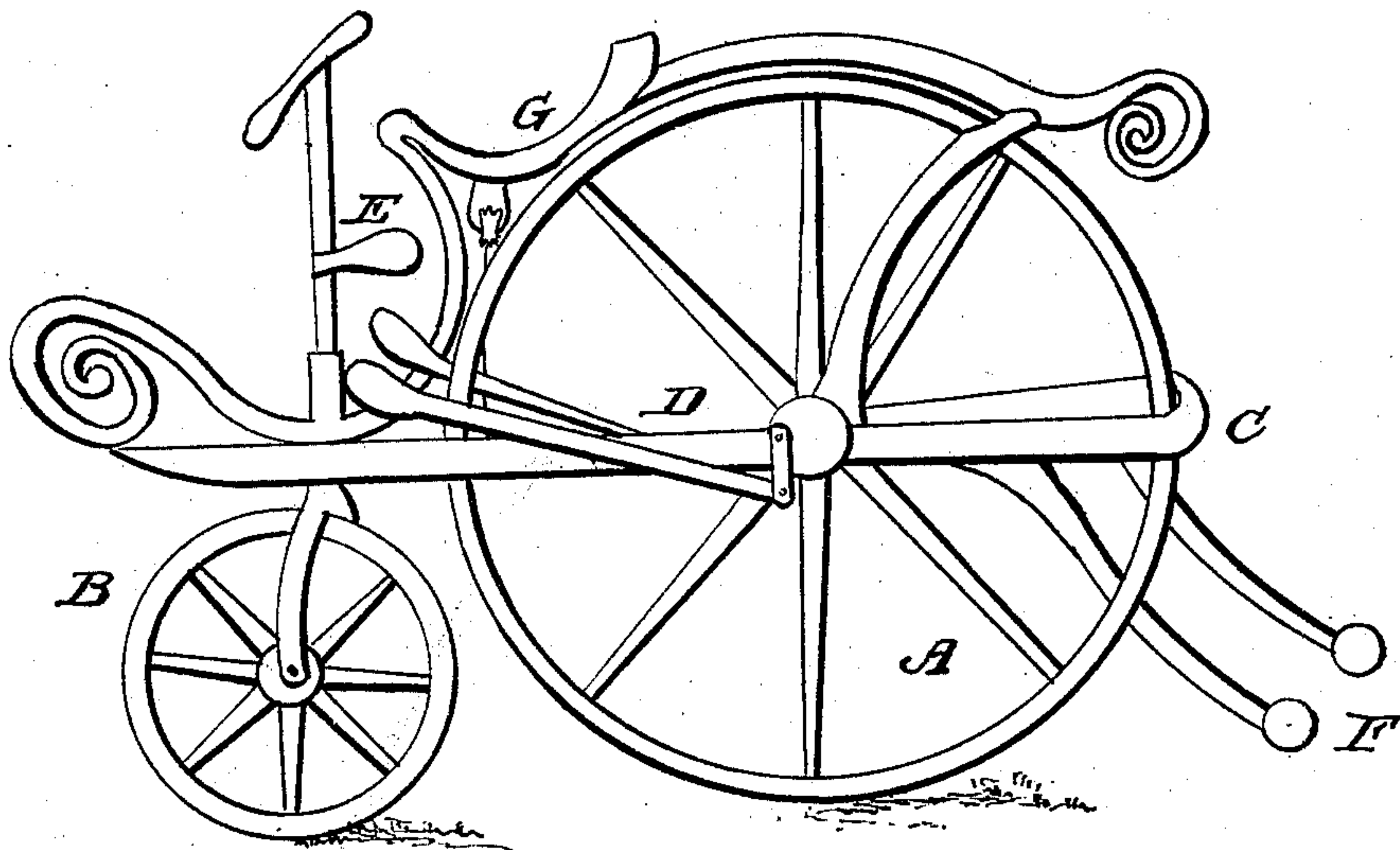


J. B. READ.  
Velocipede.

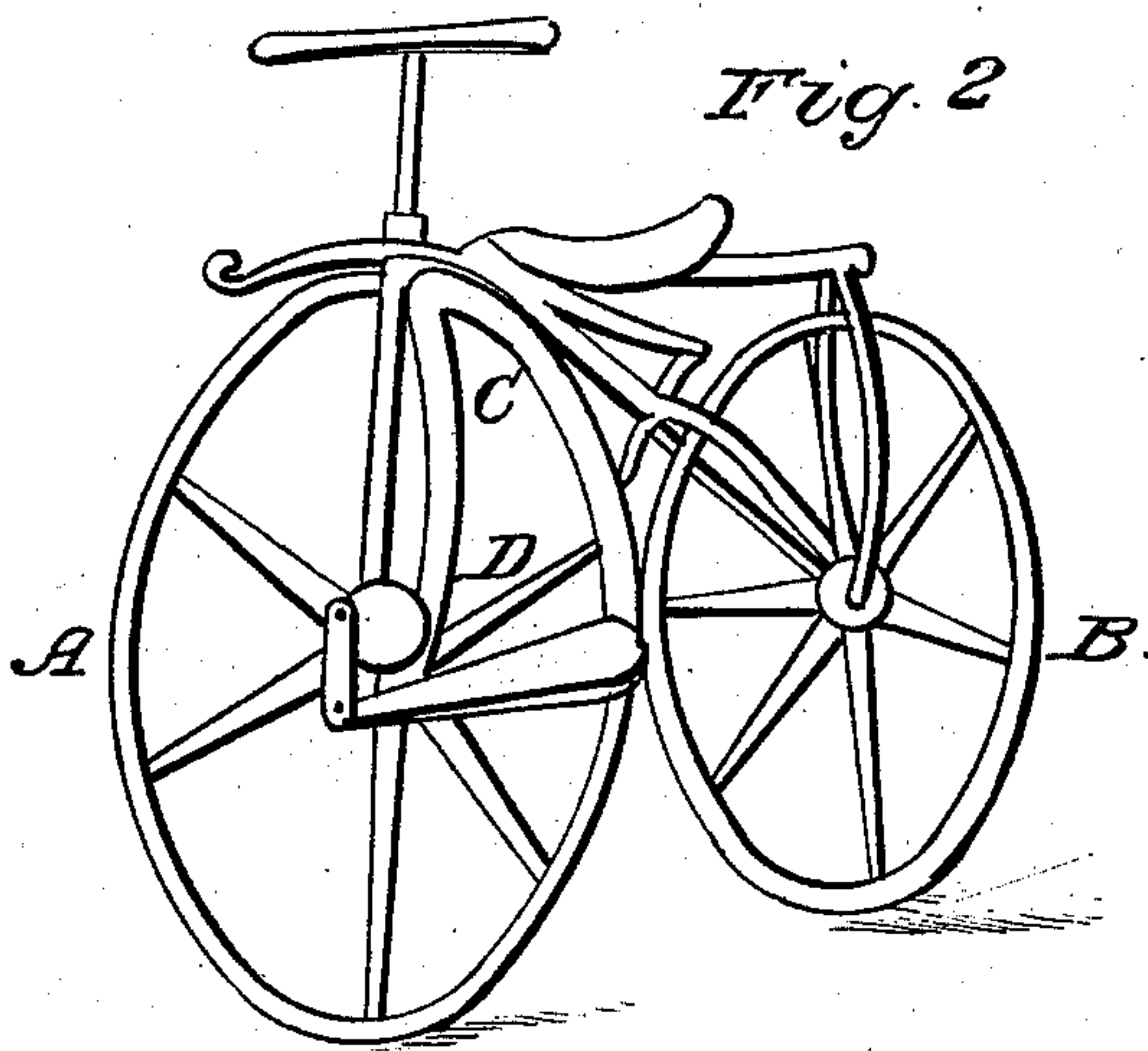
No. 88.738.

Patented April 6, 1869.

*Fig. 1*



*Fig. 2*



*witnesses*

*Edw. F. Brown*

*Samuel L. Merrill*

*Inventor*

*J. B. Read*



# United States Patent Office.

J. B. READ, OF TUSCALOOSA, ALABAMA.

Letters Patent No. 88,738, dated April 6, 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, J. B. READ, of the town and county of Tuscaloosa, and State of Alabama, have invented certain new and useful Improvements in Velocipedes; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The same letters and the same colors refer to like parts in each drawing.

