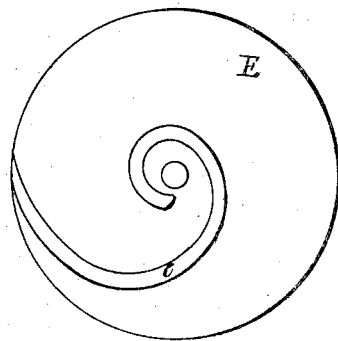
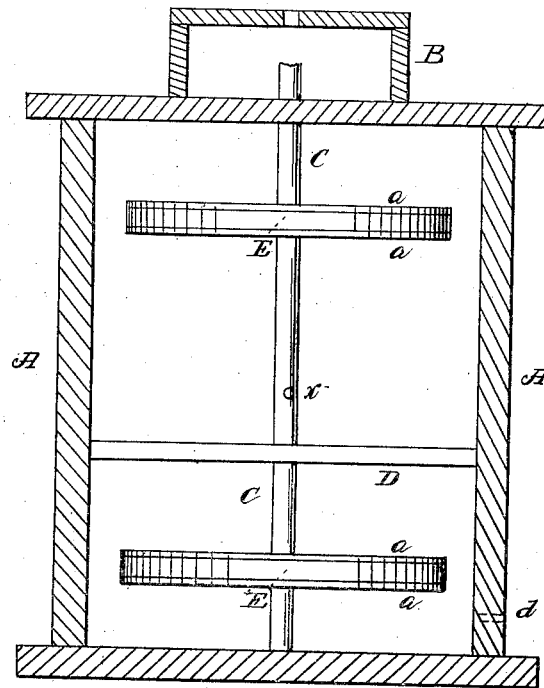


*E. Matteson,*  
*Rotary Steam Engine,*  
*N<sup>o</sup> 51,335. Patented Dec. 5, 1865.*



*Witnesses:*  
*C. M. Alexander*  
*J. M. Mann.*

*Inventor:*  
*Elisha Matteson.*

# UNITED STATES PATENT OFFICE.

ELISHA MATTESON, OF SOUTH BROOKLYN, NEW YORK.

## IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. 51,335, dated December 5, 1865.

*To all whom it may concern:*

Be it known that I, ELISHA MATTESON, of South Brooklyn, in the State of New York, have invented certain new and useful Improvements in Rotary Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

In the annexed drawings making part of this specification A represents a steam box or cylinder, which is made perfectly tight, except where it is designed for the steam to escape. D represents a partition in this box or cylinder which is fitted in so as to completely separate the steam in one side from that in the other.

At one end of this box or cylinder is a steam-chest, B, through which steam is admitted to the box A.

C represents a shaft, which passes from one end of the box or cylinder A to the other, having suitable bearings at each end. The end of the shaft next to the steam-chest passes into said chest for a short distance, as is represented, though this is not absolutely necessary.

Upon the shaft C, and firmly secured to it, are two steam-wheels, E and E', which are constructed both alike. These wheels are provided on each face with plates *a a*, which prevent an escape of steam from them, except in the avenue desired.

The internal arrangement of the wheels is shown in Figure 2. It will there be seen that a steam-passage commences at the center of each and passes in the form shown to the periphery, where the steam escapes from the wheel. The steam passes from the boiler through proper pipes to the steam-chest B, and from said chest into the shaft C, which is made hollow as far as the center of wheel E. It escapes from the shaft at the center of this wheel into the steam-passage *e*, and thence out at the periphery of the wheel into the first chamber or division of the box A. From this chamber it escapes into a hole, *x*, which is made in the shaft C, and thence through the shaft C, which is made hollow to the center of wheel E'. It

passes into the wheel E' at its center and out of it through the passage *e* into the second chamber or division of the box A. From this chamber the steam passes to the open air or wherever it may be desired through openings made in the sides of said chamber, one of said openings being marked *d*, as seen.

It will be seen that when the steam passes into the first division of box A it there expands and fills said division, and that as the steam passes from the wheel E into the said division it acts against the expanded but partly-compressed steam and produces a better effect than were it to act simply against the open air.

I may use a box or cylinder with more than one partition, making several divisions, and thus using more than two wheels upon the shaft C.

I propose to use the steam until its power is exhausted, having a sufficient number of wheels to accomplish this.

I do not propose to confine myself to the use of steam, as I may use air to be forced into the engine in any of the known ways.

The steam or air, rushing out through the passages *e*, reacts upon the wheels and gives them a rotary motion.

It will be seen that when the steam is used over and over again that all the power that can be derived from it in this way will be imparted to the shaft C.

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

The arrangement of the shaft C and the wheels E E' with the box or cylinder A, said cylinder being provided with one or more partitions, whereby two or more chambers are formed in which the steam from the wheels is used more than once against partially-compressed steam, as and for the purpose herein specified.

ELISHA MATTESON.

Witnesses:

C. M. ALEXANDER,  
J. M. MASON.