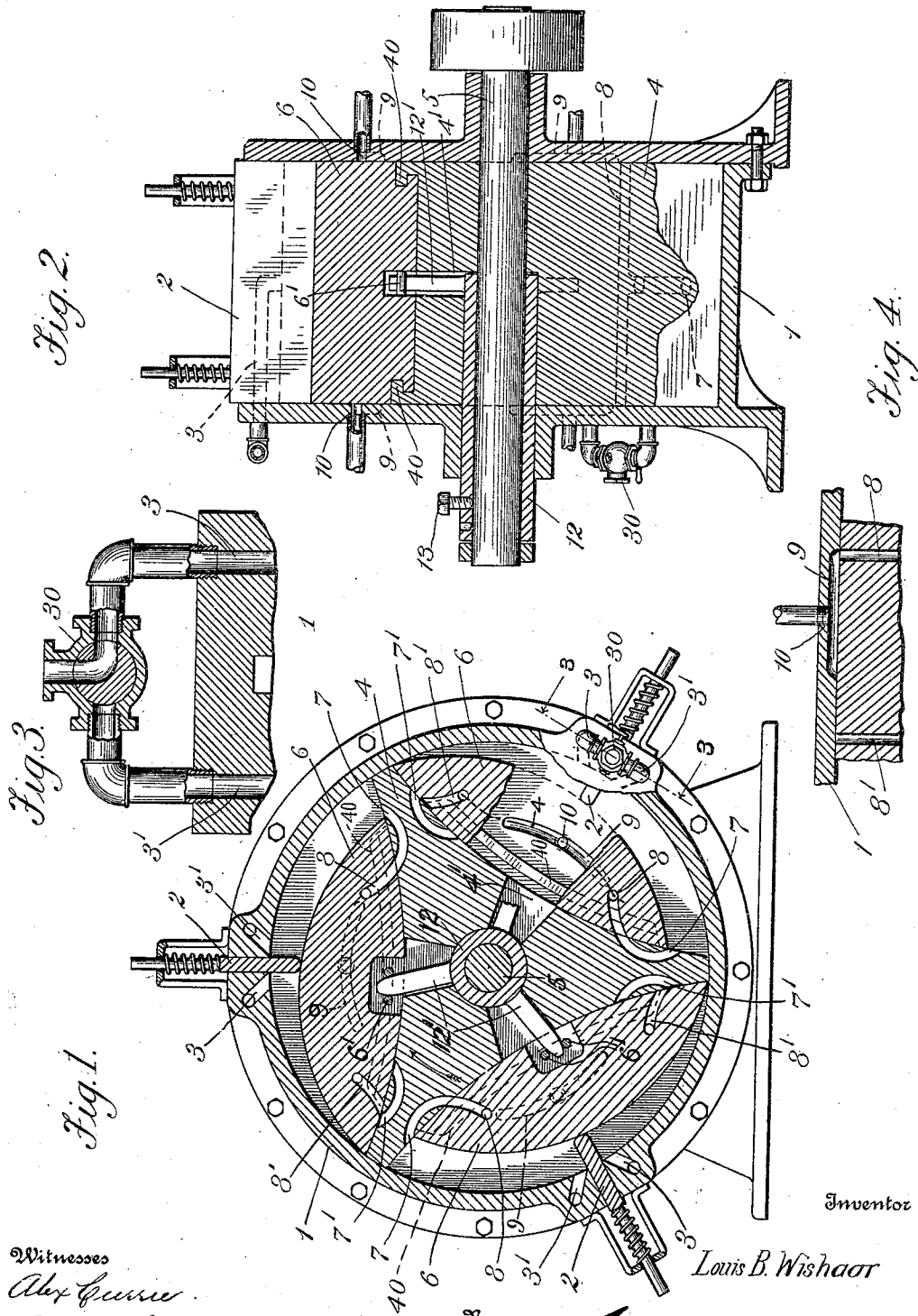


L. B. WISHAAR.
 ROTARY ENGINE.
 APPLICATION FILED MAY 11, 1909.

944,400.

Patented Dec. 28, 1909.



Witnesses
 Alex Currier
 Roger Hovey.

By

Adams & Brooks
 Attorneys

UNITED STATES PATENT OFFICE.

LOUIS BEAUCHAMP WISHAAR, OF GIANT, CALIFORNIA.

ROTARY ENGINE.

944,400.

Specification of Letters Patent.

Patented Dec. 28, 1909.

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To all whom it may concern:

Be it known that I, LOUIS BEAUCHAMP WISHAAR, a citizen of the United States of America, and a resident of the city of Giant, county of Contra Costa, and State of California, have invented certain new and useful Improvements in Rotary Engines, of which the following is a specification.

The primary aim of the present invention is a simple and inexpensive cut off motor of the above type.

