

W. H. PIERCE.
Valve-Gear.

No. 197,795.

Patented Dec. 4, 1877.

Fig: 1.

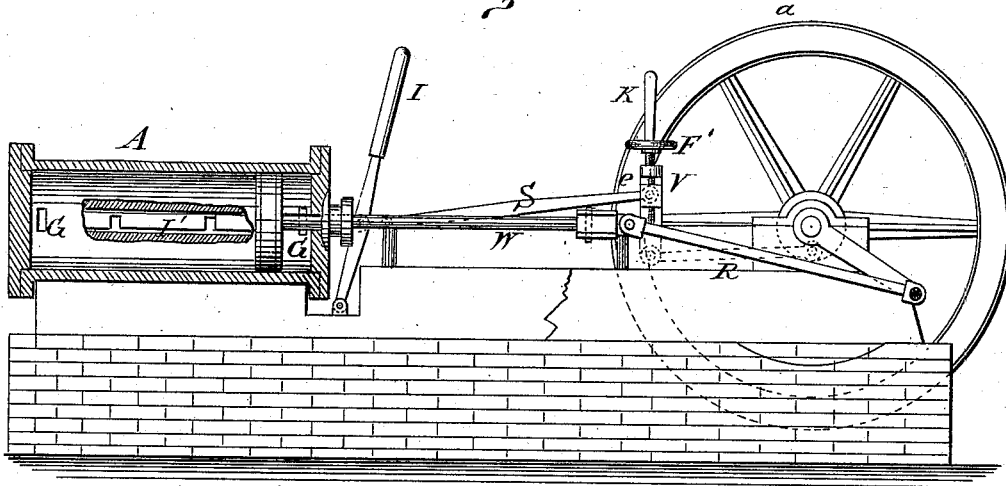


Fig: 2.

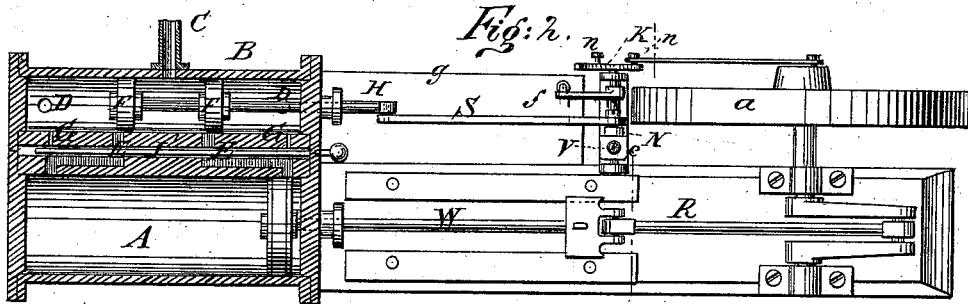
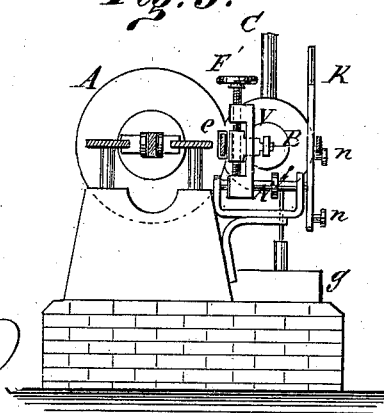


Fig: 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

WILLIAM H. PIERCE, OF TOLONO, ILLINOIS.

IMPROVEMENT IN VALVE-GEAR.

Specification forming part of Letters Patent No. **197,795**, dated December 4, 1877; application filed September 10, 1877.

To all whom it may concern:

Be it known that I, WILLIAM H. PIERCE, of Tolono, in the county of Champaign and State of Illinois, have invented a new and Improved Reciprocating Steam-Engine, of which the following is a specification:

The invention will first be described in connection with the drawings, and then pointed out in the claim.

In the annexed drawings, Figure 1 is a side elevation of the improved engine, portions of which are broken away to show the interior of the steam-cylinder. Fig. 2 is a plan view and a horizontal section through the piston-cylinder and valve-chest. Fig. 3 is a sectional view in detail of the hand-lever cut-off and the steam-ports.

Similar letters of reference indicate corresponding parts.

The letter A designates the main or piston cylinder, and B the cylindrical steam-chest, both of which are of the same length. In the cylinder A is a solid piston, constructed in any suitable manner, and caused to perform its strokes by the well-known appliances. In the steam-chest are two piston-valves, F F, which are keyed on the valve-rod H, and connected to the valve-gearing.

Steam enters the chest B through pipe C, located on top of the chest and between the two piston-valves F F, and exhausts at the ports D D, located at the ends of the chest, as in the well-known slide-valve engine, with

this exception, that the exhaust-port in the center is omitted.

The valve-gearing consists of an attachment, which is securely bolted to the engine-bed, and connected to the hub of the balance-wheel *a* by a cam-pin and with the piston-valve.

A rod from the hub of the balance-wheel *a* connects with the upright arm K, having a handle, and also two pins, *n n'*, arranged equidistant from the shaft N, which are used for reversing the engine.

To the inner end of the shaft N is secured an upright arm, V, which is slotted longitudinally for receiving a slide, *e*, that is movable by means of a screw and hand wheel, F'. The connecting-rod S of the cut-off is pivoted to the slide *e*, so that by adjusting this slide the strokes of the pistons F F can be shortened or lengthened, and the cylinder A supplied with a greater or less amount of steam.

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

The combination, with a lever, K, having pins *n n'*, and the shaft N and slotted arm V, of the adjusting devices *e F'*, arranged as and for the purpose specified.

WILLIAM H. PIERCE.

Witnesses:

WILLIAM T. BOWER,
THOS. M. SALISBURY.