(No Model.) 2 Sheets—Sheet 1.

J. B. MAAS.

STEAM ACTUATED VALVE.

No. 343,911. Patented June 15, 1886.

Fig. 1.

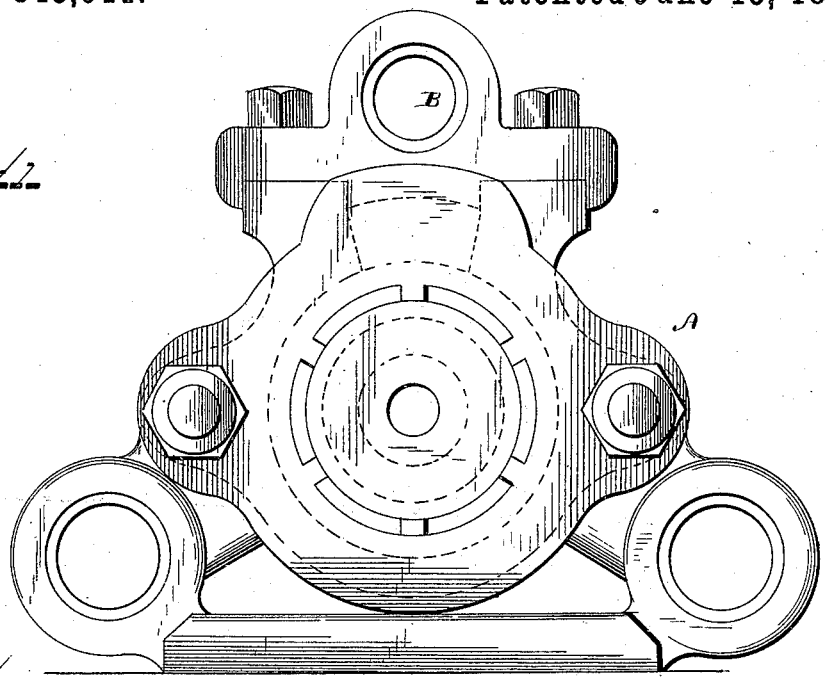
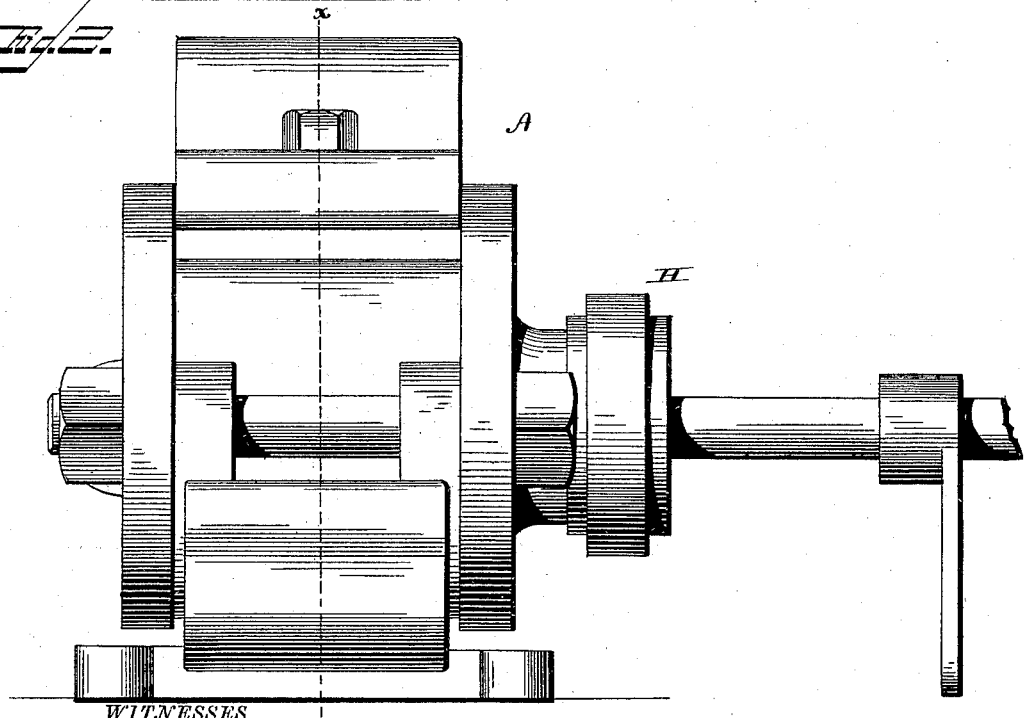


Fig. 2.



WITNESSES

F. L. Ourand.

John T. Suter.

INVENTOR

John B. Maas

By F. A. Fouts. Attorney

(No Model.) 2 Sheets—Sheet 2.

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STEAM ACTUATED VALVE.

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Fig. 1.

