J. T. Warren,

Rotary Steam Engine.

No. 50666. Patented Oct. 24, 1865.

Fig: 1.

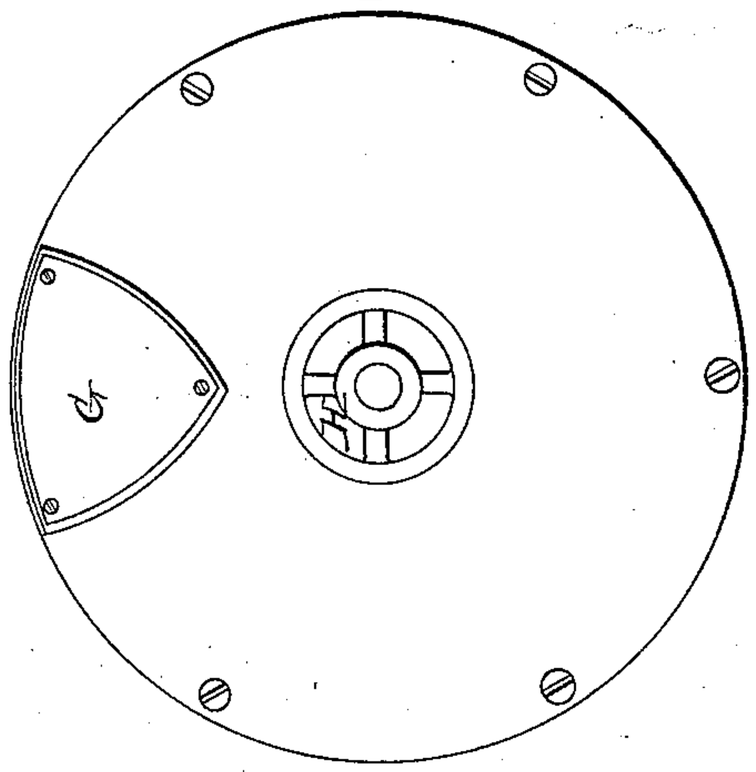
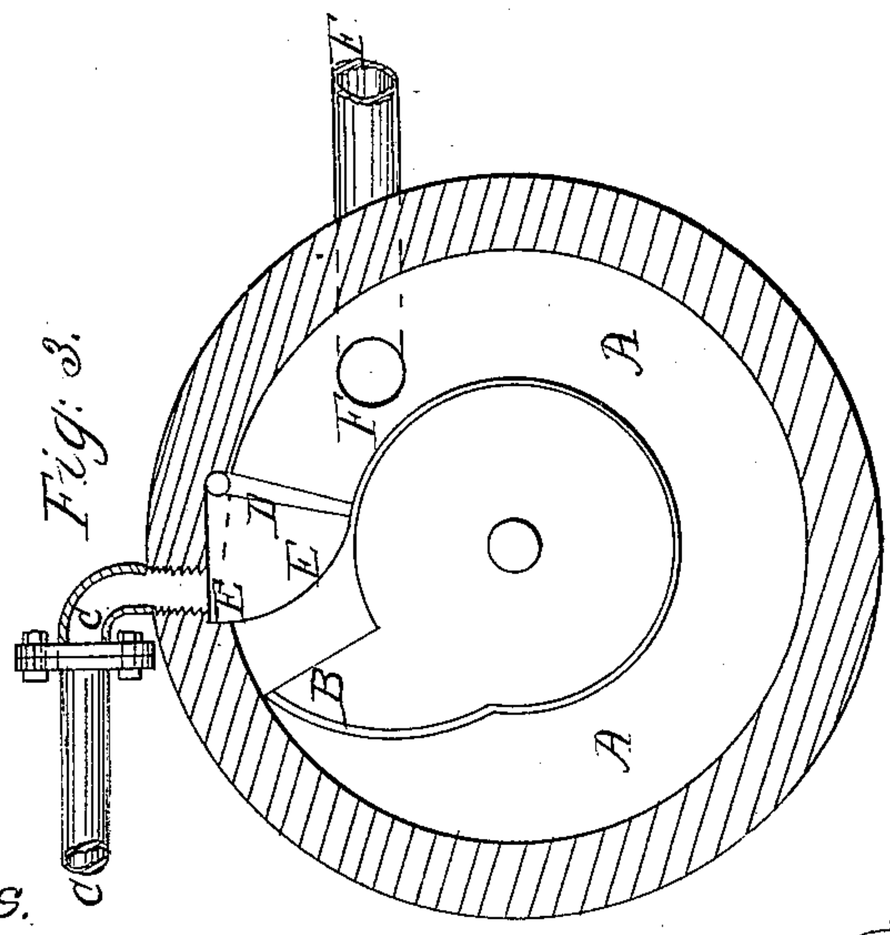


Fig: 2.