A further object is an improved construction embodying adjustable features for directing the motive fluid to operate the motor in either direction as may be desired.

Further objects and advantages will be set forth as the description progresses and those features on which I desire protection succinctly defined in the appended claims.

With reference to the accompanying drawing, wherein like reference numerals designate corresponding parts throughout: Figure 1 is a vertical section of a rotary motor embodying the features of my invention in such form as now preferred by me, a portion of one of the piston sections being broken away. Fig. 2 is a vertical transverse section of the same, and Figs. 3 and 4 are fragmentary sections taken on lines 3—3 and 4 respectively of Fig. 1.

The essential features of my invention reside in an improved piston provided in conjunction with a casing, as 1, and suitable abutments, which may be in the form of radially disposed, spring pressed slides 2 mounted in spaced apart relations intermediate respective discharge ports 3 and 3' of the casing which are connected with suitable three-way valves as 30.

The improved piston comprises a center portion, as 4, secured to a shaft 5 mounted in the heads of casing 1, and eccentric peripheral sections 6 connected with the center portion. I have shown the piston parts arranged for operation of the piston in the direction of the arrow in Fig. 1. In this arrangement delivery passages 7 provided in the center portion 4 communicate with passages 8 which extend through adjacent end portions of the sections 6 for communication, as the abutments ride into the recesses of the piston, with channels 9 of suitable length provided in the heads of casing 1 concentric with shaft 5 and connected with intake ports 10 for directing motive fluid to the passages 8 during predetermined

portions of each revolution of the piston. The motive fluid thus admitted works expansively to drive the piston after the passages 8 clear the channels 9 until the leading ends of the recesses of the piston reach the discharge ports 3.

While the piston parts may constitute an integral structure where the piston operates in but one direction I have shown the peripheral sections 6 adjustable to opposite eccentric positions for reverse operation. In this connection the sections 6 are fitted to slide endwise for adjustment on inwardly curved guides 40 of the center portion 4 and provided with passages 8' for communication, when so adjusted, with the channels 9 with respective delivery passages 7' provided in center portion 4 in opposite relations to the delivery passages 7.

Suitable mechanism may be provided for adjusting the sections 6, and for this purpose I have shown a sleeve 12 rotatably seated in a counterbore of center portion 4 and provided with radial arms 12' extending through lateral extensions 4' of the counterbore and fitting between bearing pins 6' of respective sections 6. This sleeve fits rotatably on shaft 5 for angular adjustment to shift the sections 6 endwise and is provided with a set screw, as 13 for releasable connection with the shaft.

To set the motor for operation in a reverse direction, the valves 30 are turned to close ports 3 and open ports 3' and the sections 6 adjusted to their opposite positions by turning sleeve 12 on shaft 5. The passages 8' will then register with adjacent discharge passages 7' and communicate with the channels 9 for delivery of the motive fluid into the casing in a similar manner to that described for passages 8.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent of the United States of America, is:

1. A rotary motor, having a piston provided with peripheral sections adjustable to opposite eccentric positions.

2. A rotary motor, having a piston provided with a peripheral section adjustable bodily to opposite eccentric positions, and with passage ways for motive fluid controlled by said section.

3. A rotary motor, having a piston provided with an adjustable peripheral section, and with passage ways controlled by said

section for directing motive fluid in opposite directions.

4. A rotary motor, having a piston provided with independent adjustable sections, and with opposite passage ways for motive fluid controlled by respective sections.

5. A rotary motor comprising a casing provided with a head having extended intake ports, and with discharge ports adjacent the intake ports, a piston provided with eccentric peripheral surfaces and with passage ways for delivery of motive fluid from said intake ports, and movable abutments adjacent said discharge ports.

6. A reversible rotary motor comprising a casing having an intake port and discharge ports, a piston provided with a peripheral section adjustable to opposite eccentric positions, and with opposite passage ways controlled by adjustment of said section for delivery of motive fluid from said intake port, and an abutment for said piston intermediate said discharge ports.

7. A reversible rotary motor comprising a casing having extended intake ports, and discharge ports, a piston provided with pe-

ripheral sections adjustable to opposite eccentric positions and with passage ways controlled by adjustment of said sections for delivery of motive fluid from said intake ports, and movable abutments for said piston intermediate respective discharge ports.

8. A reversible motor comprising a casing provided with a head, having extended intake ports and with discharge ports adjacent each intake port, a piston provided with peripheral sections adjustable to opposite eccentric positions, and with passage ways controlled by adjustment of said sections for delivery of motive fluid from said intake ports, movable abutments for said piston intermediate respective discharge ports, and means connected with said sections and extending to the exterior of said casing for adjusting the sections.

Signed at Giant, California this 29th day of April 1909.

LOUIS BEAUCHAMP WISHAAR.

Witnesses:

JOHN VAN PRONJEN,
HENRY JOHNSTON.