

985,562.

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ROTARY ENGINE.
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Patented Feb. 28, 1911.

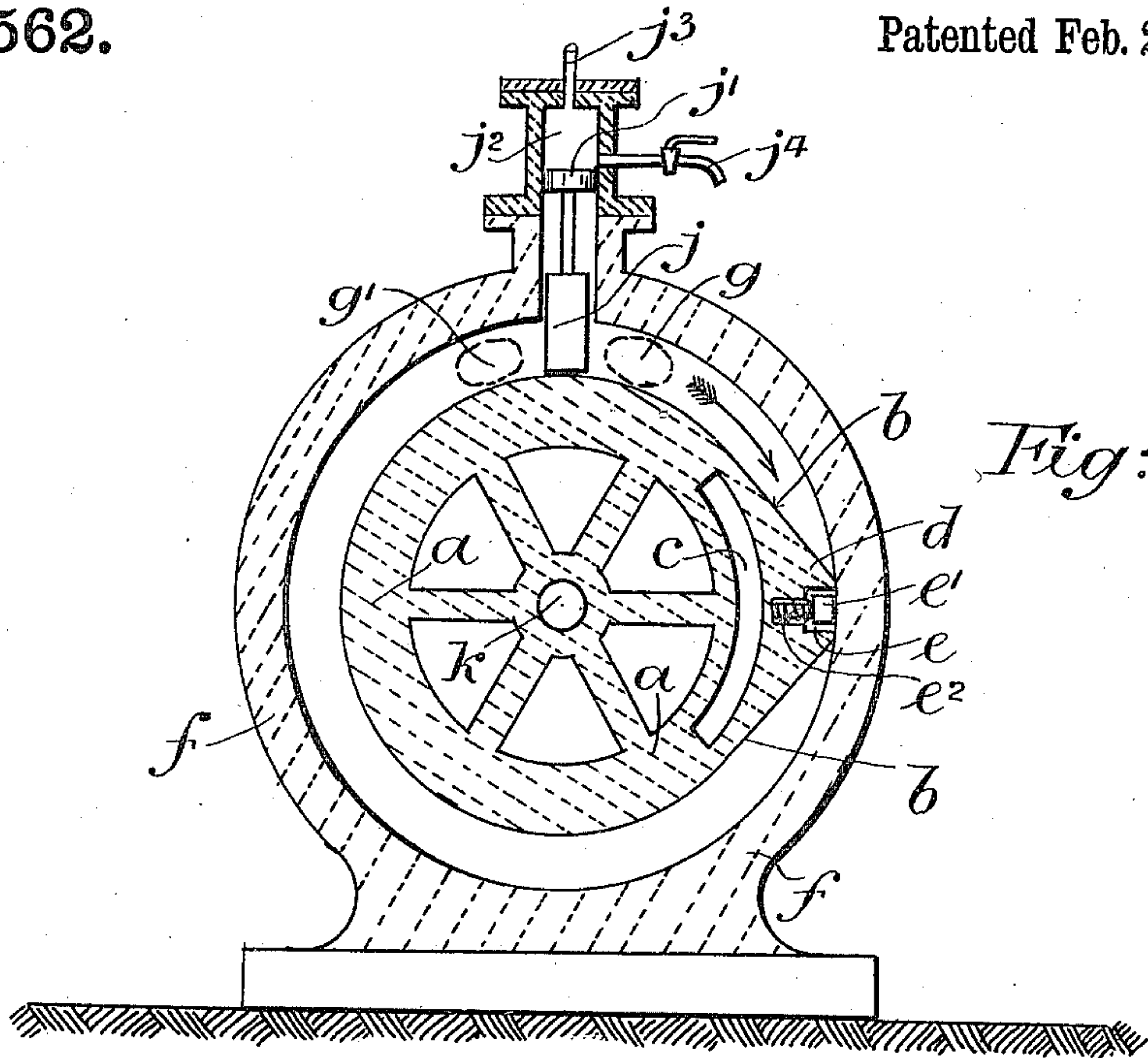


Fig: 1.

