

D. A. DEMING & S. W. WICKES.

Rotary-Engine.

No. 159,023.

Patented Jan. 26, 1875.

Fig. 1.

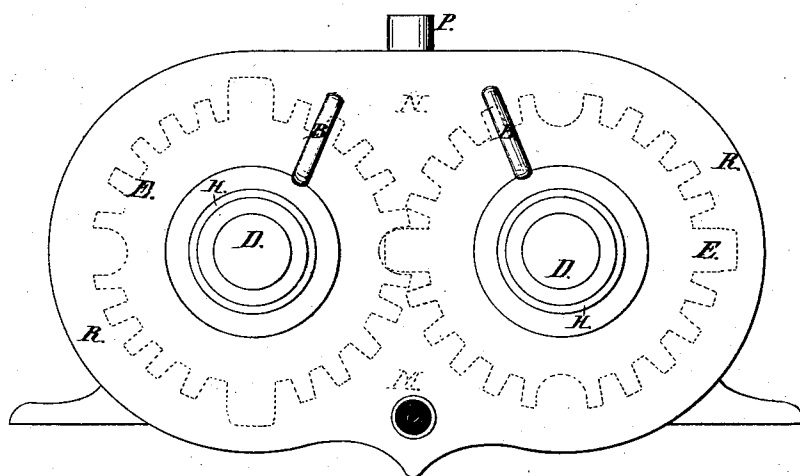
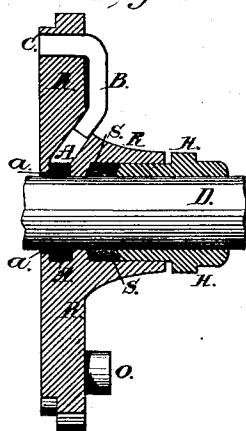


Fig. 2.



Witnesses:

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by Chas. J. Pilety, their Atty.

UNITED STATES PATENT OFFICE.

DAVID A. DEMING AND STERLING W. WICKES, OF SENECA FALLS, NEW YORK, ASSIGNORS TO H. C. SILSBY, OF SAME PLACE.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. **159,023**, dated January 26, 1875; application filed June 19, 1873.

To all whom it may concern:

Be it known that we, DAVID A. DEMING and STERLING W. WICKES, of Seneca Falls, New York, have invented an Improvement in Rotary Steam-Engines, of which the following is a specification:

The object of our invention is to conduct into the exhaust-chamber the steam which collects between the sides of the cams and the case when the engine is in operation, and, escaping through the stuffing-box into the open air, occasions great annoyance to the engineer, and settles on the metallic parts of the engine, thereby rusting them. By disposing of the steam in the above manner, the stuffing-box may be packed much looser than formerly.

The following is a description of our invention, reference being had to the accompanying drawings.

Figure 1 is a side view of the case of a rotary steam-engine, the cams being shown by the dotted lines. The other side of the case is constructed in a similar manner. Fig. 2 is an end view of that part of one side of the case which embodies our invention, the other side being constructed in a similar manner.

R R is the case, in which M is the steam-chamber, and N the exhaust-chamber. E E are the cams, and D D their axles. S is the stuffing-box which surrounds the axle, and H is the gland. A is a chamber, which also surrounds the axle, and is cut in the side of the case R. This chamber communicates with the exhaust-chamber N by means of the pipe B

and opening C. The object of this chamber and pipe is to receive the steam which forces itself between the axle of the cam and its bearing, and conduct it to the exhaust-chamber N, where it is utilized with the rest of the exhaust-steam. In Fig. 2, *a* shows the place between the axle and its bearing through which the steam forces itself. The pipe B may be constructed in the side of the case R, or anywhere on the outside. When the engine is in operation the steam, entering the steam-chamber at O, and passing in the direction of the arrows, as shown in Fig. 1, enters the exhaust-chamber N, and exhausts at P; but, the sides of the cams and the case not being perfectly air-tight, a portion of the steam works between them, and out between the axle and its bearing, as shown at *a*, and formerly forced itself through the stuffing-box and packing into the open air; but in our invention the chamber A receives this steam, from which, by means of the pipe B, it is conducted to the exhaust-chamber, where it is utilized.

We claim as our invention—

The combination, in rotary steam-engines, of the chamber A and the pipe B, communicating with the exhaust-chamber N, in the manner and for the purposes substantially as specified.

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Witnesses:

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