No. 777,832. PATENTED DEC. 20, 1904.

J. M. BENJAMIN.

ROTARY MOTOR.

APPLICATION FILED APR. 22, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

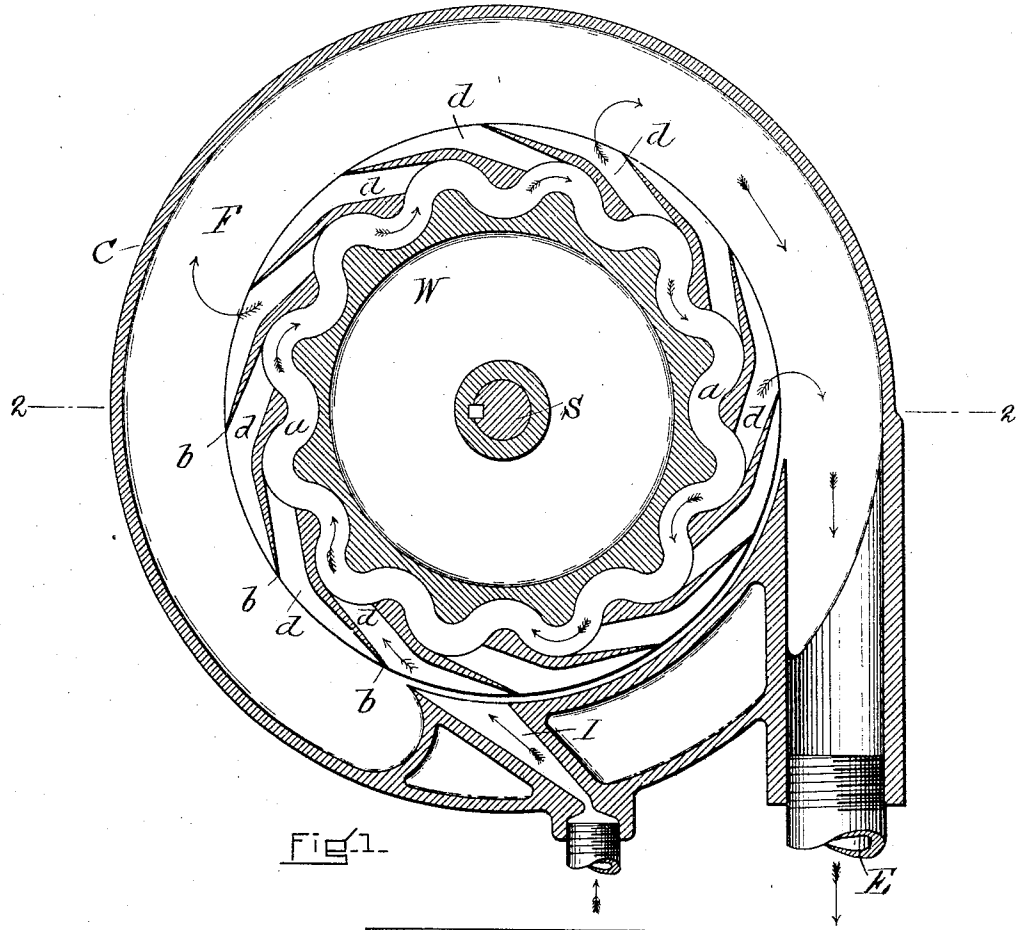


Fig. 1.

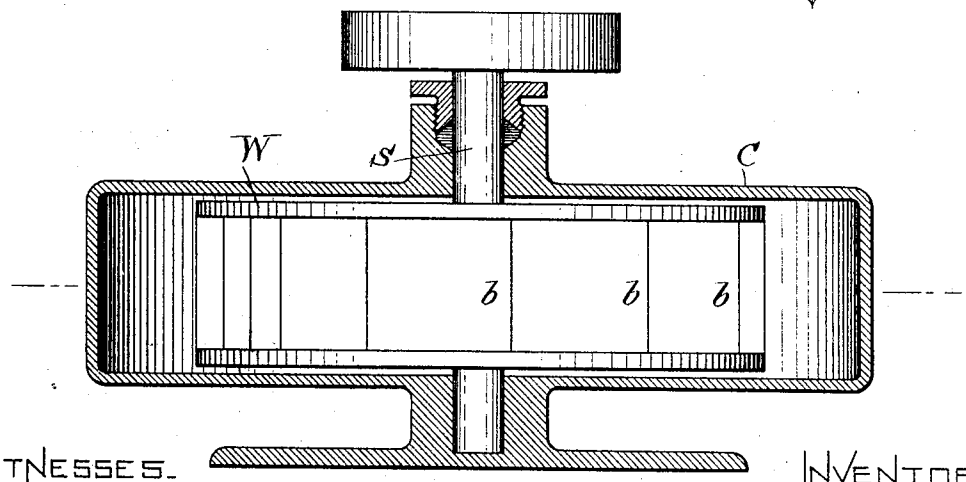


Fig. 2.

WITNESSES.

