

(No Model.)

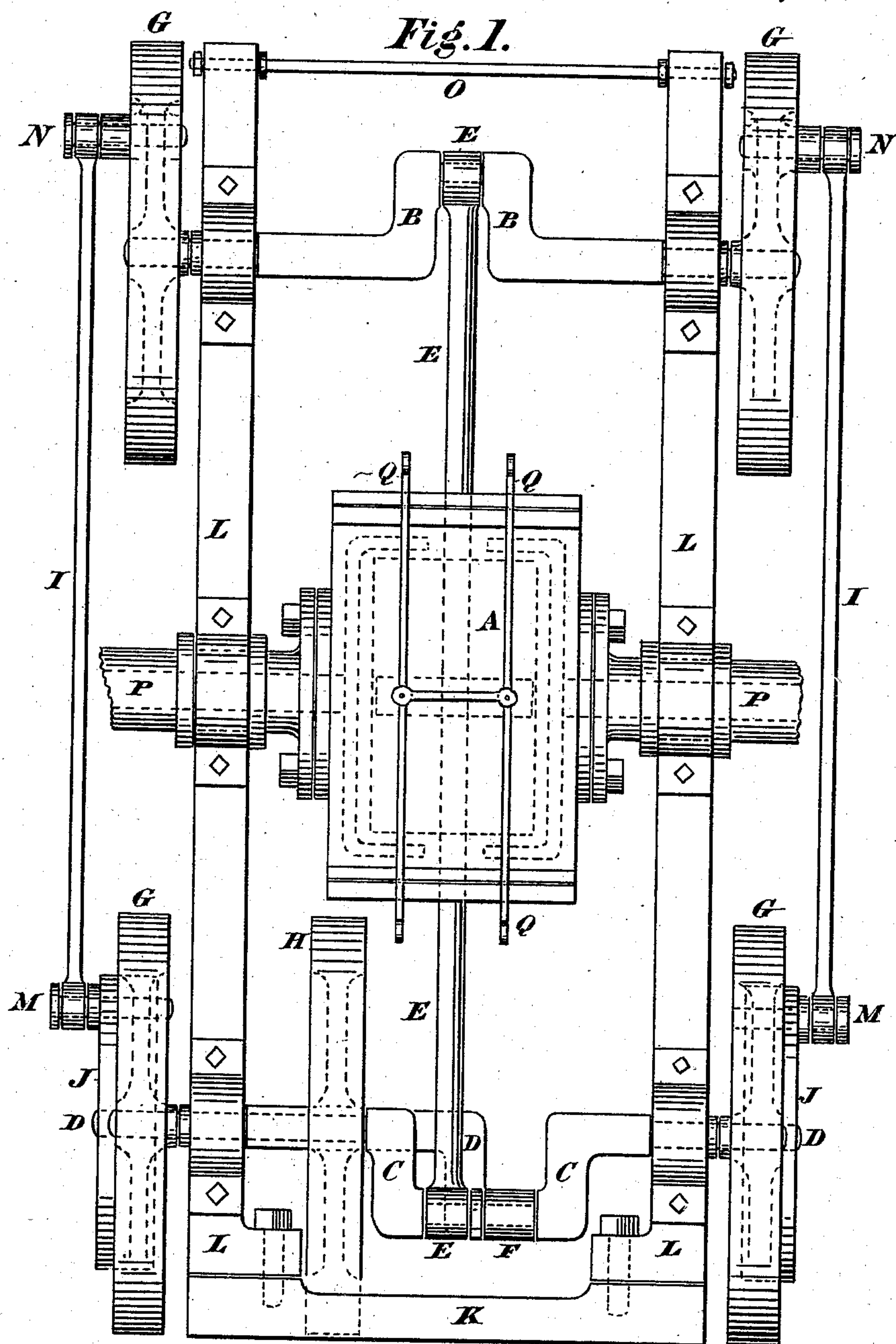
2 Sheets—Sheet 1.

J. C. MILLER.

Oscillating Steam Engine.

No. 241,503.

Patented May 17, 1881.



WITNESSES.

