

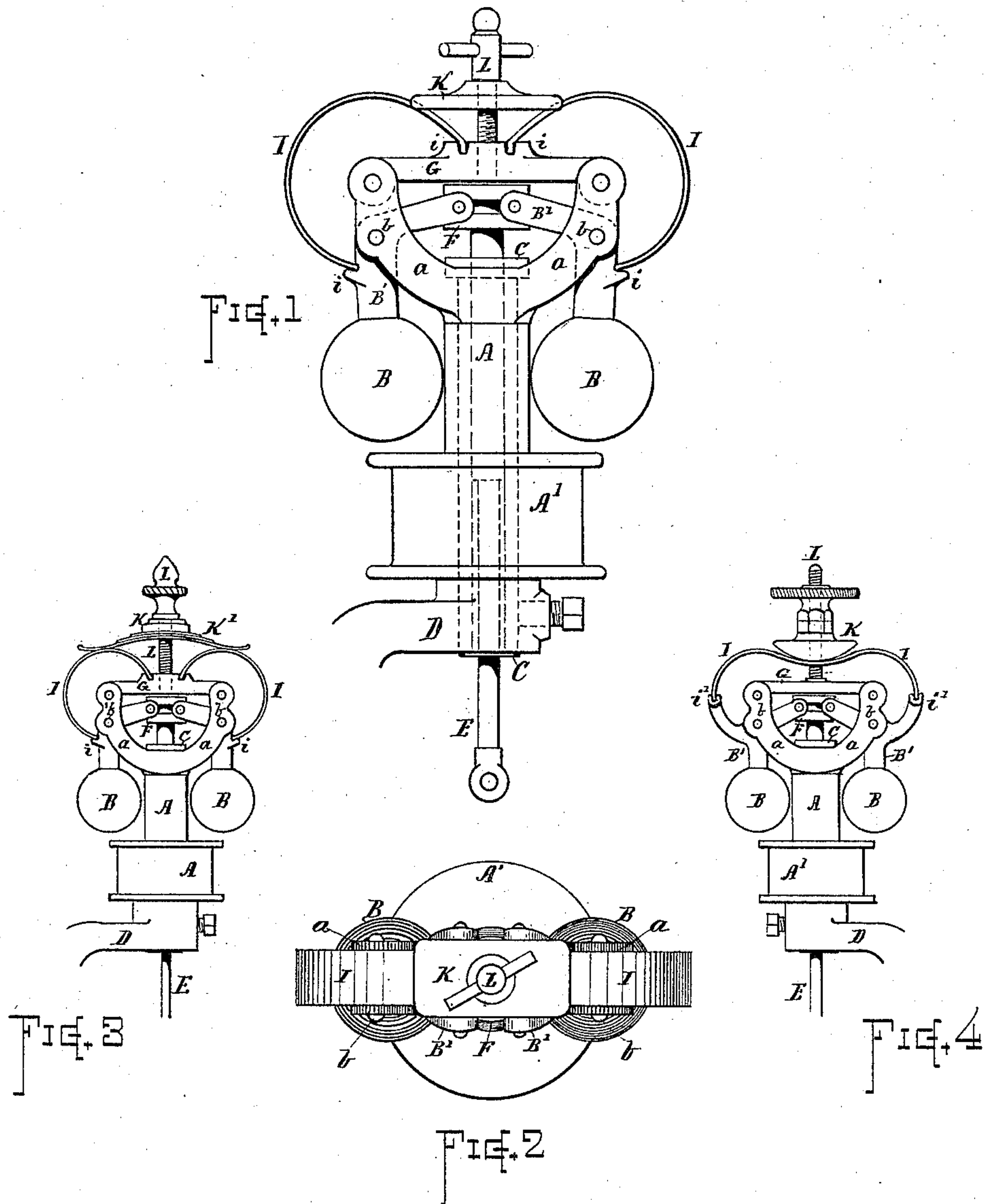
(No Model.)

E. WRIGHT.

GOVERNOR.

No. 283,842.

Patented Aug. 28, 1883.



WITNESSES.

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UNITED STATES PATENT OFFICE.

EDWARD WRIGHT, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE
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GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 283,842, dated August 28, 1883.

