

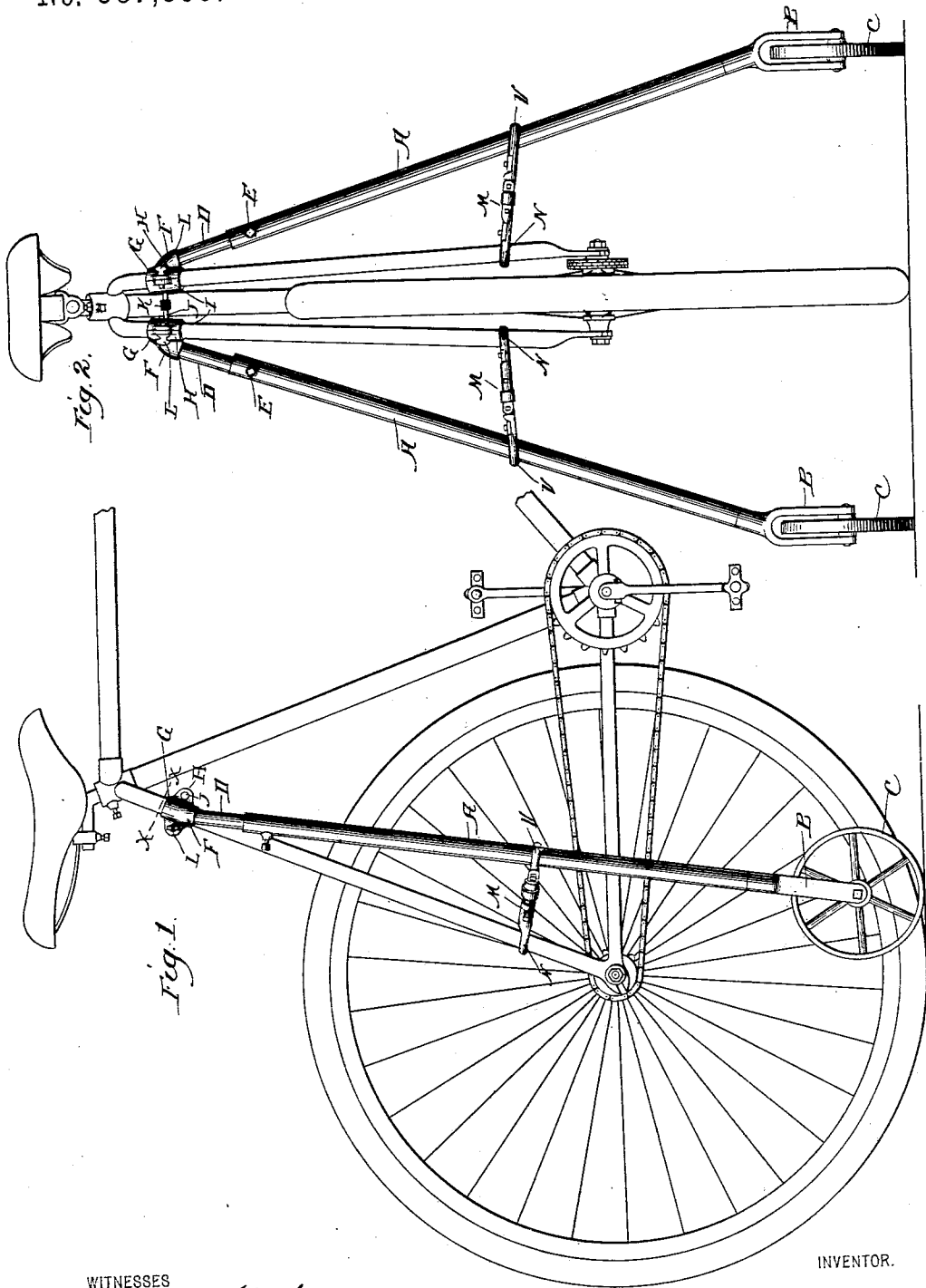
(No Model.)

2 Sheets—Sheet 1.

D. J. REARDON.
BICYCLE BALANCER.

No. 587,859.

Patented Aug. 10, 1897.



