

(No Model.)

T. N. PETERSEN.

VELOCIPÈDE.

No. 342,972.

Patented June 1, 1886.

Fig: 1

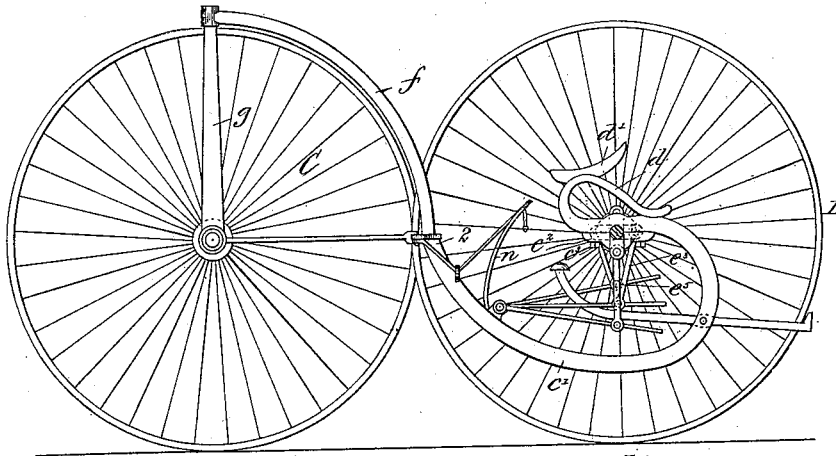


Fig: 3.

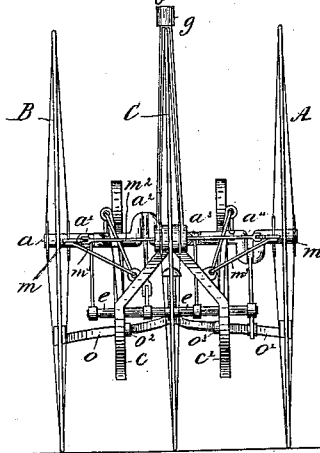
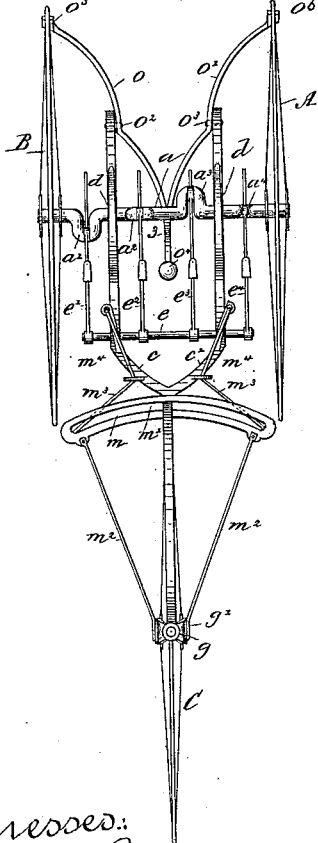


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

THORVALD N. PETERSEN, OF BOSTON, MASSACHUSETTS, ASSIGNOR OF
ONE-HALF TO LUDWIG OSTERMEYER, OF SAME PLACE.

VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 342,972, dated June 1, 1886.

Application filed January 18, 1886. Serial No. 188,963. (No model.)

To all whom it may concern:

Be it known that I, THORVALD N. PETERSEN, of Boston, county of Suffolk, and State of Massachusetts, have invented an Improvement in Velocipedes, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to construct a simple yet durable velocipede, which may be cheaply made and capable of running at a great speed.

The invention is herein embodied in a machine commonly known as a "tricycle," and the same is constructed and arranged to be operated by two riders.

In accordance with this invention the two drive-wheels, which are preferably very large—as, for instance, eight feet in diameter—are connected by a crank-shaft containing four double cranks, two for each rider, and a curved three-armed frame is provided, two arms of which, curving substantially opposite to each other, converge at a point in front of the riders, from which the other arm extends, and said two curved arms pass under and then over upon the crank-shaft, suitable boxes being secured to the under side of said arms, in which the crank-shaft revolves, while the extreme ends of the said arms are curved back upon themselves to form a loop, upon which the seats for the riders are placed. A cross-bar is secured to the two arms of the frame connected to the crank-shaft, in front of the riders, or near the junction of the said arms, and four pedal-levers are pivoted to this cross-bar, which are connected by connecting-rods respectively with the double cranks of the crank-shaft, by means of which the crank-shaft is rotated. The third arm of the frame, extended upward in an opposite curve from the two shaft-supporting arms, carries at its end a pivoted fork, which astrides and supports a steering-wheel in front of the riders, and a suitable steering device is supplied, which consists of a curved guide-frame moving upon the arm carrying the fork, near its junction with the other arms, the opposite ends of the said guide-frame being connected to the lower ends of the pivoted fork, that the fork, and consequently the steering-wheel, may

be rotated by the movement of the said guide-frame. Suitable devices are supplied for moving the said guide-frame when desired, which may be operated by the riders, and also a suitable brake is supplied to check the speed of the machine when desired.

