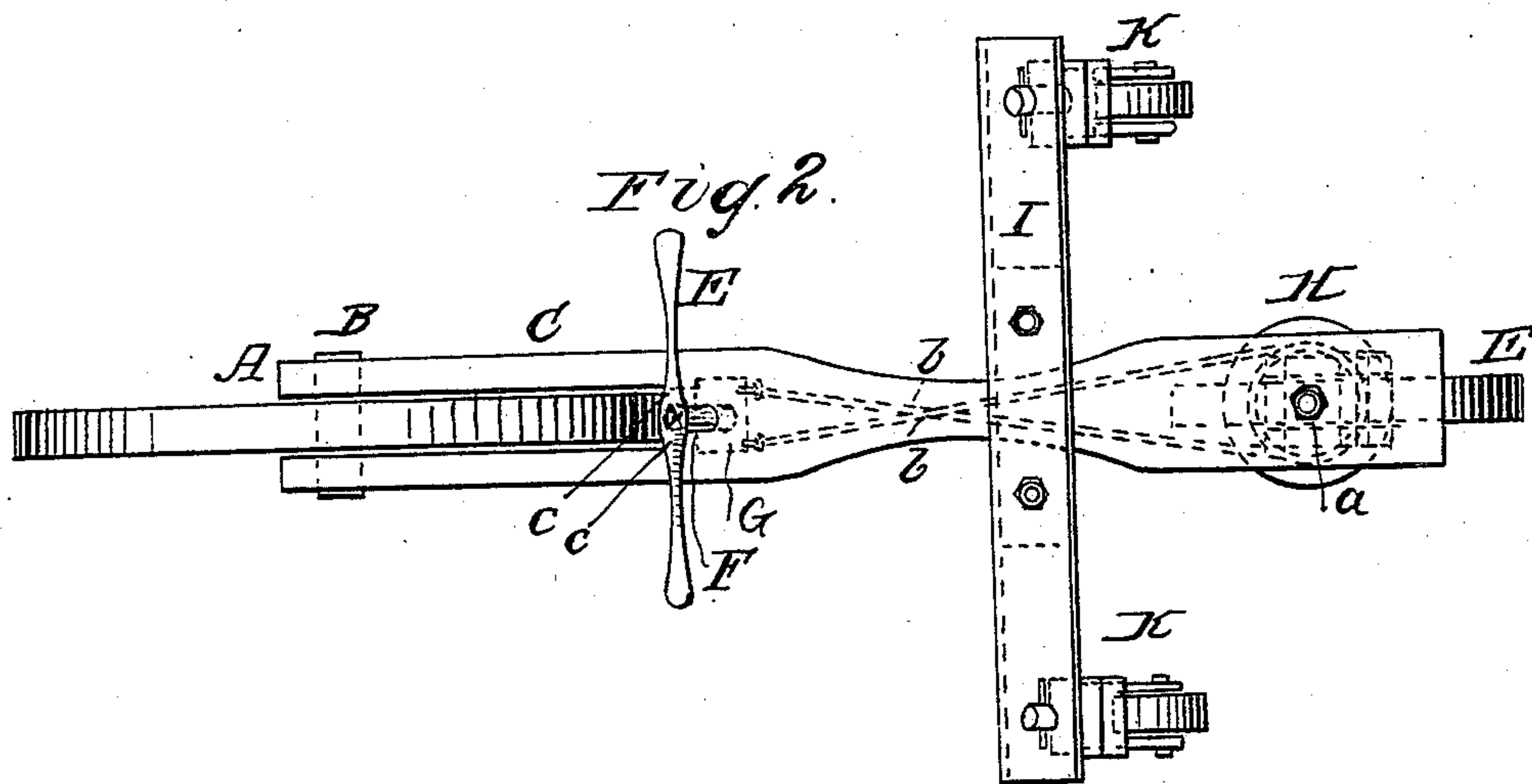
