No. 612,755. Patented Oct. 18, 1898.

J. F. O'MARA.

BICYCLE GOVERNOR.

(Application filed Jan. 27, 1897.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

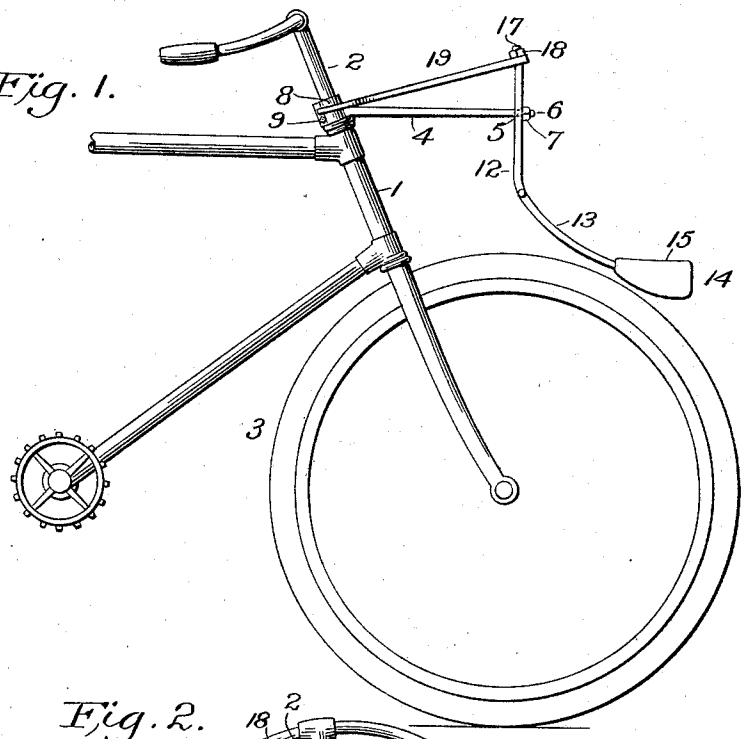
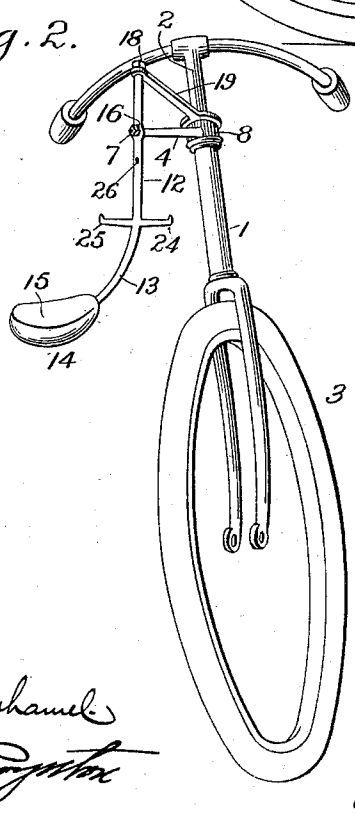


Fig. 2.



WITNESSES

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2 Sheets—Sheet 2.

Fig. 3.

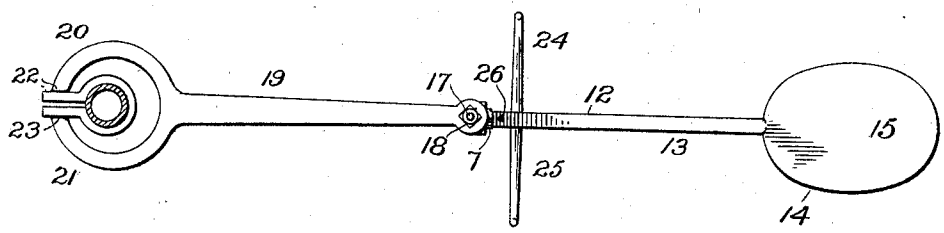
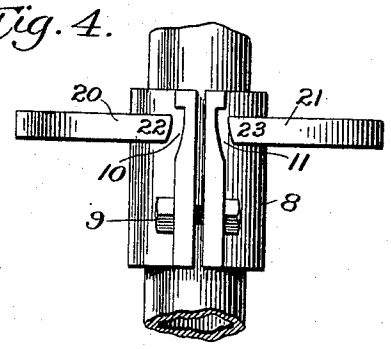


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOHN FRANCIS O'MARA, OF TERRE HAUTE, INDIANA.

BICYCLE-GOVERNOR.

SPECIFICATION forming part of Letters Patent No. 612,755, dated October 18, 1898.

Application filed January 27, 1897. Serial No. 620,947. (No model.)

To all whom it may concern:

Be it known that I, JOHN FRANCIS O'MARA, a citizen of the United States, residing at Terre Haute, in the county of Vigo and State of Indiana, have invented certain new and useful Improvements in Bicycle-Governors; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to bicycle-governors.

It is a well-known fact to those skilled in the use and practice of the bicycle that when the machine is leaning or falling to one side it may be restored to vertical position by turning the front or guiding wheel to that side toward which the machine is leaning.

Having the foregoing principle in view, my object is to provide means for automatically turning the guiding-wheel in the direction which the machine is leaning, thereby restoring the bicycle to an upright position without necessitating action on the part of the rider.

In order to accomplish the foregoing object, I employ novel mechanism whose construction and operation will be more fully set forth in the following description and appended claims.

In the accompanying drawings, forming a part of this specification, Figure 1 is a side elevation of a bicycle equipped with my improved automatic governor. Fig. 2 is a front view showing the position of the parts when the machine is being righted. Fig. 3 is a top view, and Fig. 4 is a detail view, of the connection between the clamp and the fork of the turning-link.

