(No Model.)

S. D. SHEPPERD.

GOVERNOR FOR ANIMAL POWERS.

No. 317,586. Patented May 12, 1885.

Fig. 1.

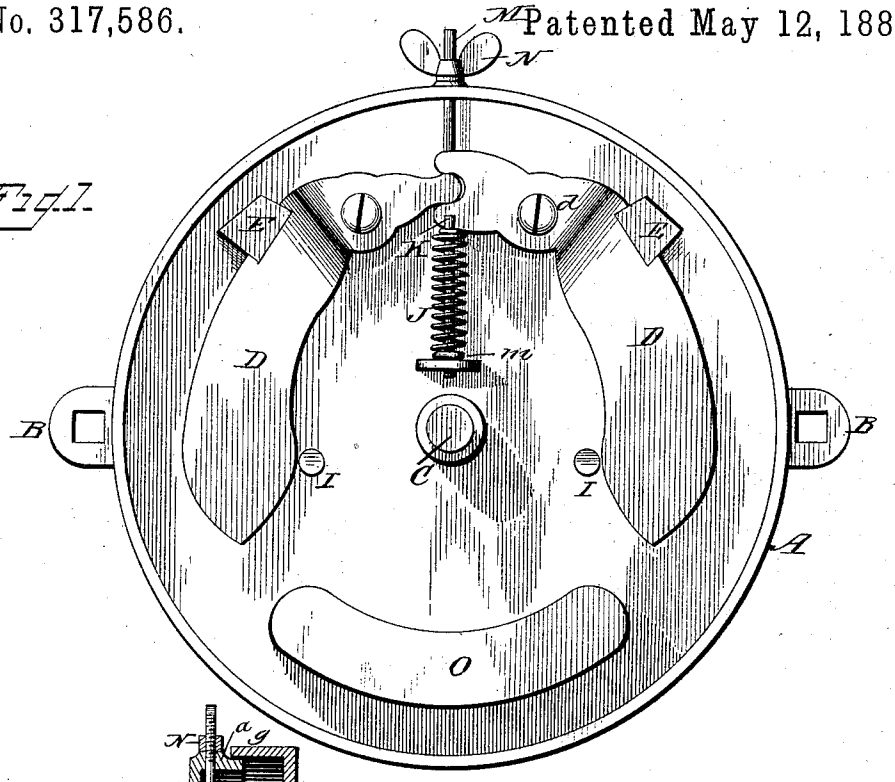


Fig. 2.

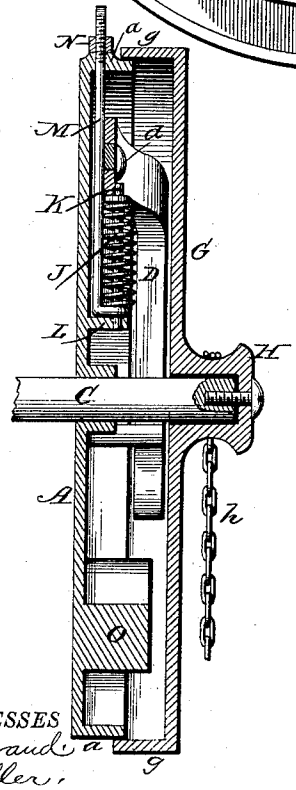
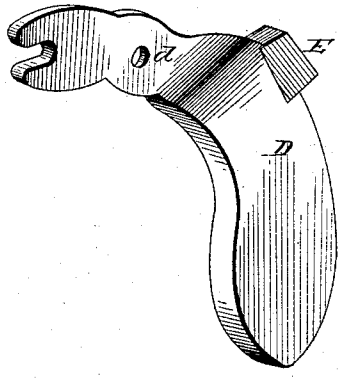


Fig. 3.



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UNITED STATES PATENT OFFICE.

SYLVANUS D. SHEPPERD, OF PITTSTOWN, NEW JERSEY.

GOVERNOR FOR ANIMAL-POWERS.

SPECIFICATION forming part of Letters Patent No. 317,586, dated May 12, 1885.

Application filed March 30, 1885. (No model.)

To all whom it may concern:

Be it known that I, SYLVANUS D. SHEPPERD, a citizen of the United States, residing at Pittstown, in the county of Hunterdon and State of New Jersey, have invented certain new and useful Improvements in Governors for Animal-Powers; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention is an improvement in governors for animal-powers—such, for instance, as tread-mills; and it has for an object to provide a simple attachment which can be conveniently secured to the animal-power and connected with the brake mechanism thereof, so as to automatically apply the same.