WITNESSES

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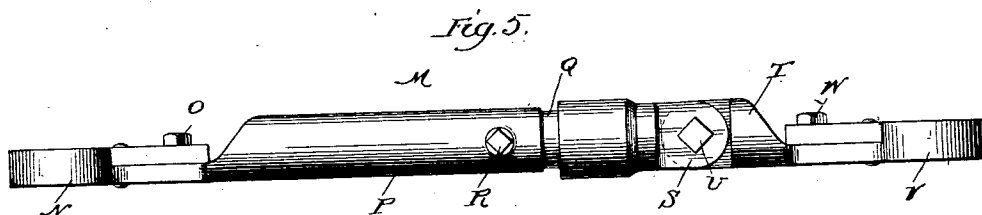
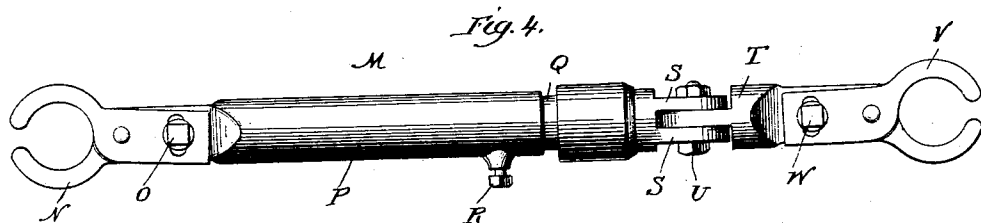
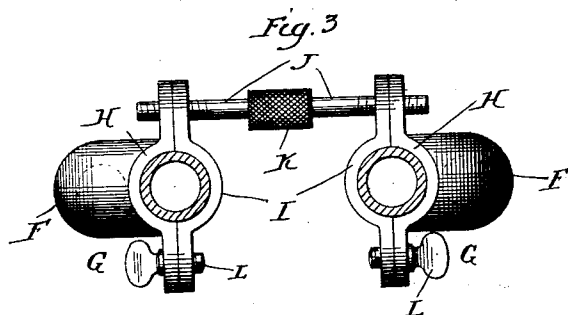
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UNITED STATES PATENT OFFICE.

DENNIS J. REARDON, OF NEWPORT, RHODE ISLAND.

BICYCLE-BALANCER.

SPECIFICATION forming part of Letters Patent No. 587,859, dated August 10, 1897.

Application filed September 21, 1896. Serial No. 606,459. (No model.)

To all whom it may concern:

Be it known that I, DENNIS J. REARDON, a citizen of the United States, residing at Newport, in the county of Newport and State of Rhode Island, have invented a certain new and useful Improvement in Bicycle-Balancers, of which the following is a specification.

My invention relates to a new and useful improvement in bicycle-balancers, and has for its object to provide a simple, cheap, and effective device of this description which may be quickly adjusted to a bicycle or detached therefrom and when in use will serve to sustain a rider in equilibrium while learning to propel the machine and also to provide for varying adjustments of the trundle-wheels relative to the road-bed, in order that as the rider gains more confidence and skill in balancing the distance between the trundle-wheels and the road-bed may be gradually increased, thus permitting said rider to exercise the skill gained by practice in maintaining an upright position without depending upon the trundle-wheels.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side elevation of the rear portion of a bicycle, showing my improvement attached thereto; Fig. 2, a rear view of the same; Fig. 3, a section at the line *xx* of Fig. 1; Fig. 4, a detailed view of the cross-brace, and Fig. 5 a similar view at right angles to Fig. 4.

In carrying out this invention I provide two arms A, which have formed with or secured to the lower ends thereof the forks B, in which latter are journaled the trundle-wheels C. These forks, as clearly shown in Fig. 2, stand at an angle to the arms, so that they may remain in a vertical position when said arms are adjusted to an angle to the machine in order that they may be properly secured thereto.

In practice I prefer to make the arms of tubing, and the upper ends thereof are therefore adapted to receive the extension-rods D, which are held in any suitable adjustment by the set-bolts E, the object of which will be hereinafter set forth. The extension-rods D are threaded at their upper ends and adapted to enter the internally-threaded offsets F, which are formed with the clamps G. Each of these clamps is made in two sections H and I, the former of which carries the offset F and the latter serves as a cap, by means of which the clamp is held in place upon one of the backstays, so that when each of these clamps is in place they serve to secure the extension-rods to the form of the bicycle, and said rods in turn hold the arms A in their proper relative position.

