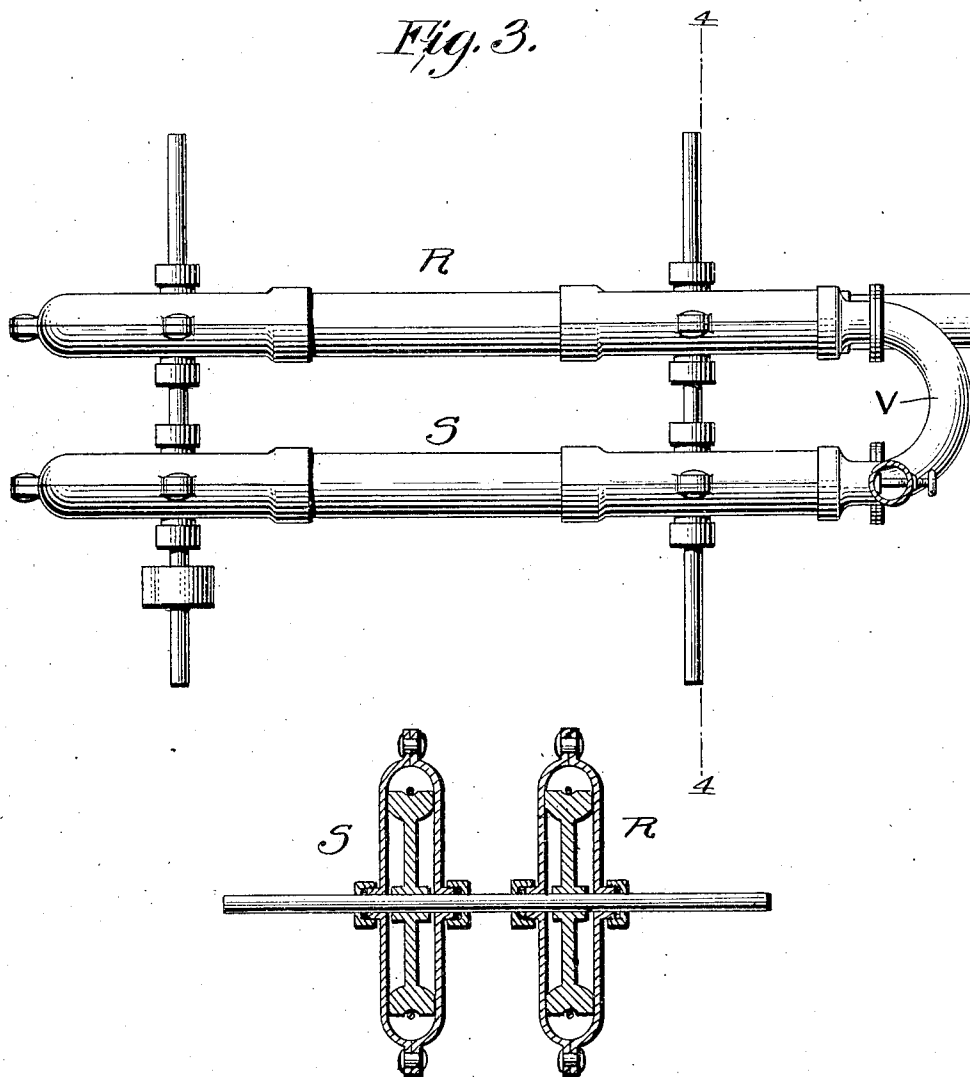


Fig. 4.

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UNITED STATES PATENT OFFICE.

JOHN MURRAY, OF WATERFORD, NEW YORK.

ROTARY ENGINE.

No. 882,576.

Specification of Letters Patent.

Patented March 24, 1908.

Application filed April 15, 1907. Serial No. 368,294.

To all whom it may concern:

Be it known that I, JOHN MURRAY, a citizen of the United States, residing in Waterford, in the county of Saratoga and State of New York, have invented a new and useful Improvement in Rotary Engines, of which the following is a specification.

