UNITED STATES PATENT OFFICE.

ISAAC W. BAILEY, OF FAIRPORT, VIRGINIA.

ROTARY ENGINE.

To all whom it may concern:

Be it known that I, ISAAC W. BAILEY, of Fairport, Northumberland county, State of Virginia, have invented certain new and use-
5 ful Improvements in Rotary Engines; and I hereby declare the same to be fully, clearly, and exactly described as follows, reference being had to the accompanying drawings, in which—

10 Figure 1 is a side elevation of the device; Fig. 2, a section on the line $x\,x$; Fig. 3, a top plan, and Fig. 4 a perspective of the piston-disk.

My invention relates to that class of engines
15 consisting essentially of a rotary disk having peripheral pistons adapted to turn within a steam-trunk having suitable steam and exhaust pipes; and it consists in certain features of construction and combinations of parts, as
20 hereinafter set forth and claimed.

In the drawings, A is the steam-trunk, having steam-chests a, provided with inlet-pipes B, leading from the boiler.

C is the piston-disk, which is channeled on
25 each side of its center for a part of its circumference, the channels c' extending rather more than half-way around the periphery of the disk and ending in abutments or pistons c''. Inclines c''' lead from the periphery of the pis-
30 ton to the bases of the channels c'.

Between the steam-chests and the piston-disk are chambers i', within which are mounted on pivots I the valves i. The inner faces of the valves are curved to correspond with the
35 curvature of the periphery of the disk, and the ends of the chambers i'' are curved about their pivots I as a center, so that the ends of the valves fit closely against them. Ports $b\,b$ lead from the steam-chests a to the ends of the
40 chambers, and slide-valves J, having orifices j, are arranged to admit steam to either end of the chambers i. The valves J are actuated by rods f F, which are pivoted to a lever, e, mounted

in bearings E at the top of the trunk A. Exhaust-ports h lead from the inner periphery of 45 the trunk A and deliver at its sides through casings H, in which slides a pair of valves connected by a rod, g, which latter is connected with the lever e, as shown in Fig. 1, the same construction being duplicated on the opposite 50 side of the trunk A.

In operation, as the lever e is raised at, say, the left-hand end in the figures, the valve J is raised so as to open the lower port in the chest a, and the upper exhaust-port, h, is 55 opened. The lower exhaust-port and upper port are opened at the same time on the opposite side. The steam entering the chambers i', tilts the valves i, as shown, and the steam, pressing upon the abutments or pistons c'', 60 causes the disk to revolve, the steam behind the valves being exhausted through the ports h. On reversing the motion of the lever e steam is delivered into the other ends of the chambers i', and the other exhaust-ports are 65 opened, reversing the engine.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In combination with the piston-disk and 70 pivoted reversing-valves, the lever e and connecting-rods f G, for simultaneously actuating the steam-inlet valves and exhaust-valves, as set forth.

2. In combination with the piston-disk and 75 steam-trunk, the pivoted reversing-valves i, located on opposite sides of the disk and on opposite sides of its vertical central plane, the slide-valves J, lever e, and rods connecting said lever with the inlet and exhaust valves, as set 80 forth.

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Witnesses:
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ROTARY ENGINE.

No. 264,507. Patented Sept. 19, 1882.

Fig. 3

Fig. 4.

Witnesses
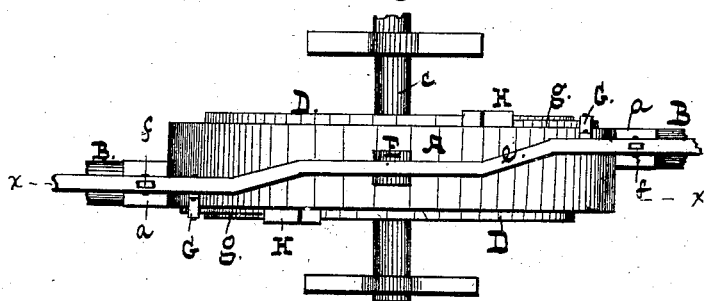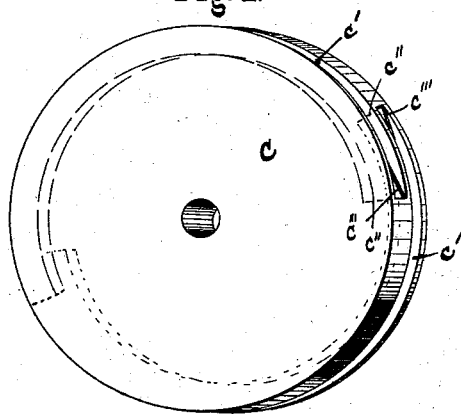N. A. Burham
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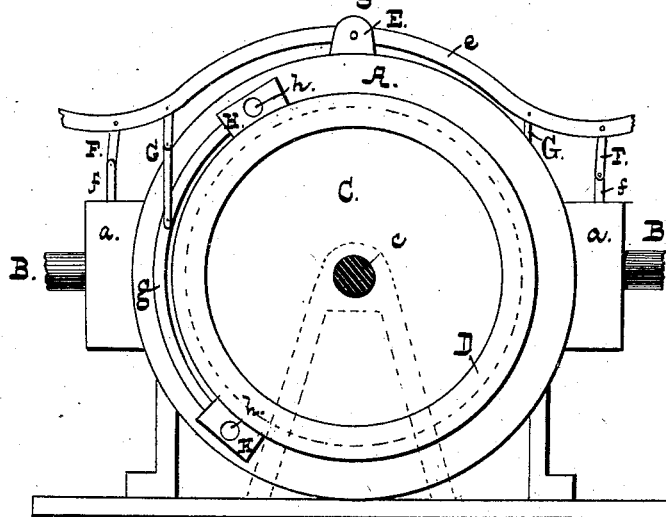No. 264,507.   Patented Sept. 19, 1882.
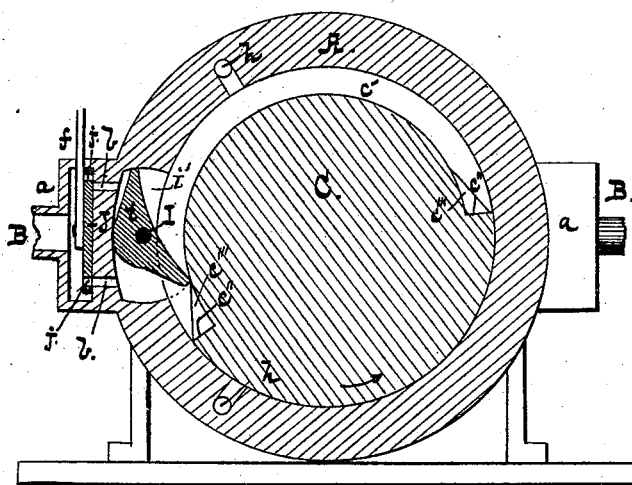
Fig. 1.

Fig. 2.

Witnesses

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