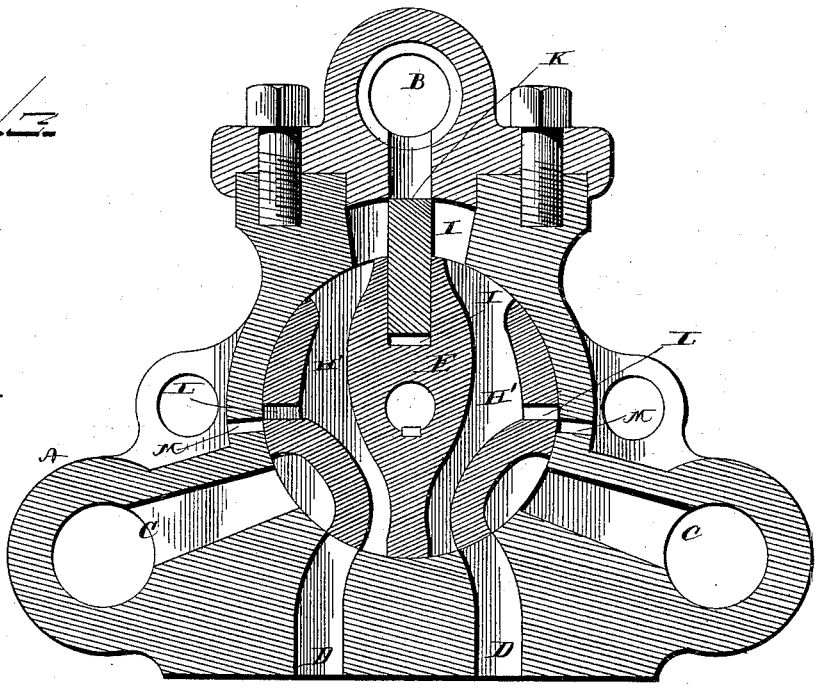


Fig. 4.

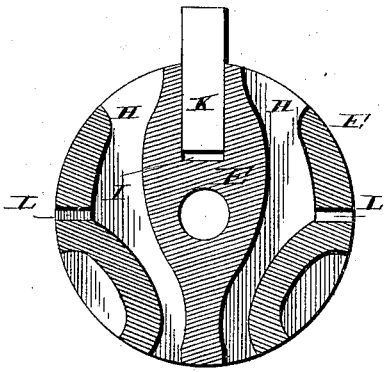
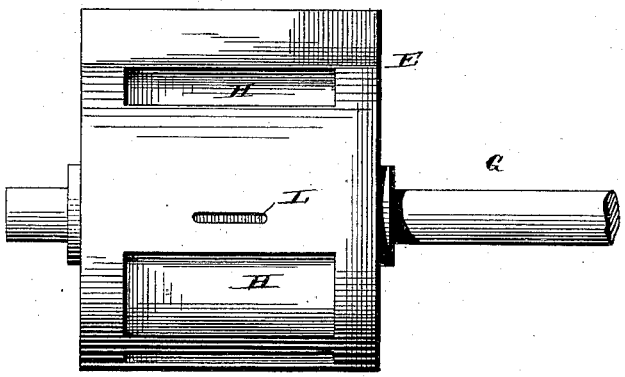


Fig. 5.



WITNESSES

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INVENTOR

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By F. A. Fouts Attorney

UNITED STATES PATENT OFFICE.

JOHN B. MAAS, OF HUMBOLDT, MICHIGAN.

STEAM-ACTUATED VALVE.

SPECIFICATION forming part of Letters Patent No. 343,911, dated June 15, 1886.

Application filed September 14, 1885. Renewed May 20, 1886. Serial No. 202,806. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. MAAS, a citizen of the United States, residing at Humboldt, in the county of Marquette and State of Michigan, have invented certain new and useful Improvements in Steam-Actuated Valves, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in that class of devices known as "steam-actuated valves," in which the valve is mainly moved back and forth by the direct action of steam; and it has for its object to provide a simple and efficient device which will operate quickly and uniformly, as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents an elevation of my invention, showing the valve in dotted lines. Fig. 2 represents an elevation at right angles to that of Fig. 1. Fig. 3 represents a sectional view of the valve and valve-casing, taken on the line *x x* of Fig. 2. Fig. 4 represents a cross-section of the valve detached, and Fig. 5 an elevation of the valve detached.

The letter A indicates the valve-casing, B the induction-port of the same, and C the exhaust-ports.

The letter D indicates the ports leading to the respective ends of the steam-cylinder in which the piston travels, which is constructed in the usual manner.

E indicates a cylindrical valve, which is located in the valve-casing and is arranged to oscillate therein. The said valve is provided with a valve-shaft, G, which extends through a central packing-box, H, and has at its outer end an oscillating arm, which is moved back and forth by suitable tappets or other mechanism receiving its motion from the piston of the engine in order to give the valve its initial movement. The valve is provided with two transverse steam-ports, H′, which connect alternately with the steam-ports leading to the cylinder and the exhaust-ports as the valve is oscillated.

I indicates a segmental recess in the upper part of the valve-casing between the induction-port and the upper part of the valve, which is adapted to connect alternately with the steam-ports extending through the valve. The upper part of the valve between the ports H′ is provided with a radial recess, I, in which is located a sliding tongue or piston, K, the upper end of which extends into the recess I, and is adapted to move freely, but steam-tight, therein.

L indicates two small relief-ports leading from the steam-ports H′ in the valve, and adapted to connect alternately with the relief-ports M, extending through the walls of the valve-chest, as shown in Fig. 2 of the drawings.

The operation of my invention will be readily understood in connection with the above description, and is as follows: The steam enters through the induction-port and passes down through one of the ports H′, through the valve, and into one end of the steam-cylinder, moving the piston in one direction. When the piston is at the end of its stroke, a slight initial movement is given to the valve by the mechanism operating the valve-shaft, so as to let the steam in on one side of the tongue and cut it off on the other. The pressure of the steam acting directly on one side of the tongue gives the final movement to the tongue, causing the valve to change the ports, and thus keep up the motion of the engine.

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

The combination, with the valve having suitable induction and eduction ports and ports leading to the steam-cylinder and relief-ports, of the valve having corresponding ports, and the radial tongue working in a recess in the valve-casing, whereby the valve is operated by the pressure of steam after its initial movement, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN B. MAAS.

Witnesses:
WILLIAM J. MAAS,
EDWARD A. MAAS.