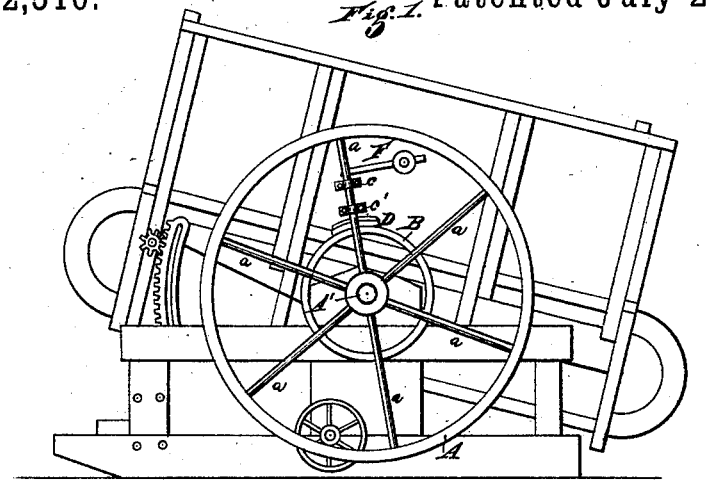
(No Model.)

M. MORTON.

GOVERNOR OR BRAKE MECHANISM.

No. 302,516. Patented July 22, 1884.

Fig. 1.



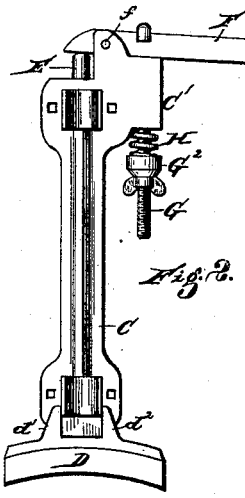


Fig. 2.

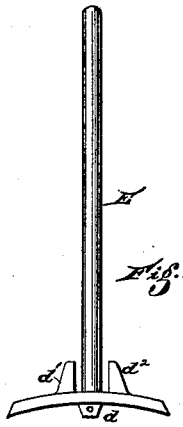


Fig. 4.

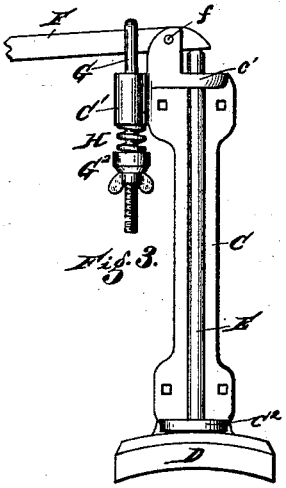


Fig. 3.

WITNESSES.

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UNITED STATES PATENT OFFICE.

MATTHEW MORTON, OF ROMEO, MICHIGAN.

GOVERNOR OR BRAKE MECHANISM.

SPECIFICATION forming part of Letters Patent No. 302,516, dated July 22, 1884.

Application filed December 31, 1883. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW MORTON, of Romeo, county of Macomb, State of Michigan, have invented a new and useful Improvement in Governors; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists in the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a side elevation of a device embodying my invention. Fig. 2 is a separate view in front elevation. Fig. 3 is a rear elevation of the same. Fig. 4 is a separate view of the shoe with the bolt secured thereto.

The object of my invention is to provide an automatic governor or brake for tread horse-power and other mechanisms.

I construct my device essentially as follows:

As illustrated in the drawings, A represents the fly-wheel upon a tread-horse power. A′ is its shaft. B is a stationary wheel loosely mounted on said shaft, or otherwise suitably secured adjacent to said fly-wheel.

a represents the spokes of the fly-wheel. Upon one or more of these spokes my automatic governor or brake is secured. Said governor consists more particularly of the standard or arm C, by which the device may be secured to a spoke of the fly-wheel in any proper manner—as, for instance, by means of clips or any suitable grip, *c* and *c′*. The standard is preferably constructed of such a shape that it may fit upon the spoke, and is held in place by being held tightly by means of said clips.

D is a shoe located at the base of the standard C, to which is secured a suitable pad of wood, leather, or other suitable material, adapted to engage as a brake upon the stationary wheel B. The shoe is provided with a socket, *d*, adapted to receive the end of the bolt E, said bolt being preferably pivoted in said socket, as illustrated in Fig. 4. Said shoe is also provided with the shoulders d' and d^2, adapted to engage loosely with the base of the standard C. The bolt E passes loosely through suitable orifices in the standard C, as shown at c' and c^2, or any other proper manner.

F is a weighted lever pivoted at the outer end of the standard C, as shown at *f*, the inner end of the lever adapted to engage upon the projecting end of the bolt E.

G is a bolt preferably constructed with a hook at the top, or otherwise engaged with said lever, said bolt passing through the sleeve C′, attached to the standard.