Fig: 4.

Fig: 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

J. T. WARREN, OF STAFFORD, NEW YORK, ASSIGNOR TO HIMSELF AND ROBT. A. CHESEBROUGH.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. **50,666,** dated October 24, 1865.

To all whom it may concern:

Be it known that I, J. T. WARREN, of Stafford, in the county of Genesee and State of New York, have invented a new and useful Improvement in Rotary Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming part of this specification.

My invention consists in the use of a hollow steam-tight cylinder, within the central portion of which and turning in bearings thereof a circular disk of considerably smaller diameter than the cylindrical chamber is inserted so as to freely turn therein, but with steam-tight joints, thus leaving an annular space or chamber between the periphery of the disk and its cylinder around the same. Attached to the periphery of the disk, or forming a part thereof, and projecting in a radial line therefrom across the annular chamber around the same, is a steam-tight piston, against which the steam, as admitted to the said chamber through the steam-port, impinges, and by its expansive power causes said piston and its disk to move around within the cylinder, thus imparting a rotary motion to its shaft. In connection with the piston, operating as described, I insert at and between the steam and exhaust ports of the cylinder, in its annular steam-chamber, a dividing steam-tight partition-plate, which, as the steam passes into the cylinder, prevents it from acting only in the proper direction to impel the piston, the steam on the other side thereof exhausting through the exhaust-port. The partition-plate is hung so that the piston in passing pushes it up into a chamber cut out to receive it, and when the piston has passed is driven back by the steam into its former position. With the exception of the partition plate or valve the other parts of this engine are similar in construction to my rotary engine, for which a patent was applied for March 27, 1865, the object of this application being simply to obtain Letters Patent on the dividing plate or valve and its mode of operating.

Reference being had to the accompanying drawings, Figure 1 is an outside end view of the engine. Fig. 2 is a sectional view, showing shaft and pulleys. Fig. 3 is an inside view, showing partition-plate and mode of operating. Fig. 4 is the partition plate or valve.

A is the annular steam-chamber, in which revolves the piston B, being impelled by the steam which enters at the steam-port C.

D is the dividing plate or valve, which is hung in the annular chamber so as to completely fill it up and render it steam-tight, and which resists the steam when operating on the piston. A chamber is cut in the upper part of the cylinder, sufficiently large to receive the valve D when the same is pushed upward by the piston in passing, and immediately after the piston has passed, the steam, which may be regulated by any suitable kind of a cut-off, coming in through the port C, forces the valve D down again to the proper position across the annular chamber. The course taken by the valve D in its movement is shown by the curved line E. The partition-plate D, which may be either square or quadrilateral, is swung in the chamber by two small arms, I, as shown in Fig. 4, which extend into the sides of the chamber, operating in small holes cut out to receive them, and which act as an axis for the plate to swing upon. The partition-plate D is made a little higher and wider than the annular chamber, in order that its top and sides may have a bearing sufficient to resist the pressure of the steam, which is cut out of the two sides of the cylinder where the plate operates.

F is the exhaust-port, through which the steam exhausts after the piston has passed by it toward the partition-plate D, the motion of the piston being rendered regular by a balance-wheel attached to the shaft in the ordinary way.

G is an outside plate, bolted on the outside face of the engine, and can be taken off to show (when the engine is put together) whether the partition-plate fits exactly steam-tight.

H is a driving-wheel fitted on the shaft in the ordinary manner.

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

The partition plate or valve D, combined and arranged with reference to the steam-port C, the exhaust-port F, and the piston B, substantially upon the principle and in the manner herein set forth.

The above specification of my invention signed by me.

J. T. WARREN.

Witnesses:

J. M. FARMAN,

HENRY S. RIDER.