

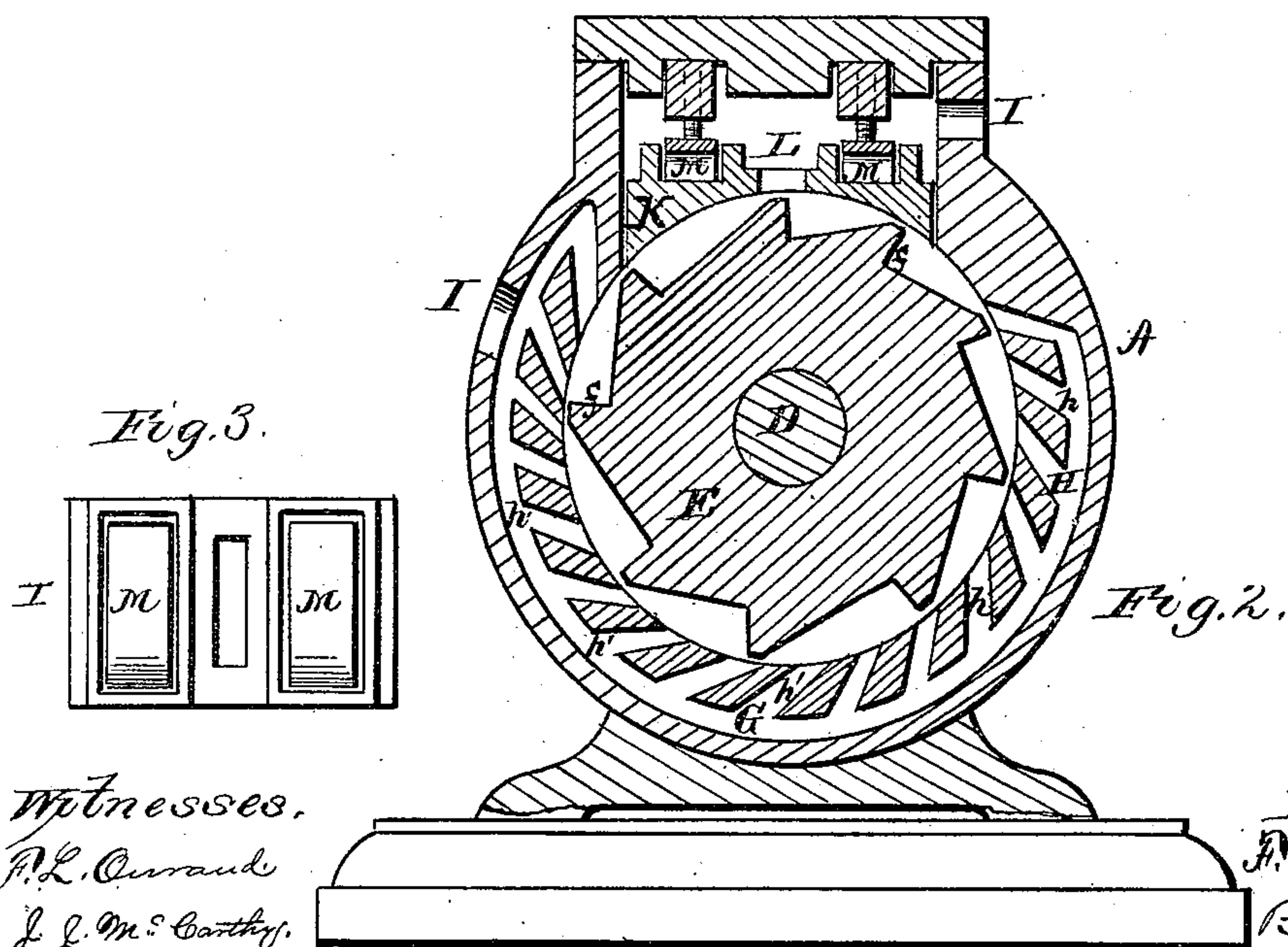
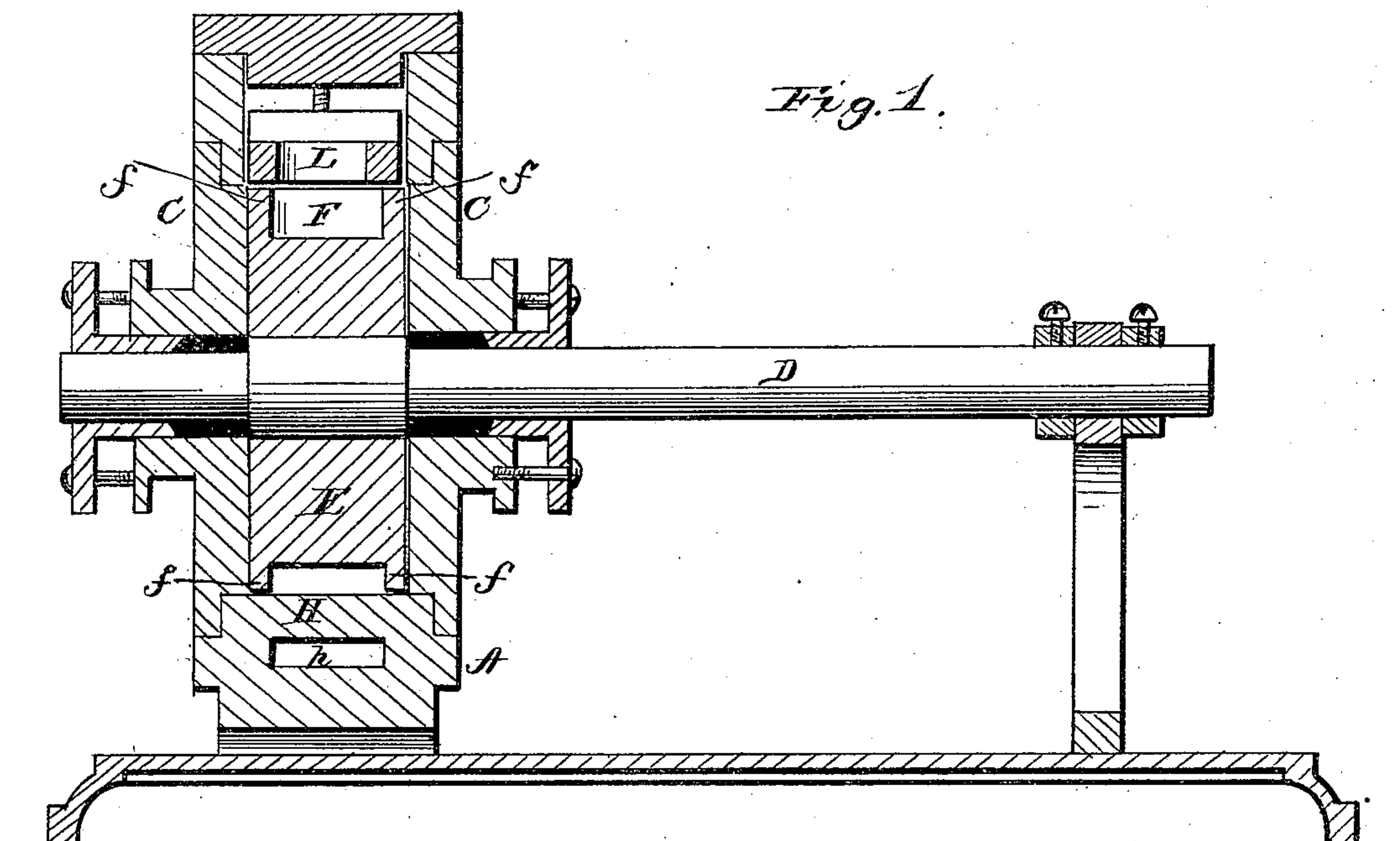
(Model.)

