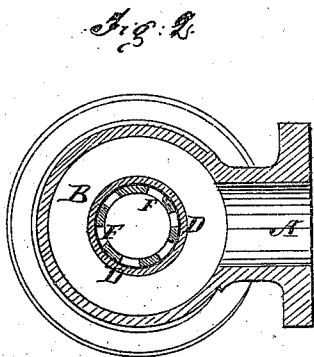
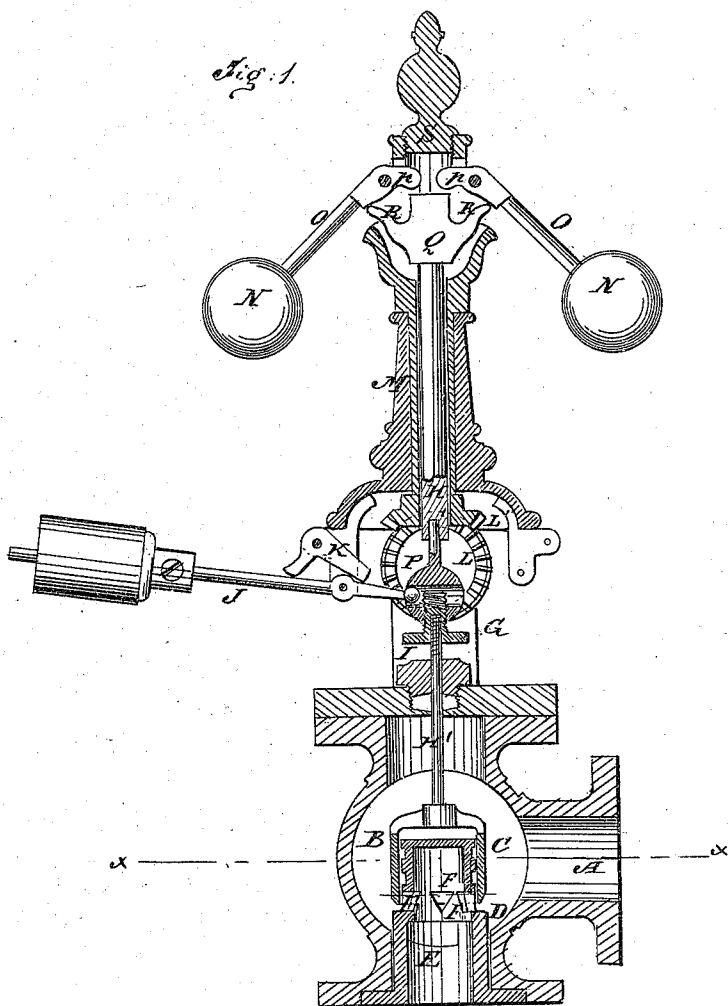


A. MATSON.
Steam-Engine Governors.

No. 142,167.

Patented August 26, 1873.



Witnesses:

Cres. Nida.
W. H. H. H.

Inventor:

A. Matson
Per *Munroe*
Attorneys.

UNITED STATES PATENT OFFICE.

ANDERS MATSON, OF QUINCY, ILLINOIS.

IMPROVEMENT IN STEAM-ENGINE GOVERNORS.

Specification forming part of Letters Patent No. 142,167, dated August 26, 1873; application filed June 21, 1873.

To all whom it may concern:

Be it known that I, ANDERS MATSON, of Quincy, in the county of Adams and State of Illinois, have invented a new and useful Improvement in Steam-Engine Governor, of which the following is a specification:

This invention relates to new and useful improvements in governors for regulating the motion of steam-engines; and consists in the construction, arrangement, and combination of parts hereinafter described.

In the accompanying drawing, Figure 1 is a sectional elevation of my improved governor, showing the construction and general arrangement of parts. Fig. 2 is a horizontal section of Fig. 1, taken on the line *x x*.

Similar letters of reference indicate corresponding parts.

A is the pipe which conducts the steam from the boiler, and is connected with the chamber B. C is the valve. D is the cylindrical valve-seat, and cylinder E, which conducts the steam to the engine. The valve and seat are made of metal suitable for the purpose. The cylinder has a flange which fits steam-tight into the base flange of the chamber B. The cylinder E is closed at the top and fits inside the valve. The steam presses equally on each side of the valve, so that it is balanced, and has free motion to regulate the speed of the engine. F represents triangular steam-passages. The top part of the shell of the chamber B fits into the upright bow G, so that the latter can be turned to give the driving-shaft any required direction. H H' is the valve-rod. I is a tubular screw-nut on the valve-rod. This valve-rod is in two parts, H and H', and the screw-nut I receives the lower part with a right-hand screw-thread, and is provided with an outer left-hand thread, which screws into the ball P at the end of the upper part of the rod. By turning the tubular

screw-nut I the rod is shortened or lengthened, and the valve is raised or lowered, as may be desired. L is a bevel-wheel on the driving-shaft, which engages with the bevel-wheel L' on the revolving spindle, and drives the head of the governor. N N are governor-balls, and O O' are the ball-levers. These levers are connected to the revolving head by the pins *p p*. Q is the top end of the valve-rod, having two arms, R R. In case the governor-belt breaks the short ends of the ball-levers will press on the top piece Q and force down the rod and close the valve. S is a plug which screws into the head of the governor and forms a stop for the ball-levers. J is a lever and weight connected with the valve-rod by means of the ball P, for the purpose of balancing the balls and holding the valve in position. The weight is adjustable on the lever.

K is a hook or bell-crank lever, pivoted at its angle to the frame of the governor in such relation to the pivot or fulcrum of the lever J that it may be adjusted, when required, with its shorter arm vertical, to form a stop for lever J and prevent its outer or weighted end rising, the object of which is to prevent the valve closing on its seat and covering the ports F.

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

1. The weighted lever J, and hook K in combination therewith and with the valve-rod, as and for the purposes described.

2. The arms R R, connected with the valve-rod, in combination with the balls N N and levers O O', as and for the purposes described.

ANDERS MATSON.

Witnesses:

ALEXANDER G. WHEAT,
ELISHA B. HAMILTON.