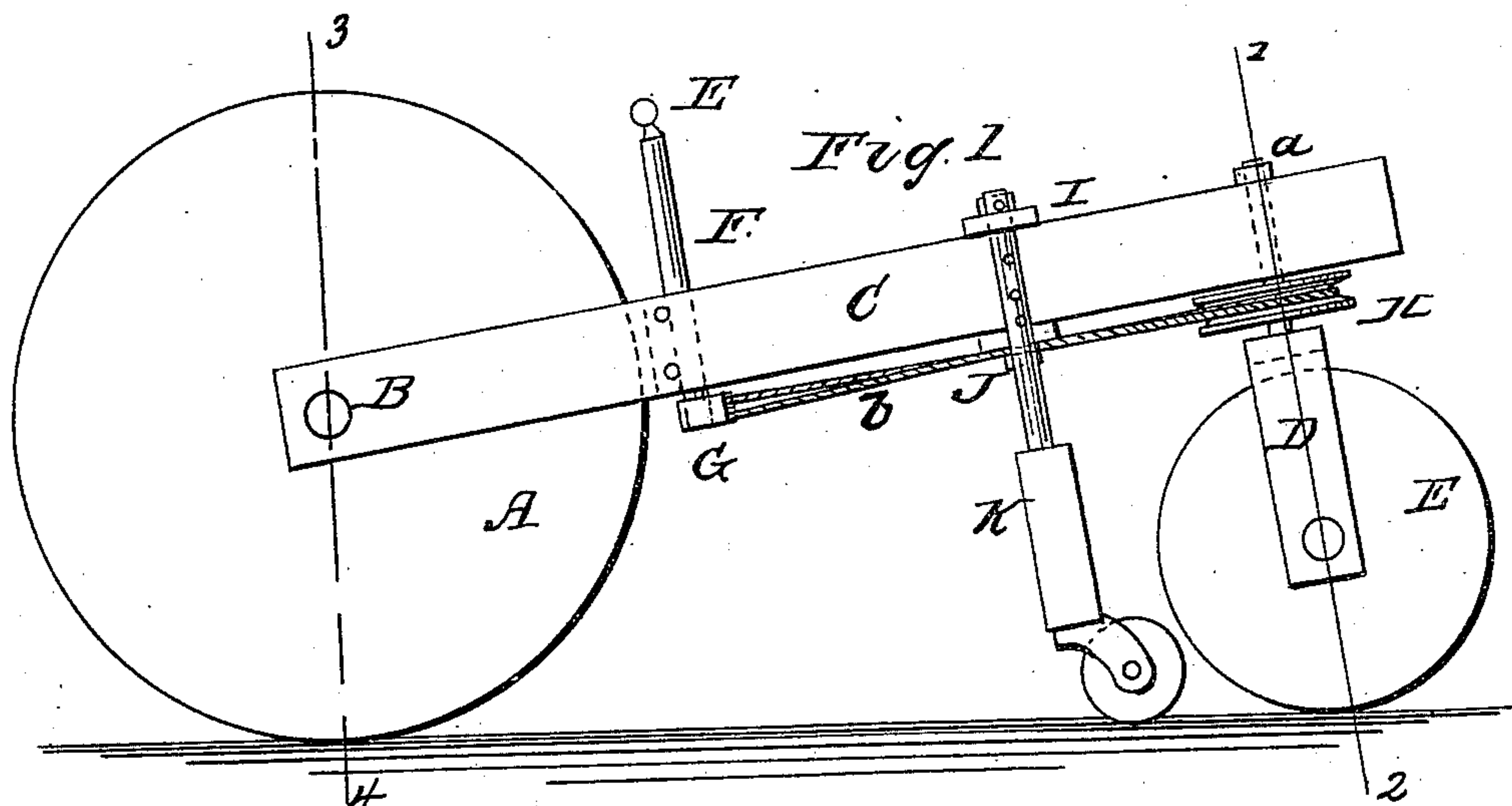


