S. Stanton,

Governor.

No. 113,701. Patented Apr. 11. 1871.

Fig. 1

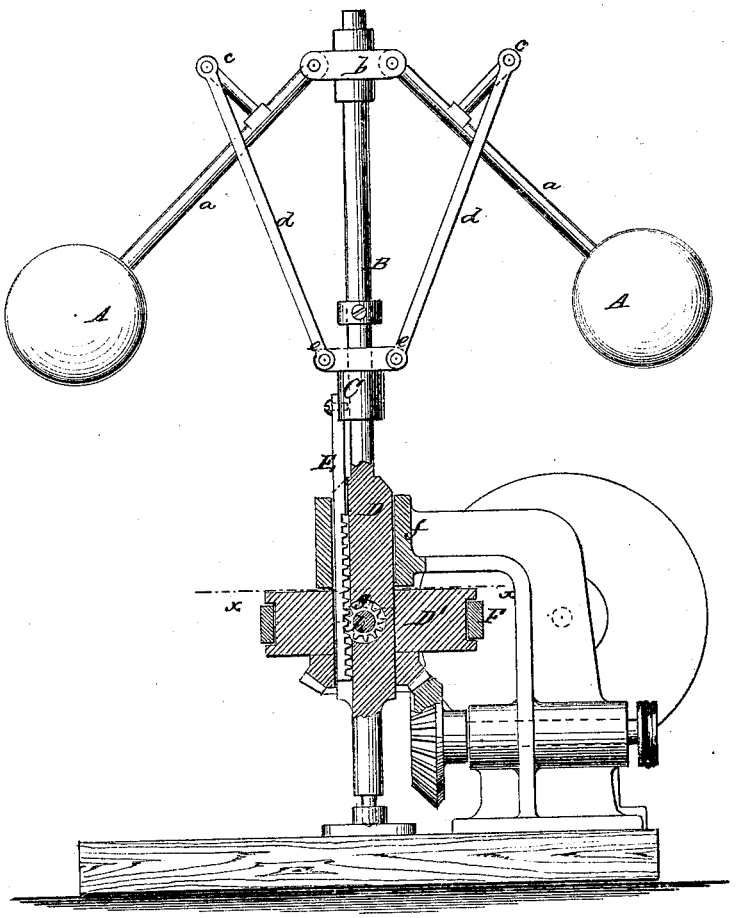
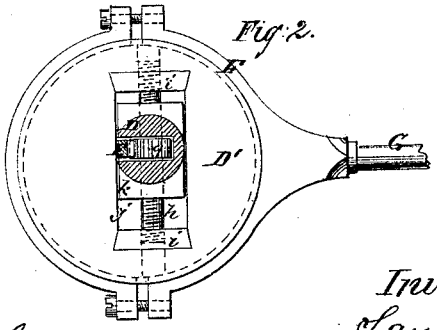


Fig. 2.



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UNITED STATES PATENT OFFICE.

SAMUEL STANTON, OF NEW YORK, N. Y.

IMPROVEMENT IN VARIABLE ECCENTRICS FOR STEAM-ENGINE GOVERNORS.

Specification forming part of Letters Patent No. **113,701**, dated April 11, 1871.

To all whom it may concern:

Be it known that I, SAMUEL STANTON, of the city, county, and State of New York, have invented a new and useful Combination of a Governor and Cut-Off for Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, making a part of this specification.

This invention consists in a novel manner of combining a ball-governor with the cut-off of a steam-engine, as hereinafter fully shown and described, whereby the cut-off is rendered perfectly automatic in its operation, and a regular or uniform speed of the engine insured, however variable the amount of power required of it may be.

In the accompanying drawing, Figure 1 is an elevation of my invention, partly in section. Fig. 2 is a horizontal section of the same, taken in the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

A A represent the two balls of a ball-governor; B, the vertical shaft, to which the balls are connected by rods *a a*, pivoted to a cross-head, *b*, said rods being connected, by pivots *c c*, to rods *d d*, the lower ends of which are attached, by pivots *e e*, to a slide, C, on the shaft B, as shown in the drawing, Fig. 1.

The parts above referred to constitute the ordinary and well-known ball-governor, which does not require a special description.

On the shaft B there is a cylindrical hub or boss, D, which works in a proper bearing, *f*, the latter supporting the shaft or serving as a guide for it. In this hub or boss there is fitted, in a proper recess, a pinion, *g*, the axis *h* of which extends entirely through the hub or boss, and projects from it, at opposite sides, a suitable distance, the projecting ends of the axis having a screw-thread cut on them, which works in nuts *i i*. (See Fig. 2.)

D′ is an eccentric, which has a rectangular opening, *j*, made in it to receive a corresponding-shaped projection or collar, *k*, on the hub or boss D. This projection or collar is somewhat shorter than the opening *j*. (See Fig. 2.)

At each end of the opening *j* in the eccentric D′ a nut, *i*, previously referred to, is inserted.

E is a rack, which depends from the slide C and engages with the pinion *g*, as shown clearly in Fig. 1; and F is a metal strap, which encompasses the eccentric D′, and to which a rod, G, is connected, which operates the cut-off.

From the above description it will be seen that the slide C will be raised and lowered on the shaft B in accordance with the speed of the governor, and the rack E, as it rises and falls, will turn the pinion *g*. The screws on the axis *h* of the pinion, in consequence of working in the nuts *i i*, will adjust the eccentric D′ more or less eccentric with shaft B, so that the stroke of the rod G will be greater or lesser, in accordance with the admission of steam required in the cylinder of the engine to render the speed uniform.

I do not claim, broadly, the employment of a rack and pinion and screws for automatically altering the throw of the eccentric, as this has been done; but

What I claim as new is—

The arrangement of the pinion *g*, screws *h h*, and nuts *i i* within the eccentric, and operated, through means of a rack, by a ball-governor, having the shaft B D *k*, all constructed and arranged substantially as herein described, and constituting a variable cut-off.

The above specification of my invention signed by me this 2d day of November, 1870.

SAML. STANTON.

Witnesses:
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