

(No Model.)

L. N. BÉGIN.
ROTARY STEAM ENGINE.

No. 332,040.

Patented Dec. 8, 1885.

Fig. 1.

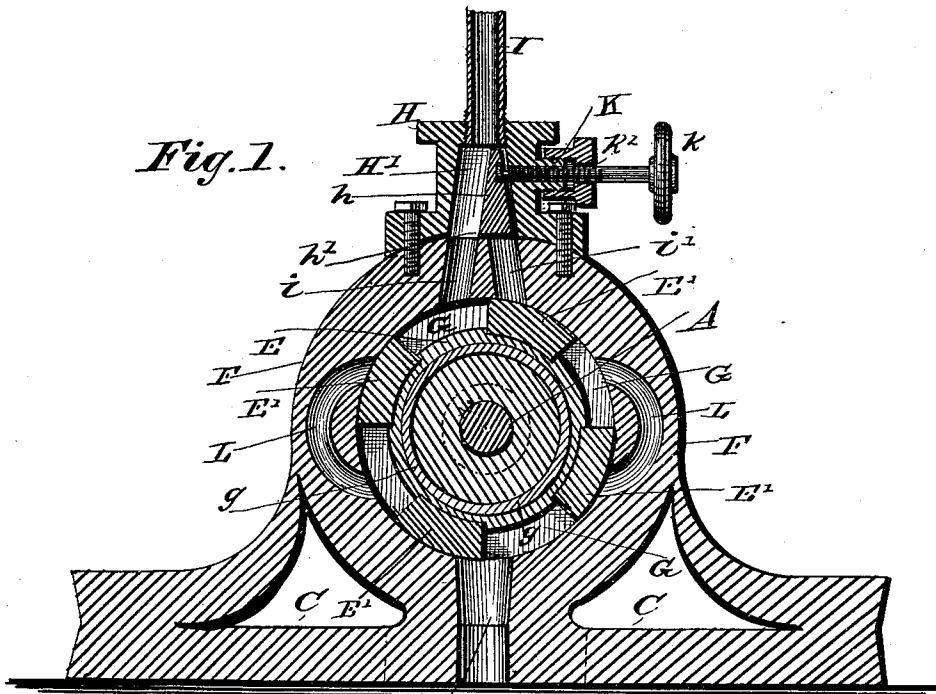
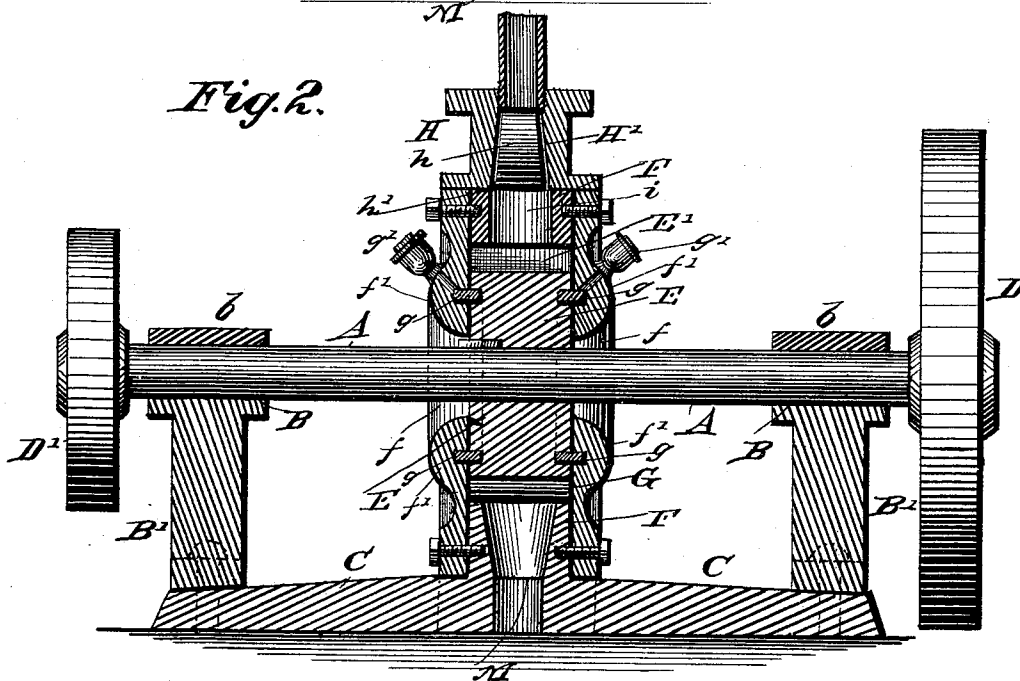


Fig. 2.



