

## Improvement in Rotary Engines.

Patented April 9, 1872.



Mr. W. H.  
O. E. Duffin

J. B. Bennett.

# UNITED STATES PATENT OFFICE.

JOSEPH B. BENNETT, OF BROOKLYN, NEW YORK.

## IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. 125,524, dated April 9, 1872.

Specification describing an Improved Method of Operating Pistons in Rotary Engines, invented by JOSEPH B. BENNETT, of the city of Brooklyn, county of Kings and State of New York.

The nature of my invention consists in the devices used for operating the pistons in that class of rotary engines having inner revolving cylinders or wheels, which are actuated by pressure on said pistons.

Figure 1 represents a face view of a rotary engine, the head removed. A, outer cylinder; B, inner cylinder; *c c*, pistons; D, shaft; E E, ports.

Fig. 2, cross-section of same. The cylinder B has a chamber, I, which connects with the inner ends of piston-slots M M M, and through openings or holes K K K with the inside of the hollow shaft D. One end of the shaft is closed, the other is furnished with a suitable connection with a steam-supply pipe, which pipe is provided with any suitable device for controlling or regulating pressure.

In use, steam is first supplied through the shaft to the chamber I and piston-slots M M M. Its pressure forces the pistons against the rim of the outer cylinder, in position to be operated upon by steam from the ports. In the kind of engine represented, the plate or ring N N is fastened over the inner ends of the piston-slots to prevent the escape of the packing steam into the body of the engine. This packing steam, having no means of escape, has to be replenished only to compensate for condensa-

tion and leakage, so that very little steam is used or required.

Heretofore cams, eccentrics, springs, and a variety of devices have been used for the purpose of forcing the pistons in rotary engines to their positions and keeping them to their work. These create friction, wear rapidly, are expensive, and difficult to adjust to render them effective. These objections are obviated in my invention.

I do not confine myself to any particular method of supplying the chamber I with steam, or to any particular shape in forming said chamber, its object being to hold a considerable body of steam and form a positive steam-cushion to act on the inner ends (or edges) of the pistons, its elasticity taking the place of springs. I do not confine myself to the style of engine represented in the drawing. My invention may be advantageously used in various styles of rotary engines.

What I claim as my invention, and desire to secure by Letters Patent of the United States, is—

1. The cylinder B with chamber I, arranged in combination with the hollow shaft D, substantially as and for the purpose set forth.

2. The arrangement of connecting-holes K, chamber I, and piston-slots M with a supply-pipe, substantially as set forth.

JOSEPH B. BENNETT.

Witnesses:

E. S. BENNETT,

W. H. SWARTWOUT.