This invention relates to engines and more particularly to rotary engines, the object being to provide a casing with wheels carrying an endless cable provided with pistons adapted to be driven by the force of the steam against the piston as it passes through the same.

Another object of my invention is to provide an engine which is very simple and cheap in construction and one which can be readily driven by steam, air or water, as desired.

With these and other objects in view, the invention consists in the novel features of construction, combination and arrangement of parts hereinafter fully described and pointed out in the claims.

In the drawings forming a part of this specification:—Figure 1 is a side elevational view of my improved engine. Fig. 2 is a longitudinal sectional view of the engine. Fig. 3 is a top plan view of a modification showing a pair of engines coupled together. Fig. 4 is a sectional view taken on the lines 4—4 of Fig. 3.

Referring to the drawings A and B indicate casings formed of shells provided with apertured lugs which are secured together by bolts. The casing A is provided with outwardly extending parallel threaded sleeves A', A² in which the threaded ends of tubes C and D are secured, the other ends of which are also threaded and are secured in the outwardly extending parallel threaded sleeves B', B² of the casing B. Bosses A³ B³ are formed in the sides of the casing over which are secured packing boxes E. Shafts F and G are mounted in the bosses, on which are mounted grooved wheels H and I in the casings, provided with oppositely disposed notches H', I'. An endless cable J is mounted in the grooves of the wheels, provided with cone-shaped pistons K of such a size to fit snugly in the tubes and casing. The pistons are so arranged on the cable, that two of the pistons will be in the notch of the wheels at all times, so as to close the casings while the other two will be in the tubes, so as to close the same, so as to sub-

ject the pistons to the full force of the strain.

A sleeve B⁴ projects out from the opposite side of the casing in alinement with the sleeve B' forming an inlet port to which is secured a supply pipe L provided with a valve L' so that the steam supply can be cut off when it is desired to stop the engine.

A sleeve B⁵ projects out from the casing in alinement with the sleeve B² forming an exhaust port to which is secured an exhaust pipe M.

A recess B⁶ is formed in the casing B, in which is pivotally mounted an abutment N for closing the casing after the pistons have passed through so as to prevent the steam from passing around the wrong way.

Packing members O and P are secured to the casing under the sleeves A' B' adapted to bear against the wheel and prevent the sleeves from escaping. Secured on the shaft F is a pulley T carrying a belt T' which passes over the pulley U' carried by the governor U, which is mounted on the supply-pipe L for regulating the engine.

In the modification shown in Figs. 3 and 4, I employ two engines R and S mounted side by side on the same shaft, the exhaust of one engine being connected to the other engine by a bowed-shaped pipe V for driving the engine.

From the foregoing description it will be readily seen that two of the pistons will always be in the notches of the wheel, so as to prevent the cable from slipping and at the same time closing the casings and tubes so that the steam or water will have power against the same as it passes there-through.

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

1. In an engine, the combination with casings connected together by tubes, wheels mounted in said casing provided with notches, an endless cable mounted on said wheels, cone-shaped pistons carried by said cable adapted to fit in the notches of the wheels, and a pivoted abutment mounted in one of said casings adapted to engage and ride over the beveled side of said piston for the purpose described.

2. In an engine, the combination with a pair of casings connected together by parallel tubes, of grooved wheels mounted in said casings, an endless cable mounted on said wheels provided with pistons, and a pivoted abutment mounted in one of said casings.

3. In an engine, the combination with a pair of casings provided with parallel sleeves, of tubes secured in said sleeves, grooved notched wheels mounted in said casings, and
5 an endless cable mounted on said wheels, pistons secured to said cables adapted to fit in said notches of the wheels, a supply pipe connected to one of said casings, provided with a valve, an exhaust pipe connected to said casing and a pivoted abutment mounted in said 10 casings.

JOHN MURRAY.

Witnesses:

SMITH GUYER,

JOHN WILLIAM SUNKER.