

No. 708,684.

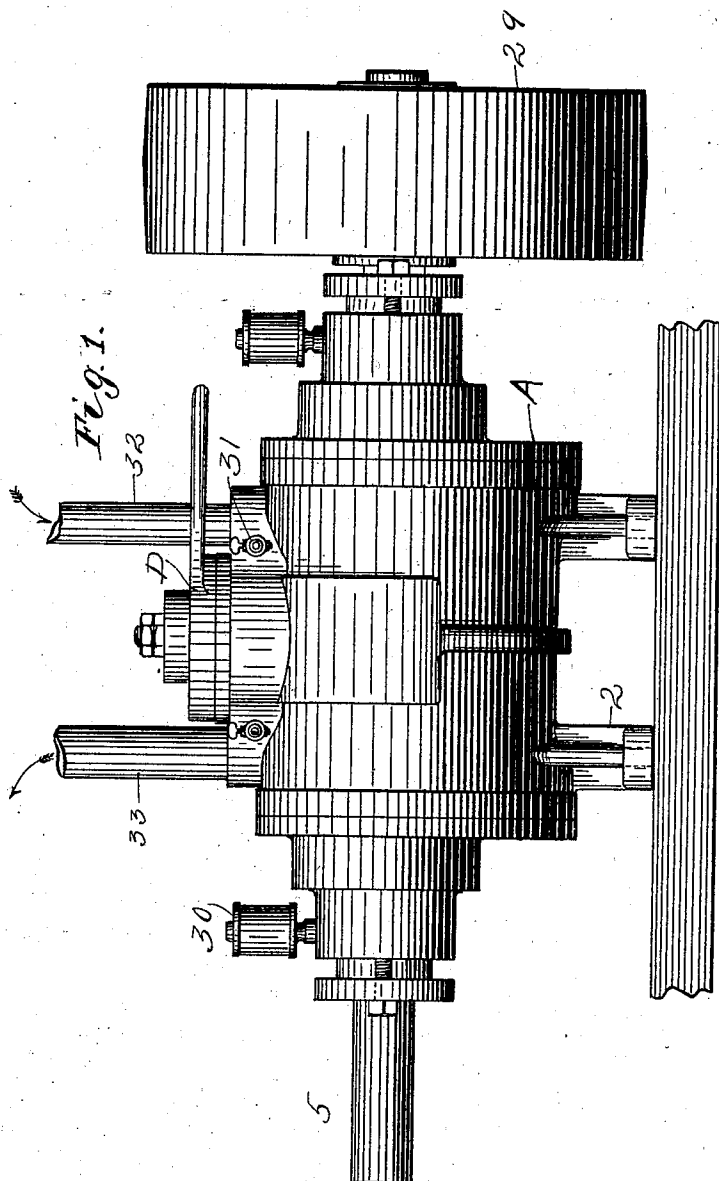
Patented Sept. 9, 1902.

I. W. WEPPL0.
ROTARY STEAM ENGINE.

(Application filed Aug. 20, 1900.)

(No Model.)

3 Sheets—Sheet 1.



Witnesses.

