

S. S. WEBB.
 ROTARY ENGINE.
 APPLICATION FILED APR. 8, 1911.

1,012,305.

Patented Dec. 19, 1911.
 3 SHEETS—SHEET 1.

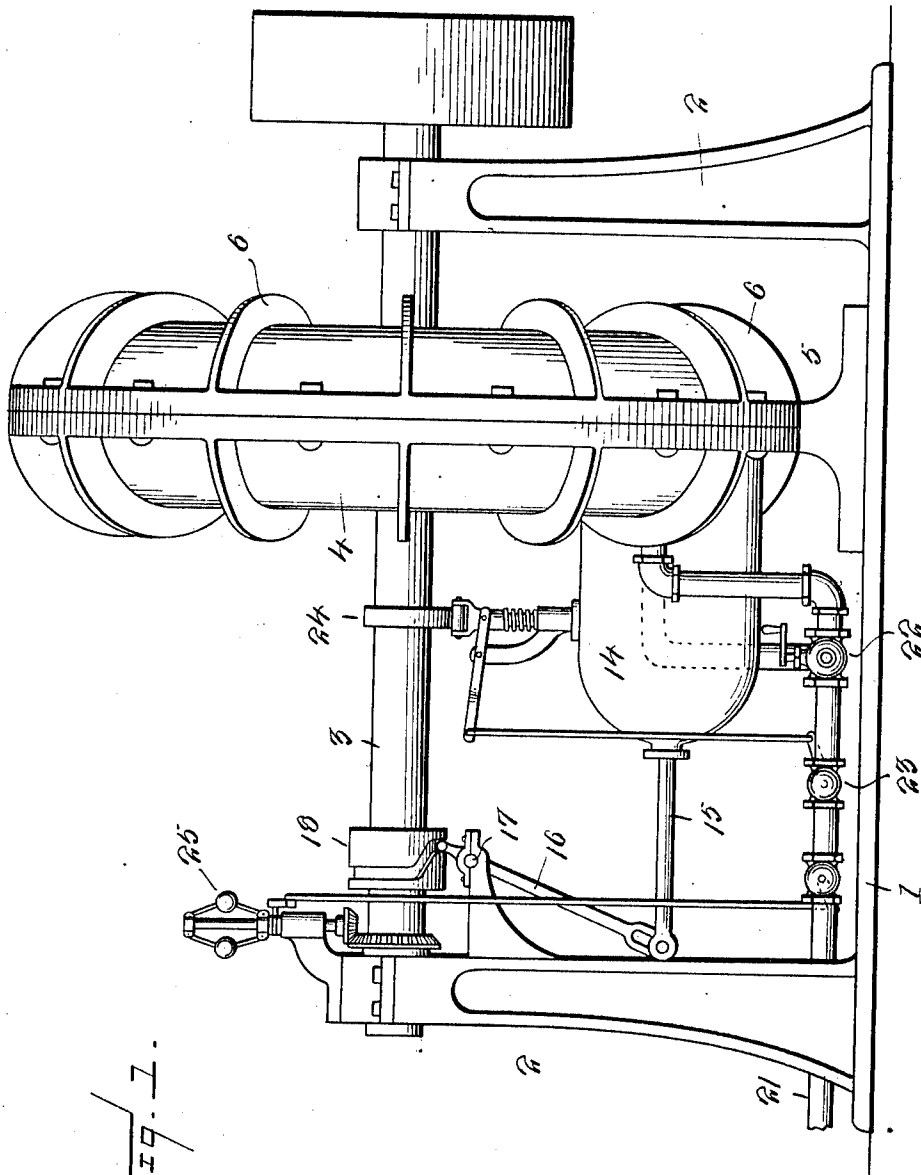


Fig. 1.

Witnesses
 E. R. Ruppert.
 V. B. Hillyard.

