

(No Model.)

W. ARNOT.
GOVERNOR FOR ENGINES.

No. 350,797.

Patented Oct. 12, 1886.

Fig. 1.

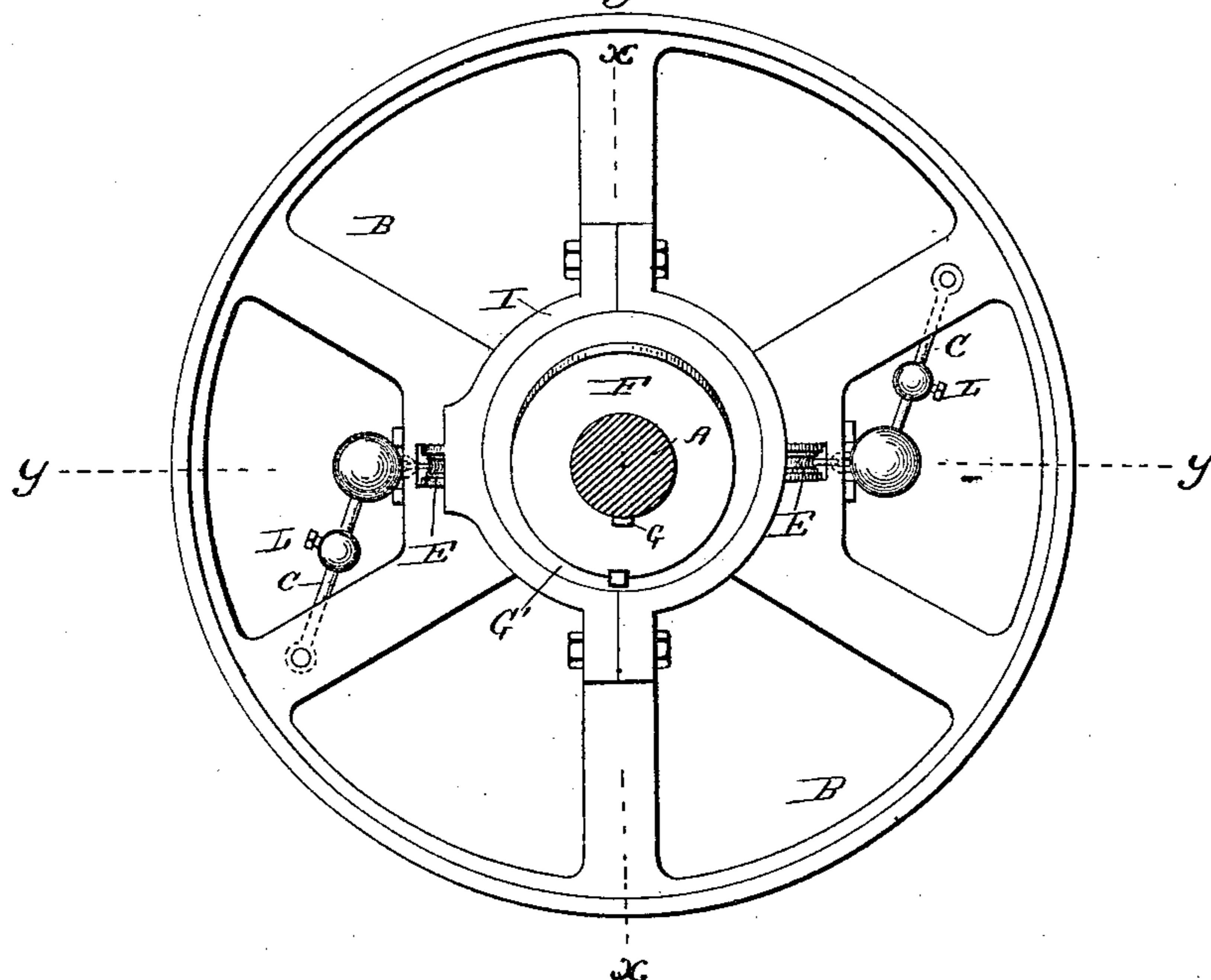


Fig. 2.