Frank Pardon.
David W. Gray.

INVENTOR.

John Curry Miller

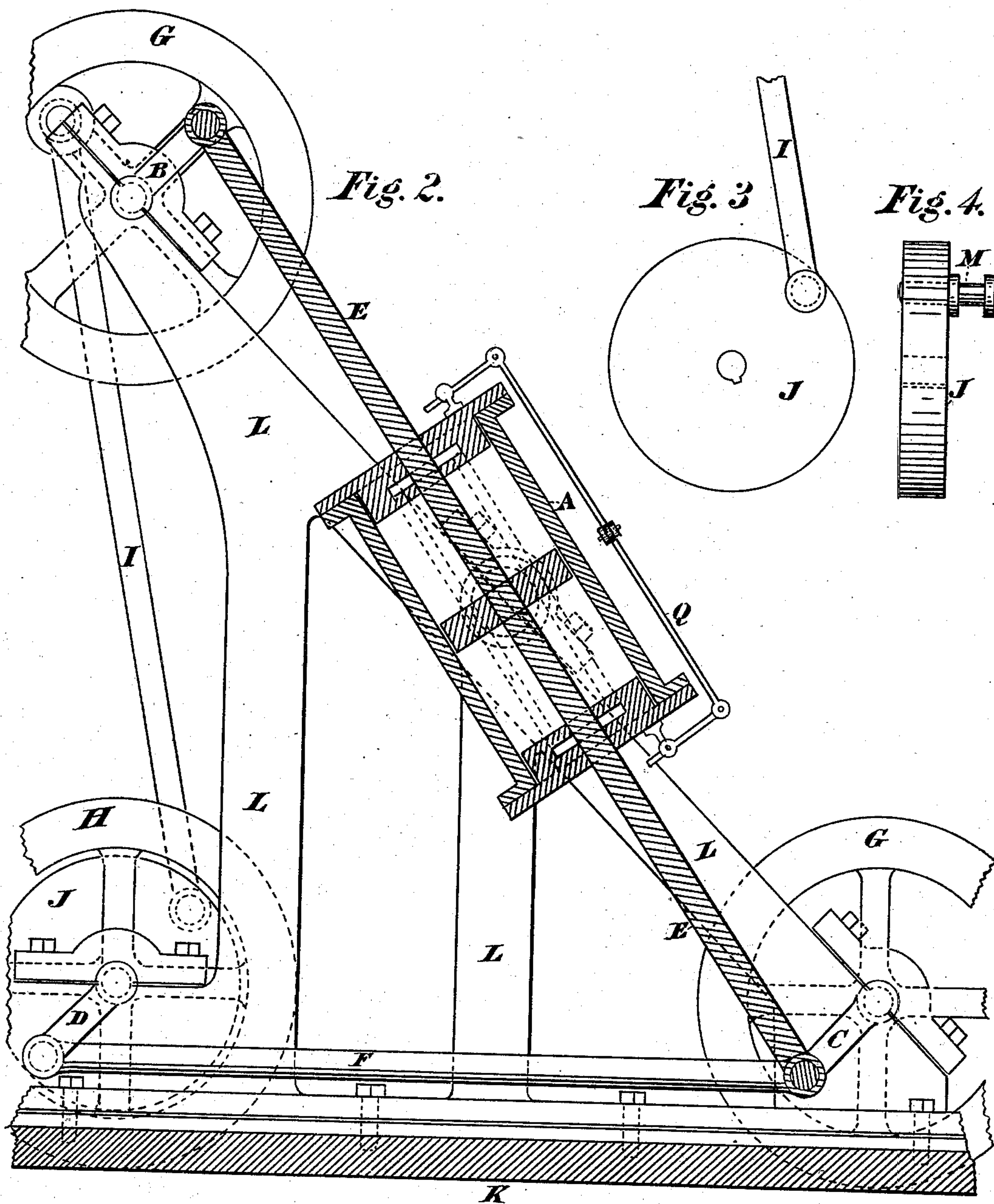
(No Model.)