The numeral 1 designates the front tube of a bicycle-frame, and 2 the handle-bar stem, while 3 designates the front wheel.

The numeral 4 designates a hanger-arm, which has a reduced outer end 5, provided with a screw-threaded portion 6, on which is located the nut 7. Connected to the rear end of this arm is a clamp 8, the same embracing the handle-bar stem and being firmly secured in position by a bolt 9. This clamp has two cut-away ears 10 and 11 in its rear part—that is, back of the handle-bar stem—and the use to which these slots are put will be more fully described hereinafter. It will be observed that the arm is so disposed in relation to the clamp that notwithstanding the rearward inclination of the front tube and the handle-bar stem said arm lies substantially horizontal.

The numeral 12 designates a pendulum having a lower curved portion 13, to which is connected by screw-threads or otherwise a weight 14, preferably provided with a flat top 15. This pendulum has an opening 16, which receives the reduced portion 5 of the hanger-arm. The upper end of the pendulum is screw-threaded at 17, and on this portion is located a nut 18. It will be observed that the purpose of curving the lower portion of the pendulum is to place the weight in the lowest possible position, so as to insure a greater leverage. Owing to the manner of journaling said pendulum it is adapted to swing sidewise or laterally without hindrance. There is a forked arm 19, which has a portion fitted over the upper end of the pendulum, so that the nut 18 rigidly secures said upper free end of the pendulum to this arm. Hence the two are adapted to move the same as if integral. This arm is provided with a rear fork, comprising the two members 20 and 21, which embrace but do not touch the clamp and have their free ends 22 and 23 movable in the cut-away portions of the ears 10 and 11 and normally out of engagement with said ears. It is preferable to provide the pendulum with oppositely-extending arms 24 and 25 and with a screw-threaded opening 26. The tool box or bag may be connected to these arms and a lamp or other object may be connected to the pendulum by a bolt screwed into the opening 26. The pendulum will thus be properly weighted and at the same time carry the luggage out of the way of the rider. Furthermore, any package or parcel which is to be carried can be placed on the flat top 15 of the weight 14.

If preferred, the forked arm and the pendulum could be formed integral, thereby dispensing with the connection which I have described. In addition to this there are many changes which could be resorted to in carrying out the invention without detracting from any of the advantages thereof. Hence I do not limit myself to the precise construction

herein shown and set forth, but reserve the right to make all such changes as properly come within the spirit and scope of the invention.

Let it be assumed that the bicycle is advancing and both wheels are located in the same vertical plane. Inasmuch as the hanger-arm lies in the same plane with the wheel and frame of the bicycle and the pendulum is directly suspended from said hanger-arm, the pendulum will also lie in the same plane. Should the bicycle lean to one side, however, the pendulum will be thrown to the same side, and hence carry the hanger-arm 4 laterally with it. It will be observed, however, that the hanger-arm is securely connected to the handle-bar stem, whereby the front wheel is turned. Consequently when the pendulum swings to one side the front wheel is turned in that direction, which, as I have heretofore pointed out, will result in a righting of the bicycle. In order, however, to accelerate this righting action, I employ the forked arm, which, it will be observed, has the members of its fork located at the rear of the handle-bar stem. Consequently when the pendulum swings to one side one member of said fork is moved in its slot and brought positively in engagement with one ear of the clamp and assists in pulling the handle-bar stem around to facilitate a quick turning of the steering-wheel. If the bicycle leans the other way, the pendulum will act in an opposite direction naturally and the other fork of the forked arm engage with the clamp and assist in turning the wheel in the other direction. It will be observed, therefore, that the device is adapted to automatically right a bicycle, and it is therefore rendered of great service to beginners, as well as those who need to use their hands for other purposes than steering and also is of advantage to all riders.

It will be seen that the device will in no manner interfere with turning the front wheel when the machine is going around a corner or describing a curve, as the mechanism is simply swung toward the side to which the wheel is turned, and, in fact, by acting to turn the wheel rights the bicycle and prevents the rider from falling.

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

1. In a bicycle, the combination with a steering-wheel thereof, of a pendulum adapted to swing laterally toward either side of the bicycle, and a connection between said pendulum and the steering-wheel whereby should the equilibrium of the bicycle be destroyed, the pendulum will actuate the wheel independently of the driver's seat to restore the bicycle to an upright position.

2. In a bicycle, the combination with the wheel, and handle-bar stem thereof, of a pendulum suspended from an arm on said stem to swing laterally and connections between said pendulum and stem for automatically turning the wheel in the proper direction to restore the equilibrium of the bicycle, substantially as described.

3. The combination with the handle-bar stem of a bicycle, of a pendulum, a clamp secured to said stem provided with rearwardly-projecting notched ears, a hanger-arm connected to said clamp for supporting the pendulum, and a forked arm on the pendulum arranged to act on the clamp-ears, substantially as described.

4. In a bicycle, the combination with a steering-stem, of a clamp embracing said stem and provided with ears, a hanger-arm securely connected to the clamp and extending outwardly therefrom, a pendulum pivoted to the outer end of the hanger-arm and adapted to swing laterally, and a swinging arm to which the pendulum is secured, said arm being provided with a forked end which loosely embraces the clamp and has its members separated from but adapted to engage with the ears thereof, whereby when the pendulum swings the member of the fork engages with one ear and the stem is turned.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JOHN FRANCIS O'MARA.

Witnesses:
DANIEL O'MARA,
JOHN F. WHITMORE.