

(No Model.)

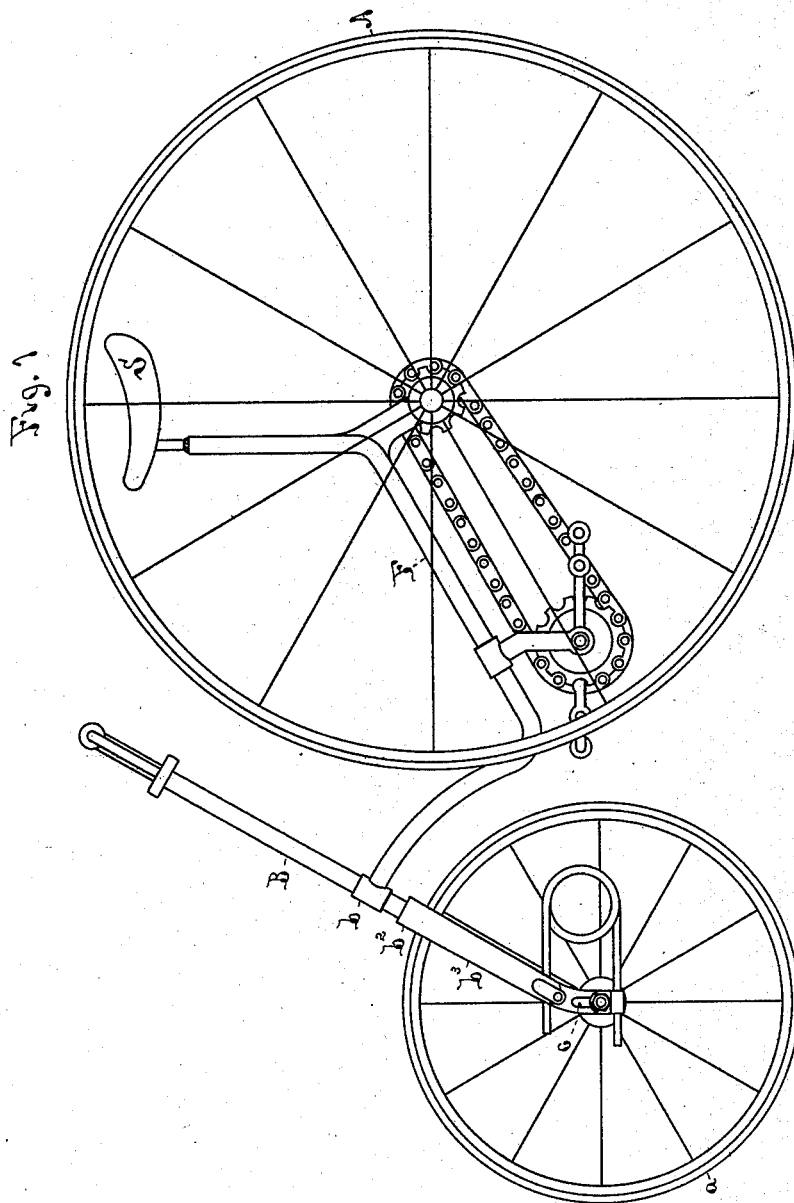
2 Sheets—Sheet 1.

M. H. MARLIN.

VELOCIPÈDE.

No. 384,990.

Patented June 26, 1888.



Witnesses.

Wm. B. Brown.  
N. P. Ockington.

Inventor.

Made by H. H. H. H.  
 By David H. H. H.  
 Atty.

(No Model.)

