

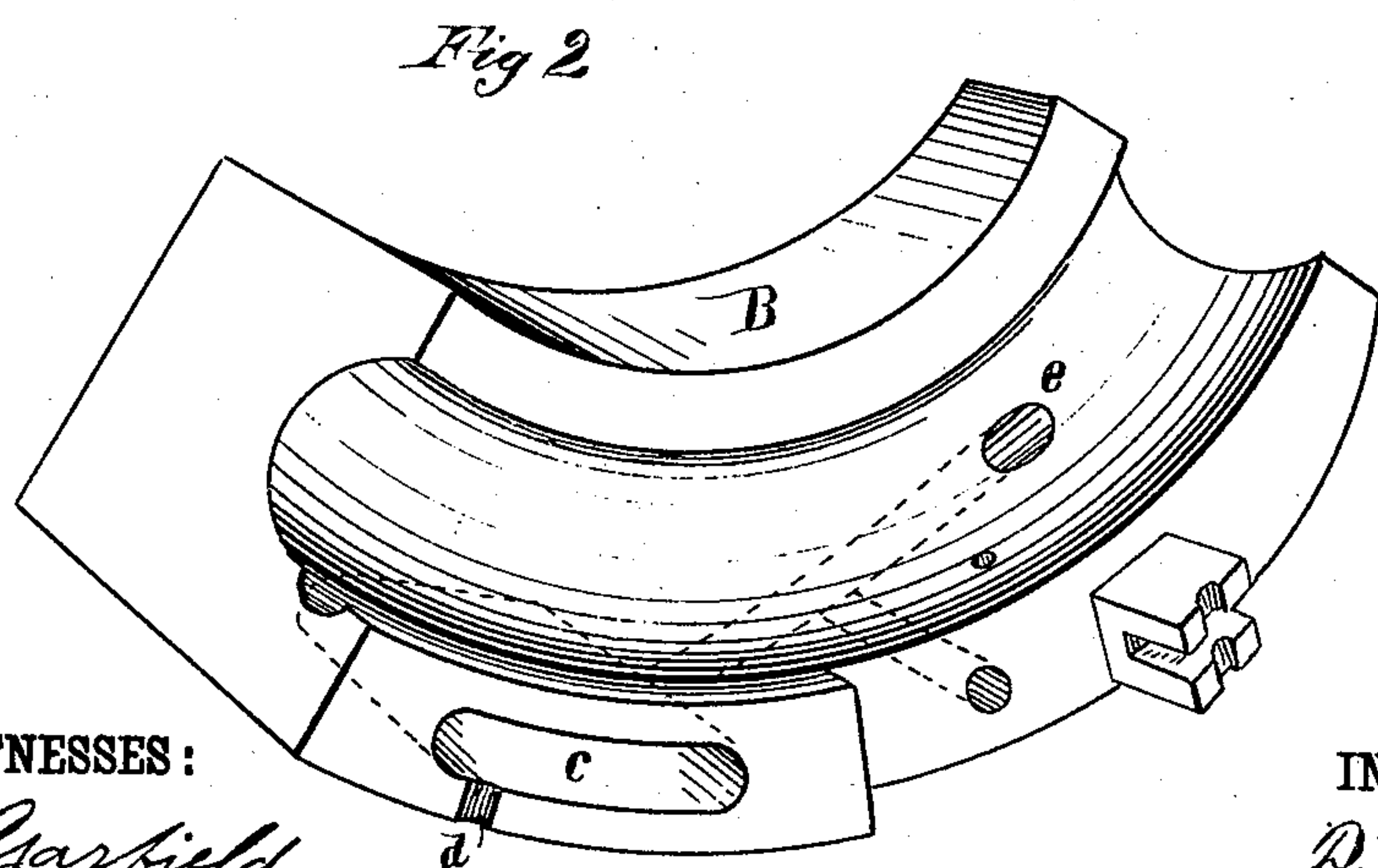
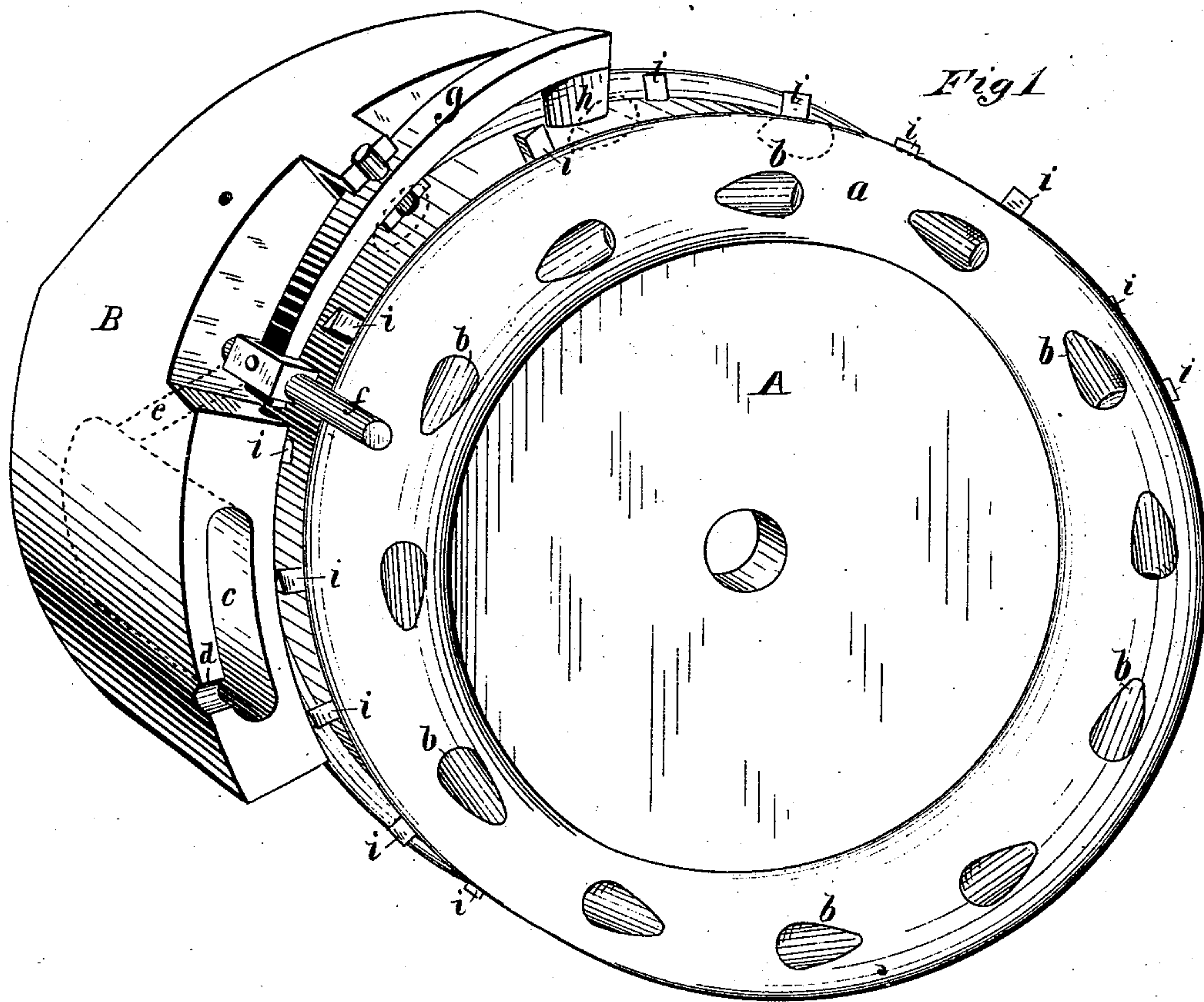
(No Model.)