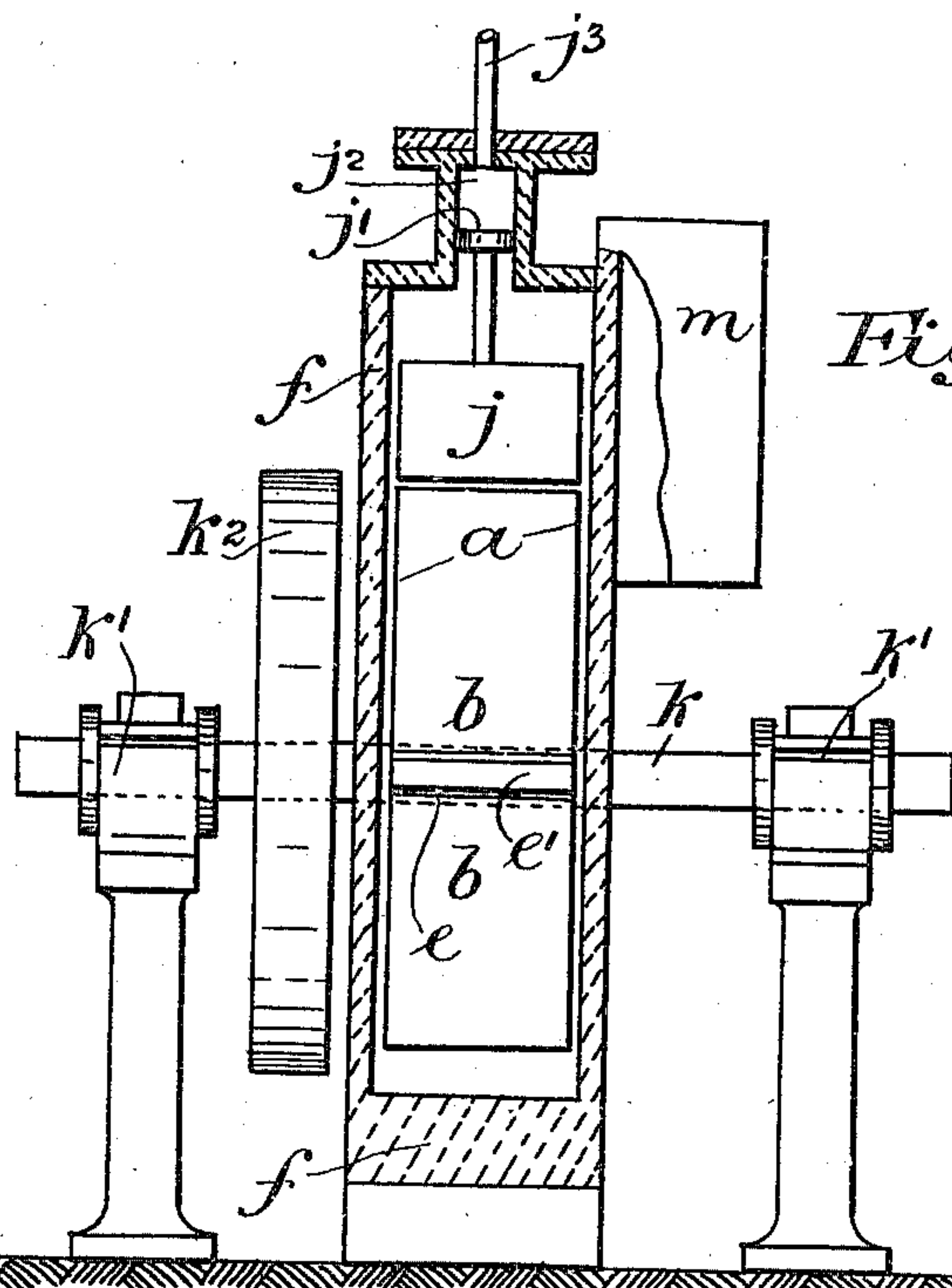


Fig: 2.

