(No Model.)

M. FAY.

ROTARY ENGINE.

No. 280,162. Patented June 26, 1883.

Fig. 1.

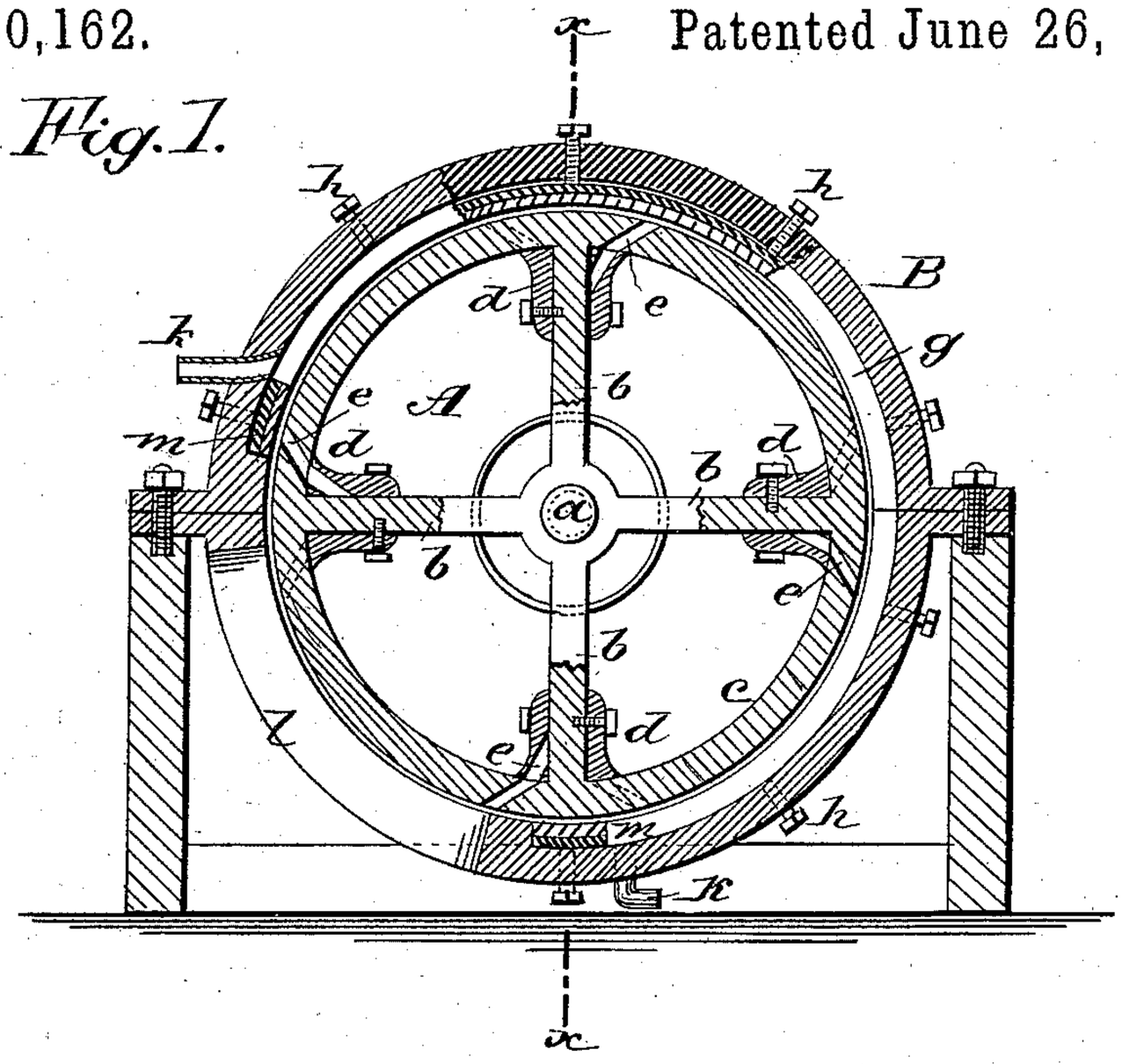
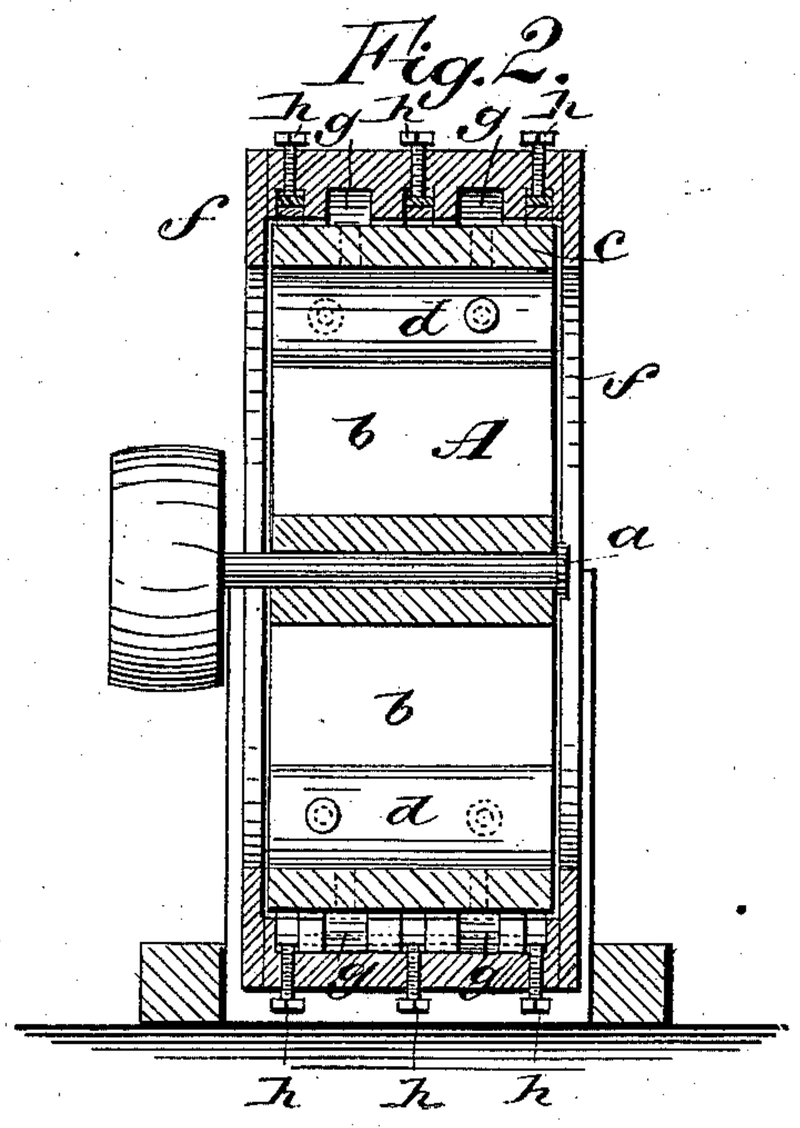


