L. C. TABER.

Steam-Engine Govenor Regulator.

No. 215,182. Patented May 6, 1879.

Fig. 1.

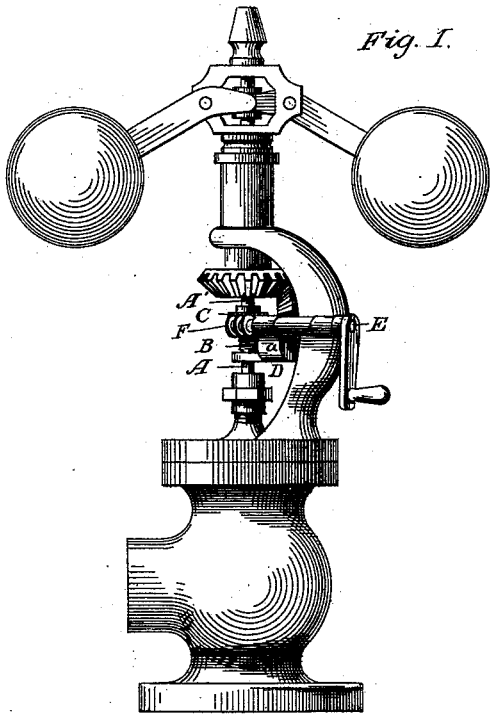


Fig. 2.

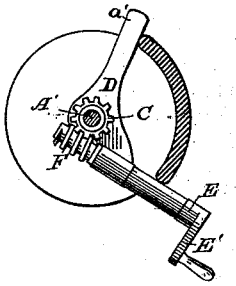


Fig. 3.

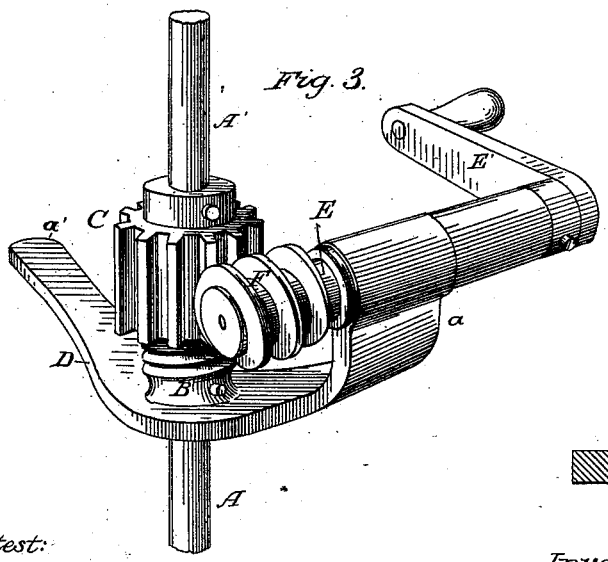
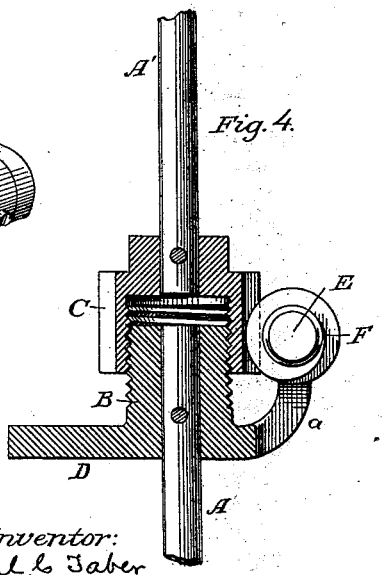


Fig. 4.



Attest:

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UNITED STATES PATENT OFFICE.

LOYAL C. TABER, OF EATON, NEW YORK.

IMPROVEMENT IN STEAM-ENGINE-GOVERNOR REGULATORS.

Specification forming part of Letters Patent No. **215,182**, dated May 6, 1879; application filed March 17, 1879.