F. A. WATERHOUSE.

ROTARY ENGINE.

No. 245,242.

Patented Aug. 2, 1881.



Witnesses.
J. L. Curran
J. J. McCarthy.

Inventor.
F. A. Waterhouse
By
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UNITED STATES PATENT OFFICE.

FREDERICK A. WATERHOUSE, OF ALBANY, NEW YORK.

ROTARY ENGINE.

SPECIFICATION forming part of Letters Patent No. 245,242, dated August 2, 1881.

Application filed March 12, 1881. (Model.)

To all whom it may concern:

Be it known that I, FREDERICK A. WATERHOUSE, of Albany, in the county of Albany, and in the State of New York, have invented
5 certain new and useful Improvements in Steam and Air Engines; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this
10 specification.

My invention relates to a rotary steam-engine, the construction and operation of which will be fully set forth in the following specification.
15

The principal features of the device are the rotary wheel provided with pockets which constitute a series of pistons, the arrangement of a steam-chamber with partitions and steam-
20 passages, and the combination, with the rotary wheel, of the cut-off and exhaust-plate.

In the drawings, Figure 1 is a longitudinal central section, taken on a vertical plane. Fig. 2 is a transverse vertical section, and Fig. 3 is
25 a top or plan view of the cut-off and exhaust-plate.

The letter A indicates a cylindrical casing, provided with the heads C C, through the stuffing-boxes of which the rotary shaft D has its
30 bearings, said bearings being fastened to the frame or head by bolts, as shown.

E indicates the wheel, which is secured upon the shaft within the casing. This wheel is provided with any desired number of peripheral pockets, F, the walls *f* of which constitute
35 a series of pistons. The steam or motive-agent chamber G surrounding the wheel is divided by partitions H into a passage, *h*, concentric with the face of the wheel, and a series of

short passages, *h'*, which are tangential thereto. The inlet-port I opens into the passage *h* of said steam-chamber, substantially as illustrated. 40

K indicates a plate, which I designate as the exhaust and cut-off plate, the same being provided with an exhaust-port, L. 45

The cylinder-heads will be provided with suitable stuffing-boxes, and the wheel may either be made solid with large pockets, or, when a large wheel is required, of skeleton form
50 with side plates and small pockets. The steam, entering the steam-chamber through the inlet-port, fills the entire chamber and the passages between the partitions, these partitions serving to break the back-pressure, so that although the motive agent nearly encircles the
55 wheel, yet the steam-pressure upon the pistons will drive the wheel carrying the same. As soon as a pocket comes under the plate K the steam is cut off by the plate being pressed
60 against the periphery of the wheel by means of springs M in the exhaust-chamber, and on arriving opposite the exhaust-port L the steam expands and passes out through the exhaust-
65 port I'.

What I claim, and desire to secure by Letters Patent, is—

The combination, with the rotary piston-wheel, of the exhaust and cut-off spring-actuated plate, constructed and operating substantially as specified. 70

In testimony that I claim the foregoing I have hereunto set my hand this 5th day of March, 1881.

FREDERICK A. WATERHOUSE.

Witnesses:

E. T. RICE,

E. C. EDMONDS.