

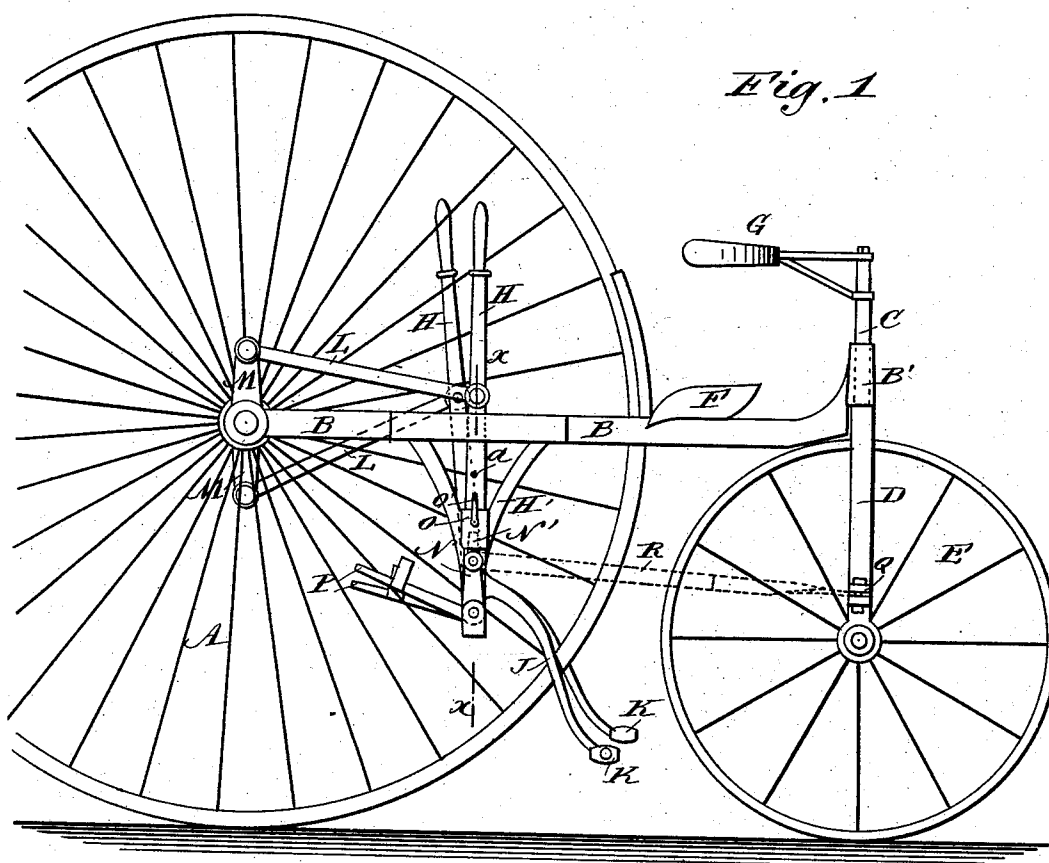
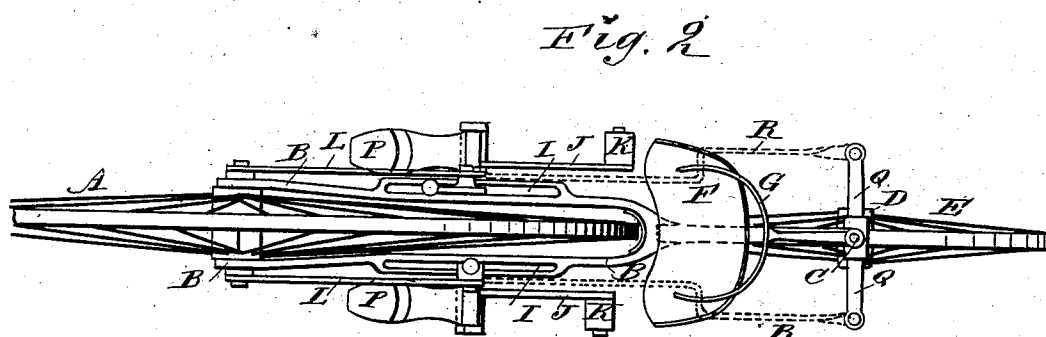
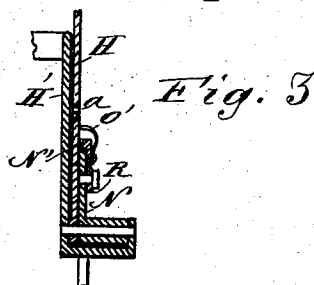
(No Model.)

J. B. GIRARD.

BICYCLE.

No. 281,489.

Patented July 17, 1883.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JEAN B. GIRARD, OF ST. AIMÉ, QUEBEC, CANADA.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 281,489, dated July 17, 1883.

Application filed February 13, 1883. (No model.)

To all whom it may concern:

Be it known that I, JEAN B. GIRARD, of St. Aimé, in the Province of Quebec, in the county of Richelieu and Dominion of Canada, have invented a new and Improved Bicycle, of which the following is a full, clear, and exact description.