WITNESSES
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ROTARY STEAM-ENGINE.

SPECIFICATION forming part of Letters Patent No. 332,040, dated December 8, 1885.

Application filed September 18, 1885. Serial No. 177,481. (No model.)

To all whom it may concern:

Be it known that I, LOUIS N. BÉGIN, a citizen of the United States, residing at Faribault, in the county of Rice and State of Minnesota, have invented certain new and useful Improvements in Rotary Steam-Engines; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a vertical sectional view. Fig. 2 is a transverse sectional view of the same.

This invention relates to improvements in reversible rotary steam-engines; and it consists in the construction and novel arrangement of parts, hereinafter described, and pointed out in the appended claim.

Referring to the accompanying drawings by letter, A designates the main shaft of the engine, passing through bearings B in the blocks B', bolted to the bed-plate C, which supports the main case of the engine, hereinafter described. The upper part, b, of each bearing B is made separate therefrom and bolted down thereon when the shaft has been set in place. The main shaft carries a fly-wheel, D, to the outside of one bearing-block, and a driving-pulley, D', to the outside of the other, as shown. Secured on the main shaft and turning therewith between the bearing-blocks is the piston disk or cylinder E, which has secured to its periphery, at equal distances apart, the four piston-blocks E' E'. The said piston-blocks move within the hollow interior of the casing F, which rises from the bed-plate C, the latter being cross or X-shaped, to form proper supports both for the casing and the bearing-blocks. The casing above its connection with the bed-plate is cylindrical, and has a circular opening, f, through its center, surrounded on its edges by the rounded flanges f' f', as shown. The disk E stands centrally within the casing, and its periphery forms, with the floor of the interior of the casing, the circular chamber G, in which the piston-blocks E' fit and move.

g g are steel rings, concentric with the main

shaft and fitting into proper annular recesses on the inner surfaces of the casing adjacent to the flanges f' and in the outer surfaces of the piston-disk. The rings pack the disks and prevent the escape of steam between it and the casing into the opening f.

g' g' are cups and tubes through which the rings g and their recesses may be lubricated.

H is a valve-chest bolted to the flattened upper part of the periphery of the casing, and having the triangular interior H', in which moves the valve h, triangular in section, on a seat, h', formed on the periphery of the casing. The steam-pipe I, controlled by a proper throttle-valve, connects with the top of the steam-chest and enters the steam-space H' above the valve h. From the valve-seat h' runs two similar steamways, i i', to the steam-chamber G. The said ways are of sufficient diameter to have the valve close the port of one and open that of the other as it slides from one side to the other of the steam-space.

K is a threaded spindle, controlled by the hand-wheel k, and passing through a stuffing-box, k', on the side of the valve-chest. The inner end of said spindle connects with the valve, which can be moved thereby from side to side of the steam-space H', to reverse the engine.

L L are curved steamways made in the casing and on the side of the steam-chamber G, connecting by both ends therewith.

M is the exhaust-way, leading from the bottom of the steam-chamber down through the casing and discharging by a proper port. If desired, the exhaust-way may pass through the bed-plate.

The method of running the machine is as follows: The valve h is so set as to admit steam, say, by the way i, and cut off the way i'. The steam impinging upon the piston-blocks drives the latter around the steam-space in the proper direction, the exhaust taking place through the exhaust-way. To reverse, the valve is moved to open the way i' and cut off the way i, when the piston-blocks will be driven in the opposite direction. Whichever way the piston-blocks are moving, the curved way L on the proper side will permit steam to pass around the upper block on that side, and impinge, also, on the lower one, as is evident.

Having described this invention, what I

claim, and desire to secure by Letters Patent,
is—

In a rotary engine, the combination of the casing F, having the steam-ports above and
5 the exhaust-ports below, the disk E, secured on the shaft and rotating therewith, the piston-blocks E', secured to the periphery of the disk and moving in the steam-chamber G, and the opposite steamways, L L, on the sides of

the chamber G, and communicating at both 10 ends therewith, substantially as specified.

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

LOUIS N. BÉGIN.

Witnesses:

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