

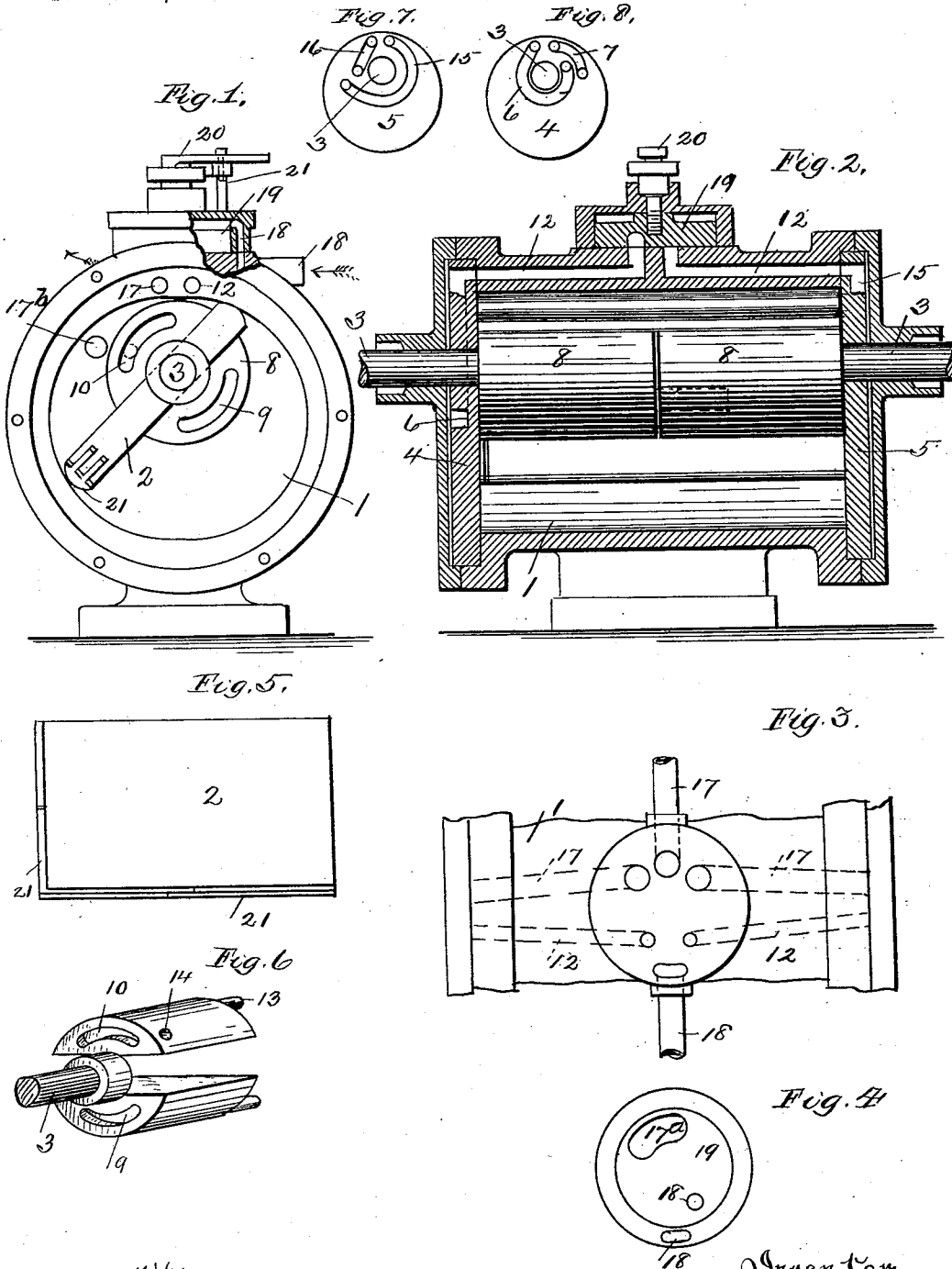
(No Model.)

