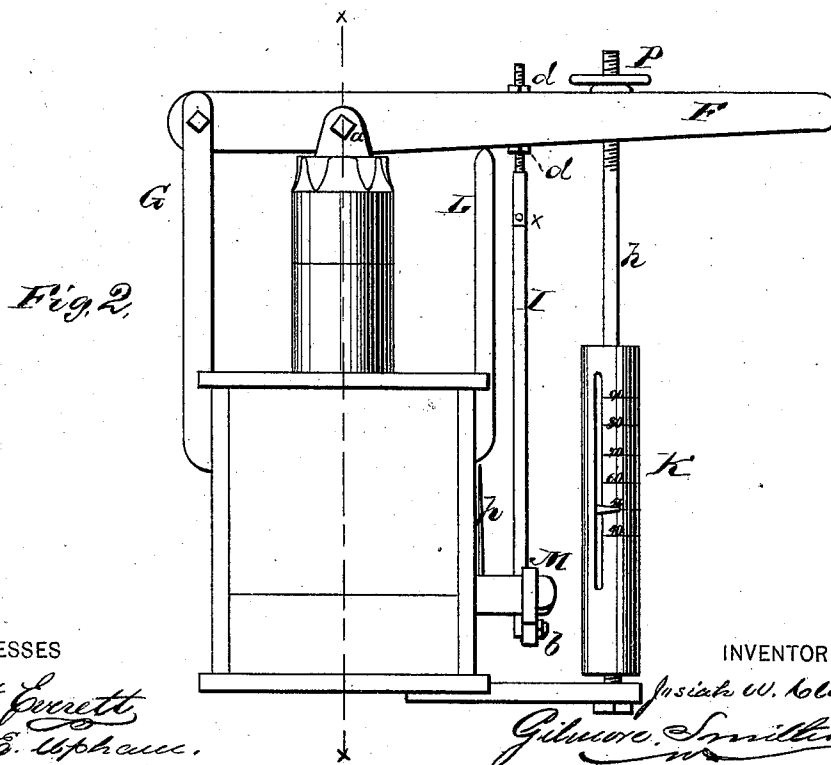
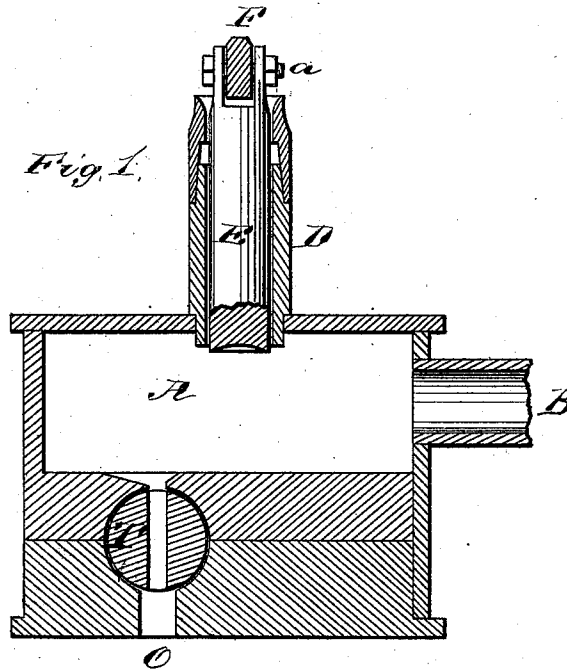


J. W. CLARK.
STEAM-GOVERNOR.

No. 177,804.

Patented May 23. 1876.



WITNESSES

Robert Everett
George E. Upham.

INVENTOR.

Isiah W. Roberts,
Gilmore Smith & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOSIAH W. CLARK, OF IOLA, KANSAS.

IMPROVEMENT IN STEAM-GOVERNORS.

Specification forming part of Letters Patent No. **177,804**, dated May 23, 1876; application filed March 25, 1876.

To all whom it may concern:

Be it known that I, JOSIAH W. CLARK, of Iola, in the county of Allen and State of Kansas, have invented a new and valuable Improvement in Steam-Governors; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a vertical section of my steam-governor, and Fig. 2 is a front elevation of the same.

My invention relates to governors for steam-engines; and it consists in the construction and arrangement of an automatic governor for regulating the influx of steam to the engine by the steam itself, as will be hereinafter more fully set forth.

In the annexed drawings, A represents a steam-tight box with a rotary valve, T, in the bottom thereof. In the lid of the box is a pipe or cylinder, D, with a piston or plunger-valve passing through the same, and projecting a little below the inner end of the cylinder. F is a lever, pivoted to the upright G and passing through a slot or crotch in the upper end of the piston E, or a rod connecting therewith, and held in place by a horizontal bolt, *a*, passing through an elongated hole or slot in the lever. The lever rests on another upright, L. I is a rod, connecting the lever F to a wrist, *b*, in the end of a crank, M, secured on the shaft of the valve T. Above and below the lever on the rod I are nuts *d*, to lengthen or shorten said connecting-rod, in order to properly adjust the valve. The rod has, also, a joint at *x*, to prevent cramping when the lever is forced upward. K is an indicator, operated by a spring and connected by a rod, *h*, with the lever F, a nut, P, being screwed on the upper end of said rod above the lever. This indicator answers the double purpose of holding the lever down, and to show the amount of pressure of steam. In the neck of the valve is a pointer, *p*, to show the position of the valve, whether open, or closed, or partly closed.

The box A is placed in the steam-supply pipe near the throttle-valve, and connected at

B and O, steam entering at B and passing out at O, when it is ready for work. The nut P is then first screwed down until the indicator K shows the amount of steam required to be used—say, for instance, fifty pounds. Now, raise steam in the boiler until the indicator on the boiler points to fifty pounds, and then start the engine by opening the throttle to its full capacity, which capacity must be equal to that of the governor-valve T, and as long as the steam is kept up to or above the fifty pounds, the engine will run perfectly steady. When the steam goes above fifty pounds, the pressure on the inner end of the piston E will force it upward, thereby raising the lever F, slightly turning the crank, and partially closing the valve, thus allowing only the required fifty pounds to pass to the engine.

The wrist *b* passes through a slot in the crank, so as to be adjusted to cause the valve to close faster or slower, as may be required.

It will be seen that my governor, in its working, is entirely independent of the motion of the engine, my governor governing the engine, and not the engine governing the governor, as is the case with the ordinary governors.

In case of accident to the machinery, the engine may be instantaneously stopped by lifting the lever F, which can be done quicker than closing the throttle-valve. The lever may be lifted with one hand while the throttle-valve is being closed by the other.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an automatic governor, the combination, substantially as described, of the indicator K, adjustable rods *h* I, lever F, piston E, and rotary valve T, operating substantially as described, and for the purpose set forth.

2. The connecting-rod I, jointed at *x*, and provided with nuts *d*, in combination with the lever F and movable wrist *b*, in the crank M, as and for the purpose set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JOSIAH W. CLARK.

Witnesses:

J. J. CASMIRE,
J. H. LADD.