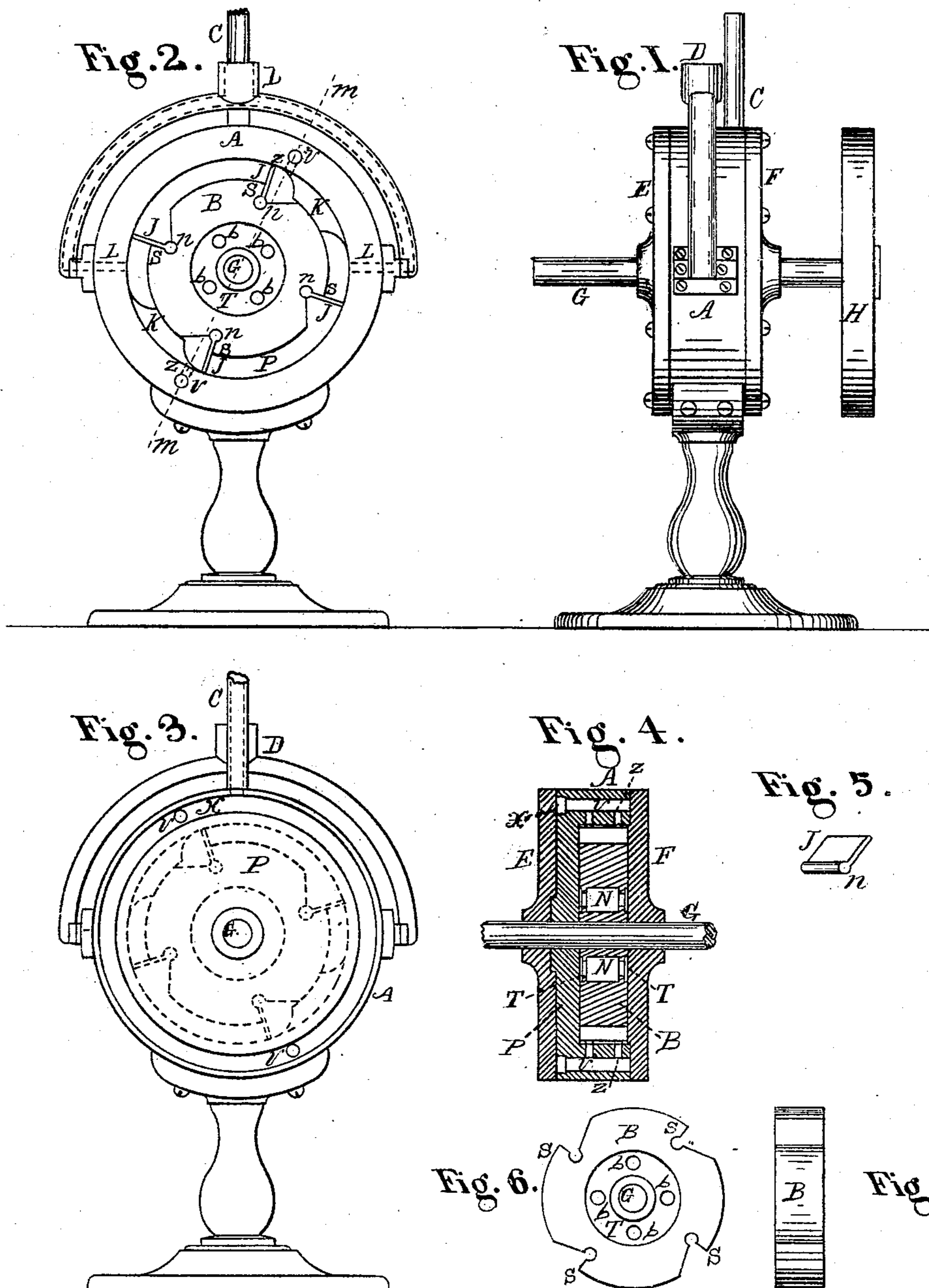


W. F. MOODY.
Rotary Steam-Engines.

No. 145,304.

Patented Dec. 9, 1873.



Witnesses:

J. R. Elliott.
Horatio L. Wait

Inventor:

William F. Moody
By J. A. Chapin Atty.

UNITED STATES PATENT OFFICE.

WILLIAM F. MOODY, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF, ABEL H. FROST, AND CHARLES L. AMES, OF SAME PLACE.

IMPROVEMENT IN ROTARY STEAM-ENGINES.

Specification forming part of Letters Patent No. **145,304**, dated December 9, 1873; application filed July 3, 1873.

To all whom it may concern:

Be it known that I, WILLIAM F. MOODY, of Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Rotary Steam-Engines, of which the following is a specification:

The nature of the present invention consists in a hollow cylinder communicating with the heads of the engines by means of porous plugs, whereby the water condensed from steam may enter the cylinder, and from it be imparted to the other parts; and in the combination of the hollow cylinder with the shell of the engine, as hereinafter described and shown.

In the drawing, Figure 1 is a side elevation of my improvement in rotary engines; Fig. 2, an end elevation thereof with a head removed to show the inside construction; Fig. 3, an elevation of the other end of the engine with head removed to show the groove which conveys steam to the ports; Fig. 4, a section on line *m*; Fig. 5, a perspective view of one of the wing-pistons; Figs. 6 and 7, elevations of the cylinder with wings removed.

A represents the shell of the engine, which is made of iron and has rigidly fastened to it a head, P, against which one end of the cylinder B rotates, and through which the shaft G passes. On the back side of the head P is formed an annular groove, X, which takes steam from a pipe, C, and conveys it to ports Z U Z U, and covering the groove X is a head, E, which is to be bolted fast to the shell A. The cylinder B is provided with wing-pistons J, which turn on bearings *n* so as to pass the bridges K and so as to bear against seats S, and thus sustain the pressure of steam without the friction arising when the outer ends of the piston J are caused to bear against the inside of shell A by force of steam. The bridges K may be cast solid to the shell A or fastened

to it, their object being to provide means for receiving and exhausting steam. The cylinder B is hollow, as shown at N, Fig. 4, and the holes *b b b b*, Fig. 2, communicating with the hollow chamber and annular grooves T T, are to be plugged with some porous substances, so that the water in the cylinder condensed from steam or oil put in the cylinder may pass through the porous substance and lubricate the parts in contact, and also form a constant packing around shaft G. The cylinder B is fast to shaft G, and when the engine is in motion the shaft communicates power to wheel H. Steam entering ports Z U Z U drives the pistons J, whose ends are steam-tight, against the shell A, and, after the steam has been used, it exhausts through ports L L and a pipe, D. The head F is to be fastened to the shell A by bolts, and is to fit the cylinder B steam-tight, the shaft G passing through the head to have a bearing at that end.

An engine thus constructed is found, in practice, to be very powerful and to require, comparatively, but little steam.

I have, in specification, described a complete engine, to enable others to understand how my improvement operates, but I limit the invention to the claim.

I claim and desire to secure by Letters Patent—

The cylinder B, provided with a chamber, N, and holes *b*, the latter being plugged with suitable porous substances to allow the chamber to fill with water from condensed steam, to lubricate the parts and allow oil, if used in the chamber, to also lubricate the parts, as and for the purpose set forth.

WILLIAM F. MOODY.

Witnesses:

G. L. CHAPIN,
J. H. ELLIOTT.