2 Sheets—Sheet 1.

J. W. BLOUNT.
ROTARY ENGINE.

No. 541,064.

Patented June 18, 1895.



Witness:
H. E. Harrison.
J. A. Hervey

Inventor
J. W. Blount.
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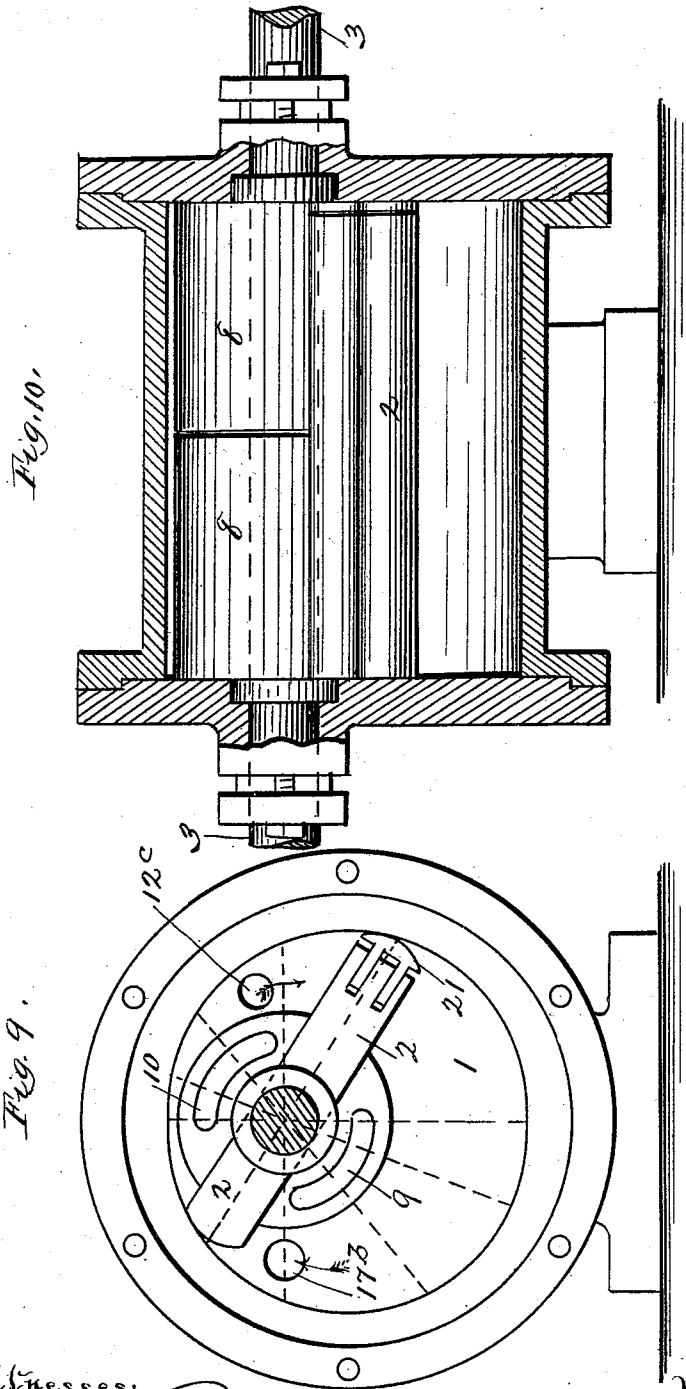
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WITNESSES:
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UNITED STATES PATENT OFFICE.

JOHN W. BLOUNT, OF ALLEGHENY, PENNSYLVANIA.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 541,064, dated June 18, 1895.

Application filed August 10, 1894. Serial No. 519,950. (No model.)

To all whom it may concern:

Be it known that I, JOHN WILLIAM BLOUNT, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Engines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved rotary engine, and it consists in certain details of construction, and combination of parts as will be fully described hereinafter.

