

(No Model.)

D. A. TOMPKINS & P. BIGELOW.
ENGINE GOVERNOR.

No. 469,105.

Patented Feb. 16, 1892.

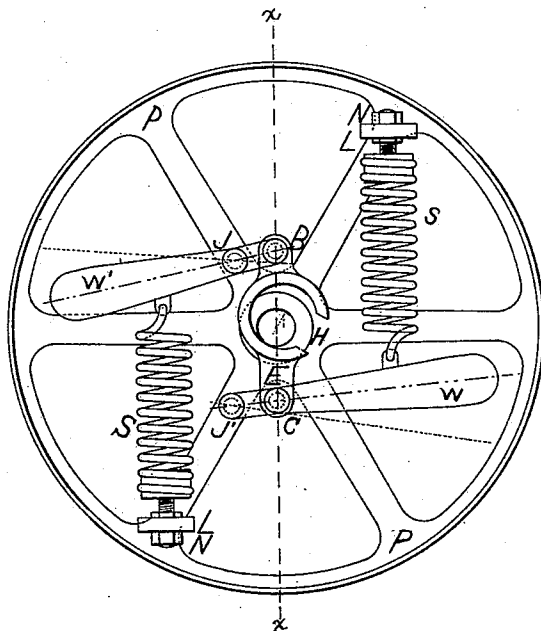


Fig. 1.

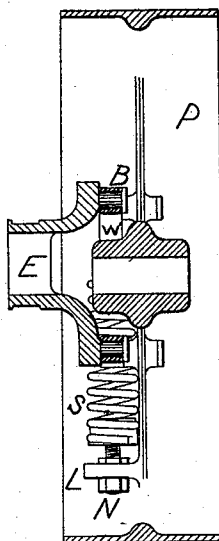


Fig. 2.

WITNESSES:

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DANIEL A. TOMPKINS AND PAUL BIGELOW, OF CHARLOTTE, NORTH CAROLINA.

ENGINE-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 469,105, dated February 16, 1892.

Application filed October 30, 1889. Serial No. 328,633. (No model.)

To all whom it may concern:

Be it known that we, DANIEL A. TOMPKINS and PAUL BIGELOW, citizens of the United States, residing at Charlotte, in the county of Mecklenburg and State of North Carolina, have invented certain new and useful Improvements in Engine-Governors, of which improvements the following is a specification.

In the accompanying drawings, which make part of this specification, Figure I is a face view, in elevation, of the governor embodying our invention; Fig. II, a sectional view of the same on the line *x x*.

Our invention relates to that class of engine-governors which have a movable eccentric controlled by a spring or springs and one or more weights which have a tendency to act by centrifugal force in a contrary direction to the aforesaid spring or springs.

The object of our invention is to simplify and economize to a large extent in the construction of a governor of this type and to enable the same to be readily applied to or removed from an engine.

To this end our invention, generally stated, consists in the combination, with a pulley or fly-wheel, of an eccentric with or without an opening or passage from its periphery to a transverse shaftway; also, in the combination of a band or fly wheel with an eccentric having a shaft-opening and a lateral passage therefrom, a weight or weights pivoted directly to the eccentric, and a spring or springs acting directly on this weight or weights.

The improvements claimed are hereinafter fully set forth.

In governors of the class to which our invention relates it is customary to divide the eccentric in order to place it in position around the shaft. The weights which exert centrifugal force have heretofore been pivoted to a crank-disk and coupled to the eccentric by a more or less complicated system of links. Such construction involves considerable cost and is undesirable, as it requires many joints with the attending disadvantages of wear and backlash, thus producing sluggishness of ac-

tion, beside the constant attention required to keep the joints lubricated. Under our invention we are enabled to much reduce the first cost of construction, to readily apply and remove the governor with little labor, beside reducing the number of wearing joints.

In the practice of our invention we provide an eccentric E, in which is a transverse opening or shaftway of proper size to allow the desired motion for controlling the travel of the valve from the limits of no port-opening to that of a full port-opening. A lateral gap H may be formed in the eccentric from its periphery to the shaftway, the gap H being somewhat wider than the diameter of the shaft to enable the eccentric to stride the shaft.

In practice we find it convenient to use a common fly-wheel or pulley P, with the addition of two lugs L L and two bosses, (shown at J and J'), these two lugs and bosses being cast on the arms of the pulley at the proper location. At the bosses J and J' are pivoted the two weights W and W', which when the mechanism is in rotation are held against centrifugal action by the springs S and S'. At a certain distance from the fulcrums J J' the eccentric E is pivoted directly to the weights. As the revolutions of the wheel P increase the weights have a tendency to swing around the pivots J J' against the tension of the springs S S'. At the same time the eccentric is moved, its eccentricity decreased, and consequently the travel of the attached valve is reduced, less steam is admitted, and the engine reduces its speed. The tension of the springs may be adjusted by means of the jam-nuts at N, and the end of the spring is firmly held in position by the same.

We claim herein as our invention—

1. The combination of a common fly-wheel or pulley, a movable eccentric having a transverse shaft-opening and a lateral passage therefrom to its periphery, said eccentric being pivotally connected directly to the weight arms or levers, which in turn are pivoted to the arms of the fly-wheel or pulley, and springs connected to the weight-arms in position to

exert tension thereon in an opposite direction to the centrifugal action of the weight or weights, substantially as set forth.

2. The combination, with a fly-wheel, of an
5 eccentric having a transverse shaft-opening and a lateral passage therefrom to its periphery, and weight-arms so pivoted to the eccentric and fly-wheel as to form levers of the first

and second class, acting directly upon the eccentric, substantially as set forth.

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Witnesses:

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