Figure 1 shows in side elevation a velocipede constructed in accordance with this invention, one of the drive-wheels being removed to more fully show the operative parts; Fig. 2, a top view, and Fig. 3 a front view, of the machine.

The main drive-wheels A B, of any usual construction, are preferably about eight feet in diameter, and are connected by a crank-shaft, *a*, having four double cranks, *a'* *a''* *a'''* *a''''*, arranged at intervals along the shaft and extending in different directions.

The frame of the machine consists of three curved arms, two of which—as *c c'*—being bent opposite to each other and converging at a point in front of the riders. These arms *c c'* extend beneath and then over upon the crank-shaft *a*, and suitable boxes, *c''*, are secured by bolts *c'''* to the under side of the said curved arms *c c'*, in which the crank-shaft revolves. The curved arms *c c'* at their extreme ends are curved over upon themselves to form a loop, as at *d*, which supports the seats *d'* for the two riders. A cross-bar, *e*, is secured to the curved arms *c c'* near their junction parallel with the crank-shaft, and pedal-levers *e' e'' e''' e''''* are pivoted to the said cross-bar *e*, their opposite ends being connected by connecting-rods *e''*, respectively, to the double cranks *a' a'' a''' a''''* of the crank-shaft, that the riders sitting upon the seats *d'* may depress the said pedal-levers, to thereby rotate the crank-shaft and drive the machine. The arm *f* of the three-armed frame, extended upward from the junction of the arms *c c'*, passes over upon the steering-wheel C, and carries at its extreme end a pivoted fork, *g*, the arms of which astride the said steering-wheel, while its lower ends furnish bearings for the axle of said steering-wheel.

The steering device consists of a curved guide-frame, *m*, having a slot or guideway, *m'*, mounted upon the arm *f* at or near its junction with the arms *c c'*, the said guide-frame moving upon the step or bearing formed upon

the arm *f* at such point. The opposite ends of the guide-frame *m* are connected to the pivoted fork *g* at its lower end, as at *g'*, by rods *m*², so that as the guide-frame is moved the fork *g* is turned upon its pivot, thereby moving the steering-wheel C. Two cords or chains, *m*³, are also connected to the opposite ends of the guide-frame *m*, which pass through guide-eyes *m*⁴ *m*⁴, secured to the curved arms *c c'*, and thence through eyes located at the ends of upwardly-extended arms or brackets *n n*, also secured to the curved arms *c c'*, the free ends of the cords or chains *m*³ depending from said bracket *n* within the reach of the riders, that one or the other of said cords may be pulled to operate the steering-wheel C.

A braking device consisting of a pair of curved arms, *o o'*, are pivoted at *o*² *o*³ to the rear portions of the curved arms *c c'*, the said arms *o o'* converging at a point beneath the crank-shaft, and a short arm, 3, extending from the junction of the said arms *o o'* between the riders, carries a foot-plate, *o*⁴, upon which the rider presses his foot to turn the braking device upon the pivots *o*² *o*², causing the shoes *o*⁵ *o*⁶ to bear frictionally against the tires of the drive-wheels A B.

The machine herein described is of simple construction, and, carrying wheels of large diameter, is capable of attaining great speed, and, being constructed and arranged to carry two persons, the operation of the machine will be comparatively easy. Yet it is obvious that the machine may be constructed and arranged

for one person and be operated in a similar manner to that herein described without departing from this invention.

I claim—

1. The combination, substantially as hereinafter set forth, of the drive-wheels A B and steering-wheel C, the frame consisting of the curved arm *f* and the oppositely-curved arms *c c'*, the boxes carried by the arms *c c'* supporting the crank-shaft connecting the drive-wheels A B, said curved arms *c c'* being also curved at *d*, as described.

2. The combination, substantially as hereinafter set forth, of the drive-wheels A B and the steering-wheel C, the frame consisting of the curved arms *f* and the oppositely-curved arms *c c'*, the fork *g*, pivoted to the arm *f* and supporting the steering-wheel, and the guide-frame *m*, its connecting-rods *m*², and the cords or chains by which the said guide-frame is moved.

3. The combination, substantially as hereinafter described, of the drive-wheels A B and steering-wheel C, the three-armed frame *f c c'*, and the braking device, consisting of the pivoted arms *o o'*, converging at a point intermediate of the crank-shaft, and the short arm 3.

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

THORVALD N. PETERSEN.

Witnesses:

B. J. NOYES,

C. M. CONE.