H is a spring located about the bolt G, one end engaged with the sleeve C′ and the other with a suitable washer, G′. The bolt G is screw-threaded at its lower end, and provided with a suitable thumb-nut, by means of which the tension of the spring may be regulated.

The operation of the device is as follows: When secured, as described, upon one of the spokes of the wheel, an increase of velocity will cause the weight upon the lever F to be thrown upward by its centrifugal force, the result being that the inner end of said lever will be forced in contact with the bolt E in such a manner as to apply the pad upon the wheel B, by which the power is automatically braked or governed. A lessening of the speed will tend to relieve the pressure upon the bolt E, by which the pad will be more or less disengaged with the wheel B. I prefer to locate this governor, as shown, at quite a little distance from the center of the fly-wheel, as it takes but a slight increase of motion in that case to effect the operation of the governor. By means of the thumb-nut upon the spring-bolt G the operation of the governor may be regulated and adjusted, as may be desired—as, for instance, if it is desired to adjust the governor for a higher rate of speed, it may be done by tightening the thumb-nut upon the spring, and, vice versa, if it is desired to regulate the governor so as to have a lower rate of speed, it may be accomplished by loosening the thumb-nut upon said spring-bolt; also, if the pad should become worn with contact with the wheel B, by simply loosening the clips *c* and *c′* the standard with its attachments may be simply slipped down the required distance upon the spoke of the wheel. I prefer to locate a governor of this description on two opposite spokes of the wheel, but desire to have

it understood that I contemplate applying it to one or more of the spokes, as may be desired.

I have described this governor in connection with a tread horse-power, but desire to have it understood that I contemplate its use in any other manner to which it may be applicable, as it is evident that it may be attached to any fly-wheel.

I do not confine myself to the attachment of this device to the spoke of a fly-wheel, as it may be secured upon the wheel in any suitable manner; nor do I limit myself to the spring-bolt connected with the lever and the adjusting mechanism connected therewith, as the regulation and adjustment of the device may also be made by shifting the position of the weight along the lever, or both methods may be employed.

What I claim is—

1. The combination, with a fly-wheel, of a suitable standard, C, secured thereon, said standard provided with a bolt loosely mounted therein, said bolt connected with a brake-pad, and in connection therewith a weighted lever pivoted upon said standard, and adjusting mechanism connected with said lever, substantially as and for the purpose described.

2. The combination, with a fly-wheel, of a supporting-standard secured thereon, said standard provided with a longitudinal bolt loosely mounted therein, said bolt connected at one extremity with a brake-pad, and in connection therewith a weighted lever pivoted upon said standard, and a spring-bolt connected with said lever, the construction being such that as the weight of the lever flies off from the center of the wheel the inner end of the lever will be forced upon the bolt connected with said pad, substantially as and for the purpose described.

3. The combination, with a fly-wheel, of a suitable standard, C, secured thereon, said standard provided with a bolt loosely mounted therein, said bolt connected with a brake-pad, and in connection therewith a weighted lever pivoted upon said standard, and a spring-bolt sleeved upon said standard and connected with said lever, said spring-bolt provided with mechanism for adjusting the tension of the spring, substantially as and for the purpose described.

4. The combination, with a fly-wheel, of a supporting-standard, C, said standard provided with a longitudinal bolt loosely mounted therein, said bolt pivotally connected with a brake-pad, and in connection therewith a weighted lever pivoted upon said standard, the inner end of said lever adapted to engage upon the end of said bolt, and a spring-bolt sleeved upon said standard, said spring-bolt provided with mechanism for adjusting the tension of the spring, substantially as described.

5. The combination, with a fly-wheel, of a standard, C, adjustably secured upon said wheel, said standard provided with a longitudinal bolt loosely mounted therein, said bolt connected with a brake-pad, and in connection therewith a weighted lever pivotally secured upon said standard, and a spring-bolt sleeved upon said standard and connected with said lever, said spring-bolt provided with mechanism for adjusting the tension of the spring, substantially as described.

6. The combination, with a fly-wheel, of a standard, C, provided with a bolt loosely mounted therein, said bolt connected with a brake-shoe, a brake-pad secured upon said shoe, and in connection therewith a weighted lever pivotally secured upon said standard, said standard provided with a spring-bolt engaged with said lever, substantially as described.

7. The combination, with a fly-wheel having a stationary wheel adjacent thereto, of a standard, C, secured upon said fly-wheel, said standard provided with a longitudinal bolt loosely mounted therein, said bolt connected at one extremity with a brake-pad, and in connection therewith a lever pivotally connected with said standard, and a spring-bolt connected with said lever, the construction being such that as the weight upon the lever recedes from the center the inner end of the lever will be forced upon said longitudinal bolt and automatically apply the brake-pad upon said stationary wheel, and vice versa, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

MATTHEW MORTON.

Witnesses:

N. S. WRIGHT,

M. B. O'DOGHERTY.