Witnesses

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ROTARY ENGINE.

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Specification of Letters Patent.

Patented Feb. 28, 1911.

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To all whom it may concern:

Be it known that I, REECE WILLIAMS, a subject of the King of Great Britain, and residing at Albany, State of Western Australia, and Commonwealth of Australia, have invented new and useful Improvements in Rotary Engines, of which the following is a specification.

The object of this invention is to provide an improved rotary engine having few moving parts and one which with a small consumption of steam will give a maximum of effective power results.

One essential feature of the invention resides in the shape of the rotary piston on whose periphery are formed inclined faces or surfaces which act as the resistant faces to the steam. In the apex of said incline is placed a spring controlled block which effects a tight fit for the piston against the internal periphery of the cylinder and prevents the escape of steam from one side of the piston to the other.

The other chief feature consists in a tensional block which is made subject to steam pressure. This block is provided with an operative piston and cylinder. Said piston carries the tensional block which latter bears upon the periphery of the rotary piston and works vertically being arranged to form a wall for the separation of the live steam and dead steam within the cylinder. The construction and working of the engine will now be explained by the aid of the attached drawings in which—

Figure 1 is a side sectional view and Fig. 2 an end view partly in section.

In said drawings *a* is the rotary piston which is formed with the inclined faces or surfaces as *b* and preferably of a gentle curve as shown. The piston is formed with the cavity *c* in order to effect a counterbalance result. In the apex *d* of this incline formation is made the recess *e* which holds the block *e*¹ said block being controlled by the tensional spring *e*² whereby the block is maintained tight against the internal periphery of the cylinder *f* during the rotation of the piston.

Steam ports as *g* and *g*¹ are formed in the cylinder and act either as admission or outlet ports for the live and dead steam respectively in accordance with the direction of the rotation of the piston *a*. Between these ports and in a vertical direction the steam tensional block *j* is made to work as

shown and in such a manner that it acts as a traversable wall between the live and dead steam ports and across the full width of the piston *a* as seen in Fig. 2. This block is provided with its operative piston *j*¹ which latter works in the small cylinder *j*² to which steam is admitted by pipe *j*³. The head of steam operating on the piston *j*¹ causes the block *j* to bear tightly against the peripheral face of the piston *a*. This cylinder *j*² is provided with a pet cock *j*⁴ to allow of blowing off condensed steam. The piston *a* is mounted on its shaft as *k* which latter rotates in the bearings *k*¹ and carries the fly wheel *k*². The engine is provided with a steam chest *m* in which works a slide valve actuated in the ordinary manner.

The working of the engine is as follows:—The live steam upon being admitted through the ports *g* strikes against the incline surface *b* and so causes the piston to rotate in the direction as shown by the arrow. When said steam has done its duty it escapes by way of the outlet port *g*¹. The outlet port is continuously open for the escape of the dead steam except at that time during which the incline formation *b* is passing across the face of said port.

As before stated the direction of the piston determines which port acts as inlet and outlet for the steam.

It is obvious that when the apex *b* of the piston arrives at the vertical position the tensional blocks *e*¹ and *j* engage and thereby the latter block is pressed upward against its own head of steam with the result that during the full rotation of the piston a wall exists between the live and dead steam in the cylinder.

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

A rotary engine comprising a casing, a rotatable piston therein, a shaft extending transversely of the casing and upon which the piston is mounted, the piston having a projection at one side thereof, the opposite faces of the projection being inclined in convergent relation, the apex of the projection being transversely recessed, a spring pressed block fitted in the recess, the piston also having a cavity in the projection to secure a counterbalance effect, a second block movable radially of the casing, the latter having an extension to provide for the movement of said second block, a piston carrying the sec-

ond block and working in the extension, and
a steam inlet pipe communicating with the
extension, the casing being provided with
interchangeable inlet and exhaust openings
5 on opposite sides of the second block in close
association therewith.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

REECE WILLIAMS.

Witnesses:

J. M. BROWNINGHAM,
A. C. DRAHAM.

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