The invention consists in certain novel constructions and combinations of parts, which will be hereinafter described and claimed.

In the drawings, Figure 1 is a front view of the supporting-disk with the governor-levers, the spring, and the adjusting-rod in position. Fig. 2 is a radial section of the governor in place on a shaft, and Fig. 3 is a detail perspective view of one of the lever-arms.

The supporting-disk A may be the fly or other suitable wheel of the motor or power, but is preferably a separate disk bolted to such fly-wheel, to which end the disk may have perforated lugs B.

The shaft C may be the main or other shaft of the power mechanism.

To the plate A, I pivot, at *d*, the levers D, the braking-arms of which project circumferentially in opposite directions, so that one lever will operate by centrifugal force with one and the other with the opposite revolution of the disk. For this reason I prefer to employ two levers; but, manifestly, one may be used without departing from the principle of the invention. Shortly in advance of the pivot *d* the levers are deflected laterally outward in order to throw the friction-shoes E in a plane with the flange of the parallel wheel G. This wheel G is journaled loosely on the shaft C, and has a flange, *g*, which is engaged by the shoes E. These shoes, it will be understood, may be formed integrally with the levers or be separate blocks properly secured thereto.

I provide the wheel G with a pulley, H, to which is secured one end of a cord or chain, *h*, the other end of which in practice is carried to and made fast to the brake mechanism of the power. This brake mechanism may be of any of the usual forms, and needs no illustration or detailed description. In operation, when the flanged wheel G is clutched by the levers of the supporting-disk, the chain *h* is wound on pulley H, and the brake is applied with more or less force, according to the intensity with which the levers bind the flange of wheel G.

It will be noticed that the outer ends of the friction-arms of the levers are curved inward in advance of the shoes E. The advantage in this construction is, that by it the curved ends of the levers continue to act by centrifugal force after the shoe E engages the flange *g*. Pins I are suitably arranged on the disk to limit the inward movement of the friction-arms of the levers.

A spring, J, is employed to prevent the levers from binding too strongly against the flanged wheel. This spring I support on a guide-rod, K, the inner end of which is secured to the supporting-plate, and by preference to a lug, L, thereon. This springs bears under the inner ends of the levers, and operates to normally hold such parts in the position shown in Fig. 1. As the disk is revolved, the outer or friction arms of the levers are thrown outward by centrifugal force and bind against the flange *g*. This action is in opposition to the spring J; and it will be seen that by regulating the force or tension of the spring the levers may be caused to act with more or less power on the flanged wheel. To this end I provide the adjusting-bar M, provided at its inner end with an eye, *m*, encircling the guide-bar K, and bearing against the inner side of the spring J. The outer end of this bar M is passed through the flange *a* of the disk A, and is threaded to receive the nut N. By turning this nut the adjusting-bar may be set in or out, and the spring be contracted or relaxed, as desired.

While both levers may be caused to bear directly on the spring, it is preferred to provide one of said levers with a notch or recess, and the other with a tongue fitted thereinto, as shown most clearly in Fig. 1.

By applying the brake of the power when the latter is moving too rapidly, and by mechanism which can be adjusted, as before described, the speed of such power can be automatically regulated or governed.

Where desired, the disk A may be provided, about diametrically opposite the pivots of the levers, with a counterpoise or balance weight, O, cast with or suitably secured to said disk.

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

1. The combination, with a flanged wheel, of a supporting-disk, a governor-lever pivoted thereto and having its outer arm arranged to engage the flanged wheel, and a spring engaging said lever, substantially as set forth.

2. The combination of the supporting-disk, the governor-lever pivoted thereto, a spring engaged with said lever, and an adjusting-bar, by which the tension of said spring may be regulated, substantially as set forth.

3. The combination of the supporting-disk, two governor-levers pivoted thereto and having their friction-arms extended circumferentially in opposite directions, and a spring engaged with the adjacent ends of said levers, substantially as set forth.

4. A governor-lever, substantially as herein described, curved inwardly in advance of its shoe or binding-surface, substantially as and for the purposes specified.

5. The combination of the disk provided with a guide-rod for the spring, a governor-lever, an adjusting-bar provided at its inner end with an eye encircling and movable on the guide-rod, and having its outer end threaded, a nut turned on said threaded end, and a spring placed on the guide-rod, and bearing between the inner end of the governor-lever and the eye of the adjusting-bar, substantially as set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

SYLVANUS D. SHEPPERD.

Witnesses:
J. H. DE MOTT,
CHESTER WOLVERTON.