(No Model.) 2 Sheets—Sheet 1.

W. C. POOLEY.

ROTARY ENGINE.

No. 251,733. Patented Jan. 3, 1882.

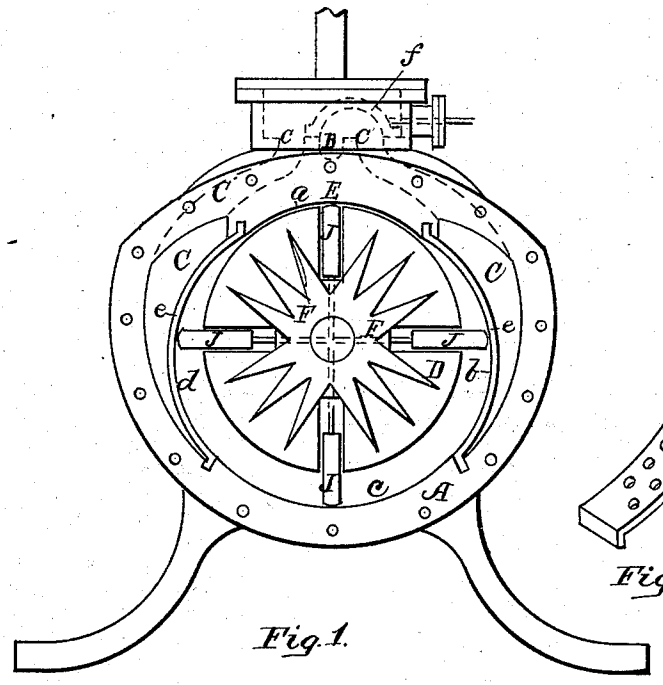


Fig. 1.

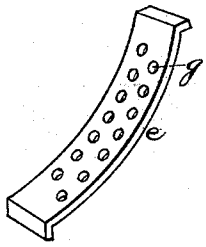


Fig. 2.

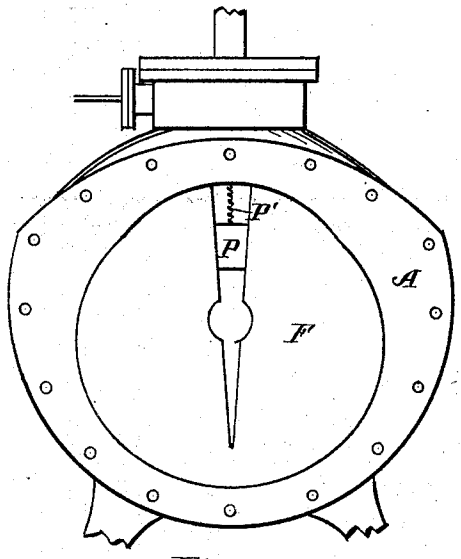


Fig. 2.

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Atty

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

W. C. POOLEY.

ROTARY ENGINE.

No. 251,733. Patented Jan. 3, 1882.

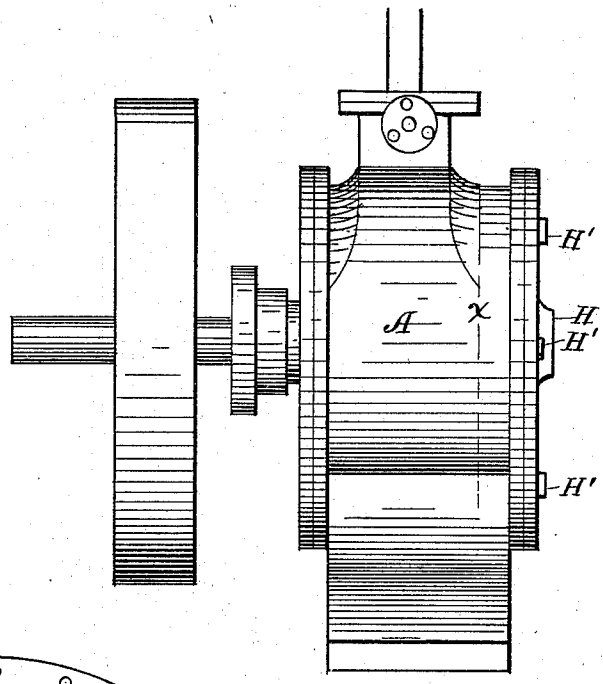


Fig. 3.

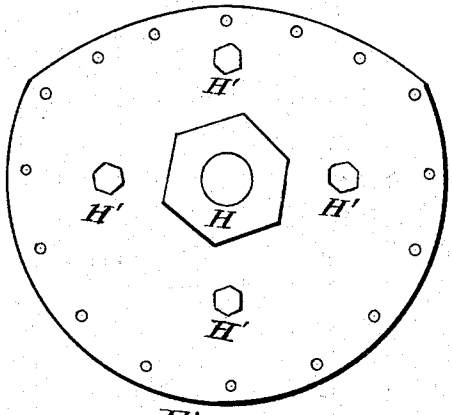


Fig. 4.