To all whom it may concern:

Be it known that I, LOYAL C. TABER, of Eaton, in the county of Madison and State of New York, have invented a new and useful Improvement in Steam-Engine-Governor Regulators; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object I have in view is to provide a ball-governor whose ball-arms are in direct connection with the governor-valve stem with means for lengthening and shortening the divided valve-stem, to regulate and adjust the speed of the machinery controlled by the governor, which means will enable the operator to increase or diminish the speed of the engine while running, and to any desired extent, without in the least losing control of the engine during the time the adjustment is being made, and which, in addition, will be very convenient to operate, requiring no tools for their manipulation, and enabling the change to be made quickly and without delay; and my invention therein consists in mounting on the divided valve-stem, and in combination therewith, a horizontal spindle with hand-crank and connecting devices for turning the nut to lengthen or shorten the stem; in the combination, with the divided stem having a pinion-nut, of the crank-spindle provided with a worm or screw gear, and mounted on the valve-stem; and, further, in the construction of the plate for supporting the crank-spindle, in combination with the governor-frame, to prevent the governor-valve from turning, all as fully hereinafter explained.

In the drawings, Figure 1 is an elevation of a governor with my improvement attached; Fig. 2, a horizontal section above the pinion-nut, looking downward; Fig. 3, a detached view of a portion of the valve-stem carrying the devices for lengthening and shortening the same, and Fig. 4 a vertical section of these parts through the valve-stem.

Like letters denote corresponding parts.

A A′ is the divided governor-valve stem, connected at its upper end to the governor-ball arms, and raised and lowered by the same, but not revolving therewith. The valve-stem is divided above the stuffing-box of the valve-chamber, and the lower part, A, of the stem has keyed upon its upper end an externally screw-threaded collar, B, which engages with the female screw-thread of the pinion-nut C, secured to the lower end of the upper part, A′, of the valve-stem.

The nut C is of sufficient height to give the valve-stem the extreme length that might be desired, and has its exterior provided with teeth, as shown, to form a pinion. There is cast with or connected to the collar B a plate, D, which projects horizontally from the valve-stem. The arm *a* of this plate supports the crank-spindle E, which passes through a sleeve on the arms, and has keyed to its ends, outside of the arch-frame of the governor, a hand-crank, E′. The crank-spindle projects tangentially toward the pinion-nut C, and has formed on its inner end a short screw or worm, F, which engages with the teeth of the pinion-nut.

By turning the hand-crank E′, it will be seen that the valve-stem can be lengthened or shortened, so as to make the governor-balls work in a higher or lower plane, and thereby to regulate the speed of the governor and the machinery controlled by it.

The gravity of the hand-crank holds the parts at any point of adjustment.

The plate D has an arm, *a′*, projecting from the opposite side of the valve-stem from the arm *a*, which carries the crank-spindle. Both arms *a a′* curve outwardly toward the arch-frame of the governor and extend close to the edge of the same. This plate D prevents the governor-valve and the lower portion of its stem from turning, which arrangement is preferable to providing the valve itself with a spline, and the connection between the two parts of the valve-stem keeps the upper part of the stem from turning, and thereby changing the length of the stem, as already described.

These means for regulating the speed of the governor are very simple, efficient, and convenient, and permit of a nice adjustment of the parts while the engine is running, and without losing control of the speed of the engine when the adjustment is being made, as is the case where the lengthening-nut has to be turned by a wrench.

Having thus fully described my improvement and explained some of its advantages, what I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the divided valve-stem of a ball-governor, of a crank-spindle and connecting devices for lengthening or shortening the valve-stem, substantially as and for the purpose set forth.

2. The combination, with the divided valve-stem of a ball-governor, of a pinion-nut for lengthening such stem, operated by a worm-gear, substantially as described.

3. The combination, with the governor-frame, of the plate D, mounted on the lower portion of the divided valve-stem, and carrying the devices for adjusting the length of such valve-stem, and provided with arms *a a'*, engaging with the governor-frame, to prevent the governor-valve from turning, constructed and arranged substantially as described and shown.

This specification signed and witnessed this 27th day of January, 1879.

LOYAL C. TABER.

Witnesses:
WALTER MORSE,
A. E. RICHARDSON.