A. M. ALLEN.
Velocipede.

No. 94,057.

Patented Aug. 24, 1869.



WITNESSES

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ARTHUR M. ALLEN, OF NEW YORK, N. Y.

Letters Patent No. 94,057, dated August 24, 1869.

IMPROVEMENT IN VELOCIPEDES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, ARTHUR M. ALLEN, of the city, county, and State of New York, have invented a new and useful Improvement in Velocipedes; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a side elevation of this invention.

Figure 2 is a plan or top view of the same.

Similar letters indicate corresponding parts.

This invention consists of an arrangement of parts in a velocipede, in which the steering is effected by the hind wheel.

The connection between the tiller and the steering-wheel is effected by means of crossed strings or rods, which extend from a short lever or small pulley under the tiller to a long lever or large pulley on the standard of the hind steering-wheel, in such a manner that the motion of the tiller remains the same as in an ordinary front-wheel steerer; and furthermore, by the proportion between the lever or pulley on the standard, the motion of the steering-wheel is under more perfect control, and the danger of upsetting reduced to a minimum.

The pivot which forms the connection between the hind-wheel standard and the reach is placed forward of the hind-wheel centre, giving the hind-wheel standard a rake forward for the better balance of the machine.

With the reach is combined a yoke, which carries in its ends two vertical adjustable roller-braces, in such a manner that when the machine is at rest it is prevented from tipping over sideways, and new beginners can learn to ride on a velocipede without danger of falling, and, if the roller-braces are not used, the yoke, together with said braces, can be readily and conveniently removed.

In the drawing—

The letter A designates the front, or driving-wheel of a velocipede, which is mounted on an axle, B, that connects, by the reach C, with the standard D of the hind, or steering-wheel E.

The pivot *a*, which forms the connection between the hind-wheel standard and the reach, is placed forward of the centre of the hind wheel, so as to give to the standard D an inclined or raking position in a forward direction, as shown in fig. 1 of the drawing, care being taken that a right line, 1 2, drawn through the centre of the pivot *a*, will be at all times situated in the same plane with, and, if produced, meet another right line, 3 4, drawn through the supporting point of the front wheel, and through its centre.

By giving to the standard D this raking position, the hind wheel, in turning a curve, preserves an inwardly-inclined position, and the balance of the machine is preserved; whereas, if the standard of the hind wheel is in an upright position, or raking aft, the machine is naturally inclined to tip over, in turn-

ing curves, and the operation of steering with the hind wheel has for this reason, till now unknown, heretofore been considered impracticable.

The steering-gear of my velocipede consists of a tiller, E, which is secured to the upright shaft F, to the bottom end of which is secured a short double-armed lever, or a small pulley, G, which connects, by crossed ropes or rods *b*, with a large pulley or long lever H, secured to the standard D.

By crossing the ropes, or rods *b*, the motion of the tiller remains the same as in an ordinary front-wheel steerer, and the rider is not embarrassed in his operation, whereas if the ropes or rods were not crossed, the motion of the tiller in my machine would be the reverse from that of an ordinary front-wheel steerer, and it would require some practice to learn how to steer the machine.

The proportion between the lever, or pulley G, under the tiller, and the lever, or pulley H, on the standard D, is such—the hind pulley or lever being more or less larger than the front ones—that the motion of the steering-wheel, in following the action of the tiller, is comparatively slow, and thereby the danger of upsetting the machine in turning curves is materially lessened.

The tiller E is fastened to its shaft F by two screws or bolts *c*, the top end of said shaft being intended to be made bifurcated, so as to give a firm support to the tiller, and prevent the same from working loose.

With the reach C, I have combined a yoke, I, which is fastened to said reach by a screw-clamp, J, so that it can be readily attached or detached, as occasion may require.

In the ends of the yoke I are secured two roller-braces, K, which are adjustable up and down by a series of holes and a pin, or in any other suitable manner.

If the yoke is secured to the reach, and the braces are so adjusted that they are a few inches from the ground, the machine can be readily mounted and operated by new beginners, and it is not liable to upset.

A practised rider can raise the braces higher, so that they only prevent the machine from tipping over sideways in case of accident.

If desired, the yoke I, with its braces, can be readily detached from the reach C, and laid aside or put on another machine.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The rigid reach C, pulleys or levers G H, cross-rods or cords *b*, the removable yoke I, the adjustable braces K, standard D, and wheels E A, arranged together to form an improved velocipede, substantially as described.

ARTHUR M. ALLEN.

Witnesses:

W. HAUFF,

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