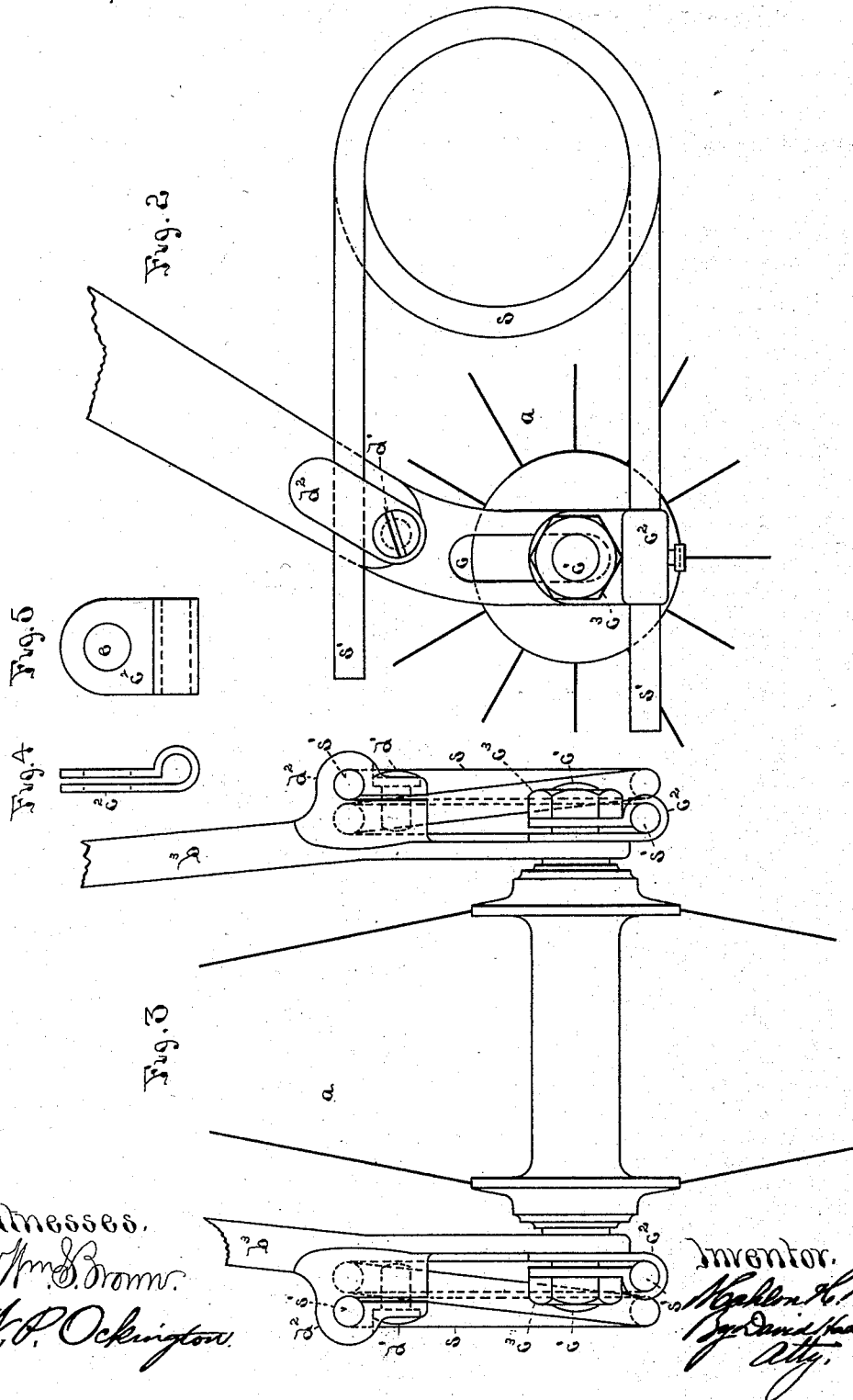
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H. C. Brown.  
A. P. Ockington.

Inventor.  
M. H. Marlin.  
By David H. Marlin  
Atty.

# UNITED STATES PATENT OFFICE.

MAHLON H. MARLIN, OF NEW HAVEN, CONNECTICUT.

## VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 384,990, dated June 26, 1888.

Application filed June 6, 1887. Serial No. 240,368. (No model.)

*To all whom it may concern:*

Be it known that I, MAHLON H. MARLIN, of New Haven, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Velocipedes, of which the following is a specification.

My invention relates to velocipedes; and it consists in certain new and useful constructions and combinations of the several parts of the same, substantially as hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of the form of velocipede known as a "tricycle," with my invention applied thereto. Fig. 2 is a view of a portion of the same enlarged to show details of construction. Fig. 3 is a front elevation of Fig. 2. Figs. 4 and 5 are respectively an edge view and side view of the folding clip separated from the wheel-shaft.

A is the main wheel of the tricycle, of which there are two attached to the opposite ends of the driving-axle.

F is the frame of the machine.

S is the saddle.

B is the steering-bar, which turns in the sleeve *b*, attached to the frame, and carries in a fork, *b*<sup>2</sup>, at its lower end the steering-wheel *a*. The fork *b*<sup>2</sup> has two parts or members, *b*<sup>3</sup>, one going down on each side of the wheel *a*. The steering-bar B carries a handle-bar and handles, *b*<sup>1</sup>, at its upper end.