Frank L. Parker

John Buechler.

INVENTOR.

John M. Benjamin,

By Reuben L. Roberts,

Atty.

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NO MODEL. 2 SHEETS—SHEET 2.

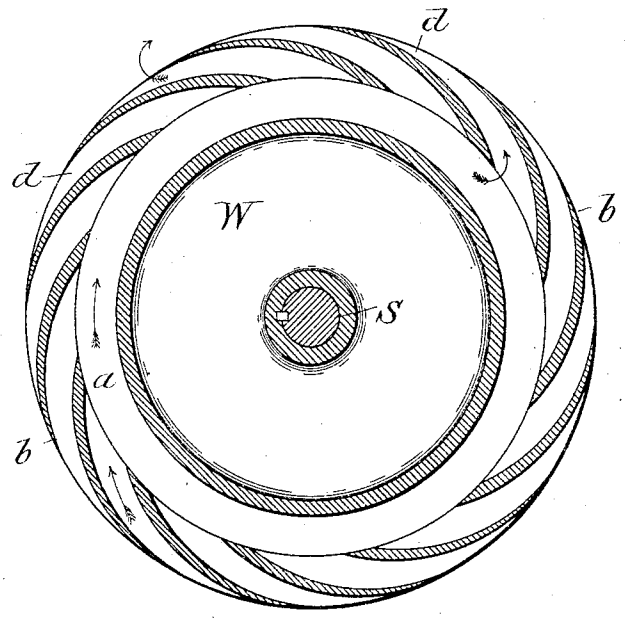


Fig. 3.

WITNESSES.

Frank G. Parker

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PHOTO-LITHOGRAPHED BY SACHETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 777,832. Patented December 20, 1904.

UNITED STATES PATENT OFFICE.

JOHN M. BENJAMIN, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO MARGARET E. KNIGHT, OF SOUTH FRAMINGHAM, MASSACHUSETTS.

ROTARY MOTOR.

SPECIFICATION forming part of Letters Patent No. 777,832, dated December 20, 1904.

Application filed April 22, 1904. Serial No. 204,344.

To all whom it may concern:

Be it known that I, JOHN M. BENJAMIN, a citizen of the United States of America, residing in the city of New York, in the county and State of New York, have invented certain new and useful Improvements in Rotary Motors, of which the following is a specification.

The invention relates to rotary motors; and it consists in a wheel provided with an inner annular chamber and a series of inclined blades arranged regularly around said chamber between it and the periphery of the wheel and extending in a direction substantially in planes corresponding to the chords of arcs of the periphery of the wheel, a passage for motive fluid thus being formed between each two blades. Around this wheel is a cylindrical case sufficiently large to form an exhaust-chamber outside of the wheel and having an inlet to admit fluid to the wheel and an outlet for the fluid from the exhaust-chamber. I propose to operate this motor with its shaft in a vertical position.

In the drawings, Figure 1 is a central sectional plan view of the motor on line 1 1, Fig. 2, showing a serpentine annular chamber. Fig. 2 is an elevation of the motor-wheel with the casing in section on line 2 2, Fig. 1. Fig. 3 is a sectional plan view of the motor-wheel with a cylindrical annular chamber.

Referring to the drawings, W is the motor-wheel, S its supporting-shaft, and the whole is inclosed by the cylindrical casing C. The wheel is provided with an annular chamber *a*, into which lead passages *d*, formed by inclined blades *b*, arranged regularly around the outer portion of the wheel W. The casing C is made sufficiently large to provide an expansion or exhaust chamber F between its inner surface and the periphery of the wheel W. Through the periphery of the casing C is a port I to admit motive fluid to passages *d* and a large port E, through which the fluid is exhausted from the chamber F. The arrows indicate the course of the motive fluid through the motor. It is found that this construction gives a high degree of efficiency at a comparatively low rate of speed.

I claim—

1. In a rotary motor, a wheel provided with an inner annular chamber, a series of inclined passages between the annular chamber and the periphery of the wheel, which passages are adapted to direct the flow of fluid through the annular chamber in the direction in which the wheel revolves, and an encircling casing provided with an inlet-port to admit the motive fluid to the wheel, and an outlet-port to exhaust the fluid therefrom.

2. In a rotary motor, a wheel provided with an inner annular chamber, a series of inclined passages between the periphery of the wheel and the annular chamber, which passages are adapted to direct the flow of fluid through the annular chamber in the direction in which the wheel revolves, an encircling casing which forms an annular chamber exterior to the wheel, an inlet-port which extends across the exterior chamber, and directs fluid to the inclined passages, and a tangential port in the casing to exhaust fluid from the exterior chamber.

3. In a rotary motor, a wheel provided with an inner serpentine annular chamber, a series of inclined passages between said chamber and the periphery of the wheel, and a casing which encircles the wheel and forms an exhaust-chamber beyond its periphery.

JOHN M. BENJAMIN.

Witnesses:

GEORGE E. EGGERS,

DANIEL V. LYNCH.