(No Model.)

S. AVIS.

ROTARY ENGINE.

No. 350,408. Patented Oct. 5, 1886.

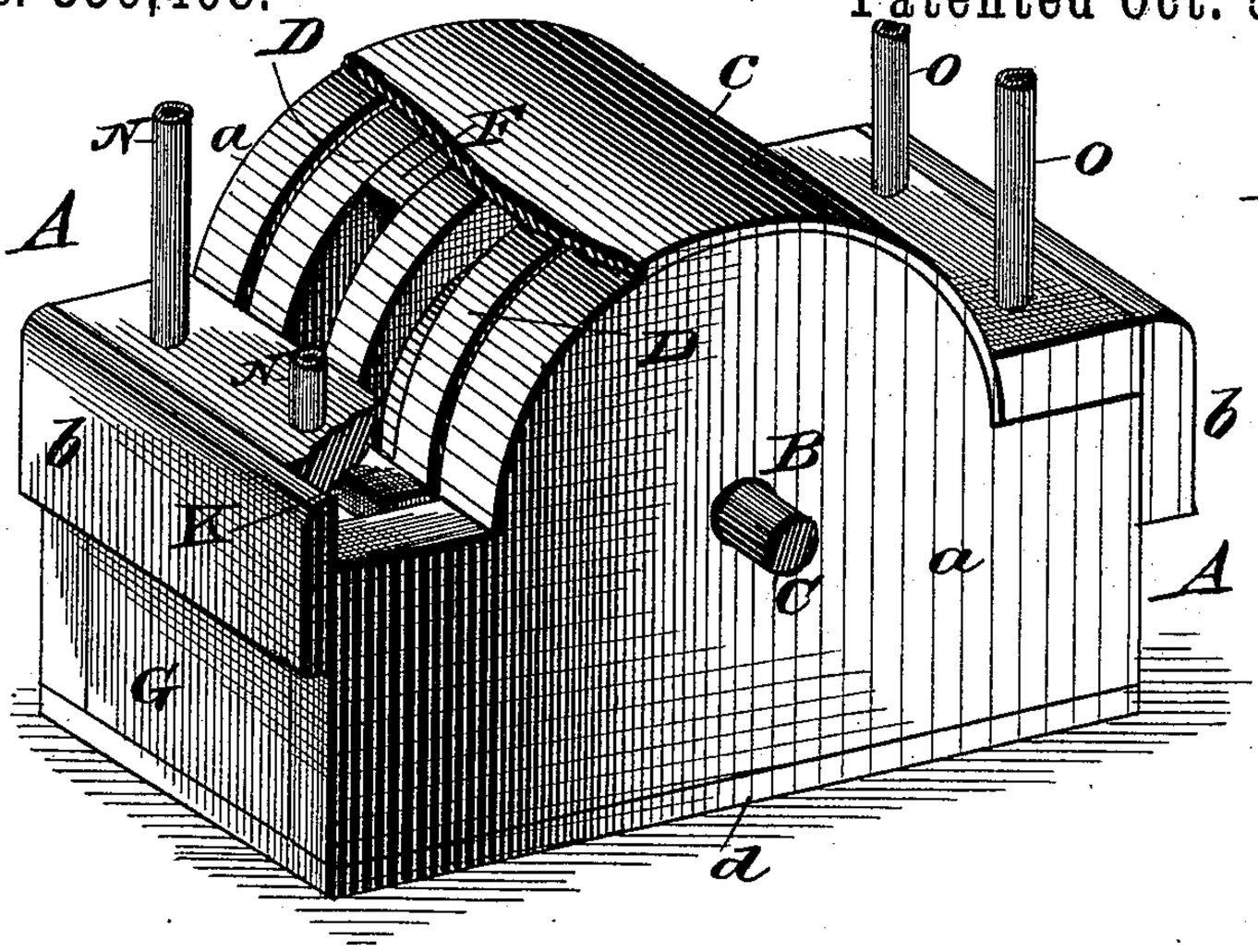


Fig. 1.

Fig. 2.