In the accompanying drawings, Figure 1 is an end elevation of my improved rotary engine, partly in section and having the cylinder-head removed. Fig. 2 is a side sectional elevation of the same. Fig. 3 is a plan view of a portion of the top of the cylinder, showing the steam and exhaust ports. Fig. 4 is an inverted plan view of the valve used to reverse the engine. Fig. 5 is a plan view of the piston, showing the packing. Fig. 6 is a perspective view of one section of the piston-rod and showing the steam or exhaust port formed in the face of the same. Figs. 7 and 8 are reduced face views of the two false heads in which the steam and exhaust ports are formed. Fig. 9 is an end elevation of a modified form of my improved rotary engine having the head removed from the cylinder. Fig. 10 is a side sectional elevation of the same.

To put my invention into practice I provide a cylinder having a greater horizontal diameter than vertical or vice versa in which is eccentrically arranged a piston 2. This piston consists in a flat plate 2 having a suitable steam packing 21 arranged at one side and edge, and is arranged in a bearing 8 divided into sections. One of said sections is shown at Fig. 6 on the drawings, in a manner that the said piston may be free to slide within the bearings 8. Each of these bearings 8 is provided with integral shafts 3 which project through the cylinder heads, and also through the false heads 4 and 5 in which the steam and exhaust ports are arranged. Arranged within the cylinder 1 at each side of the pis-

ton 2, are disks or false heads 4 and 5 having ports formed in the face of each which are in communication with the steam ports 12 and 55 exhaust ports 17 formed in the top of the cylinder 1. Arranged on the top of the cylinder 1 is a valve 19 having an opening 18 through the same and a recess 17^a to cover the exhaust ports 17. This valve 19 is provided with a 60 lever 20 by means of which the same may be turned slightly to admit the steam to the opposite side of the piston for the purpose of reversing the direction. This valve when once set is allowed to remain in that position 65 until it is desired to change the direction or reverse the engine.

In operation steam is admitted into the steam chest and into the port 12 leading to one end of the cylinder 1, and then conducted 70 through the port 7 in one of the false heads to one of the radial grooves 10 formed in the end of the bearing 8, and from thence through the opening 14 into the cylinder 1. The steam acting on the long side of the piston 2 will 75 cause the same to revolve about the cylinder adjusting itself to the bore of the same, as will be seen by reference to the dotted lines on Fig. 9 of the drawings. The exhaust from the other side of the piston will escape through 80 the opening 17, (see Fig. 1,) through the port 6 of the disk 4 and thence to the exhaust ports 17^a formed in the valve 19.

The direction of the rotation of the piston 2 is changed by simply moving the opening 85 18 over the other steam port leading to the other false head 5.

By this construction of a rotary engine the same may be made to cut off the steam at any desired length of stroke of the piston, by regulat- 90 ing the length of the ports 9 and 10 in the ends of the bearings 8.

At Figs. 9 and 10 on the drawings I have shown a modification of my improved engine, and in which the cylinder 1, the piston 2, and 95 bearings 8 are of the same construction as those before described, and the said cylinder provided with a steam inlet port 12^a, and exhaust port 17^b arranged in one of the heads of the said cylinder. This modification of my 100 improved engine will operate in one direction and cannot be reversed.

Having thus described my invention, I claim—

The rotary engine comprising a cylinder having two sets of ports or passages in its upper part each set terminating at the ends and in the center thereof, the valve arranged in
5 the top of the cylinder having an opening and a recess adapted to communicate with said ports or passages, the false heads, each having two sets of ports or passages also adapted to communicate with the aforesaid
10 ports or passages and the eccentrically hung bearing carrying a sliding piston and pro-

vided in its ends with ports or passages communicating with passages opening through the sides of said bearings, substantially as set forth.

In testimony that I claim the foregoing I
hereunto affix my signature this 27th day of
January, A. D. 1894.

JOHN W. BLOUNT. [L. S.]

In presence of—

JAS. J. MCAFEE,
M. E. HARRISON.