

(No Model.)

G. W. PRICE.  
STEAM ENGINE.

No. 313,445.

Patented Mar. 3, 1885.

Fig. 1

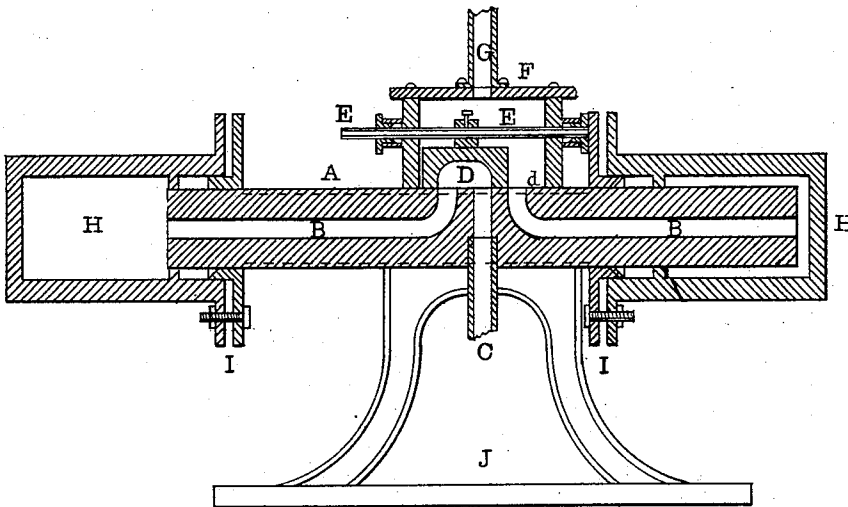
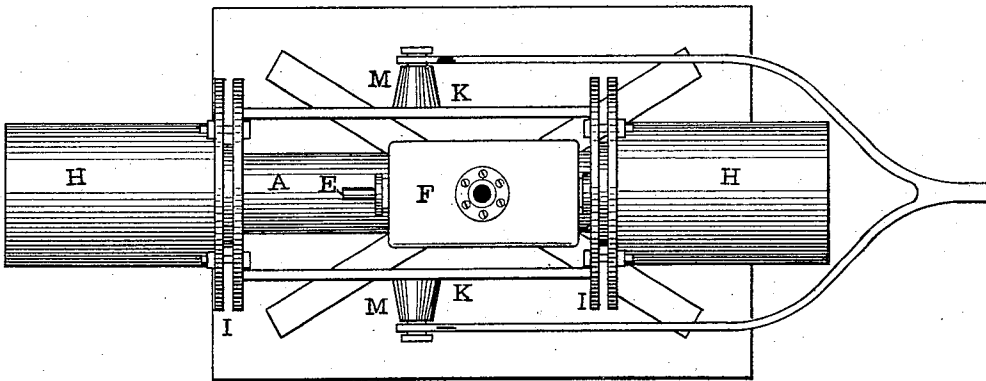


Fig. 2



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## STEAM-ENGINE.

SPECIFICATION forming part of Letters Patent No. 313,445, dated March 3, 1885.

Application filed February 7, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. PRICE, of the city of Baltimore and State of Maryland, have invented new and useful Improvements in Steam-Engines, of which the following is a full description, which will be more fully and clearly understood by reference to the accompanying drawings, of which—

Figure 1 is an upright sectional view; Fig. 2, a top or plan view showing the trunnions attached to the side braces, and also a connecting-rod.

In the drawings, Fig. 1, A represents a stationary piston, provided with longitudinal passage-ways B B. These passage-ways begin at the steam-ports in the valve-seat and run entirely out at the ends of the piston, and constitute the steamways of the apparatus. The opening C, passing laterally through the piston, is the exhaust.

D is an ordinary slide-valve, constructed to cover one steam and the exhaust port at one end of the stroke and the exhaust and the other steam port at the other end.

d is the valve-seat. E E is the valve-stem, F the steam-chest, and G the steam-inlet pipe.

H H are two cylinders, provided with the stuffing-boxes I I. The piston may be packed exclusively by means of this stuffing-box and packing, if desired.

J is a standard or bed-plate, to which the stationary piston is secured. The cylinders are connected with each other by means of the braces or stays K K. In the drawings I have represented these stays as attached to the stuffing-box glands. They may be cast solid therewith or attached in any way to the cylinders.

M M are trunnions attached to the braces K K, upon which a connecting-rod is pivoted. A connecting-rod may, however, be attached to either cylinder.

The apparatus works quite well without the use of a connecting rod, crank, or shaft; but these may be used therewith, and any other arrangement for moving the valve may be substituted for the one shown in the drawings.

The operation of the device is as follows: The steam entering the steam-chest F through the steam-inlet G passes through one of the steam-ports in the valve-seat, and entering one of the passage-ways B, running from the steam-ports through the piston, enters one of the cylinders H H, forcing it to the end of the stroke, or until the valve-stem E E is moved by coming in contact with the opposite cylinder, when its motion in that direction is stopped by shutting off the steam therefrom and opening the steam-port on the other side. At the same time the valve opens a direct communication with the cylinder and the exhaust-port C, allowing the steam to escape from that side. The operation on the other side is the same, thus producing a reciprocating movement of the cylinders on the stationary piston.

I claim—

1. A steam-engine having a piston provided with passage-ways extending to opposite ends thereof, and a valve located in the longitudinal center of the piston and controlling the passage-ways, in combination with two separate cylinders located upon opposite ends of the piston, substantially as described.

2. A steam-engine having a piston provided with passage-ways extending to opposite ends thereof, a valve controlling said passage-ways, and separate reciprocating cylinders connected by arms or braces, substantially as described.

3. In a steam-engine, the stationary piston A, provided with the passage-ways B B, the cylinders H H, valve D, exhaust C, and steam-inlet G, substantially as and for the purposes set forth.

4. In a steam-engine, the stationary piston A, and reciprocating cylinders H H, joined together by the braces K K, and provided with the trunnions M M, substantially as described.

GEORGE W. PRICE.

Witnesses:

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