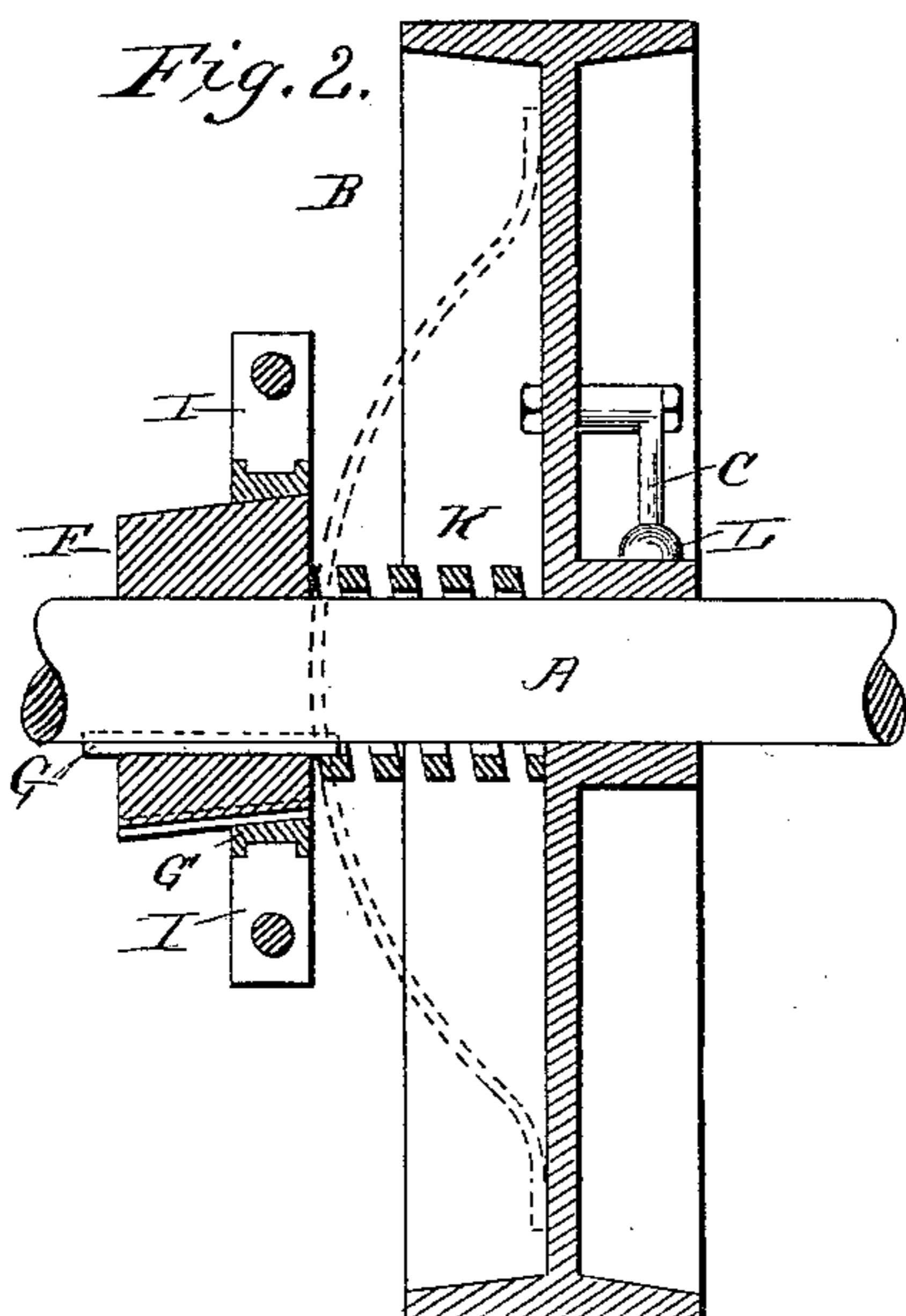
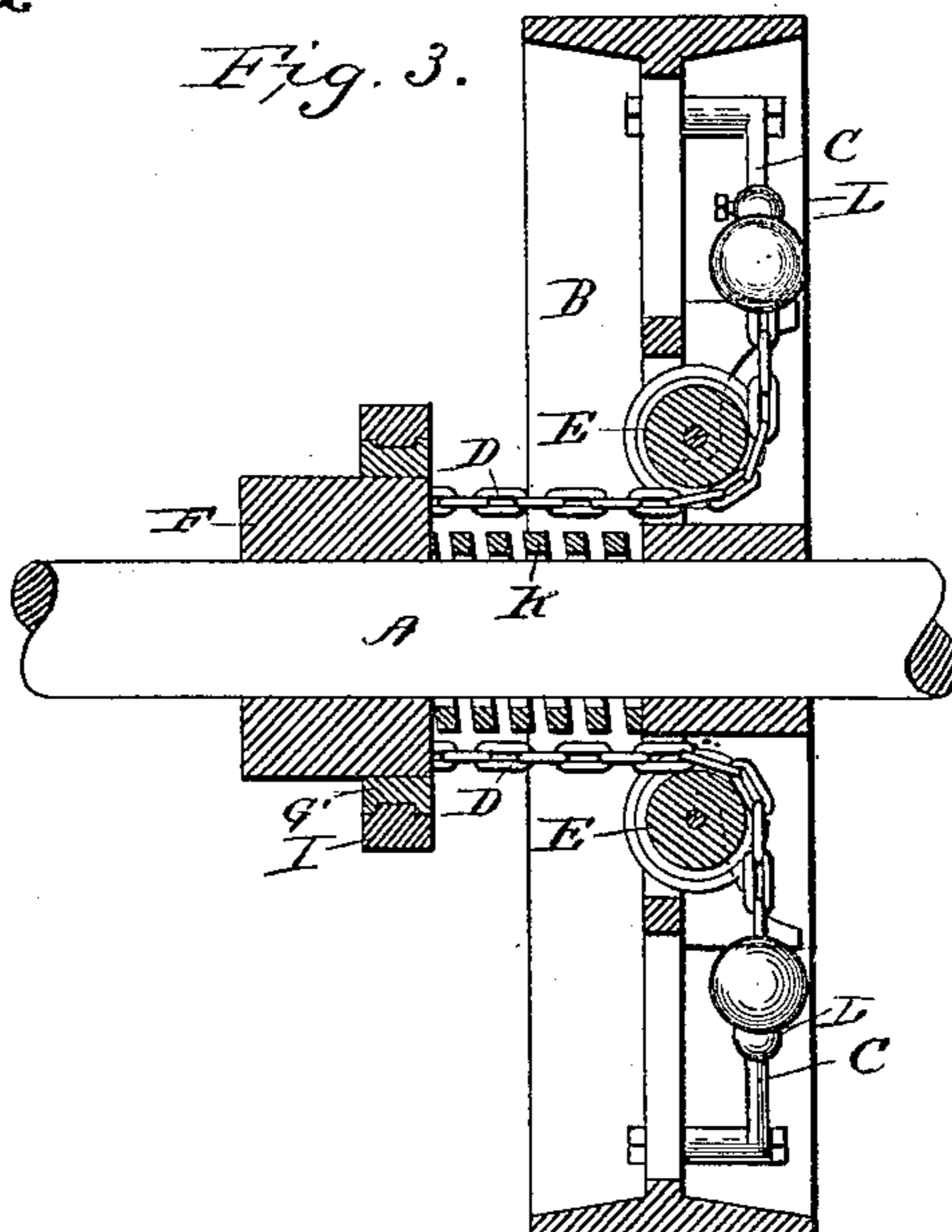


