

W. C. BIBB.

Rotary-Engines.

No. 134,245.

Patented Dec. 24, 1872.

Fig. 1.

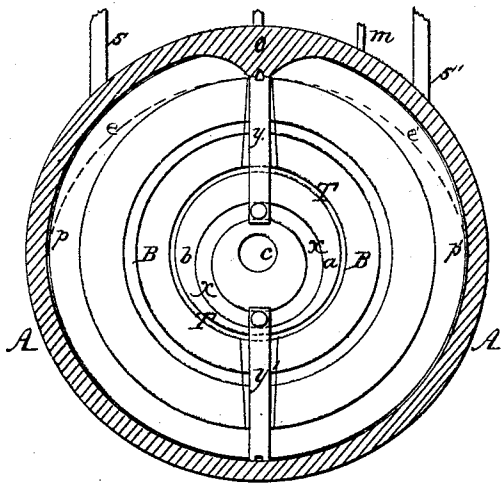


Fig. 2.

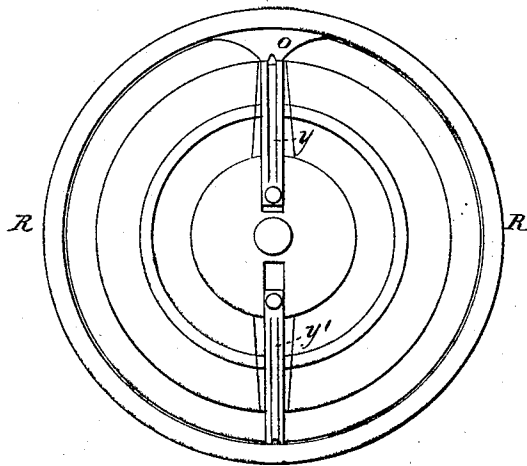


Fig. 3.

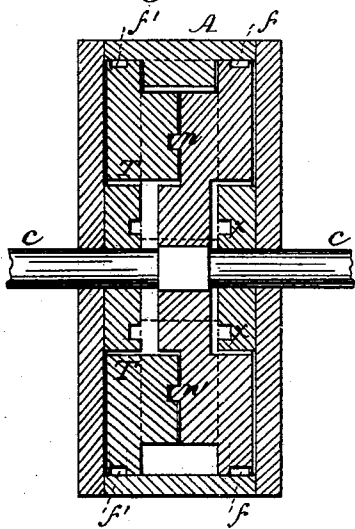
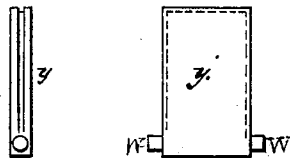


Fig. 4.



Witnesses.

S. C. Connelly.
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Inventor.

William C. Bibb.

UNITED STATES PATENT OFFICE.

WILLIAM C. BIBB, OF MADISON, GEORGIA.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. 134,245, dated December 24, 1872.

To all whom it may concern:

Be it known that I, WILLIAM C. BIBB, of Madison, Georgia, have invented an Improvement in Rotary Engines, of which the following is a specification:

The nature of my invention consists in the construction of a rotary steam-engine which shall be cheap, durable, and effective in operation, and which will not easily get out of repair, as will hereafter be more fully set forth.

Figures 1, 2, and 3 are sectional views of my engine. Fig. 4 are views of the pistons or drivers.

A represents the case or shell, provided with the steam-abutment *o* in the usual manner. Secured to the inner sides of the shell are two cylinders, B, having the cam-groove *x* cut in their inner faces. *y y'* are the pistons, having the projections attached to their inner ends so as to fit and travel in the cam-groove *x* as the pistons are driven around by the pressure of the steam. Either one of the pipes S S' may be used for the feed or exhaust of the steam, as my engine will work as well forward as backward. When the pipe S is used as the feed the steam, exerting its force between the abutment and the piston, propels the piston *y'* around to the point *p*, where the steam escapes, caused by the action of the cam-groove, drawing the piston inward from contact with the shell and causing it to travel on the line *e e'*, passing under the abutment *o*. Just at the moment the steam begins to escape at *p* the other piston arrives at the point *p'* and takes the steam again by closing the point between the end of the piston and the surface of the shell A. Thus each piston being driven half the circumference of the circle under full pressure of steam, and without diminution of area of pressure, is equivalent to the full pressure on one driver the entire revolution. As the piston passes from under the abutment *o* it arises in compressed steam, but as the pressure is as much in one direction as the

other it is the same as passing through free steam. There is no back action on the piston at any point, and no frictional pressure upon the abutment, cylinder, or pistons, but they all run freely, with only such limited contact as is necessary to keep the packing closely to their opposite surfaces and prevent the escape of the steam; hence the piston is small compared to other engines.

In the practical construction of my engines I make the inner cylinders B in two sections centrally between the flanges which occupy the edges and form a continuation of the sides of the same, as shown in Fig. 1, the better to enable me to cut and finish the slots which are occupied by the pistons to enable them to travel freely without permitting the escape of steam. The flanges are grooved with a shoulder, on which rests a metallic strip, and an opening is made from time to time on the inner side of the flange for the steam to enter and keep the packing sprung out as it wears away by friction with the rim against which it runs. There are rests placed in the grooves to prevent the steam escaping from the entire circle at once. The cylinder is securely bolted together and fixed upon the center shaft.

The casing is made in one or more pieces, and is securely fastened together, fitting accurately around the outer edge of the flanges of cylinder B, so that the packing will be in close contact with the smooth inner surface.

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

The pistons *y y'*, in combination with cylinder B, abutment *o*, rim T, and cams *x x*, all constructed and arranged to operate substantially as described, and for the purpose set forth.

WILLIAM C. BIBB.

Witnesses:

T. C. CONNOLLY,
WM. G. HENDERSON.