

E. W. & S. JENKINS.
Rotary Steam-Engines.

No. 141,226.

Patented July 29, 1873.

FIG. 1

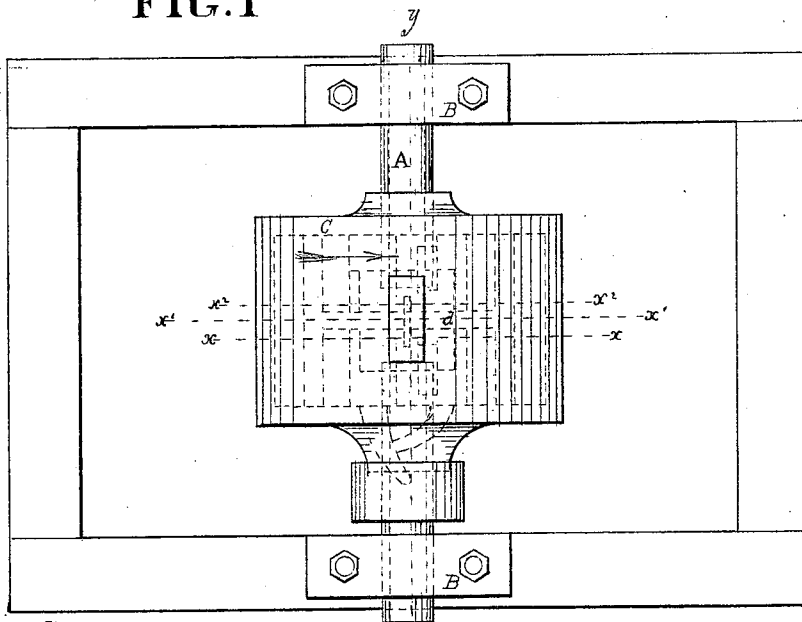


FIG. 2

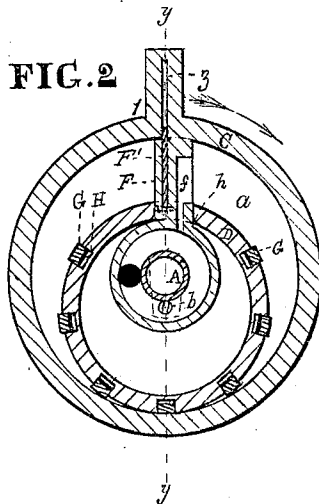


FIG. 3

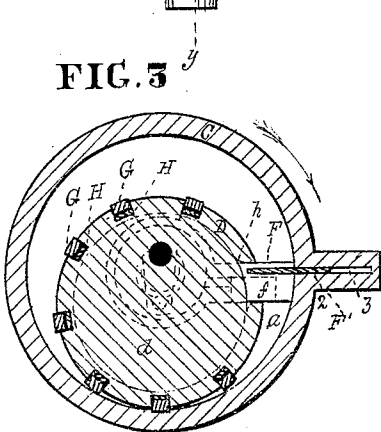


FIG. 4

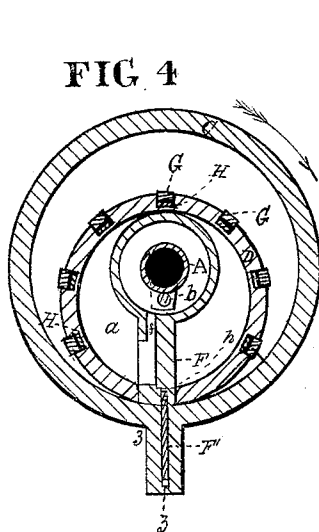
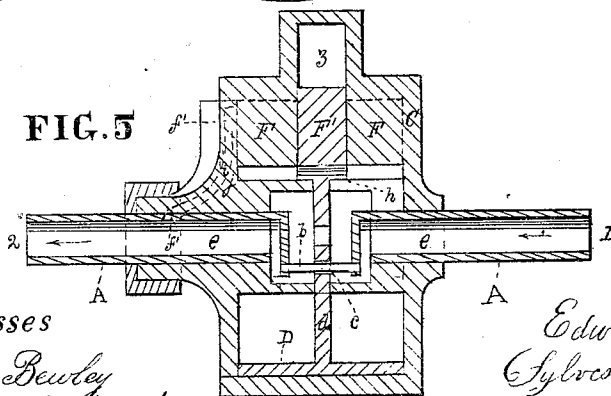


FIG. 5



Witnesses
Thomas P. Bewley
William W. Wright

Inventors
Edward W. Jenkins
Sylvester Jenkins
By Their Attorney
Stephen W. Harkness

UNITED STATES PATENT OFFICE.