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

MOSES FAY, OF TOWNVILLE, PENNSYLVANIA.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 280,16?, dated June 26, 1883.

Application filed April 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, MOSES FAY, of Townville, in the county of Crawford and State of Pennsylvania, have invented a new and Improved Rotary Engine, of which the following is a full, clear, and exact description.

In my improved rotary engine the steam is applied directly to the surface of a wheel containing numerous pockets, as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both figures.

Figure 1 is a sectional side elevation of my improved rotary engine. Fig. 2 is a transverse section of the same on line *x x*, Fig. 1.

The wheel A on the shaft *a* is preferably formed with spokes *b* and a rim, *c*. Upon each spoke, and beneath the rim *c*, are pockets *d*, formed by plates attached to the spokes, and the rim of the wheel is formed with openings or passages *e*, leading to the pockets. There are two of these pockets and two passages in connection with each spoke, one set being used when the wheel is to be revolved in one direction and the other when it is reversed.

B is the case of the engine, which may be formed in a single piece or in two pieces bolted together, and is provided with ring-plates *f f* at the sides, extending down over the rim of the wheel. The internal diameter of the case is slightly greater than the external diameter of the wheel, and the case is formed internally with five grooves or recesses, *g*, extending around somewhat more than half the circumference of the wheel. In the two outer and in the middle groove or recess are packing-strips, which can be set up by screws *h*, that are tapped through the case B, and the two intermediate grooves or recesses serve as steamways, to which steam is supplied by pipes *k k*. At *l* in the case B are slots corresponding to the steam-recesses, for allowing of the exhaust of the steam, and at the ends of the recesses *g* are cross-packings *m*, that serve to cut off steam from the exhaust-openings *l*.

In the operation of the engine, steam being admitted by one of the pipes *k*, it fills one of the grooves *g*, and, passing therefrom through the passage *e*, fills the pockets. With the arrangement of four pockets, as shown, three will be constantly filled with steam, while the fourth will be exhausting; but I do not limit myself to any number of pockets, as they may be as numerous as desired. The pockets extending the full width of the spokes and being shallow, the force of the steam is exerted upon the spokes and causes the rotation of the wheel. The wheel will be revolved in either direction, according as to which steam pipe and recess are used, and where a reversal is not required there need be but a single steam-recess and steam-supply pipe.

This engine will use steam with great economy, and is adapted for use where small power is required.

I am aware that it is not new to combine in a rotary engine a middle flanged and reversely-bucketed cylinder with a middle grooved case made internally eccentric; but

What I do claim is—

In a rotary engine, the wheel A, having spokes *b* and rim *c*, with passages *e*, in combination with the plates *d*, forming pockets, attached under rim *c* to each spoke, and the case B, provided with flanges lapping the wheel-rim, the exhaust-slots *l*, and steamways *g*, the latter supplied by pipes *k*, and extending more than half the wheel's circumference, substantially as shown and described.

MOSES FAY.

Witnesses:
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