Application filed May 28, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWARD WRIGHT, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Governors; and I declare the following to be a description of my said invention sufficiently full, clear, and exact to enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

The objects of my present invention are to make an efficient and desirable governor mechanism; to provide a convenient and practical device for adjusting the apparatus for different degrees of speed, and to afford an arrangement of springs for depressing the balls against centrifugal action, that will give sensitive, quick, and powerful action. These objects I attain by mechanism the nature of which is shown in the accompanying drawings and explained in the following description, the particular features claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a side view of a ball-governor embracing my invention. Fig. 2 is a top plan view of the same. Figs. 3 and 4 are side views, showing modifications in construction.

In the references, A denotes the revolving standard, provided with a pulley, A', and with slotted arms *a a*, in which the levers B' of the balls B are pivoted at *b*.

C indicates the tubular stud on which the part A revolves. Said stud is supported in the bracket D, which may be a part of any machine or frame whereon the governor is to be used.

E indicates the valve-operating rod, or part which transmits the movement of the governor to the mechanism actuated thereby. Said rod E passes through the tubular stud C, and is rigidly connected with the head F, which receives the action of the governor-ball levers B', said levers being bifurcated, and provided with lugs or pins to run in the grooves of the head F, or otherwise connected therewith in suitable manner, so that movement of the balls will actuate the rod E.

G indicates a rigid cross-bar spanning the tops of the arms *a*, and firmly supported thereon.

I I indicate flat metal bow-springs, supported at one end on the cross-bar G, and arranged or curved over the pivot-joints *b* in a round bow or circular form, with their opposite ends resting against the ball-levers at *i*, in such manner that the force of the spring tends to press the balls B inward toward the standard A. Suitable grooves or lugs are provided for retaining the ends of the springs I in proper relative position on the bar G and levers B', as illustrated.

K indicates a plate or pressure-shoe that has bearing on the tops of the springs I, and which is connected to the bar G by means of an adjusting-screw, L, that passes through the parts in line with the axis of the revolving standard, and by means of which the plate K can be set down upon the springs I to a greater or less distance for adjusting the tension of said springs, and causing them to act with greater or less resistance on the levers of the balls B, so that it will require a higher or lower degree of speed to swing the ball outward to a given distance from the standard. The adjusting-screw I may be threaded into the bar G and fitted with a fixed head, or it can be fixed in the bar G and the head be made to act thereon as a threaded nut, as preferred. The swinging outward of the balls tends to compress the spring in the direction of their length, and also to shorten their curvature, so that they act quickly, while their force increases rapidly as the balls move outward.

Fig. 3 shows a modification of construction, wherein a flat leaf-spring, K', is arranged as a pressure-plate for the adjusting-screw L. This style may be adopted in large-sized governors, where the curves of the springs I are such that the bearing-points are considerable distance apart. If desired, the ends of the flat leaf-spring K' could be curved down around the springs I, to act as a re-enforce for the outer curves of said springs I to increase their power.

Fig. 4 shows a modification of construction, wherein the spring is extended across beneath the pressure-plate K, and a single spring used in lieu of two springs. The levers of the balls

are also provided with projections *i'*, that curve up to meet the ends of the springs I. The adjusting-screw is also shown as rigidly connected to the bar G, with a nut for a head above the plate K. In this form the acting portions of the springs are shorter and permit less range of movement for the balls B.

What I claim as of my invention, and desire to secure by Letters Patent, is—

10 1. The springs I, arranged as curved bows over the fulcrums of the ball-levers, and bearing against said levers in the manner shown, for depressing or forcing the balls inward, as set forth.

15 2. The combination, with the bow-springs I, arranged, as shown and described, for pressing upon the ball-levers, of the pressure-plate K, resting upon the back of said springs, and

the adjusting-screw L, substantially as and for the purpose set forth.

3. The combination, substantially as hereinbefore described, of the revoluble standard A *a*, the weighted arms or balled levers B B', fulcrumed as at *b*, the bar G, spanning the top of said standard, the bowed springs I, the pressure-plate K, resting upon the back of said springs, and adjusting-screw L, passing through said plate and adapted for regulating the tension of said springs, as and for the purposes set forth.

Witness my hand this 23d day of May, A. D. 1883.

EDWARD WRIGHT.

Witnesses:

CHAS. H. BURLEIGH,
J. WALTER SMITH.