The nature of my invention consists in providing the driving-wheel of bicycles, or two-wheeled velocipedes with long levers, to be operated by the feet, instead of the pedals, or reels now used for propelling such velocipedes.

Also, in a pulley, through which a small cord operates, for assisting the action of the levers, or enabling the driver to use his hands, as well as his feet, for propelling the machine.

I further provide a steering-apparatus, to be operated by the knees, when the hands are occupied in propulsion.

I also provide an outrigger, with two points, for so acting upon the ground as to prevent upsetting, but so arranged as to be clear of the ground when the machine is in full motion.

To enable those skilled in the arts to make and use my invention, I will proceed to describe more particularly the construction and operation of my improvements.

Figure 1 is an improved velocipede on my plan.

The driving-wheel A has in front of it the guiding-wheel B, with shaft and handle for steering.

The frame C connects these two wheels, and may either be made straight and horizontal, as represented, or, if a larger steering-wheel is desired, the forward end of the frame may be made to curve upward, and then forward.

At D will be seen a lever, attached to the outside of the frame C, and on the opposite side of the frame a corresponding lever.

These levers D have their fulcra in the frame C, and are attached, by short cranks, to the axle of the driving-wheel.

These levers may be of the first, or second, or even third kind, and may be attached in the rear of the axle, &c.

The driver, sitting upon the seat at G, drives the machine by placing his feet upon the ends of the levers. He can sit or stand, as may suit his convenience, or the ascents or difficulties of the route he traverses.

The weight of the body is advantageously brought to bear by the levers I propose.

Just below the seat, at G, will be seen a pulley, with

a cord passing over it, to assist the action of the feet upon the levers.

When one lever is depressed, the cord and pulley aid in bringing up the opposite lever.

A loop, for the hands, may be arranged in this cord, for each hand, and, by using the hands, as well as the feet, much additional power will be gained for steep ascents, besides the advantage of exercising and developing the muscles of the arms and chest.

The steering-wheel is ordinarily operated by the shaft and handle represented; but, when the hands are used for propulsion, the disk, or hoop E, arranged for passing between or over the knees, and made fast to the steering-shaft, may be conveniently operated by the knees, for guiding the machine.

I also propose to attach, to the frames of velocipedes, outriggers, extending nearly to the ground, and terminating in small rollers, or casters, as at F, for the purpose of preventing the machine from upsetting.

These outriggers may be simple rods, or springs, with or without the casters at F.

As the casters F do not reach quite to the ground, the velocipede, when standing still, will rest on its two wheels, and on one of these casters; but, when the velocipede is put in motion, the casters F do not touch the ground, and the machine runs only upon its two wheels.

Thus all the exhilaration of balancing the two-wheeled velocipede is preserved, without the unpleasantness of upsetting, as happens occasionally with the best of riders.

Ladies can use velocipedes made on my plan without any risk, and a very slight change in the machine, as represented will adapt it to their use.

The front part of the driving-wheel would have simply to be covered with a curved fender, or apron, with a foot-board, through which the forward ends of the levers could project.

The seat would be elevated, yet safe, and a cover, or top, like that of a gig, or buggy, could be easily arranged over it, as a protection.

As the velocipede on my plan is so balanced as not to upset easily, and additional driving-power is developed by my mode of operating the levers, a seat might be used sufficiently wide for two, or even three persons.

The outriggers, above, are to be rigidly arranged, and it is believed the plan already proposed will answer every purpose for preserving equilibrium, whether in starting, running, turning, or stopping the machine.

Figure 2 shows how levers on my plan may be attached to the front or driving-wheel of ordinary bicycles.

The driving-wheel A has the frame C extended, from the guiding or steering-shaft, backward, curving over the wheel, and reaching sufficiently low to afford a fulcrum for the driving-levers D, which may be attached to the axle, or other point, as described for fig. 1.

The levers I propose may be used simple, or in connection with gearing.

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

The attachment, to two-wheeled velocipedes, of levers, to be fastened to the frame, or to projections en-

closing the driving-wheel, and to the axle of the same, and connected by a cord and pulley beneath the driver's seat, to extend from one lever to the other, substantially as described.

Also, a disk, or hoop, attached to the steering-shaft, to be operated by the knees, when the hands are used for propulsion.

J. B. READ.

Witnesses:

EDM. F. BROWN,  
JAMES S. GRINNELL.