

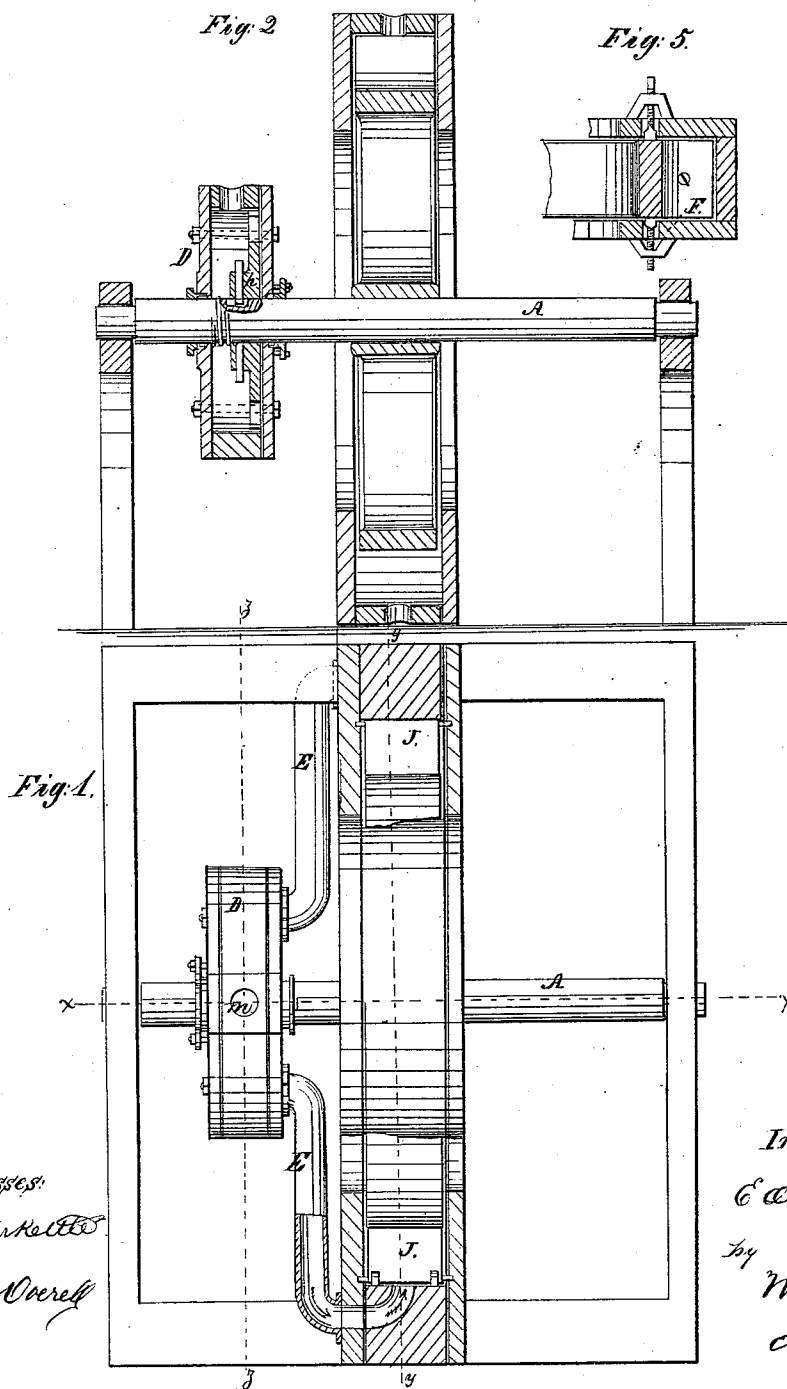
2 Sheets—Sheet 1.

E. Osborn,

Rotary Steam Engine.

No 82,742.

Patented Oct. 6, 1868.



Witnesses:
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Fig. 3.