Fig. 3.



Witnesses

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WILLIAM ARNOT, OF SELMA, ALABAMA.

GOVERNOR FOR ENGINES.

SPECIFICATION forming part of Letters Patent No. 350,797, dated October 12, 1886.

Application filed July 7, 1886. Serial No. 207,337. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM ARNOT, a subject of the Queen of Great Britain, residing at Selma, in the county of Dallas and State of Alabama, United States of America, have invented certain new and useful Improvements in Governors for Steam-Engines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in governors for steam-engines; and it has for its object to regulate the throw of the valve of the engine, so as to automatically admit more or less steam to the cylinder, according to the speed of the engine, and thus secure a regular and uniform motion, as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents a face view of the fly-wheel of an engine, showing a portion of the devices constituting my improved governor. Fig. 2 represents a longitudinal sectional view through the driving shaft and the mechanism of the improved governor, taken on the line *x x*; and Fig. 3, a similar view taken on the line *y y* of Fig. 1.

The letter A indicates the main or fly-wheel shaft of an engine, and B the fly or driving wheel mounted thereon in the usual manner. To one or more of the arms or spokes of said wheel are pivoted the weighted levers C, which are connected by means of chains D, passing over pulleys E, mounted in recesses in the hub of the fly-wheel, with a sliding sleeve, F, mounted on the main driving-shaft A. The said sleeve is cylindrical externally, but is bored obliquely, so that the outer end, when mounted on the driving-shaft, will be concentric therewith, and its inner end, or end adjacent to the fly-wheel, will be eccentric thereto, as clearly shown in Fig. 2 of the drawings. The said sleeve is grooved longitudinally, and slides on a feather or spline, G, on the main or driving shaft A, so as to rotate with it. The sleeve passes through an annulus, G', which is grooved on the inside for the passage of a spline on the sleeve, so as to permit the sleeve to slide in said annulus, and at the same time rotate it. The annulus is grooved on its

periphery and carries the strap I, to which the valve-rod is attached in the usual manner. Between said sleeve and the fly-wheel is located a spring, K, which may be either a spiral or bow spring, as indicated in Figs. 2 and 3 of the drawings, the said spring serving to press the eccentric normally outward.

The arms of the weighted levers above mentioned may have mounted thereon adjustable weights L, by means of which their centrifugal power may be regulated in order to accurately balance the movement of the valve and other parts of the operating mechanism.

The operation of my invention is as follows: The engine being put in motion, the fly-wheel by its rotation causes the weighted levers to move by centrifugal force to a degree corresponding to the speed of the wheel, thus varying the throw of the eccentric or valve rod automatically as the piston is drawn away from or pressed to its normal position, so as to move the valve to diminish the admission of the steam to the cylinder when the engine is running at too great a speed, and vice versa, thus securing a uniform rate of speed. The recesses in which the pulleys are mounted serve to limit the movement of the levers and the outward movement of the eccentric.

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

1. The combination, with the sliding sleeve mounted on the main shaft, and the annulus secured thereto, and strap, of the fly-wheel and its pulleys, the chains connected to the annulus, and the weighted levers pivoted to the fly-wheel, the whole arranged to operate substantially in the manner specified.

2. The combination, with the main shaft, of the sliding sleeve and annulus, the strap mounted thereon, the fly-wheel, and mechanism for operating the sleeve, and the spring interposed between the sleeve and fly-wheel for holding the parts in normal position, substantially as specified.

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

WILLIAM ARNOT.

Witnesses:

JOHN OLDICORN,

THESPIS A. JAMESON.