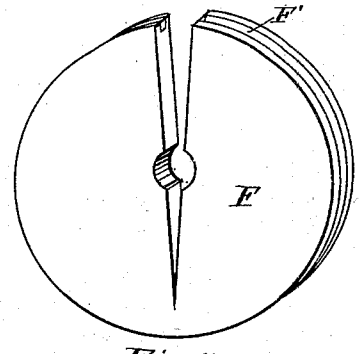


Fig. 5.

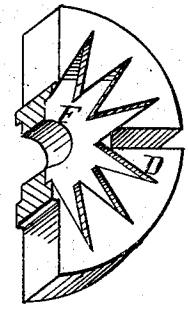


Fig. 6.

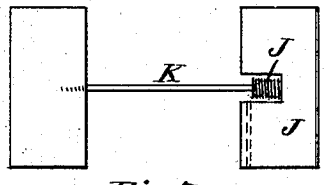


Fig. 7.

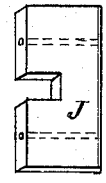


Fig. 8.

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Atty.

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UNITED STATES PATENT OFFICE.

WILLIAM C. POOLEY, OF LOUISVILLE, KENTUCKY.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 251,733, dated January 3, 1882.

Application filed May 18, 1881. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM C. POOLEY, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Rotary Engines, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front view of the engine with the cap of the casing removed. Fig. 2 is a rear view with the cap of the casing removed. Fig. 3 is an edge view. Fig. 4 is a view of the casing cap. Fig. 5 is a perspective view of the inside adjustable plate. Fig. 6 is a section of the slotted wheel; and Figs. 7 and 8 are detail views of the blades, and Fig. 9 is a perspective view of the curved perforated plate.

The object of the present invention is to improve the rotary engine lately patented by me and numbered 238,963.

It consists in improving the structure of the packing-plate for the side of the wheel and for an improved form of wheel, as will be hereinafter more fully set forth.

In the accompanying drawings, A represents the casing of the engine. The interior wall of this casing is of peculiar structure and is of primary importance in constructing the engine. For convenience I have designated the first circle of the wall above the wheel by *a*. This part of the wall is concentric and of equal arc with the wheel D, and extends a distance of exactly one-fourth of the way around the wheel. The second curve of the wall, *b*, is also of equal arc with the wheel, but eccentrically disposed thereto, so that the lower part of the wall recedes from the wheel. The third curve of the wall, *c*, is also concentric with the wheel, but of greater arc; and the fourth curve, *d*, is the same in arc as the second curve, *b*, and like it eccentrically disposed to the wheel. It will be observed that the parts *e*, forming the curves *b d*, are removable and perforated, as fully described in my former Letters Patent, and therefore need not be specifically referred to here.

C C represent chambers, into which the steam passes or may pass from either of the portways C′ C′.

f represents an arched slide-valve, the operation of which is well known.

The wheel D is provided with four oppositely-disposed slots. Both faces of this wheel are cut out, as shown at F, forming star-shaped depressions or recesses. The object of this is to present a small wearing-surface for the sides of the wheel, and thus decrease friction in the operation of the wheel, as well as to equalize the wear. The cavity F is further utilized as a chamber for lubricating-oil.

J represents the sliding gate or blades placed in the slots, and these blades are connected with each other by means of the rods K, a spring, J′, being interposed between one end of the rod and the blade, so as to form a cushion.

In Fig. 2 the rear view of the engine is shown. This figure represents the formation or curvature of the inside of that part of the case A in which the adjustable plate F′ is fitted. This plate is designed to take up the wear on the sides of the wheel D, and to place it into position the wedge P is removed and the plate sprung in. The wedge P is then replaced and kept tight by means of a screw, P′, operating between the wedge and the casing. The perforated plate *e* does not come in contact with the plate F′ in the same manner as the wheel D, but forms a continuation of the inside wall of case A. The dotted line *x* in Fig. 3 shows where the wheel D and plate F′ come in contact and where the perforated eccentric plate *e* terminates, or its depth in the case A.

Fig. 4 is the rear plate, having the stuffing-box H and the screws H′ passing through the casing and acting against the plate F′ for regulating the wear of the wheel D. The edge of the plate F′ is grooved at F^2 to receive packing material and absolutely prevent the escape of steam.

What I claim as new is—

1. In a rotary engine, the wheel D, having the depressions F on the sides, for the purpose of forming oil-chambers and to equally distribute the metal of the wearing-surface, as herein set forth.

2. In a rotary engine, the adjustable plate F′, having the groove F^2, for packing material, in combination with the set-screws H′ in the rear cap, and with the wheel D, as herein set forth.

WILLIAM C. POOLEY.

Witnesses:
W. GEO. DOLL,
D. G. MCNAIRY.