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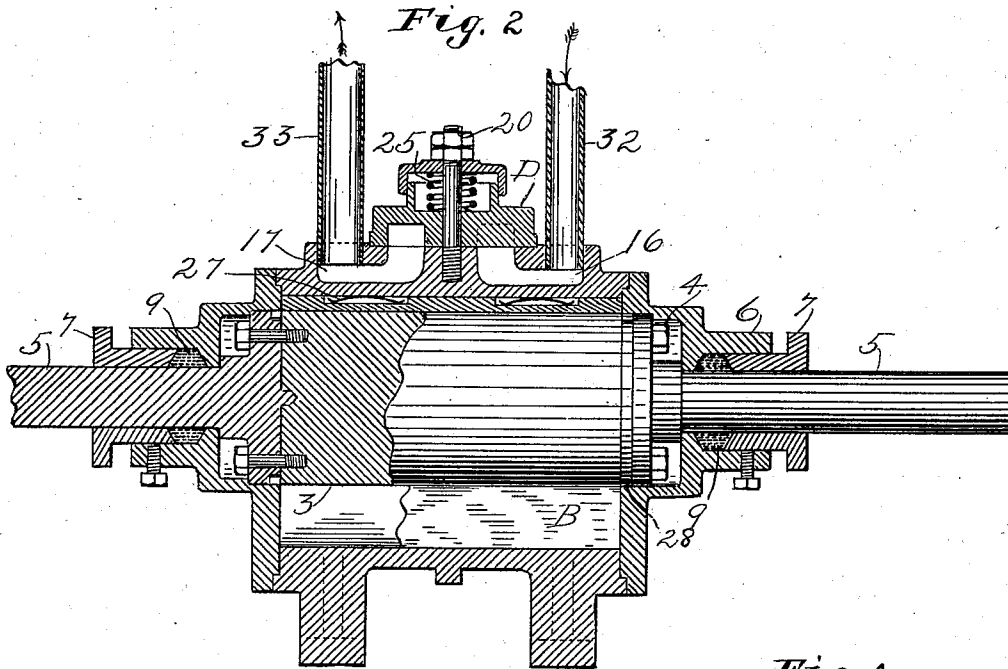
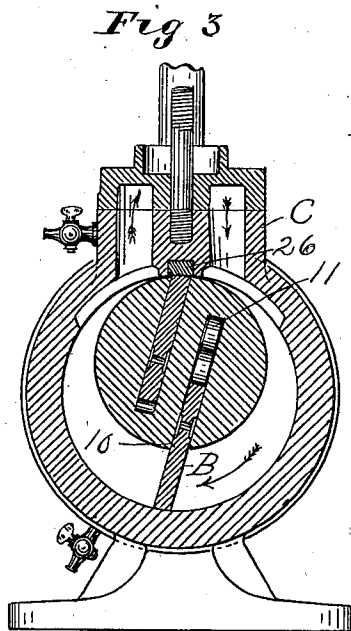
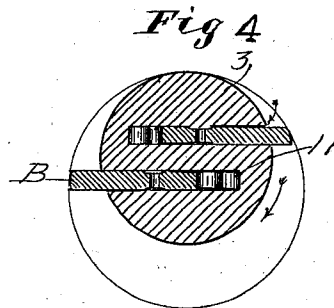
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3 Sheets—Sheet 3.

Fig. 5

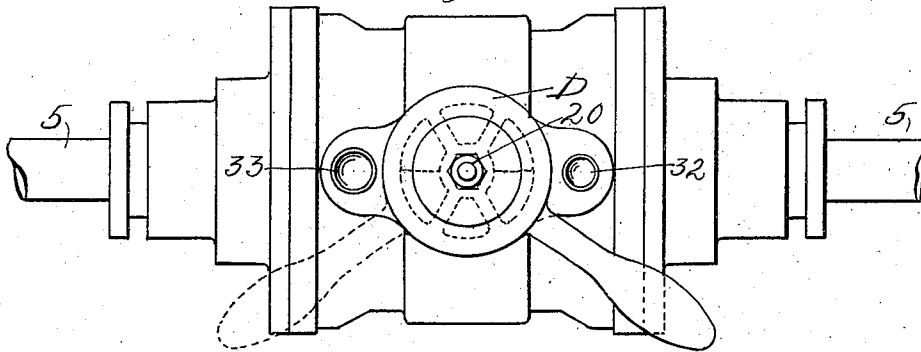
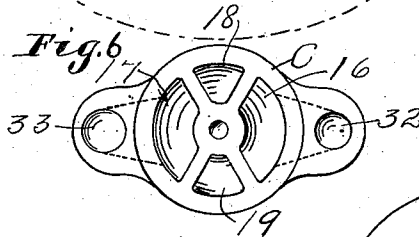


Fig. 11

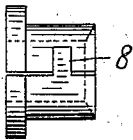


Fig. 7

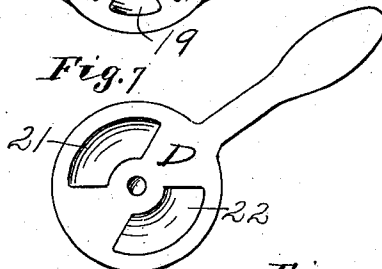


Fig. 8

Fig. 9

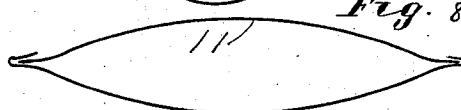
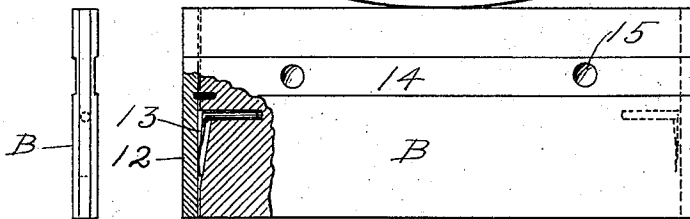


Fig. 10



Witnesses

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UNITED STATES PATENT OFFICE.