Inventor
 Schuyler S. Webb
 By Victor J. Evans
 Attorney

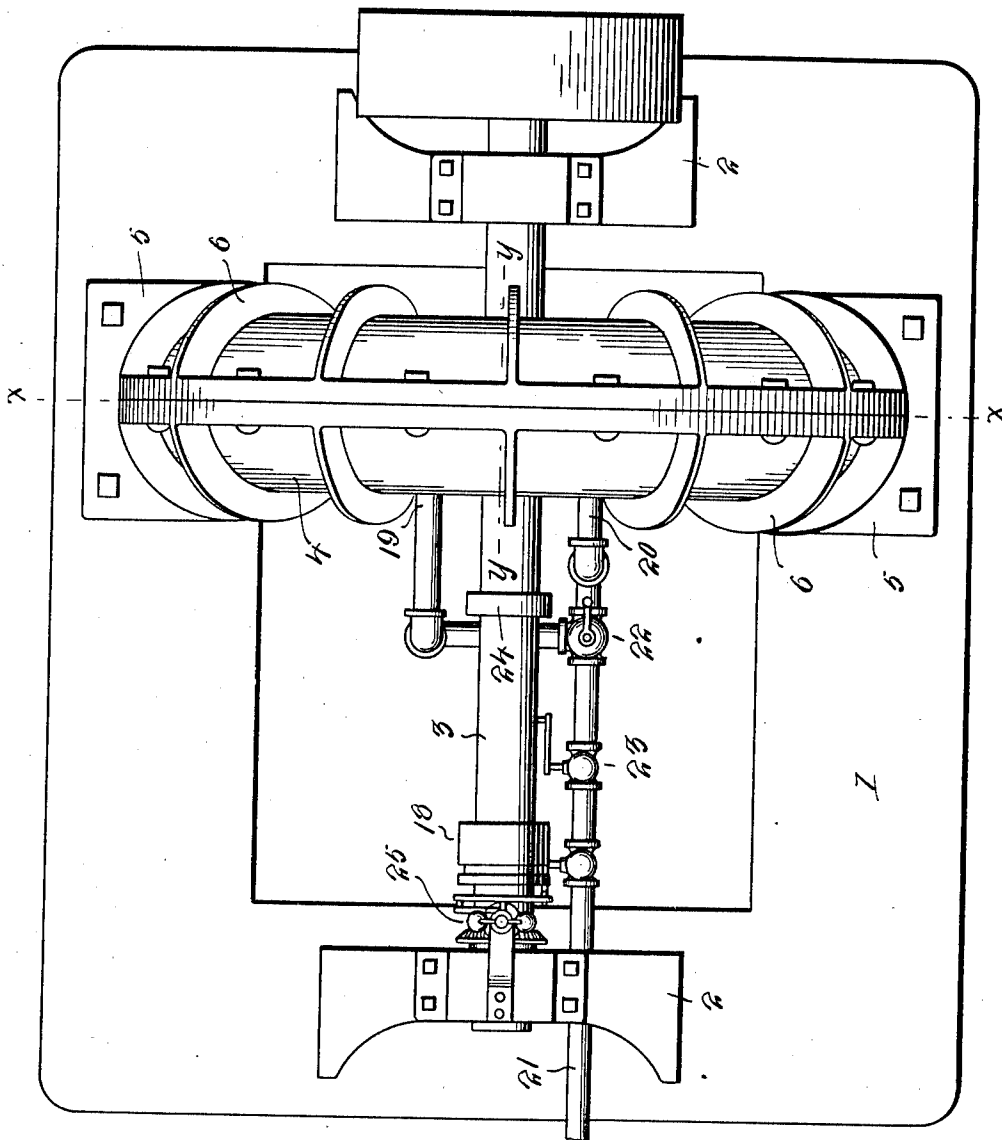
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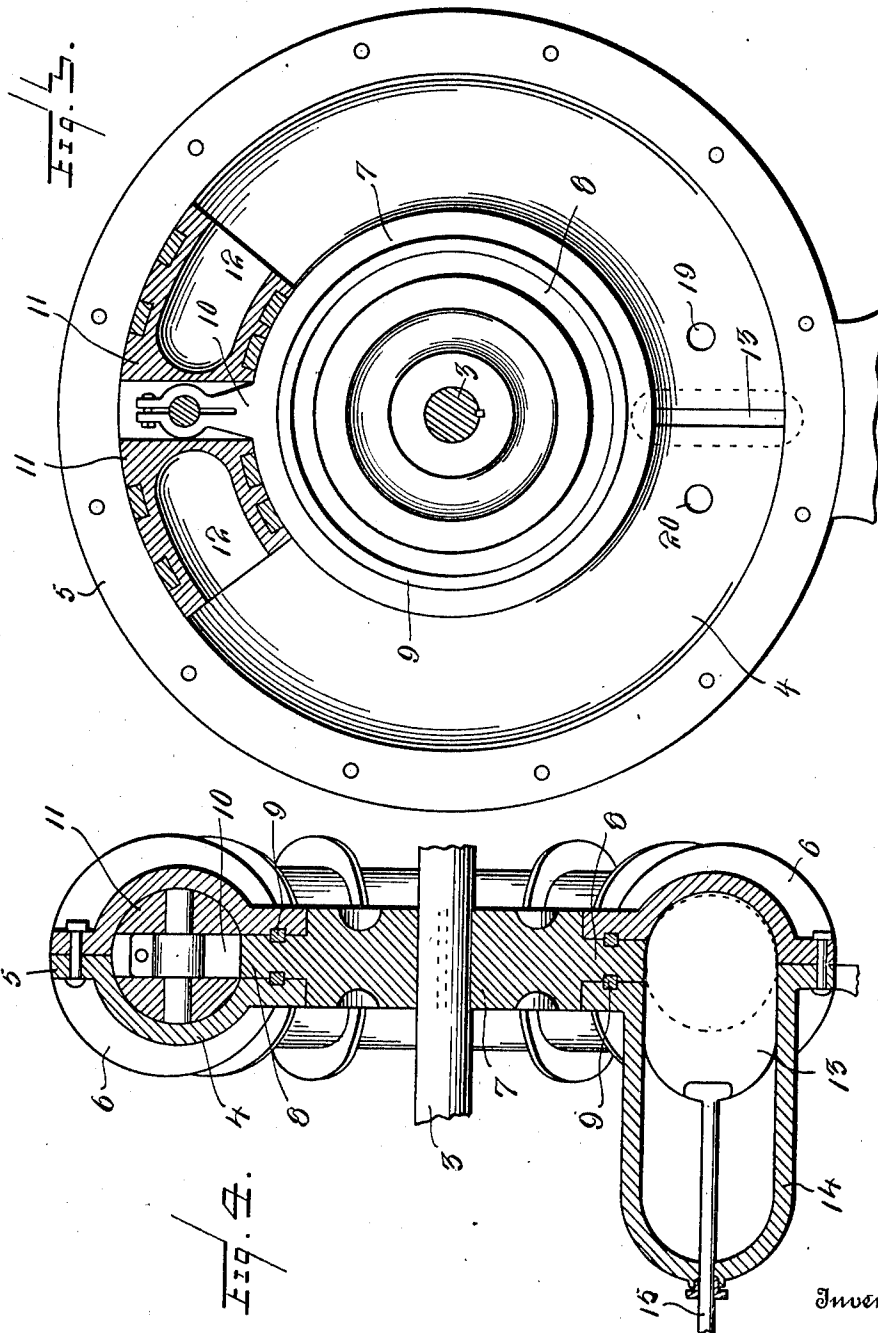
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3 SHEETS-SHEET 3



