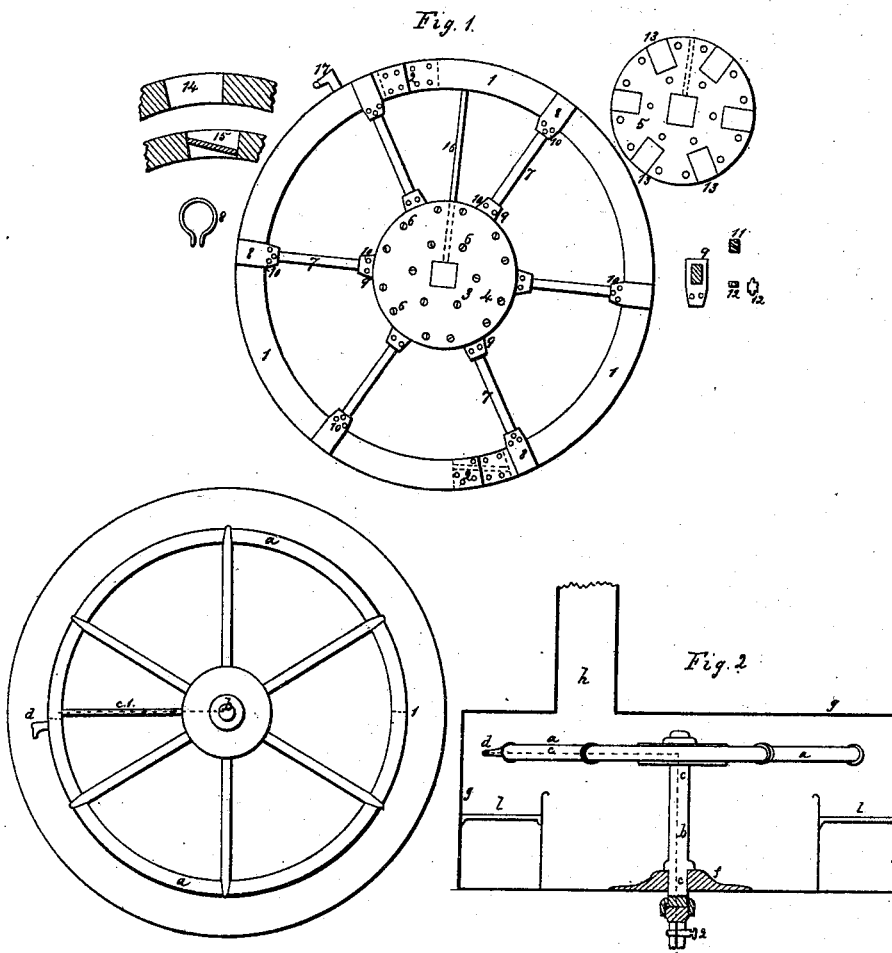


C. GALVANI.
ROTARY STEAM ENGINE.

No. 5,039.

Patented Mar. 27, 1847.



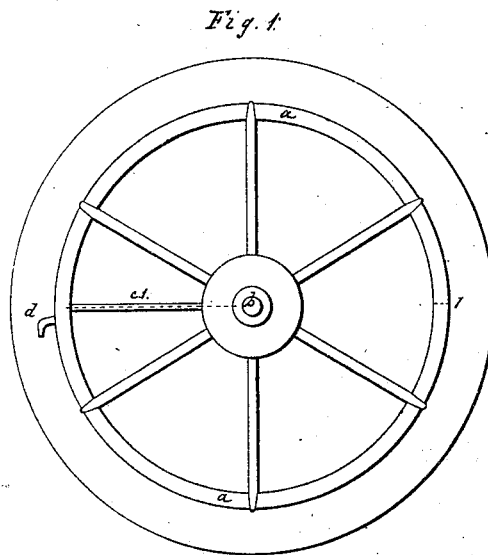
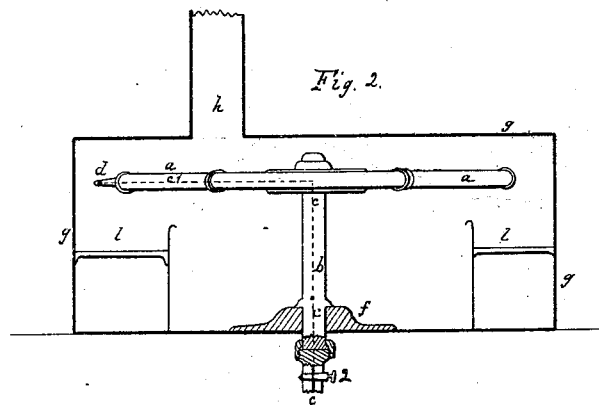
Witnesses;
James C. Lawrence
John A. Clark Jr.