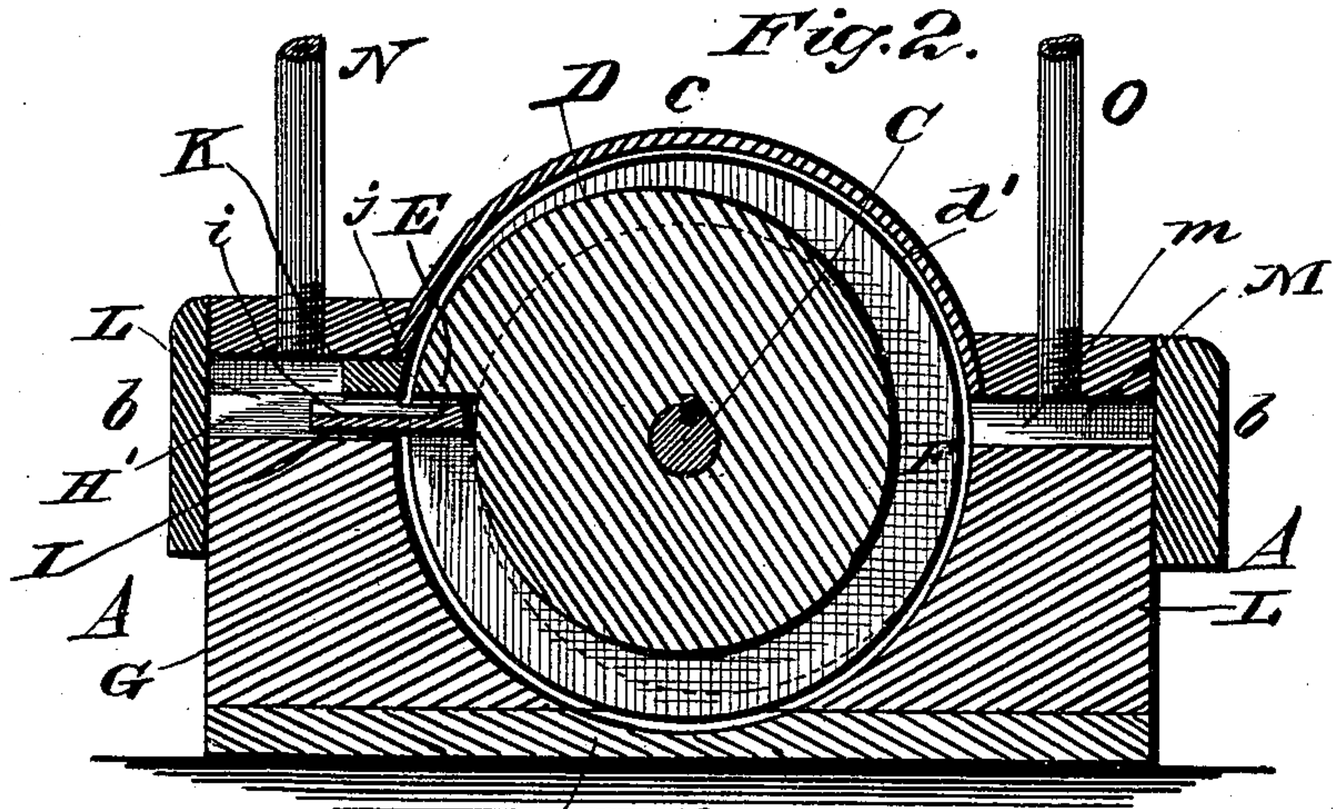
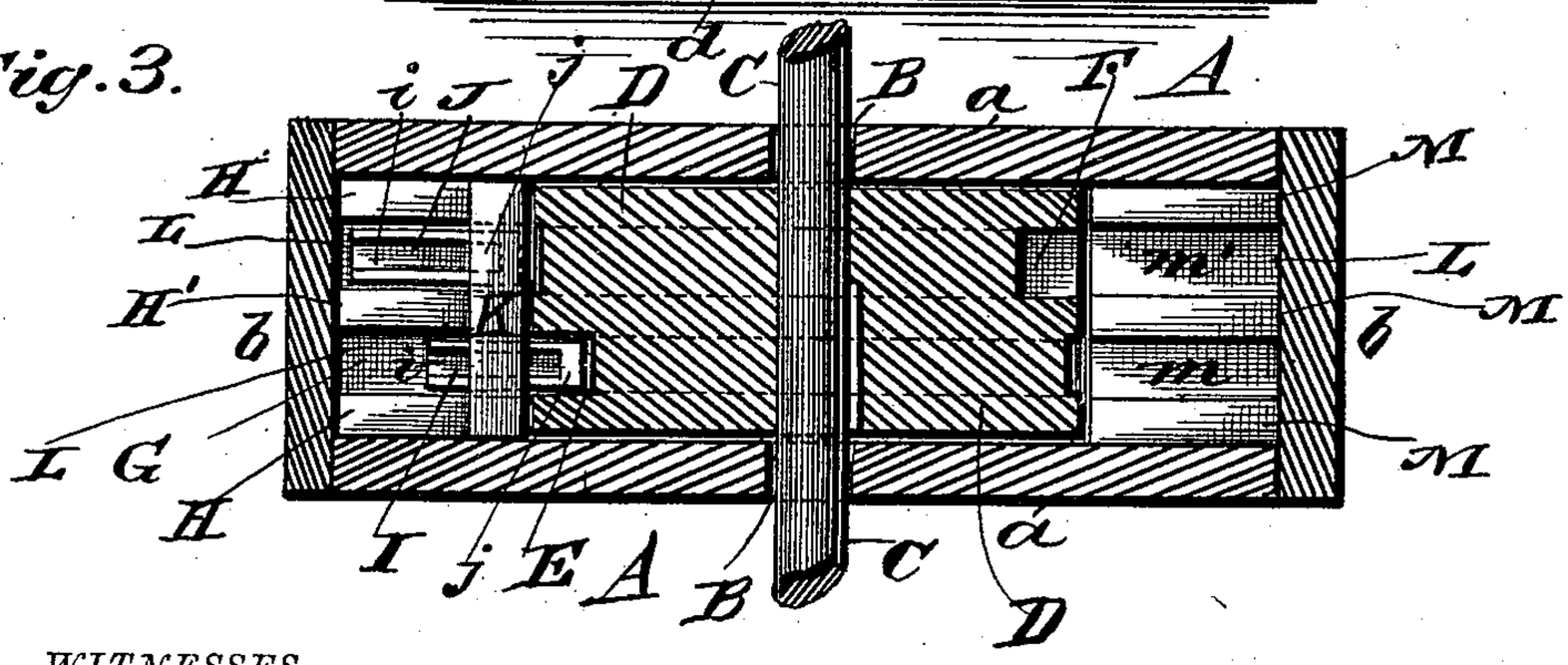