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 U. B. Trilbyard.

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 By Victor J. Evans
 Attorney.

UNITED STATES PATENT OFFICE.

SCHUYLER S. WEBB, OF FOREST, OHIO.

ROTARY ENGINE.

1,012,305.

Specification of Letters Patent.

Patented Dec. 19, 1911.

Application filed April 8, 1911. Serial No. 619,757.

To all whom it may concern:

Be it known that I, SCHUYLER S. WEBB, a citizen of the United States, residing at Forest, in the county of Hardin and State of Ohio, have invented new and useful Improvements in Rotary Engines, of which the following is a specification.

The present invention provides an engine of the rotary type embodying a novel structure which admits of the parts being easily assembled or quickly separated for repairs or replacements.

The invention provides an engine of the character stated involving a cylinder and piston of peculiar formation and a novel arrangement of valve mechanism for controlling the motive medium both in its admission to the engine and in its exhaust therefrom.

The invention consists of the novel features, details of construction and combination of parts, which hereinafter will be more particularly set forth, illustrated in the accompanying drawings, and pointed out in the appended claims.

Referring to the drawings, forming a part of the specification, Figure 1 is a side view of a rotary engine embodying the invention. Fig. 2 is a top plan view. Fig. 3 is a section on the line $x-x$ of Fig. 2. Fig. 4 is a section on the line $y-y$ of Fig. 2.