The wheel *a* is attached to the members *b*<sup>3</sup> of the fork in the following manner: Each member *b*<sup>3</sup> has a slot, *c*, through it transversely near its lower end, these slots being opposite to each other. Through these slots and through the hub of the wheel the bolt *c*<sup>1</sup> is passed, forming the axis on which the wheel revolves. Over this bolt at each end, which projects beyond the parts *b*<sup>3</sup> of the fork, is slipped a clip, *c*<sup>2</sup>, and outside of this a nut, *c*<sup>3</sup>, is screwed onto the bolt, which is threaded at the end to receive the latter. The clip *c*<sup>2</sup> is made of sheet or other elastic metal, folded over upon itself and having its bend formed into the shape of almost a complete tube, with the two leaves toward their projecting ends lying parallel with each other, and a hole, *e*, made transversely to the tubular portion through them to receive the bolt *c*<sup>1</sup>. The tubular portion of each clip is therefore below and at right angles to the

bolt when it is in place thereon, and screwing up the nuts *c*<sup>3</sup> closes up the tubular part of the clip.

Above the slot *c* on each member *b*<sup>3</sup> of the fork is brazed or otherwise secured to it a similar clip, *d*<sup>2</sup>, having the screw-bolt *d*<sup>1</sup> passing through its outer leaf or part freely and entering a threaded hole in its inner leaf or part. The function of this screw-bolt *d*<sup>1</sup> is to close up the tubular part of the clip, as before described.

A spring, *s*, is formed of a coil of steel wire with two parallel projecting ends, *s*<sup>1</sup> *s*<sup>2</sup>. These ends are of the proper size to fill the tubular parts of the clips *c*<sup>2</sup> and *d*<sup>2</sup> before they are closed up, as described, and they are the proper distance apart to correspond with that of the tubular part of these clips. These projecting ends of the spring, when introduced into the tubular part of the clips, as shown, may therefore slide through the latter, so as to bring the curved portion of the spring nearer to or farther away from the clips, and thus increase or diminish its strength. When the spring has been properly adjusted in the clips, the screw *d*<sup>1</sup> and nut *c*<sup>3</sup> are set up solidly upon their clips, thus clamping the spring *s* firmly in place. As the slots *c* keep the axis-bolt *c*<sup>1</sup> of the wheel moving up and down vertically, they prevent any twisting effect of the wheel *a* upon the springs *s*, while the latter prevent jarring from the wheel passing over rough places being communicated to the handle-bar.

At any time when desired the tension of the springs may be regulated by loosening the bolts *d*<sup>1</sup> and nuts *c*<sup>3</sup> and sliding the springs in their clips. If desired, only the clips *d*<sup>2</sup> *d*<sup>2</sup> may be clamped upon the spring, and the lower ends of it may be permitted a movement in the clips *c*<sup>2</sup> *c*<sup>2</sup>, and in this case the lower ends of the members *b*<sup>3</sup> of the fork containing the slots *c* may be removed and the springs *s* be relied on to carry the wheel *a* and be adjustable in the clips, as before.

It will be observed that the slots *c* are in fact and effect guideways to keep the axis-bolt *c*<sup>1</sup> moving up and down vertically in a predetermined path, and that the form of these guideways may be varied, while their effect remains the same—as, for instance, the axis-bolt *c*<sup>1</sup> may be made with slots in its ends surrounding the

members of the fork  $b^3 b^3$ , and working up and down around the latter instead of within them, and the springs may also be secured permanently to these members of the fork.

5 What I claim as new and of my invention is—

1. The combination of the members  $b^2 b^3$  of the fork  $b^2$ , having the clips  $d^2 d^2$  attached thereto and the slots  $c$  therein, the wheel  $a$ , its axis-bolt  $c'$ , passing through said slots, the clips  $c^2 c^2$ , attached thereto, and the springs  $s$ , arranged to be held by their projecting ends in said clips, substantially as described.

2. The combination of the members  $b^2 b^3$  of the fork  $b^2$ , having the clips  $d^2 d^2$  attached thereto and the slots  $c$  therein, the wheel  $a$ , its axis-bolt  $c'$ , passing through said slots, the clips  $c^2 c^2$  upon the projecting ends of said bolt, the nuts  $e^3 e^3$  upon the same outside of said clips, and the springs  $s$ , arranged to be held by their projecting ends in said clips, substantially as described. 15 20

MAHLON H. MARLIN.

Witnesses:

J. M. MARLIN,  
C. F. DEMMER.