C. M. MILES.

ROTARY STEAM ENGINE.

No. 6,698. Patented Sept. 4, 1849.

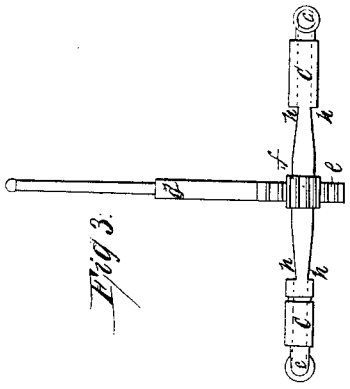

Fig 3.

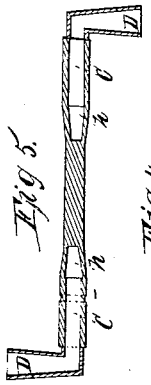

Fig 5.

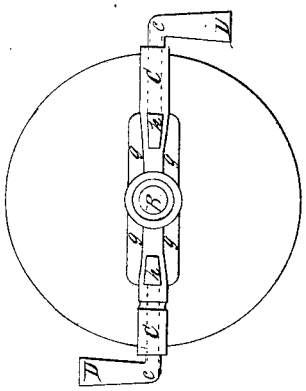

Fig 4.

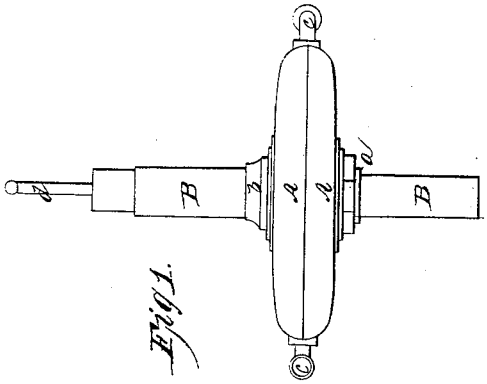

Fig 1.

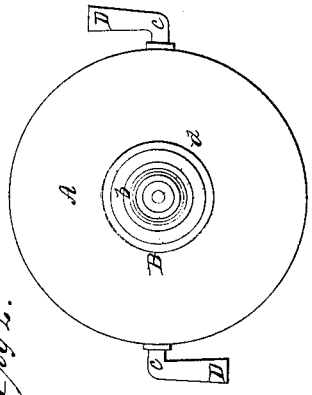

Fig 2.

UNITED STATES PATENT OFFICE.

C. M. MILES, OF BROCKWAYVILLE, PENNSYLVANIA.

METHOD OF REVERSING REACTING ROTARY ENGINES.

Specification of Letters Patent No. 6,698, dated September 4, 1849.

To all whom it may concern:

Be it known that I, C. M. MILES, of Brockwayville, in the county of Jefferson and State of Pennsylvania, have invented a new and useful Improvement on a Rotary Steam-Engine; and I do hereby declare that the following is a clear, accurate, and complete description of my invention, reference being made therein to the annexed drawings, in which similar letters always indicate like parts.

Literal references.—Figure 1 is a side view of the engine. Fig. 2 is a top view of the same. Fig. 3 is a plan of the escape-tube and reverse-action rod. Fig. 4 is an inside view of the engine. Fig. 5 is a section of the escape tube.

The nature of my invention consists in the construction of a rotary steam engine, the peculiar and important feature of which is, the employment of an escape tube having two reversed elbows at its extremities, enlarged toward their mouths, like a trumpet, thus affording an opportunity of great and rapid expansion to the steam, which thereby gives motion to the engine by counter-pressure.

To enable others skilled in the arts to understand and use my invention, I proceed to describe the same.

A horizontal view of the engine, when in position for working, is represented by Fig. 1; the casing is made in two parts A, A, turned and fitted to each other on their inner faces so as to be perfectly steam-tight, and slightly convex on their outside, forming a compressed spheroidal body, the material of which may be cast iron or other metal. It is placed on a vertical hollow shaft B, B, to which it is secured on the lower side by the nut *a*, which works on a screw, cut on said shaft, and which draws together the two sections of the casing, the upper one lying against the shoulder *b*, which is likewise on said shaft. Running through the casing at right angles to the vertical shaft, and intersecting or passing through it also, is a double escape tube, the two ends of which are reversed elbows *c*, *c*, with trumpet mouths—shown in the other figures.

A top view of the engine is exhibited by Fig. 2.

In Fig. 3, may be seen the escape tubes C, C, detached, and in connection with tl reverse-action rod *d*, which is inserted the upper part of the hollow shaft B, having one end projecting out of the to a little way, to serve as a handle for movir it, the other end being made in rectiline form with a rack, *e*, upon it, which mesh in a small pinion *f*, placed in the midd of the double escape-tube C, C. By slidir the rod *d*, up or down, the rack turns tl pinion and with it the double escape tub reversing the elbows *c*, *c*, and thus chan ing the movement of the engine at pleasur

By Fig. 4, is represented an interior pla of the engine, showing the steam chamb *g*, *g*, *g*, *g*, which is a cylindrical cavity, on half in each section of the casing. Tl connecting portion of the escape tubes C, runs longitudinally through the stean chamber, from which the steam escapes int the tubes through the vent-holes *h*, *h*, an from thence out at the mouths D, D: Thei are four vent-holes, two to each tube, c opposite sides, as seen in Fig. 3. From tl steam-chamber to the periphery of the ca ing, the escape-tubes are nicely fitted in tl casing, so as to turn freely when the actio of the engine needs reversing, by the mear before explained, and the tubes may l packed in the usual way, if necessary, t render them perfectly steam-tight in the ca ing. The steam is received into the chambe from the hollow shaft B, B, into which is admitted under the step or bottom sup port; it passes from the chamber throug the vent-holes *h*, *h*, into the tubes C, C, an out at the mouths D, D, the peculiar cor formation of which, expanding outwar from the elbows *c*, *c*, enables the steam t exert the expansive force upon their side and thus by counter pressure thereon, give motion to the engine.

Having thus explained my invention claim—

The mode of reversing the motion of th engine, by a rack passing through the shal thereof and meshing into a pinion on th revolving nozzles in the manner substar tially as herein described.

C. M. MILES.

Witnesses:

S. R. JENKINS,

JOHN WINKLEBLECH.