The sections H and I of the clamps are secured together upon one side by the right and left threaded screw-rod J, each end of which projects into engagement with one of the clamps, and this rod has a central enlargement K, which may be knurled or have formed thereon octagon spaces for the occupation of a wrench. The opposite ends of the clamps are secured together by the set-screws L, which serve to tightly bend the two sections of each of the clamps against the backstays of the bicycle-frame.

The arms A are made rigid by the cross-braces M, each of which is composed of a clamp N, arranged to embrace one of the backstays just above the hub of the wheel by having a stationary jaw and a pivoted jaw, which are held in adjustment by a bolt and nut O. This clamp is formed with the tube P, and the latter is adapted to receive the extension-rod Q, which is held in place by the set-bolt R, in order that the cross-brace may be lengthened or shortened, as occasion requires, and upon the outer end of this extension-rod are formed the ears S, between which are pivoted the inner end of the stationary jaw of the clamp T by means of the bolt U. The clamp T has also a movable jaw V, which is pivoted to the stationary jaw, and these jaws are held in adjustment by the bolt and nut W, this jaw serving to embrace and secure one of the arms A, as clearly shown in Figs. 1 and 2. By this arrangement it will be seen that the arms A will be firmly held

in place against both the downward strain occasioned by the support of the rider when out of balance and at the same time against the rearward strain upon the arms incident to the travel of the trundle-wheels upon the road-bed.

In practice when my improvement is applied to a bicycle upon which a person is to learn to ride the trundle-wheels are first adjusted by securing the arms A upon the extension-rods D, so as to bring said wheels into contact with the ground upon both sides of the rear wheel of the bicycle, thus affording a perfect support for the bicycle and the rider against any liability of falling sidewise, yet at the same time permitting the machine to be propelled forward or turned in any direction, and this will enable a beginner to learn the necessary movements of pedaling for sustaining the required momentum to permit balancing, and after this step has been thoroughly acquired the trundle-wheels may be then slightly elevated above the road-bed when the machine is in an upright position by the readjustment of the arms A upon the extension-rods D, and the trundle-wheels will then serve to prevent the rider from falling sidewise, while at the same time permitting the balancing of the machine by the forward progression thereof without depending upon the trundle-wheels, and at the same time the rider will be given confidence from the knowledge that it is impossible to fall sidewise, and when this confidence and continued practice have enabled the rider to maintain the machine in an upright position the trundle-wheels may be again adjusted higher than the road-bed, thus retaining the element of safety to the rider, while obviating the necessity for the use of the trundle-wheels. After sufficient confidence has been gained by the rider my improvement may be then removed from the bicycle by the unfastening of the several clamps, from which it will be seen that not only is the rider safe

from serious and severe falls and often saved from frequent falls and in many instances from serious injuries, but the process of learning to ride will be shortened and damage to the machine prevented.

While my improvement is advantageous for use in connection with both men's and women's bicycles, its necessity in connection with a woman's wheel when a person is learning to ride will be especially recognized.

Having thus fully described this invention, what is claimed as new and useful is—

1. The herein-described combination of the arms A, forks B formed with the lower ends thereof, trundle-wheels C journaled within said forks, extension-rods D upon which the arms A are adjustably secured, clamps G, offsets F formed with said clamps, said offsets having internal threads for the reception of the upper ends of the extension-rods D, a right and left threaded rod J for holding the clamps G in place, set-screws L for binding the clamps to the backstays of a bicycle-frame, cross-braces M composed of the clamps N and B, extension-rods Q interposed between said clamps and to which the last-named clamps are pivoted, substantially as and for the purpose set forth.

2. In combination with a bicycle-balancer of the character described, cross-braces consisting of the clamps N, means for securing said clamps to the backstays of a bicycle-frame, tubes P, extension-rods Q fitting within said tubes and held in any adjustment by the bolts R, clamps T pivoted to the extension-rods, and means for securing said clamps to the arms of the supporter, substantially as and for the purpose set forth.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

DENNIS J. REARDON.

Witnesses:

S. S. WILLIAMSON,
WM. G. WARD, Jr.