EDWARD W. JENKINS, OF CAMDEN, NEW JERSEY, AND SYLVESTER JENKINS, OF LANDSDALE, PENNSYLVANIA.

IMPROVEMENT IN ROTARY STEAM-ENGINES.

Specification forming part of Letters Patent No. **141,226**, dated July 29, 1873; application filed May 22, 1873.

To all whom it may concern:

Be it known that we, EDWARD W. JENKINS, of the city and county of Camden and State of New Jersey, and SYLVESTER JENKINS, of Landsdale, in the county of Montgomery and State of Pennsylvania, have invented certain Improvements in Rotary Steam-Engines, of which the following is a specification:

Our invention relates to the combination and arrangement of an oscillating hollow piston with a steam-cylinder and hollow crank-shaft in such a manner that either by the revolution of the cylinder around the shaft, or of the shaft within the cylinder, a partially-rolling motion is given to the piston on the inner periphery of the cylinder, whereby steam-ports are opened and closed for the admission and exhaust of steam, and a continuous revolving of the cylinder or shaft, as the case may be, produced, as hereinafter fully described.

Figure 1 is a plan view of the improved engine. Figs. 2, 3, and 4 represent vertical sections, at the lines $x x^1$, x^2 , of Fig. 1, showing different positions of the piston D with the cylinder C. Fig. 5 is a vertical section of the cylinder C and parts attached, at lines $y y$ of Figs. 1 and 2.

Like letters in all the figures indicate the same parts.

A is a hollow crank-shaft, which is held at its ends in a fixed position by the pedestals B B. C is a revolving steam-cylinder, having suitable stuffing-boxes, (not shown in the drawings.) It is caused to revolve by the action of the steam admitted into the space a , between its inner periphery and the outer periphery of the ring D, which is hung on the crank b of the shaft A by means of the central opening c of the cross-plate d . The steam passes through the central bore e of the shaft A, at the end 1, into the interior of the piston D. From that it passes through the ports $f f$ in the fulcrum-neck F of the cylinder, on which the piston is caused to oscillate by means of the crank b . The slide F', across the slot z of the fulcrum-neck F, prevents the passage of

steam to the rear of the piston. When the cylinder is in the position it assumes in Fig. 2, the ports $f f$ of the fulcrum-neck F being wide open, the whole head of steam is pressing against the piston, which causes the cylinder C to revolve in the direction of the arrows. When the fulcrum-neck F has reached the point 2, as seen in Fig. 3, the ports $f f$ are partly closed by the slots $h h$ of the piston passing over them, and the steam is partly cut off, and when it reaches the point 3, as seen in Fig. 4, they are entirely closed, and, the exhaust-port f' being open, the steam in the space a is exhausted through the channel i of the cylinder-head j and the end 2 of the shaft A. As the cylinder continues to revolve the ports $f f$ are gradually opened until the fulcrum-neck F again reaches the point 1, and the slots $h h$ of the piston have passed from over the neck, and the whole head of the steam is again admitted through the ports. The piston is provided with packing-strips G, which are forced outward by means of springs H. A belt connects the cylinder with the machine to be driven. Instead of the cylinder revolving on the shaft A it may be stationary and the shaft be caused to revolve. The plate d may be at one end of the piston D instead of in the middle, as represented. In this case the hinged plate F' may be dispensed with and a slotted plate placed in the head d of the piston D to work over the neck.

We claim as our invention—

The combination of a hollow piston, D, and hollow crank-shaft A with the cylinder C, the piston having slots $h h$ in one side, which connect with the fulcrum-neck F of the cylinder, the neck being provided with ports $f f$, substantially as described.

EDWARD W. JENKINS.
SYLVESTER JENKINS.

Witnesses to ED. W. JENKINS:

STEPHEN USTICK,
THOMAS J. BEWLEY.

Witnesses to SYLVESTER JENKINS:

O. M. EVANS,
CHAS. S. JENKINS.