D. CONEKIN.

ROTARY ENGINE.

APPLICATION FILED NOV. 9, 1909.

951,776.

Patented Mar. 8, 1910.

Fig. 1.

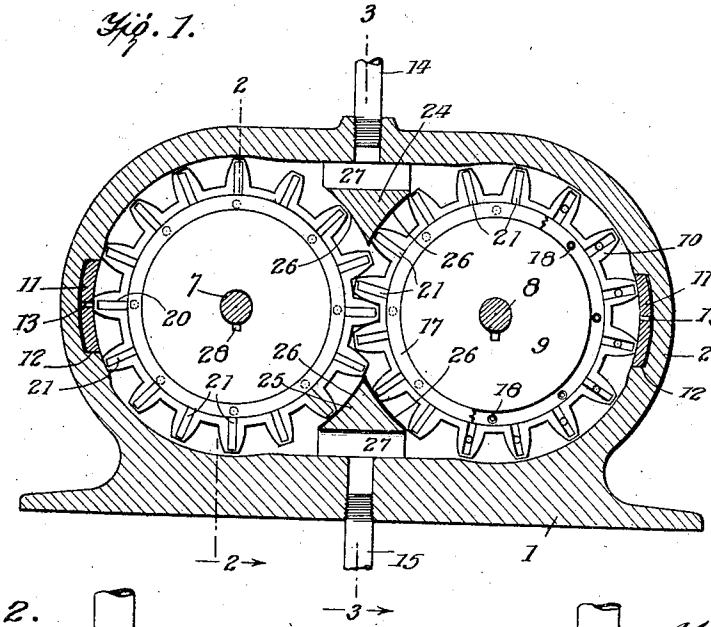


Fig. 2.

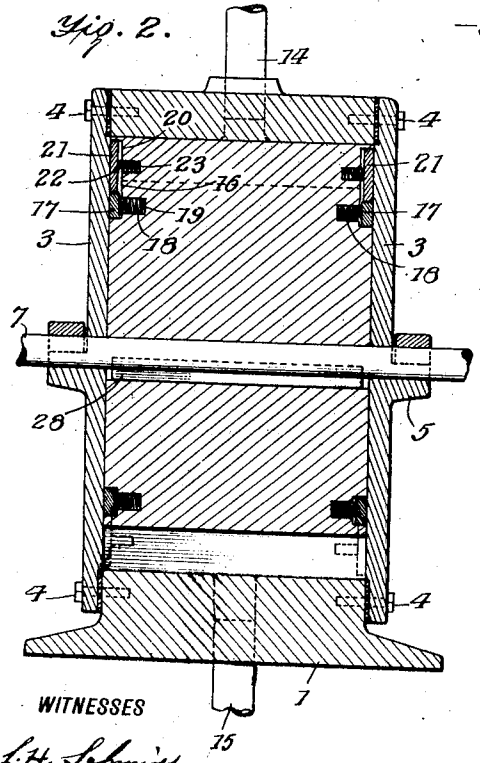
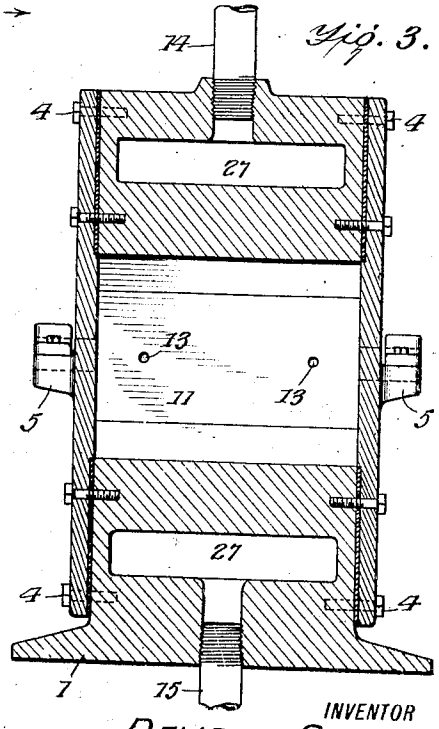


Fig. 3.



WITNESSES

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ROTARY ENGINE.

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To all whom it may concern:

Be it known that I, DAWSON CONEKIN, a citizen of the United States, and a resident of Tampa, in the county of Hillsboro and State of Florida, have made certain new and useful Improvements in Rotary Engines, of which the following is a specification.

My invention is an improvement in rotary engines, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

The object of the invention is to provide an engine of the character specified, wherein a pair of pistons are geared together by means of the blades or vanes intermeshing, wherein the motive fluid is directed squarely against the operative face of the blades or vanes, and wherein the motive fluid will act on the blades or vanes with equal facility in either direction.

