H. Jamieson,

Rotary Engine.

No. 108148. Patented Oct. 11. 1870.

Fig: 1.

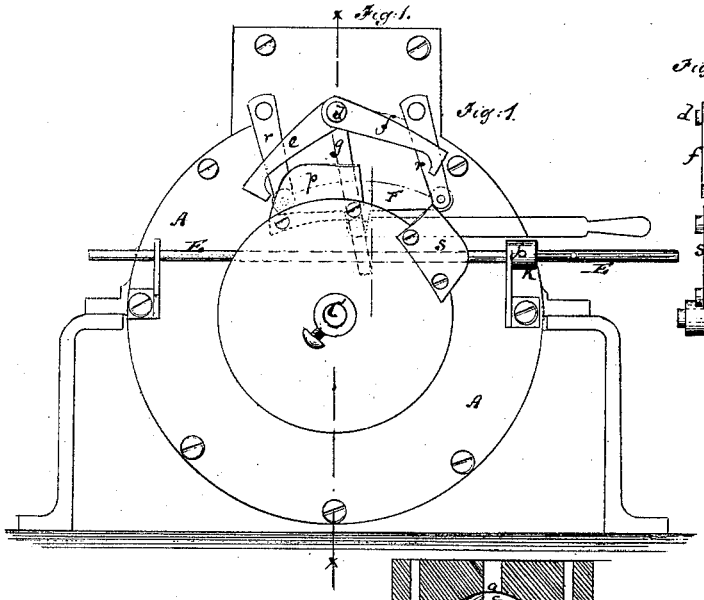


Fig: 2.

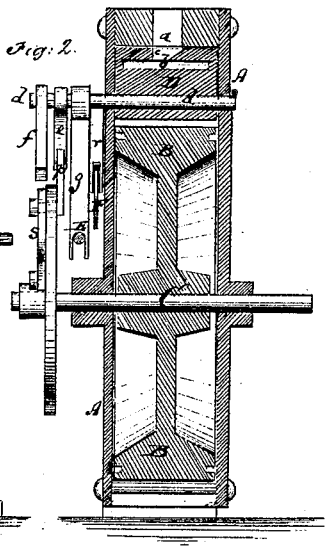


Fig: 3.

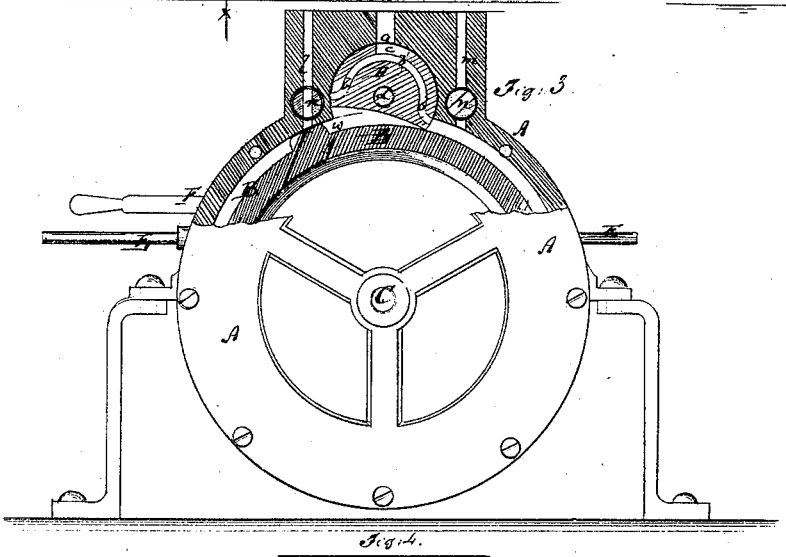
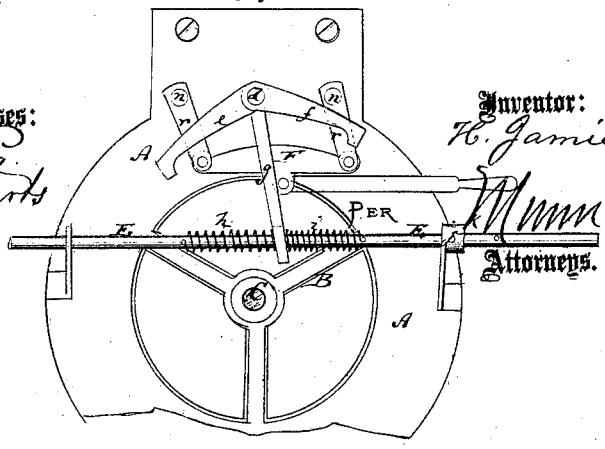


Fig: 4.