D. M. JOHNSON.

ROTARY ENGINE.

No. 260,989.

Patented July 11, 1882.



WITNESSES :

J. D. Garfield
to Sedgwick

INVENTOR:

BY *D. M. Johnson*
M. H.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

DAVID M. JOHNSON, OF TRINITY COLLEGE, NORTH CAROLINA, ASSIGNOR
TO HIMSELF AND DAVID M. PAYNE, OF SAME PLACE.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 260,989, dated July 11, 1882.

Application filed April 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, DAVID M. JOHNSON, of Trinity College, Randolph county, North Carolina, have invented a new and useful Improvement in Rotary Engines, of which the following is a full, clear, and exact description.

My invention consists in a steam-wheel formed with cavities in its rim to receive the steam, and provided with a steam chest or bonnet and cut-off devices, as hereinafter described and claimed.

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

Figure 1 is a side perspective view of the engine with the chest or bonnet partially removed, and Fig. 2 is an interior face view of the steam-bonnet.

A is the wheel, having a solid rim, *a*, that may be of either rounded or angular form, and having cavities *b* formed in the rim on both sides at regular distances apart, and alternating on the opposite sides.

B is the steam chest or bonnet, made for convenience of application in two portions, and snugly fitted to the face and sides of the wheel-rim, so as to cover the cavities *b*. This bonnet is of a length to cover about one-third the periphery of the wheel. At one end it is formed with an interior chamber, *c*, to which steam will be supplied by the opening at *d*, and from the steam-chamber ports *e e* pass to the inner surface of the bonnet in contact with the wheel-rim *a*.

f is a cut-off slide fitted transversely in the bonnet in openings that connect with ports *e*, and hung on one end of a lever, *g*, the outer end of which is formed with beveled lug *h*, lying

close to the rim of the wheel A. The beveled pins *i i* on the wheel correspond in number with cavities *b*, placed to act alternately on opposite sides of the lug *h*, so as to swing the lever *g* first to one side and then to the other, thereby projecting the slide *f* into the parts *e* and cutting off the steam from the opposite sides of rim *a* in succession.

In operation the jets of steam pass from the chamber *c* to the cavities *b* in succession, alternating from one side to the other, as the cut-off is moved, and there is consequently continuous steam-pressure on the wheel. The steam exhausts as soon as the cavities pass the end of the bonnet, and there is therefore no loss of power from back-pressure.

It will be seen that but little gearing or other mechanism is required in connection with this engine. The wheel is to be upon a shaft fitted for revolution in suitable bearings, and the bonnet is to be sustained by suitable supports. There may be two steam chests or bonnets, with space between for packing, the steam being in that case supplied separately to the chambers.

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

1. The wheel A, alternating side cavities, *b*, tangent ports *e*, slide-valve or cut-off *f*, oscillating lever *g*, provided with the lug *h*, and valve-operating pins *i*, as shown and described.

2. In rotary engines, cut-off *f* and lever *g*, provided with lug *h*, in combination with chest B and wheel A, provided with pins *i*, substantially as shown and described.

DAVID M. JOHNSON.

Witnesses:

J. K. HARRIS,
E. P. HAUSER.