Referring to the drawings forming a part hereof—Figure 1 is a longitudinal section of the improvement. Fig. 2 is a section on the line 2—2 of Fig. 1, and Fig. 3 is a section on the line 3—3 of the same figure.

The embodiment of the invention shown in the drawings comprises a casing, composed of a base 1, an elliptical ring 2, and cover plates 3, which are secured to the ring by cap screws 4, passing through openings in the cover plates and engaging threaded openings in the ring.

Each of the cover plates is provided with spaced bearings 5, and shafts 7 and 8 are journaled transversely of the casing in the corresponding bearings. A rotor comprising a disk 9 provided with gear teeth 10 is secured to each shaft, and the disks are of such size that the teeth 10 of the two disks intermesh, at the longitudinal center of the casing.

The end walls of the casing are concentric with the adjacent shaft 7 or 8, and the teeth 10 do not contact with the said end walls, nor with the inner surface of the casing. A packing plate 11 is arranged within a depression 12 in each end wall, the said plates extending entirely across the space between the cover plates.

Each plate is of considerable width as shown, and is provided with a plurality of openings 13, through which the motive fluid may pass into the recess 12, to hold the plate outwardly, so that the teeth will contact therewith during the rotation of the disk.

It will be observed that the packing plates 11 are arranged at the exact vertical center of the interior of the casing, so that the motive fluid acts over an equal distance whether entering through the port 14 at the top of the casing, or through the port 15 at the bottom thereof.

Each of the disks is provided in both faces with an annular groove 16, concentric with the shaft, and a packing ring 17 is seated in each groove, the ring being supported by springs 18 seated in depressions 19 in the bottoms of the grooves.

Each of the annular grooves is provided at spaced intervals with radial extensions 20, which extend along the ends of sundry of the teeth, almost to the tips thereof, and the packing rings 17 are provided with radial extensions 21 fitting therein, and supported by springs 22 seated in depressions 23 in the disks. The rings 17 and the extensions 21, move in contact with the cover plates, and make a steam tight joint between the disk and the said plates, while the packing plates 11 make a steam tight joint at the ends of the casing, between the said ends and the disks.

Intermediate the disks, the upper and lower walls of the casing are provided with projections 24 and 25 respectively, which extend toward each other, and are concaved on each side as at 26, to conform to the curvature of the disks. Each of the said projections is provided with a transverse passage 27, with which the inlet 14 or the outlet 15 communicates. The passage 27 through the projections 24 and 25 is exactly horizontal as indicated in Fig. 1, so that the motive fluid is directed horizontally against the teeth 10, which are the blades or vanes of the rotor. The disks are keyed to the shafts 7 and 8 by means of keys 28, and the power may be taken from either shaft.

In operation, the motive fluid is admitted through the port 14, which is the inlet port. As it reaches the passage 27 it is directed to the right and left, and impinges against the blades 10. The expansion of the steam turns the disks, and they are rotated. As each blade passes the plate 11, a small portion of the steam exhausts, but only a small portion, that is the amount between two teeth. To reverse the engine it is only necessary to admit the motive fluid through the port 15 instead of through the port 14. It will be evident that in whichever direction

the rotors are moving the motive fluid acts on the vanes the greatest possible length of time.

I claim:

1. A rotary engine comprising a pair of parallel shafts, a disk on each shaft, a plurality of blades or vanes on the periphery of each disk and parallel with the shaft, a casing inclosing the disk and in which the shafts are journaled, the blades on one disk meshing with the blades on the other disk, the free edges of the blades on both disks moving out of contact with the casing wall, a packing plate at each end of the casing and against which the free edges of the blades move, said plates being in the same horizontal line with the shafts, said casing having an inlet at its top between the shafts and an outlet in its bottom between the shafts.

2. A rotary engine comprising a casing a pair of shafts journaled therein, in spaced parallel relation, disks on the shafts, blades or vanes on the disks, the blades of one disk meshing with the blades of the other disk, a casing inclosing the disks, a packing plate at each end of the casing for engagement by the free edges of the blades said plates being in the plane of the shafts for the purpose specified, and said casing having at its top an inlet port and at its bottom an outlet port, said ports being between the shafts, said casing having a projection from its top and bottom wall between the shafts and provided with a horizontal transverse passage opening toward both disks and with which the adjacent port communicates.

3. A rotary engine comprising a casing, a pair of shafts journaled therein in spaced parallel relation, disks on the shafts, blades or vanes on the disks, the blades of one disk meshing with the blades of the other disk, a casing inclosing the disk, a packing plate at each end of the casing for engagement by the free edges of the blades and said plate being in the plane of the shafts for the purpose specified, and said casing having at its top an inlet port and at its bottom an outlet port, said ports being between the shafts.

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Witnesses:
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