Witnesses:

Chas. Nida.

Alex. F. Roberts

Inventor:

H. Jamieson

Per Munn & Co

Attorneys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

United States Patent Office.

HENRY JAMIESON, OF WILLIAMSBURG, NEW YORK.

Letters Patent No. 108,148, dated October 11, 1870.

IMPROVEMENT IN ROTARY 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, HENRY JAMIESON, of Williamsburg, in the county of Kings and State of New York, 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 others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which—

Figure 1 represents a front elevation of my improved rotary engine.

Figure 2 is a vertical transverse section of the same, taken on the plane of the line *x x*, fig. 1.

Figure 3 is a back view, partly in section of the same.

Figure 4 is a detail front elevation, partly in section, of the same.

Similar letters of reference indicate corresponding parts.

My invention relates to rotary engines, and consists in improved means for reversing the steam inlet-valve.

A in the drawing represents the stationary cylindrical case or shell of the rotary engine.

B is the rotary piston, mounted upon the driving-shaft C, and provided with a projecting flange, *w*, that receives the steam pressure. All these parts are of suitable construction.

In the upper part of the case A, is arranged the inlet-pipe *a*, and the inlet-valve D.

The valve D is of cylindrical form, but has its lower part cut away and concave, as shown in fig. 3.

The concave lower face of the valve corresponds in its curve with that of the inner face of the shell, and serves to replace so much of the same as is cut away for the admission of the valve.

The valve D is provided with a steam channel, *b*, open at both ends, the middle part of said channel being at *c*, in uninterrupted communication with the steam supply-pipe *a*.

The valve D is mounted upon a horizontal arbor, *d*, which is hung in the shell or case A, and which, on the outside of the steam-chamber, carries two pro-projecting arms, *e* and *f*, as is clearly shown in figs. 1 and 4.

By means of an arm, *g*, the arbor is connected with a sliding rod, E, that is arranged on the outer part of the case.

This rod carries two springs, *h* and *i*, one on each side of the arm *g*.

When the rod E is moved in one direction, and locked by a pin, *j*, to one of its supporting-ears *k*, so as to compress the spring *i*, such spring will, by its power, hold the arm *g* to one side, and swing the valve D accordingly. The valve will thereby be held with one corner against the piston, as shown in fig. 3, and one end of its steam channel *b* is held open to admit steam to the case A.

The valve forms the partition within the annular steam-chamber for preventing the steam from going back.

The case A is provided with two exhaust-pipes, *l* and *m*, each having a valve, *n*.

When the valve D is in the position shown in fig. 3, the port *l* behind it must be opened, and the other *m* closed. The steam will then enter the steam channel through the port *b*, and press against the flange *w* for rotating the piston.

As the flange arrives again under the valve D, the steam will escape through the port *l*, but will retain enough power to carry the flange past the valve D.

While the flange *w* passes under the valve, the latter must be swung, so as to bring the concave portion of its face in line with the circumference of the steam-chamber.

It is swung into this position by means of a cam, *p*, mounted upon the shaft C, and striking the arm *e*.

The cam *p* will carry the valve clear of the flange *w*, and will retain the same in that position until the flange has passed. Then the spring *i* will again draw the valve into the former position.

For reversing the motion of the engine, the rod E is moved, so as to compress the spring *h*, whereby the valve D will be swung with its other end down, to conduct the steam against the opposite face of the flange *w*.

The port *l* is closed, and *m* opened, which is done by swinging a rod, F, that connects the cranks *r* of the two exhaust-valves.

The action will be the same as above described, except that the motion of the valve for clearing the flange *w* is produced by another cam, *s*, on the shaft C, which strikes the arm *f*.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

The arrangement of the sliding rod E, springs *h i* and arm *g*, to reverse the shaft and valve, as set forth.

HENRY JAMIESON.

Witnesses:

A. V. BRIESEN,

GEO. W. MABEE.