2 Sheets—Sheet 2.

J. C. MILLER.
Oscillating Steam Engine.

No. 241,503.

Patented May 17, 1881.



WITNESSES.

Frank Dordon.
David W. Gray

INVENTOR.

John Curry Miller

UNITED STATES PATENT OFFICE.

JOHN C. MILLER, OF LOUISVILLE, KENTUCKY.

OSCILLATING STEAM-ENGINE.

SPECIFICATION forming part of Letters Patent No. 241,503, dated May 17, 1881.

Application filed August 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN CURRY MILLER, of the city of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Oscillating Steam-Engines, the same being specially designed for use in connection with my improvement patented heretofore on June 1, 1880, numbered 228,374; but it is also applicable to and intended for oscillating, horizontal, and vertical engines in general.

To enable others skilled in the art to which my invention pertains to make and use the same, the following is a full, clear, and exact description of its construction and operation, reference being had to the annexed drawings and the letters of reference marked thereon, all which form part of this specification.

The nature and object of my improvement are to obtain the maximum of utility to the minimum of steam used; or, in other words, to increase the power with a reduced consumption of steam, by connecting each end of the piston-rod with a crank and shaft carrying momentum-wheels setting at proper angles with each other, the same being connected with and transmitting the force of their momentum, combined with the steam-power, to a driving-shaft setting at a proper angle to them.

Figure 1 is a front elevation, showing the piston and cranks at the center of the stroke. The letter A refers to the cylinder, constructed according to the principles of my improvement patented as above mentioned. The letters Q refer to the valve-connecting rods; the letters P to the hollow trunnions operating as steam inlet and escape pipes. The letters K refer to the bed-plate, and the letters L to the upright frame, forming journal-bearings for the parts. The letters G refer to the momentum-wheels attached to the crank-shafts marked C and B, the same connecting with the driving-shaft marked D by means of force-transmitting pitmen marked I, connecting from the upper momentum-wheels at N to the crank-wheels marked J attached to the crank or driving-shaft marked D, which, by means of force-transmitting pitman marked F, is also connected with momentum-wheels below marked G, attached to crank-shaft marked C. The letter O in Fig. 1 refers to a steady-rod connecting and bracing the upright frames.

Fig. 2 is a sectional side elevation, showing

the piston at the center of the stroke, as in Fig. 1, and the cranks at right angles with the cylinder, also showing the force-transmitting pitmen marked I and F, with their centers at right angles with each other, thus illustrating how the pitmen marked I and F alternately maintain the full power of the engine by pulling at right angles with the fulcrums of the crank and driving shaft along their adjoining or alternate quadrants of the circuit of their motion.

Fig. 3 is an elevation of detached crank-wheels, referred to by the letters J. Fig. 4 is an elevation of the same, showing pitman-wrist marked in its relative position with the pitman with which it is connected.

The crank-wheels marked J and the fly-wheel marked H should be made sufficiently weighty to balance the pair of momentum-wheels opposite them in position.

For stationary-engine purposes, either the crank-wheels marked J or the fly-wheel marked H may be used as driving-pulleys.

Having thus described and explained the construction and operation of my improvement, what I claim as new, and desire to secure by Letters Patent, is—

1. The independent pitmen and driving-shaft, separate from the shafts connecting with the piston-rod, the said pitmen being arranged to operate the independent driving-shafts through alternate and opposite quadrants of the circuit of its motion, whereby a uniform power throughout the revolution of the engine is obtained, substantially as specified.

2. The combination of the oscillating cylinder A, mounted in the frame L and provided with suitable induction and eduction ports and valves for controlling the admission and escape of steam, the piston provided with piston-rod E, the crank-shafts carrying fly-wheels G, the connecting-rods I, and the crank-wheels J, mounted on a shaft carrying the driving-wheel H, and the pitman F, connecting the cranks C and D, the whole constructed and arranged to operate substantially as specified.

In testimony that I claim the foregoing I have hereunto affixed my hand this the 23d day of August, 1880.

JOHN CURRY MILLER.

Witnesses:

FRANK PARDON,
ED. MEYLEMY.