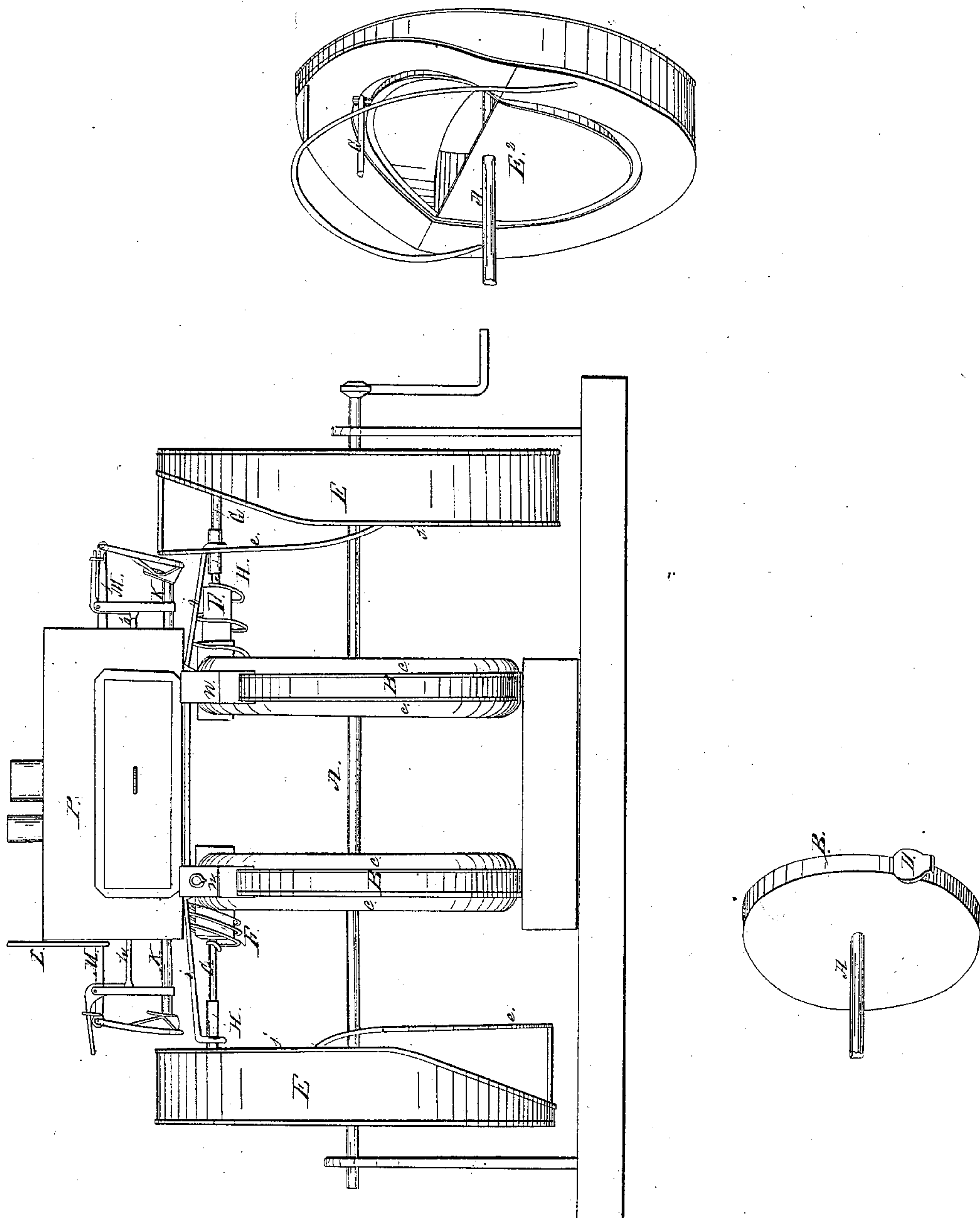


A. Ramsdell,
Rotary Steam Engine,
No 40,278. *Patented Oct. 13, 1863.*



UNITED STATES PATENT OFFICE.

ABRAHAM RAMSDELL, OF MOSCOW, MICHIGAN.

IMPROVED ROTARY ENGINE.

Specification forming part of Letters Patent No. 40,278, dated October 13, 1863.

To all whom it may concern:

Be it known that I, ABRAHAM RAMSDELL, of the township of Moscow, Hillsdale county, Michigan, have invented a Rotary Steam-Engine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon, in which—

A represents the main or driving shaft. B B are two disks or wheels firmly attached to said shaft A, and C C the casing or covering of the wheels B B. This casing is of greater diameter than B B, and is grooved on the inside so as to form a cylindrical chamber of greater diameter than B B, and in which the piston D moves. The piston D is attached to B B, and fits and revolves in the said chamber, the casing and cylinder, of course, being stationary.

F F are two sliding heads or abutments against which the steam acts, and which are made to slide in and out as the piston revolves. These sliding heads are attached to rods G G, which extend through a groove or slot in the face of the circular inclined planes E E. The rod G has a small cross upon the end of it which bears upon the inner surface of the inclined plane, and which, by being thus acted upon by the interior surface and form of the inclined plane, governs the motion of the heads or abutments F F. This cross is more plainly shown in the perspective view of E given at E². The inclined planes E E are firmly attached to the shaft A.

H is a box or sleeve through which G plays, and which is rigidly attached to I, while I is rigidly attached to the bottom of the steam-chest P.

K K and h h are valve-rods. The rods K K extend through the steam-chest, with two valves on each. h h are attached to K K and moved by them, but are also moved by the lever L. The rods K K are moved by the eccentric bows l l, which are attached to the inclined planes E E. These eccentrics, as well as the inclined planes, are so placed upon the shaft that they reciprocate each other's motion, acting alternately on the valve-rods. The lever L is attached to the rod M, which runs through the entire length of the steam-chest, and which is stationary, except when acted upon by the lever L. When so acted upon, and thereby partially revolved or turned, it is made to govern the position of the valves in the steam-chest in such a manner as to either increase or diminish the opening of the ports, thus making them either induction or eduction valves, either steam or exhaust valves, as the circumstances may require.

Having thus given a general description of the construction and operation of my rotary engine, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The inclined planes E E, with the eccentric bows C C thereon.
2. The valves in the steam-chest, as arranged and operated by the lever L, with its connecting parts.
3. The steam-chest, with its system of valves, as described, and the piston and casing, the whole combined, constructed, and operating as described.

ABRAHAM RAMSDELL.

Witnesses:

E. J. MARCH,
DANIEL L. PRATT.