

J. W. BAILEY.
ROTARY STEAM ENGINE.

No. 103,279.

Patented May 24, 1870

Fig. 1

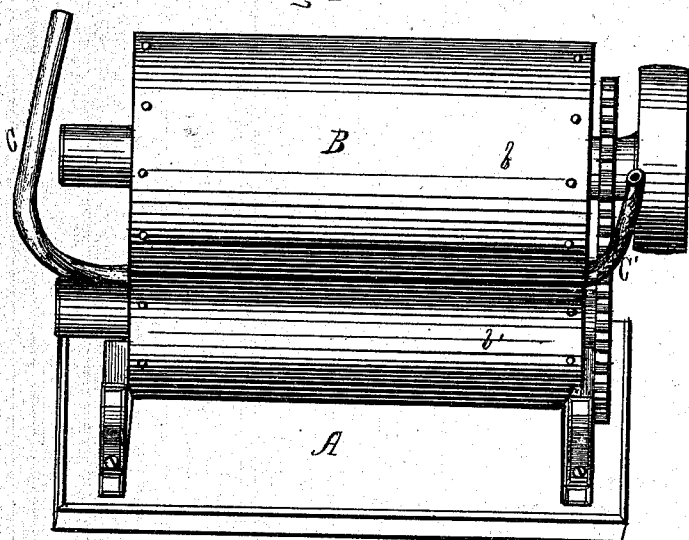
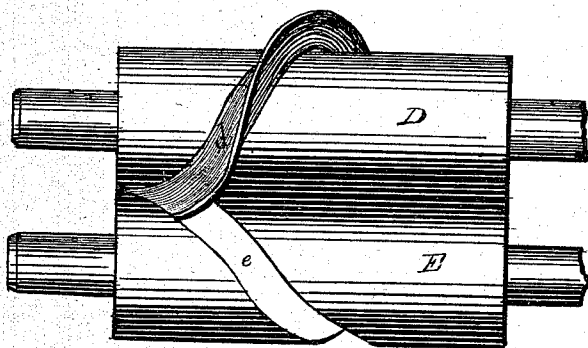


Fig. 2.



Witnesses

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JOHN W. BAILEY, OF AURORA, INDIANA.

Letters Patent No. 103,279, dated May 24, 1870.

ROTARY STEAM-ENGINE.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JOHN W. BAILEY, of Aurora, in the county of Dearborn and State of Indiana, have invented a new and useful Improvement in Rotary Engines; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

This invention consists mainly in the employment of a flanged cylinder, in connection with a grooved cylinder, for the purpose of receiving and transmitting motion.

In the drawings—

Figure 1 represents a front elevation of my improved engine, and

Figure 2, an elevation of the internal cylinders.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and mode of operation.

A represents the bed-plate of the engine, which may be constructed of any proper form or material.

B represents the case in which the revolving cylinders are placed. This consists of two hollow cylinders *b b'*, united, as shown in fig. 1, to form a single chamber. It will be observed that the upper portion, *b*, is somewhat larger than the lower portion *b'*.

C represents the induction and C' the eduction-pipe.

D and E represent the cylinders by means of which motion is received and transmitted. These revolve, in proper bearings, in the case, as shown.

The cylinder D, which revolves in the upper and larger portion of the case, is provided with a spiral flange, *d*, of such width as to extend from the cylinder to the inner circumference of the case.

The cylinder E, which corresponds in size with the cylinder D, closely fits the lower and smaller portion of the case, and is provided with a spiral groove, *e*, the depth and twist of which correspond accurately with the width and twist of the flange *d*.

The shaft of each of these cylinders is provided with a gear-wheel, which engages with the other, as shown. To the end of the shaft of cylinder D is attached a pulley, in order that its motion may be transmitted to other points.

The operation is as follows:

Steam is admitted from the boiler into the case B through the induction-port, by means of any suitable arrangement. As the steam enters the case and expands, it presses against the cylinder E, where it bears against the cylinder D and the flange *d*, and, as the former cannot be moved by the pressure, the flange *d* yields, being free to move, and the cylinder D revolves. By its complete revolution, the eduction-port is exposed, and the steam escapes, a new supply, of course, being at the same time received at the induction-port. This operation is, of course, repeated indefinitely.

If desired, more than two cylinders may be used.

An engine thus constructed is simple in all its parts, and not liable to get out of order. It may, of course, be used for a water-wheel or pump, if desired.

Having thus fully described my invention,

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

1. The combination of a flanged and grooved cylinder, substantially as described, for the purpose set forth.

2. The combination of the cylinders D E with the case B, when constructed and arranged as described, for the purpose set forth.

3. The cylinders D and E, constructed as described, gear-wheels, pulley, and case, when arranged as and for the purpose described.

This specification signed and witnessed this 22d day of December, 1869.

JOHN W. BAILEY.

Witnesses:

WM. R. DUCHEMIN,
S. S. SCOTT.