The object of my invention is to provide certain new and useful improvements in bicycles to facilitate the operating and steering of the same.

The invention consists in a bicycle having the cranks of the front driving-wheel connected with hand-levers pivoted in hangers on the vehicle-frame, which hand-levers are provided at their lower ends with arms carrying foot-rests, whereby the said levers can be operated by hand and foot. Elbow-levers are pivoted on the same pivots with the hand-levers, and can be connected with the same or with the fork of the steering-wheel, whereby, if desired, the said elbow-levers can be used for steering the vehicle by means of the feet, if the bicycle is to be propelled by means of the hands only. When the bicycle is to be propelled by means of the hands and feet, it is steered by means of a back-rest attached to the upper swiveled end of the fork in which the steering-wheel is journaled.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal elevation of my improved bicycle. Fig. 2 is a plan view of the same. Fig. 3 is a detail cross-sectional elevation of one of the foot-levers on the line *x x*, Fig. 1.

The driving-wheel A, which may be of the usual construction, is journaled in the front end of the forked horizontal frame B, the rear end of which is provided with a vertical fixed sleeve, B', through which the shaft C passes, the lower end of which terminates in a fork, D, in which the steering-wheel E is journaled. The horizontal frame B supports a seat, F, and to the upper end of the shaft C a detachable back-rest, G, is attached, which consists of a semicircularly-curved band fitting closely against the back of the rider. Two hand-levers, H, provided at the upper ends with suit-

able handles, are pivoted at their lower ends in hangers H', projecting downward from the horizontal frame B, and the said hand-levers H pass through vertical longitudinal guide-slots I in the side bars of the horizontal frame. At their lower ends, and a short distance above their pivots, the hand-levers H are provided with downwardly and backwardly inclined foot-levers J, on the lower ends of which outwardly-projecting foot-rests K are secured. The hand-levers H are connected by means of connecting-rods L with the opposite cranks, M, on the shaft of the driving-wheel A. Elbow or bell-crank levers N are pivoted in the lower ends of the hangers H', on the same pivots as the hand-levers H, and at the outside of the same, each of which is provided at the upper end with prongs N', adapted to pass into the opening in the lower end of a sliding block, O, held to slide vertically on the corresponding hand-lever, H, which block O is provided with a hook, O', adapted to pass into apertures *a* in the hand-levers. The forwardly-projecting arms of the elbow-levers N form treadles or foot-rests P. The fork D, in which is the steering-wheel E, is provided with two laterally-projecting arms, Q, at the lower end, the outer ends of which arms can be connected by means of connecting-rods R with the upwardly-projecting arms of the elbow-levers N.

The operation is as follows: The operator seizes the hand-levers and places his feet on the foot-rests of the arms J of the hand-levers H, and by operating the hand-levers by means of hands and feet propels the vehicle. The operator rests his back against the back-rest G, and steers the vehicle by leaning against one side or the other of the back-rest, thereby turning the wheel in either one direction or the other. While thus operating the vehicle the slide O is lowered, so that the prong N', at the upper end of the vertical arm or lever N, passes into the recess in the lower end of the sliding block O, whereby the said lever N will be coupled to the hand-lever, the connecting-rods R being disconnected from the lever N. If the machine is to be operated by the hands only, the sliding blocks O are raised and held in the raised position by placing the hooks O' in the upper aperture, *a*, in the levers H,

whereby the levers N will be disconnected from the hand-levers H, and the connecting-rods R are coupled to the upwardly-projecting arms of the levers N. The feet are placed in the
 5 foot-rests P of the levers N, and the vehicle can be steered by depressing one or the other of the said foot-rests. The back-rest G is to be detached when the vehicle is steered by means of the feet.

10 Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a bicycle, the combination, with the frame B, the hangers H', and the driving-wheel
 15 A, of the hand-levers H, pivoted in the hangers, and provided with the downwardly and backwardly inclined foot-levers J, and the rods L, connecting the hand-levers and the cranks of the shaft of the drive-wheel, sub-
 20 stantially as herein shown and described.

2. In a bicycle, the combination, with the steering-wheel E and the hangers H', of the elbow-levers N, pivoted to said hangers, and having their forwardly-projecting arms forming
 25 ing foot-rests, and the rods R, connecting the upwardly-projecting arms of the elbow-levers

with the fork of the steering-wheel, substantially as herein shown and described.

3. In a bicycle, the combination, with the hangers H' and the hand-levers H, of the elbow-levers N, provided with prongs N', the
 30 sliding blocks O, provided with openings in their lower ends, and means for securing the said sliding blocks to the hand-levers, substantially as herein shown and described. 35

4. In a bicycle, the combination, with the fork D, provided with the lateral arms Q, the steering-wheel E, and the hangers H', of the elbow-levers N P and the connecting-rods R,
 40 substantially as herein shown and described.

5. In a bicycle, the combination, with the frame B, provided with the slots L, the drive-wheel A, cranks M, and hangers H', of the hand-levers H, the elbow-levers N P, provided
 45 with the projection N', the sliding block O, and the hook a, substantially as herein shown and described.

J. BTE. GIRARD.

Witnesses:

J. GÉLINAS,
 P. GÉLINAS.