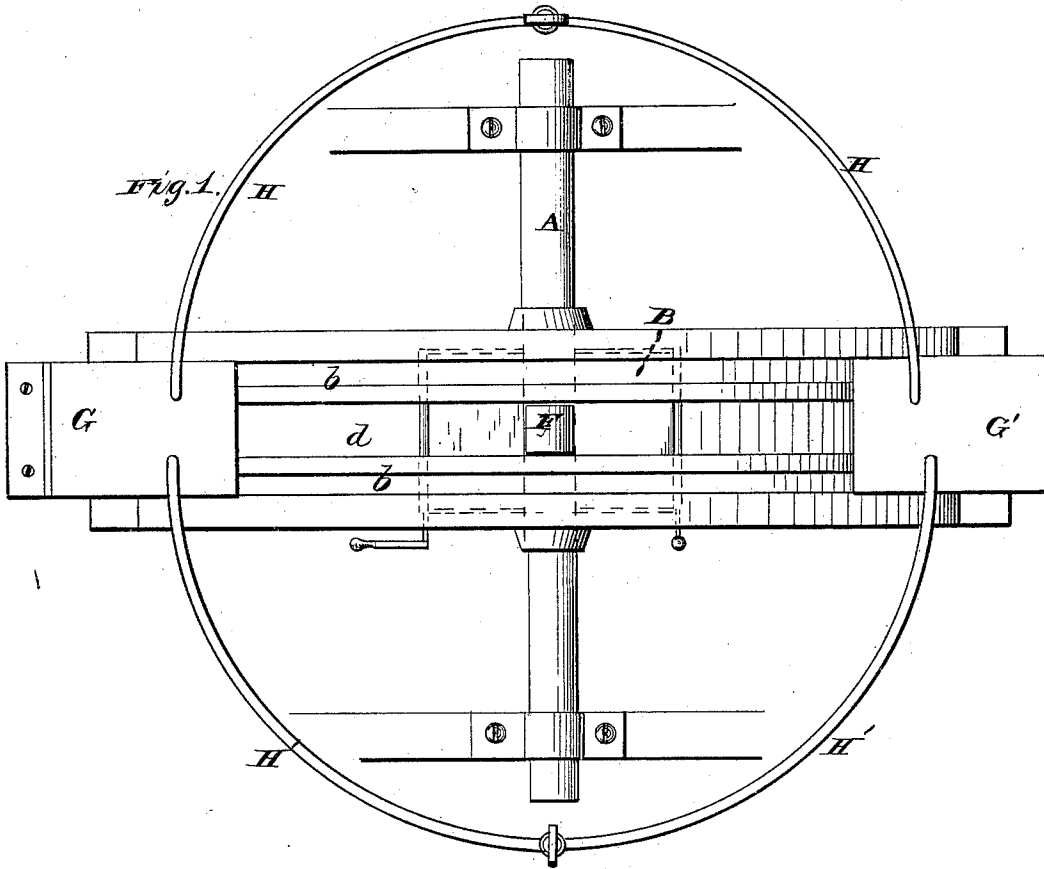


B. H. TAYLOR.
Rotary-Engine.

No. 202,888.

Patented April 23, 1878.



WITNESSES

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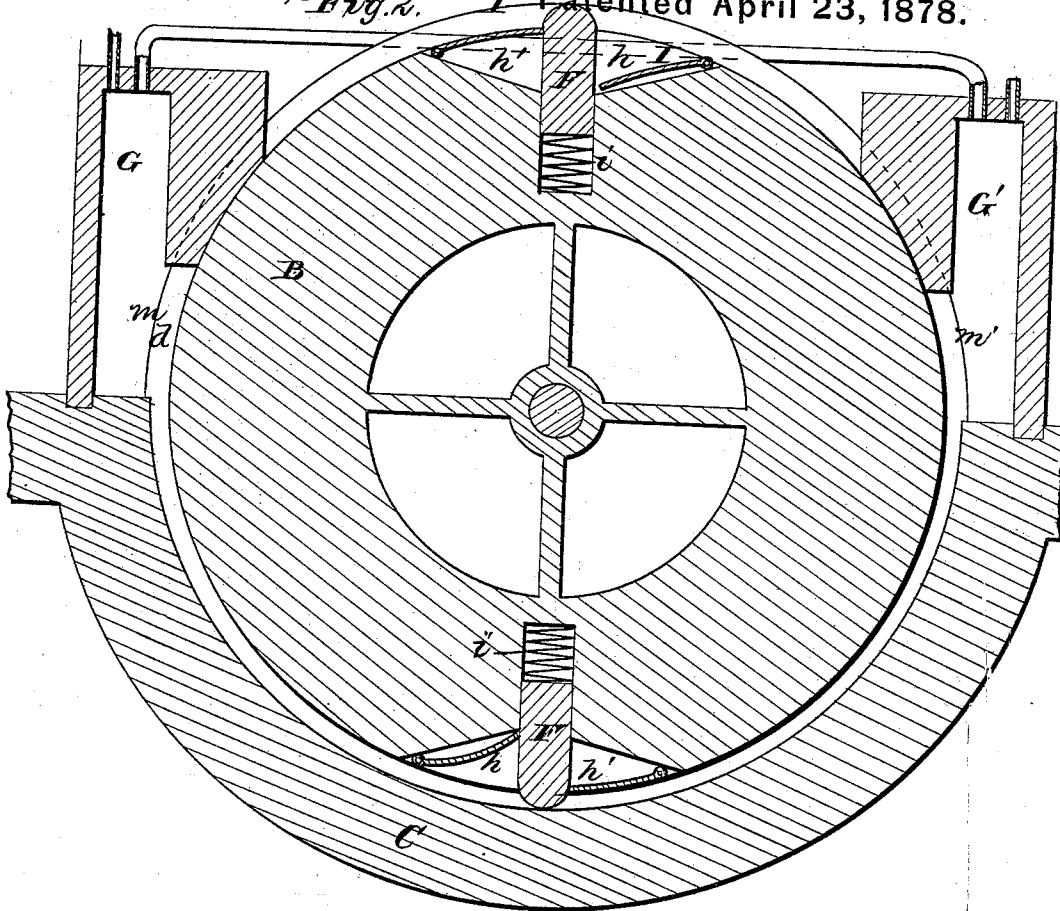
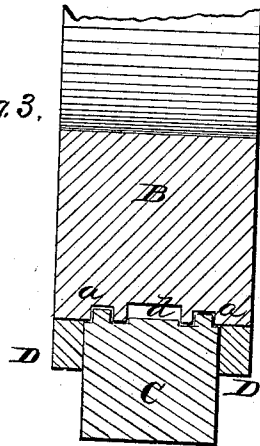