ISAAC W. WEPPLLO, OF BAUDON, MINNESOTA.

ROTARY STEAM-ENGINE.

SPECIFICATION forming part of Letters Patent No. 708,684, dated September 9, 1902.

Application filed August 20, 1900. Serial No. 27,382. (No model.)

To all whom it may concern:

Be it known that I, ISAAC W. WEPPLLO, a citizen of the United States, residing at Baudon, in the county of Renville and State of Minnesota, have invented certain new and useful Improvements in Rotary Steam-Engines, of which the following is a specification.

My invention relates to improvements in rotary steam-engines of that type in which a rotary piston-cylinder is eccentrically mounted in the piston-chamber and carries sliding wings which bear against the interior surface of the piston-chamber.

My invention consists particularly in providing improvements in the piston slides or wings, in the inlet-valve, in the construction of the piston-cylinder, and of other improvements hereinafter specifically described and claimed.

In the accompanying drawings, forming part of this specification, Figure 1 is a front elevation of my improved engine. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is a vertical cross-section. Fig. 4 is a section of the piston-cylinder. Fig. 5 is a top elevation of the engine. Fig. 6 is a view looking down upon the inlet-valve chest. Fig. 7 is a view of the inlet-valve. Fig. 8 is a view, partly broken away, of the piston-wing. Figs. 9 and 10 are detail views of the wings, and Fig. 11 is a detail of the journal-box bearing.

Referring to the drawings, A represents the outer shell or casing, supported by a suitable base 2. Within the casing or piston-chamber is arranged the piston-cylinder 3. Secured to the end of the cylinder 3 by means of bolts 4 are the shafts 5, passing through the end walls 6 of the piston-chamber and through journal-boxes 7. The shafts hold the piston-cylinder in the upper portion of the piston-chamber, as shown. The journal-boxes 7 are split and formed with a locking device 8, as shown in Fig. 11, and a packing-ring 9 is arranged between the inner end of the journal-boxes and the adjacent portion of the end wall of the piston-chamber.

B represents the wings, slidably arranged in the pockets 10 in the piston-cylinder. The wings or slides B are normally held forced outward in contact with the interior of the wall of the piston-chamber by means of the spring 11. Strips 12 are slidably supported

upon the ends of the piston-wings and are held outward by means of springs 13. In order to balance the valve and to hold the same outward when in operation without depending upon the spring, I make the wings slightly smaller than the width of the pocket and form upon opposite sides channels 14, said channels being connected by ports 15, passing through the wing. It will be evident that in operation the pressure upon the outer end of the wing will cause the inner end of the wing to be pressed against one side of the pocket. This will cause the steam to pass alongside that end of the wing until it reaches the channel and then pass through the port to the opposite channel and thence back of the piston-wing to exert an outward pressure thereon.

Upon the top of the piston-chamber is arranged the steam-chest C, formed with cavities 16 and 17, connected with the inlet and outlet ports 32 and 33, respectively, and with ports 18 and 19, leading into the piston-chamber. The valve D is rotatably supported upon said steam-chest by a bolt 20 and is provided with cavities 21 and 22, adapted to bring the inlet and outlet ports leading into the valve-chest into communication with the ports leading into the piston-chamber. The valve is held with spring-pressure in the chest by means of the spring 25. Secured in the bridge-wall of the piston-chamber between the ports 18 and 19 is a packing-strip 26, held against the piston-cylinder by the spring 27. To make the piston-chamber tight, I provide the packing-ring 28, secured in a slot in the inner disked end of the shafts 5. Suitable fly-wheel 29, lubricators 30, and exhaust-cocks 31 are provided.

I claim—

1. In a rotary engine of the class described, the combination with the piston-chamber, of a piston-cylinder eccentrically supported in said chamber, and wings slidable in pockets in said cylinder, said wings being loosely fitted in said pockets and each provided with a space at its rear end.

2. In a rotary engine of the class described, the combination with a piston-chamber, and a piston-cylinder eccentrically mounted therein, of piston-wings slidable in pockets in said cylinder, said wings being loosely fitted in said pockets and formed with ports connect-

ing the space upon opposite sides of said wings, and springs normally holding said wings outward.

3. In a rotary engine of the class described,
5 the combination with a piston-chamber and a piston - cylinder eccentrically supported therein, of piston-wings slidable in pockets in said cylinder, said wings being each formed upon its opposite sides with channels con-

nected by ports in the manner and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC W. WEPPLO.

Witnesses:

ELGIE H. EVANS,
H. S. JOHNSON.