Corresponding and like parts are referred to in the following description, and indicated in all the views of the drawings, by the same reference characters.

The working parts of the engine are mounted upon a base 1, the latter being provided with uprights 2 in which the shaft 3 is mounted. The cylinder or casing 4 is of substantially annular form and is provided at opposite points with flanges 5, which are bolted to the base 1. The annular cylinder or casing comprises similar sections which are flanged to receive the bolts or fastenings by means of which the parts are made secure when placed together. Annular ribs 6 strengthen the cylinder or casing. The cylinder or casing is arranged concentric with the shaft 3 and has an opening in its inner wall to receive the body of the piston.

The piston comprises a disk 7, which is secured to the shaft 3, the outer portion of the disk being reduced, as indicated at 8, and entering the opening formed in the

inner wall of the cylinder or casing. Packing rings 9 are interposed between the adjacent walls of the reduced part 8 and the casing and are seated in annular grooves formed in said walls so that the packing rings overlap the joints formed between the walls. An extension 10 of the disk 7 projects into the space of the cylinder or casing and receives a wing 11 of a size to snugly fit within the space of the cylinder or casing and adapted to receive the impact of the motive medium. The wing 11 is provided with suitable packing in its outer edge to insure the formation of a tight joint between it and the walls of the casing. A plunger 12 is connected with the disk 7 and is arranged to operate in the casing or cylinder and is provided with packing rings.

At a point in the circumferential length of the casing is located a sliding abutment 13, which operates through an opening in a side of the casing, said abutment being arranged in a housing 14 projecting laterally from the casing. The stem 15 of the sliding abutment operates through a stuffing box formed in the outer end of the housing 14 and is engaged by one end of a lever 16, which is pivoted at 17 to a bracket supported by one of the uprights 2. The opposite end of the lever 16 engages a cam 18 secured to the shaft 3, said cam consisting of a collar having a groove therein formed with a cam portion. The parts are so proportioned and arranged that when the piston wing 11 and plunger 12 are about opposite the sliding abutment 13 the latter is thrown outwardly so as not to obstruct the passage of the piston wing and abutment. Ports 19 and 20 are formed in a wall of the casing or cylinder upon opposite sides of the sliding abutment, the one serving as an inlet for the motive medium and the other as an exhaust for the spent motive medium. The pipe 21 for leading the motive medium to the engine is provided with a four-way valve 22 so that the motive medium may be directed to one or the other of the ports according to the desired travel or operation of the engine. A cut-off valve 23 is located in the length of the pipe 21 and is adapted to be operated by means of a cam 24, the parts being so arranged as to cut off the motive medium at the proper point in each revolution of the piston. The speed of the engine is auto-

atically controlled by means of a governor mechanism 25 of any approved type and construction.

From the foregoing description, taken in connection with the accompanying drawings, the advantages of the construction and of the method of operation will be readily apparent to those skilled in the art to which the invention appertains, and while I have 10 described the principle of operation of the invention, together with the device which I now consider to be the embodiment thereof, I desire to have it understood that the device shown is merely illustrative, and that 15 such changes may be made when desired as are within the scope of the claims appended hereto.

Having thus described the invention what is claimed as new, is:—

20 1. A rotary engine comprising an annular casing having an opening in its inner wall, said casing being of annular form and having flanges at diametrically opposite points and said casing being further provided with annular ribs and comprising 25 similar sections having outer flanges in

which are formed registering openings to receive fastenings, a shaft concentric with the casing, a disk secured to the shaft and having its outer portion reduced and entering the opening in the inner wall of the casing, and a wing connected with the disk and arranged to operate in the space of the casing. 30

2. A rotary engine comprising an annular casing having an opening in its inner wall, a disk having its outer portion arranged to operate in the opening formed in the inner wall of the casing and having an extension projecting into the space of the casing, and a plunger arranged to operate in the casing and having an opening midway of its ends to receive the extension of the disk, and having the end portions upon opposite sides of the opening made 45 hollow and facing in opposite directions.

In testimony whereof I affix my signature in presence of two witnesses.

SCHUYLER S. WEBB.

Witnesses:

J. H. WYNN,

WM. A. MAPLETOFT.

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