Fig. 3.



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UNITED STATES PATENT OFFICE.

BENJAMIN H. TAYLOR, OF ROSEDALE, MISSISSIPPI, ASSIGNOR OF ONE-HALF HIS RIGHT TO ELDEN G. FIELDS.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. 202,888, dated April 23, 1878; application filed March 25, 1878.

To all whom it may concern:

Be it known that I, BENJAMIN H. TAYLOR, of Rosedale, in the county of Bolivar, and in the State of Mississippi, have invented certain new and useful Improvements in Rotary Engines; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a rotary engine, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a plan view of my rotary engine. Fig. 2 is a longitudinal vertical section of the same, and Fig. 3 is a detailed section of a part thereof.

A represents the central shaft, supported in suitable bearings, and on said shaft is secured the wheel B, which is preferably made in the skeleton form shown in Fig. 2. C is a casing or rim surrounding the lower half of the wheel B around the periphery, and packing-strips D D are fastened at the sides of said rim, as shown in Fig. 3, said rim or casing being secured to and supported by the frame-work of the engine. The rim or casing C is, on its upper side, provided with two longitudinal rims or flanges, *a a*, which fit in circumferential grooves *b b* made in the periphery of the wheel B, so as to form steam-tight joints between the wheel and casing.

In the periphery of the wheel B, between the grooves *b b*, is made a central circumferential groove, *d*, to form the channel in which the steam works.

The wheel B is provided with two or more transverse abutments, F F, placed in radial grooves in the wheel at equal distances apart. These abutments are of the same width as the groove or channel *d*. Their outer ends are rounded, and they are forced outward by means of spiral springs *i i*, placed behind them in the transverse grooves of the wheel.

At the sides of each abutment F are made

two recesses or pockets, *h h'*, of substantially the form shown in Fig. 2—that is to say, said pockets commence in the bottom of the groove a suitable distance from the abutment and increase in depth toward the abutment.

At each end of the casing or rim C is located a steam-chest, the two steam-chests being marked, respectively, G and G', and communicating, through passages *m m'*, with the central groove or channel *d* in the wheel B. These steam-chests are provided with connected inlet-pipes H H and connected exhaust-pipes H' H'. Each set of pipes has, at their junction, a suitable stop-cock to open communication with either chest, as required, according to the direction the wheel is intended to turn.

The pockets *h h'* are respectively provided with the valves or plates I I', as shown. These valves may be hinged, as shown in the drawing, or arranged in any other suitable manner, so as to open and close their respective pockets, as desired.

The valves being arranged as shown in Fig. 2, so that the pockets *h* are open and the pockets *h'* are closed, the live steam is admitted into the chest G, and passes from thence, through the passage or port *m*, into the channel *d*, and, striking the abutment F below said passage, will rotate the wheel to the left. As the next abutment receives the pressure of the steam, the first one passes beyond the port *m'*, so that the first admitted steam will exhaust through the chest G'.

The pockets *h h'*, above described, increase the surface on the abutment that the steam will work against, so as to act in a thorough and efficient manner, and the valves or plates I I' in said pockets cause the steam to act on one side only, and by changing said valves or plates the engine may be reversed.

By reversing the valves and reversing the cocks in the inlet and exhaust pipes the steam will enter the chest G', reverse the wheel, and exhaust through the chest G.

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

1. The wheel B, having circumferential steam-channel *d*, and provided with radially-arranged spring-abutments F F', pockets *h h'*, and valves

I I', all constructed substantially as and for the purposes herein set forth.

2. The combination of the wheel B, having grooves *b b* and *d*, spring-abutments F, pockets *h h'*, and valves I I', the steam-chests G G', casing C, with ribs *a* and packing-rings D, and the inlet and exhaust pipes, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of March, 1878.

BEN. H. TAYLOR.

Witnesses:

FRANK GALT,
J. J. MCCARTHY.