(No Model.)

W. J. PARTRIDGE.

OSCILLATING CYLINDER ENGINE.

No. 310,609. Patented Jan. 13, 1885.

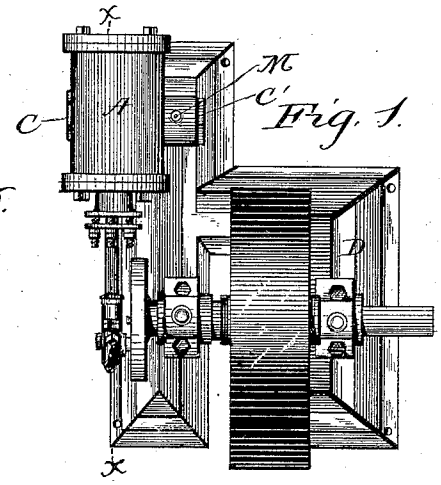


Fig. 1.

Fig. 5.

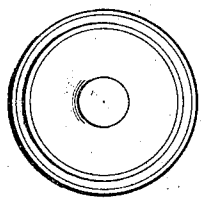


Fig. 6.

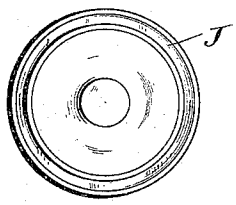


Fig. 2.

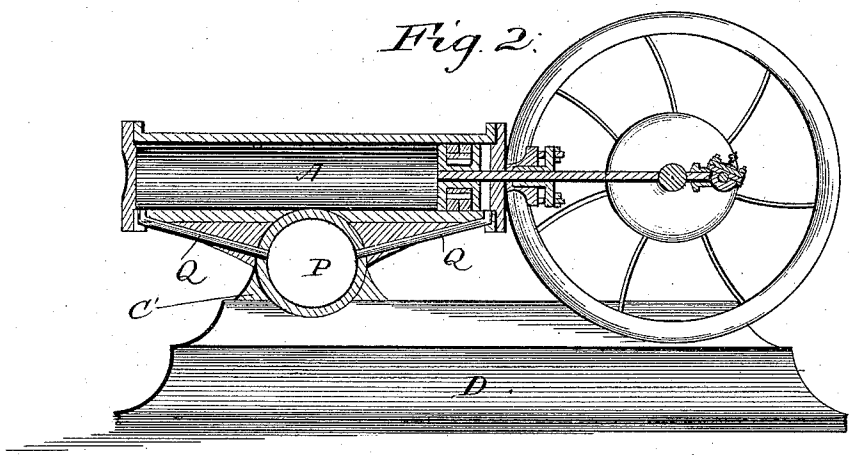


Fig. 3.

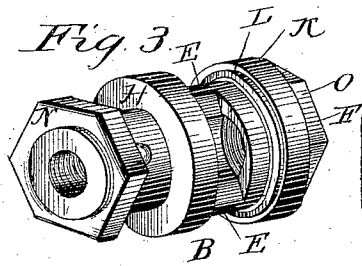
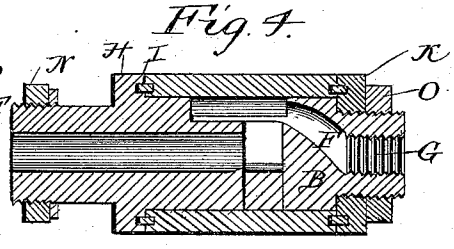


Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

WARREN JAPHETH PARTRIDGE, OF ATHOL, MASSACHUSETTS.

OSCILLATING-CYLINDER ENGINE.

SPECIFICATION forming part of Letters Patent No. 310,609, dated January 13, 1885.

Application filed July 25, 1884. (No model.)

To all whom it may concern:

Be it known that I, WARREN J. PARTRIDGE, a citizen of the United States, residing at Athol, in the county of Worcester and State of Massachusetts, have invented a new and useful Improvement in Oscillating-Cylinder Engines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to oscillating-cylinder engines, and it has for its object to provide an engine of the class referred to that shall possess superior advantages in point of simplicity, cheapness of manufacture, durability, and general efficiency; and the invention consists in the construction and novel arrangement of parts as will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a plan view of an oscillating-cylinder engine embodying my improvements. Fig. 2 is a vertical longitudinal section on the line *x x*, Fig. 1, through the cylinder. Fig. 3 is a view of the stationary valve detached from the valve-chest. Fig. 4 is a longitudinal sectional view of the stationary valve. Fig. 5 is an end elevation of the valve-chest, showing the packing-groove therein, and Fig. 6 is an inner face view of one of the grooved collars, with the packing-ring in the groove.

Referring by letter to the accompanying drawings, A designates the oscillating cylinder, which oscillates on a stationary valve, B, secured in bearings C C′ on the bed-plate D.

With the exception of the stationary valve, and the manner of packing said valve and cylinder, the construction of the engine may be of any of the well-known patterns of oscillating engines. The stationary valve B is provided with entrance-ports E E, and an exhaust-port, F. The entrance-ports E E are made laterally through the stationary valve near its middle, and communicate with the steam-inlet G. The front walls of the entrance-ports E E are beveled or inclined outwardly to present the proper angle to the steam as it enters. The entrance to the exhaust-port is directly over the entrance-ports, and its outlet is in line with the steam-inlet, so that the steam enters at one end of the stationary valve, passes through the cylinder, and escapes at the other end of said valve. The valve B is provided near one end with an integral collar, H, having an annular groove, I, in its inner face for the reception of a metallic or soft packing-ring, J. The side of the cylinder which joins this collar H is also provided with an annular groove, which receives one face of the packing-ring J. The opposite side of the cylinder is also provided with an annular groove for a similar purpose. Near the other end the valve B is provided with a loose collar, K, which is provided with an annular packing-groove in its inner face, which is designed for a metallic or soft packing-ring, L. The stationary valve B is secured in its bearings by a set-screw, M, and nuts N and O are screwed onto the threaded ends of the valve B, and hold the packing in place. Steam enters the stationary valve at the steam-inlet and passes through one of the entrance-ports behind the piston-head and drives it toward the opposite end of the cylinder, during which time the cylinder is oscillated and exhausts and opens the opposite steam-port, E, which drives the piston back, and thus on throughout. The stationary valve B fits in the circular opening P in the side of the cylinder, and thus forms the steam-chest, and from this steam-chest ports Q Q lead to the cylinder A, as shown.

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, with the oscillating cylinder having the annular packing-groove in the sides around the circular opening P, of the stationary valve having the collars provided with annular packing-grooves in their inner faces, the packing-rings, and the nuts for holding them in place, substantially as specified.

2. The combination, with the cylinder provided with the steam-chest, and annular packing-grooves at one side, of the stationary valve provided with the grooved collars, and entrance and exhaust ports, the packing-rings, and the nuts for holding them in place, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WARREN JAPHETH PARTRIDGE.

Witnesses:
JOHN J. COXETER,
ELVIN W. TRAIN.