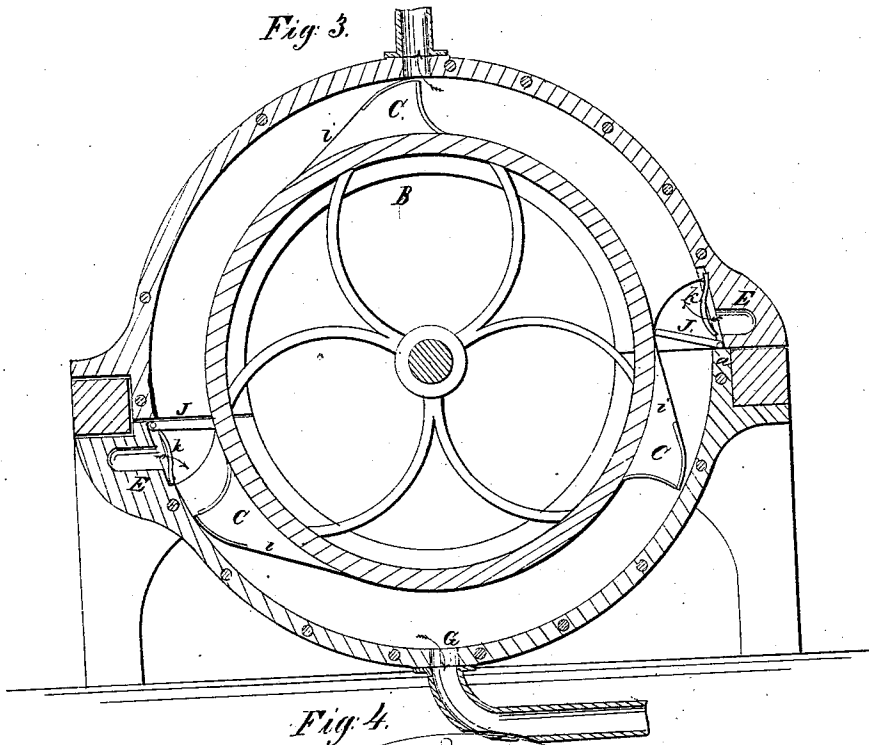
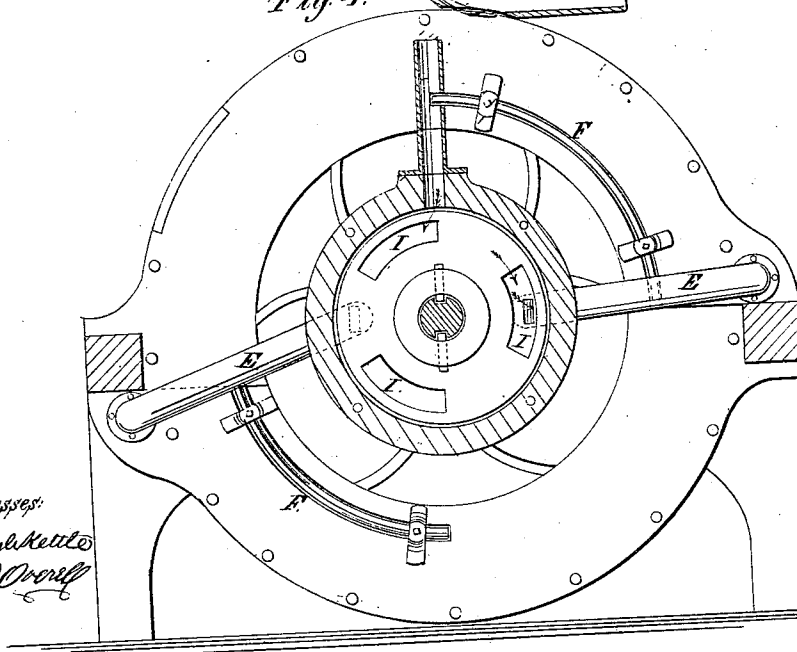


Fig. 4.



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ELIM OSBORN, OF ECONOMY, INDIANA, ASSIGNOR TO HIMSELF AND HENRY BEARD, OF SAME PLACE.

Letters Patent No. 82,742, dated October 6, 1868.

IMPROVEMENT IN ROTARY STEAM-ENGINES.

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, ELIM OSBORN, of Economy, in the county of Wayne, and State of Indiana, have invented a new and improved Rotary Engine; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to improved devices for applying steam to a rotating wheel, for driving machinery, and for all other purposes for which steam-engines are used, whereby the steam is made to act constantly upon the piston; and the invention consists in the construction and arrangement of parts as hereinafter described.

Figure 1 is a sectional top or plan view of the engine, showing the steam-chest, steam-pipes, and the driving-shaft.

Figure 2 is a horizontal section of fig. 1, through the line *x x*.

Figure 3 is a section of fig. 1, through the line *y y*.

Figure 4 is a sectional view of the steam-chest, looking from the line *z z*.

Figure 5 shows the method of packing the wheel within the casing.

Similar letters of reference indicate corresponding parts.

A is the engine-shaft.

B is the steam or piston-wheel.

C represents the pistons (of which there are three) on the wheel B, and they are rigidly attached thereto.

D represents the steam-chest, and

E the pipes which convey the steam from the chest to the-pistons or into the cylinder.

F (fig. 4) represents circular packing-strips, a cross-section of which, with the manner of setting them up against the steam-wheel, is seen in fig. 5.

G represents the exhaust-apertures, with section of the exhaust-pipes seen in red in the drawing.

The steam from the steam-chest is discharged through a revolving-disk valve, marked *h*, (see steam-chest, fig. 2,) which disk-valve has three apertures, I, through which the steam is discharged, as the apertures pass the open ends of the steam-pipes E.

J represents the abutments, which are attached loosely to the casing, so that they can turn in the cylinder as on a hinge, and rest upon shoulders, *a*, in the casing, when under pressure, and be thrown from the path of the piston as the wheel revolves.

The course of the steam is indicated by arrows.

The abutments J are closed into the casing by the inclined planes *i* on the back of the piston, and opened (or thrown out) into the cylinder by springs *k*, as seen in the drawing.

The steam is admitted into the steam-chest through the apertures marked *m*.

It will be seen that the shaft passes through the steam-chest D.

n n are stuffing-boxes, (on each side of the steam-chest,) for keeping a steam-tight joint around the shaft.

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

1. The combination of the revolving disk-plate valve *h*, steam-chest D, and shaft A, substantially as set forth.

2. The arrangement of the steam-pipes E E, steam-chest D, and apertures *m*, with reference to the shaft A and wheel B, substantially as described.

ELIM OSBORN.

Witnesses:

J. M. WILLIAMS,

W. T. KIMBALL.