G. C. YARBOROUGH.
Rotary-Engines.

No. 212,165. Patented Feb. 11, 1879.

Fig. 1.

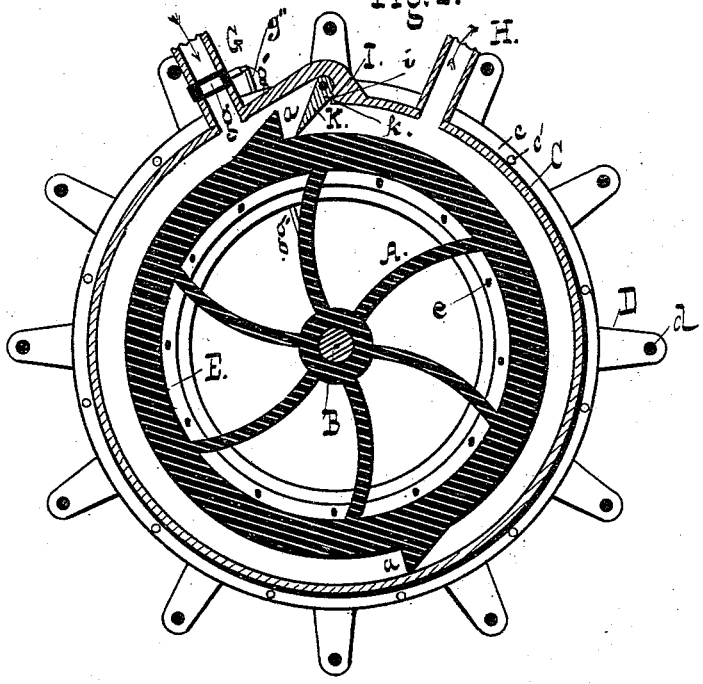
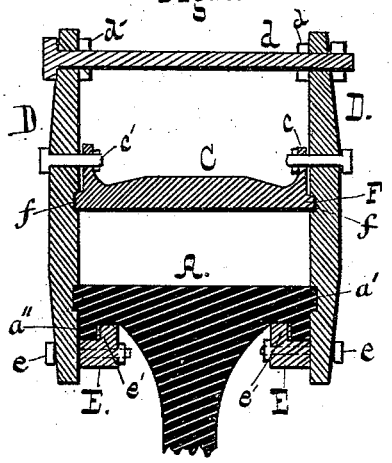


Fig. 2.



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UNITED STATES PATENT OFFICE.

GEORGE C. YARBOROUGH, OF BALDWIN COUNTY, ALABAMA.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. **212,165**, dated February 11, 1879; application filed October 24, 1878.

To all whom it may concern:

Be it known that I, GEORGE C. YARBOROUGH, of Baldwin county, State of Alabama, have invented certain new and useful 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—

Figure 1 is a vertical sectional view of the engine, and Fig. 2 a transverse sectional view of the wheel-rim and steam-trunk.

This invention relates to what are known as "rotary engines," consisting, essentially, of a wheel provided with peripheral pistons, adapted to revolve within a steam-trunk having appropriate steam and exhaust pipes, valves, &c.; and it consists in certain peculiarities of construction of the abutment, and in the adaptation of the wheel-rim to the sides of the steam-trunk, as hereinafter fully described and claimed.

In the accompanying drawings, A represents the wheel, having two or more peripheral buckets or pistons, *a a*. Upon the rim of the wheel is formed a lateral flange, *a'*, on either side, and also radial flanges *a''*, both being turned perfectly true and smooth.

D D are the annular sides of the steam-trunk, which are secured together by means of a series of bolt-rods, *d*, having shoulders *d'*, as shown.

The parts D D are each provided with a circular groove, *f*, into which a flange, F, upon the edge of the plate C, is drawn by means of screw-bolts *c c'*, a suitable packing being first placed in the groove.

E E represent the rings for holding the sides of the steam-trunk close to the wheel and preventing the former from spreading. They are securely bolted to the parts D D by means of bolts *e e*, and are provided with flanges *e' e'*, which are drawn close to the flanges *a'' a''* upon the wheel, a suitable steam-packing being placed between.

I is a shell cast upon the plate C, within which is pivoted the abutment K, which is furnished with a projection, *k*, that abuts against a shoulder, *i*, upon the shell I when the tip of the valve is just in contact with the periphery of the wheel A.

The steam-pipe G is furnished with a suitable cock, *g*, having a crank-arm, *g'*, which is operated by means of a rod, *g''*, attached to an eccentric upon the shaft B. By these means the engine may be made to cut off steam at any point in the revolution of the wheel.

The operation of the device will have been evident from the foregoing description of its construction. The steam enters at G, and, pressing upon the pistons *a a*, causes the wheel to revolve. As the pistons pass the port H the steam is exhausted therethrough, or, as an obvious alternative, it may be condensed.

The abutment K is sustained by means of the projection *k* in such a position as to keep the tip of the valve barely in contact with the wheel, preventing wear and friction. As the pistons *a a* pass around, their inclined surfaces raise the abutment K, which drops as the pistons pass.

The device as a whole is simple in construction, occupies but little space, and is thoroughly efficient in operation.

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

1. In a rotary engine, the wheel A, having flanges *a' a''*, the plates D, and rings E, substantially as described.

2. In a rotary engine, the plates D, having grooves *f*, and the wheel A, the plate C, rings E, and shouldered bolts *d*, substantially as set forth.

Witness my hand this 14th day of September, 1878.

GEORGE C. YARBOROUGH.

Witnesses:

NATHANIEL TOWNLEY,

RICHARD C. YARBOROUGH.