Fig. 3.



WITNESSES

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SAMUEL AVIS, OF BURDEN, KANSAS, ASSIGNOR OF ONE-HALF TO WILLIAM K. McCOMAS.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 350,408, dated October 5, 1886.

Application filed April 22, 1886. Serial No. 199,768. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL AVIS, of Burden, in the county of Cowley and State of Kansas, have invented certain new and useful Improvements in Rotary Engines; and I do hereby 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 pertains to make and use the same.

My invention relates to rotary engines, the object being to provide a simple and durable construction of engine.

The invention consists in the combination, with a suitable casing, of a wheel eccentrically recessed on each side of the center of its periphery to form opposite peripheral heads or stops and oppositely-operating steam-slides and exhaust-passages, as will be fully described hereinafter.

The invention further consists in the features of construction and combinations of parts hereinafter set forth.

In the accompanying drawings, Figure 1 is a perspective view of my improved engine with parts broken away. Figs. 2 and 3 are sectional views of the same.

A represents a casing, consisting of the sides *a a*, end blocks, *b b*, and top *c* and bottom *d*. The sides *a a* of the casing are each formed with a bearing, B, to receive the shaft C of a wheel, D, and the end blocks and top and bottom of the casing are made to conform to the contour of the wheel, so that the latter will revolve in a substantially circular space, *d'*, as seen in Fig. 2. The wheel D is eccentrically recessed on each side of the center of its periphery to form heads or stops E and F, which are arranged diametrically opposite each other, but in different vertical planes. Upon one end block, G, of the casing, and beneath the cover thereof, are secured three walls or partitions, H H H', equidistant apart, to form spaces L L to receive slides I and J. The upper sides of these slides are grooved or recessed to form steam-spaces *i i* and heads *j j*, for a purpose to be explained. The inner ends of the walls or partitions H H and H' are connected by a cross-bar, K, which serves to guide the slides I and J in their alternate movement, and prevents said slides from running from their seats. Upon the other end block, L, of the casing are also secured three partitions, M M M, to form spaces *m m'*, registering with the recessed sides of the periphery of the wheel and serving as exhaust-passages for the steam.

N N represent steam-supply pipes to supply steam to the slides I and J, and O O are exhaust-pipes.

I have not shown in the drawings any valve mechanism for regulating the supply of steam; but I design to employ any suitable valve mechanism to insure an alternate supply to each of the steam-slides I and J.

The operation of the engine is as follows: Steam is admitted to the space *i* of the slide I to strike the head *j*, and thus the slide is thrust inward until it strikes that portion of the periphery of the wheel which is opposite to it, the slide moving under the cross-bar K. The steam then fills the space between the head E and the casing and revolves the wheel, the steam exhausting when it reaches the passage *m*. The further revolution of the wheel operates (by the contact of the gradually-increasing periphery with the inner end of the slide) to return the slide I to its position, when the other slide, J, begins its operation in a similar manner. Thus the alternate operation of the slides insures a continuous revolution of the wheel.

I am aware that it is not broadly new to employ in a rotary engine a rotary drum formed with stops, in combination with slides adapted to be operated by contact with said drum; hence I make no broad claim for such a combination; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with the casing and shaft, and the drum formed with peripheral stops, as described, of the slides recessed to form steam-spaces *i* and heads *j*, and a cross-bar, K, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

SAMUEL AVIS.

Witnesses:
E. P. YOUNG,
J. G. HAWKINS.