Inventor;
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O. GALVANI.
ROTARY STEAM ENGINE.

No. 5,039.

Patented Mar. 27, 1847.



Witnesses;
James E. Lowell
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Inventor;
Charles Galvani

UNITED STATES PATENT OFFICE.

C. GALVANI, OF NEW YORK, N. Y., ASSIGNOR TO JNO. CLARK.

ROTARY STEAM-ENGINE.

Specification of Letters Patent No. 5,039, dated March 27, 1847.

To all whom it may concern:

Be it known that I, CARLO GALVANI, of the city, county, and State of New York, have invented a new and useful Improvement in Steam-Engines, and that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known and of the manner of making, constructing, and using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of my engine; Fig. 2. is a side elevation, the furnace being in section.

The same letters indicate like parts in both the figures.

The nature of my invention consists in combining a rotary engine with an annular furnace the revolving rim of the engine being heated so that when water is forced into it, it shall be flashed into steam which passes around through the cylinder and thence issues through an orifice on one side at a tangent to the wheel.

The construction is as follows: A furnace (*L, l*) is made of annular form with its fire directly under the rim of a wheel (*a*). This rim (*1*) is of cylindrical form and is made hollow. The arms (*7*) that connect the rim with the hub or center are affixed to the rim by straps (*8*) surrounding the rim or in any other convenient manner. This horizontal steam wheel is affixed to a vertical shaft (*b*) on which it revolves; the shaft is made hollow up to the hub from the bottom as shown by the dotted line (*c, c*) Fig. 2, and this tube connects with the hollow rim or cylinder (*a*) by means of a radial tube (*16*), (see Fig. 1) a small pipe (*17*) projects from the outside radially having its end which is open turned at a right angle so as to discharge

the steam tangentially, as is done in some other rotary steam engines; between the radial tube (*16*), and said tangent pipe there is a stopper (*14*) placed that causes the steam to make the circuit of the hollow rim (*a*) before making its exit, opposite to this stopper there is another (*15*) having a small hole through it so as to allow the steam in small quantities to pass on its way to the outlet at (*17*). (These stoppers are more clearly represented at Fig. 1 detached and by dotted lines in the plan.)

When a fire is built in the annular furnace (*e, e*) inclosed in a case (*g*) so as to make the blaze reverberate before passing out at the flue (*h*) it heats, the annular steam chamber (*a*) that is in the rim of the wheel above it to a high temperature, water is then forced in through the shaft either from above or below as the apparatus is constructed and is flashed into steam which passes around through the hole in the stopper (*15*) receiving more and more heat in its course and expanding proportionally around to the outlet at (*17*) where it makes its exit at a tangent causing the wheel to be revolved by the reaction.

Having thus fully described my improved engine what I claim as new therein and desire to secure by Letters Patent is—

The combination of the engine, constructed substantially as described, with a furnace in which it revolves, and which generates the steam with which it is driven, all as above set forth by which what is denominated a "flash steam" is employed in a rotary engine.

CARLO GALVANI.

Witnesses:

GEO. W. MORTON,
RICHARD MOLOY.