

W. I. WEED.

Improvement in Rotary-Engines.

No. 129,635.

Patented July 16, 1872.

Figure 1.

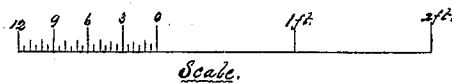
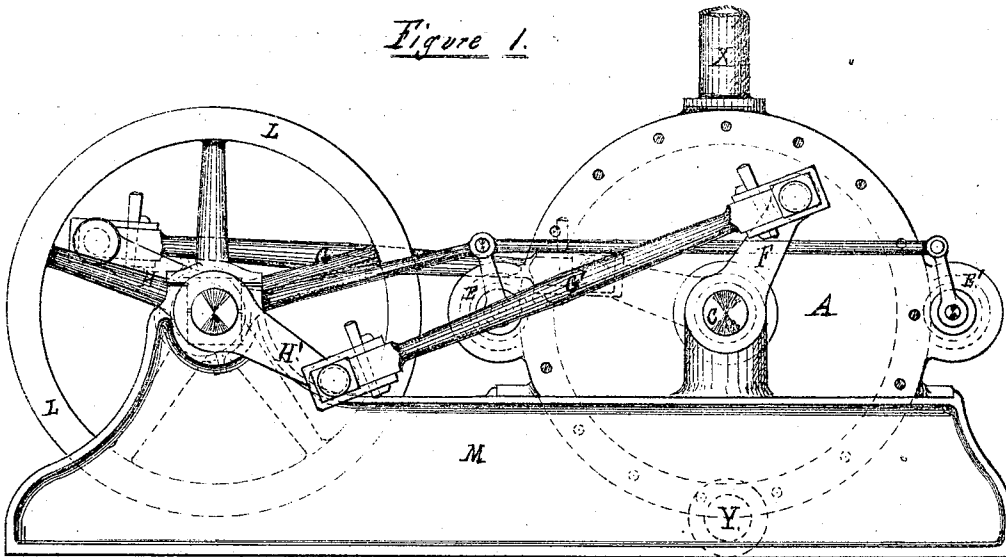


Figure 3.

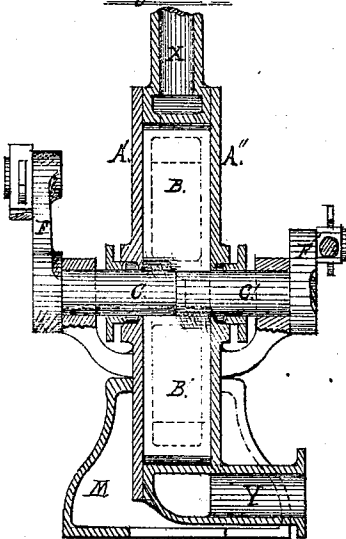
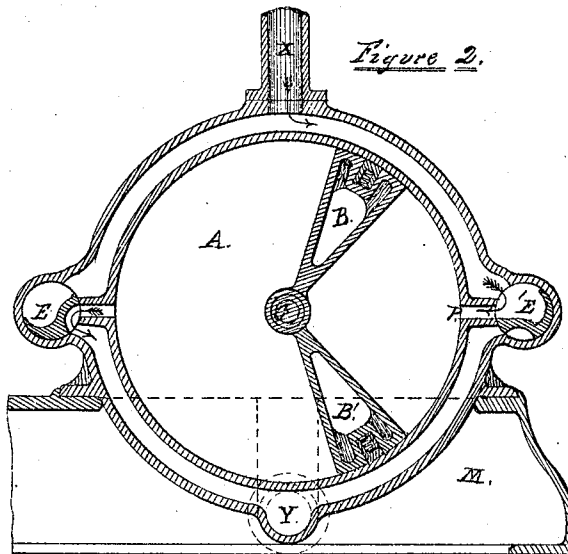


Figure 2.



Witnesses { *Henry W. Bulley.*
William R. Stuart.

Inventor.
W. I. Weed.

UNITED STATES PATENT OFFICE.

W. IRVING WEED, OF BINGHAMTON, NEW YORK.

IMPROVEMENT IN ROTARY ENGINES.

Specification forming part of Letters Patent No. 129,635, dated July 16, 1872.

Specification describing certain Improvements in Vibratory-Piston Steam-Engines, invented by WASHINGTON IRVING WEED, of Binghamton, in the county of Broome and State of New York.

My improvements relate to that class of steam-engines having vibratory pistons; and they consist in such an arrangement of the same that no heads or diaphragms are required in the cylinder, and an increased efficiency in the action of the steam thereby secured.

Figure 1 is a side elevation of my invention. Fig. 2 is a section, showing pistons and valves. Fig. 3 is a sectional end view, showing pistons.

A is the cylinder, resting on bed-plate M, and provided with covers A' A'', through which pass shafts C C'. The vibrating pistons B B' are secured, severally, to the shafts C C', and rock upon them as centers. E E' are valves, which, actuated by an eccentric cam or other suitable device, admit to and exhaust from the cylinder A the steam supplied by the pipe X. The arms F F' are secured to the outer ends of the shafts C C', and are connected by the links G G' with the cranks H H' placed opposite to one another.

The cranks H H' being on or near their centers, and the pistons B B' close together, steam is admitted by the slide-valve E' through port

P between the pistons B B', separating them by its pressure, and, through the connections hereinbefore described, communicating a rotary motion to the shaft and wheel L. The steam being alternately admitted to and exhausted from between the pistons B B', a continuous rotary motion is imparted to the shaft and wheel L in either direction desired by a proper movement of the valves E E'. The pistons are made steam-tight in their movement by suitable packing at their edges, and the inner ends of the shafts C C' are fitted one within the other to keep them in line, and prevent leakage from the steam to the exhaust side of the cylinder. The shafts C C' also have stuffing-boxes where they pass through the cylinder-covers A' A''.

I make no claim to pistons working in cylinders without heads, for I am aware that this is not new; but—

I claim as my invention—

The combination, in a cylinder without separations or diaphragms, of vibratory pistons, receiving or exhausting steam simultaneously by the same port or opening, the whole arranged substantially as hereinbefore set forth.

W. I. WEED.

Witnesses:

HENRY W. BULKLEY,
WILLIAM R. STIRRAT.