(No Model.)

2 Sheets—Sheet 1.

# J. L. ELLIS.

## VELOCIPEDE.

No. 280,299. Patented June 26, 1883.

Fig. 1.

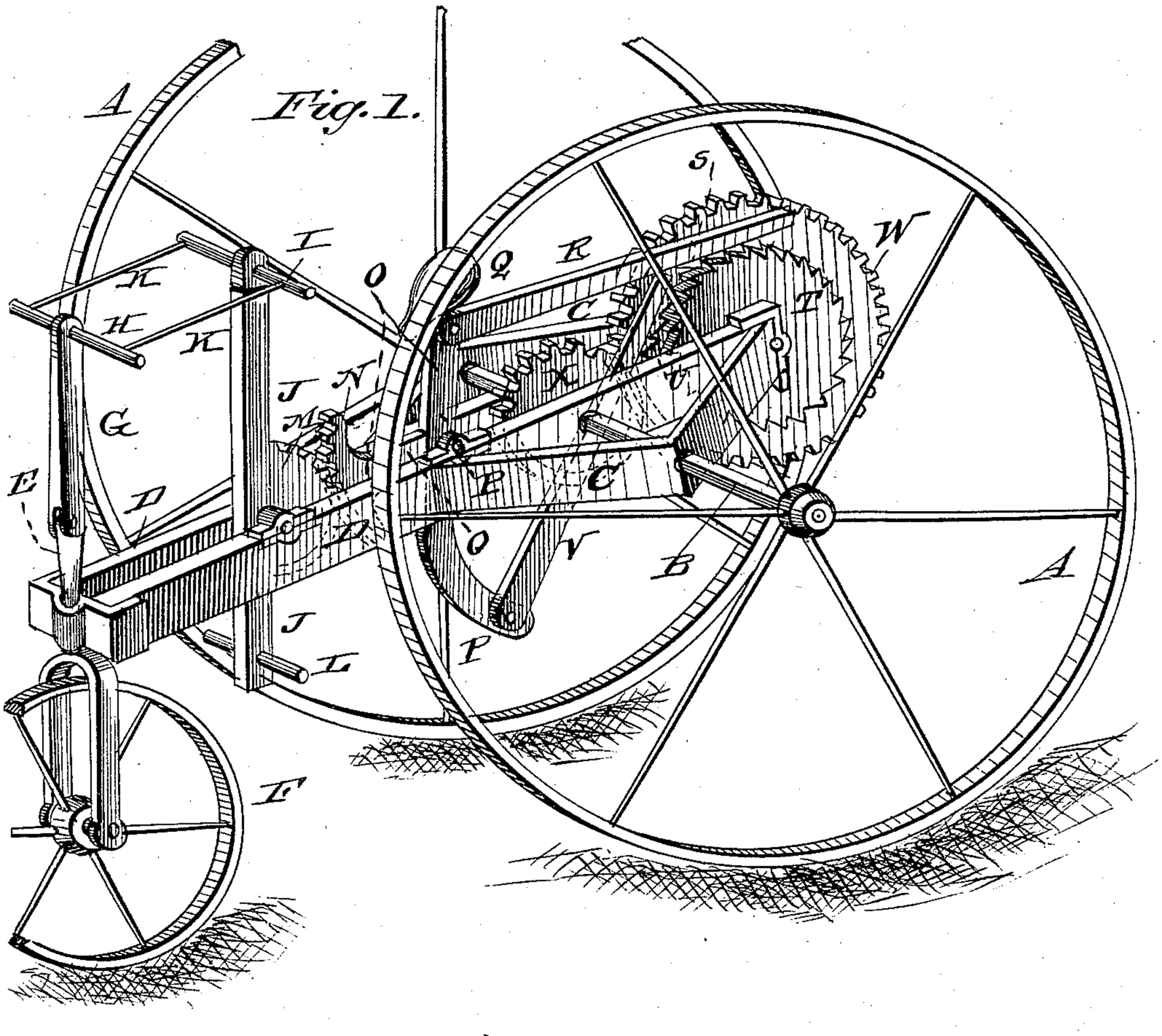
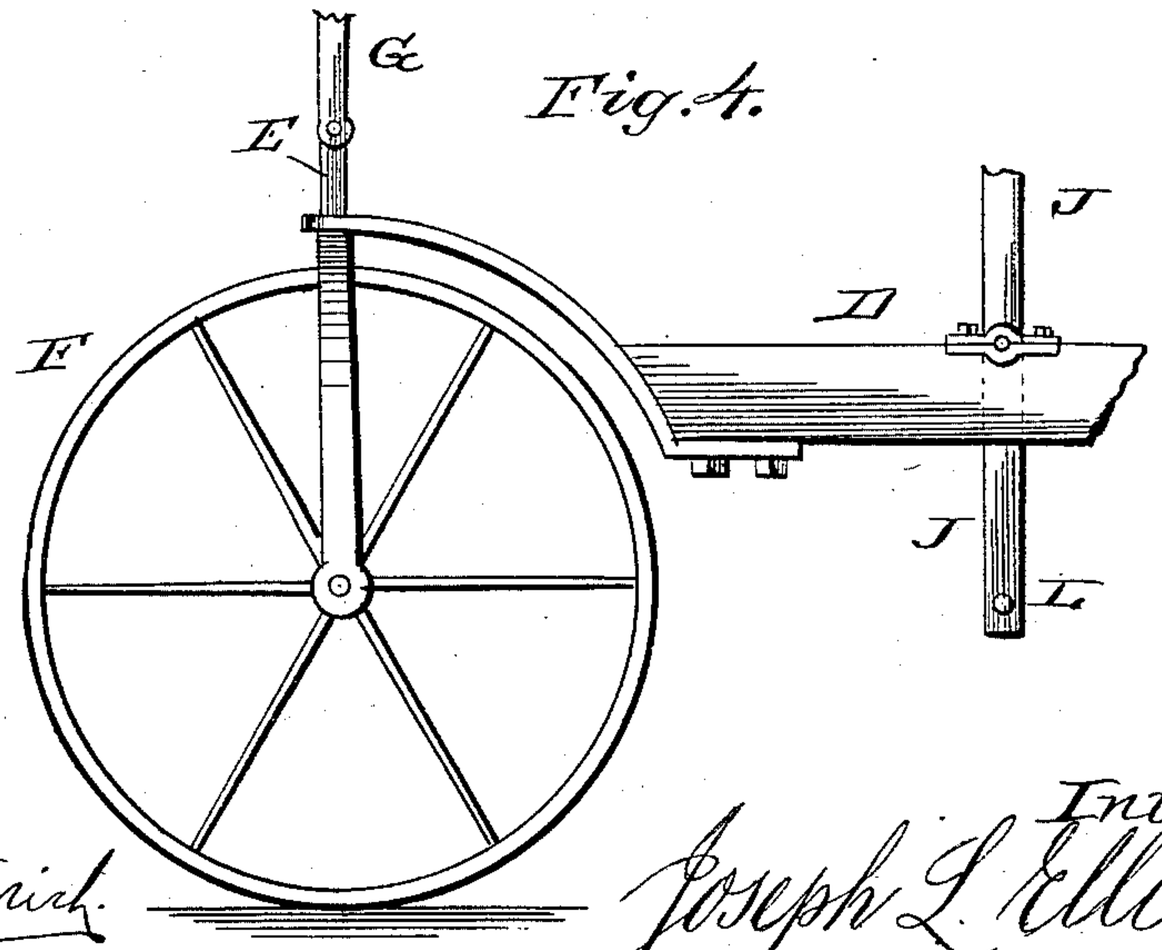



Fig. 4.

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(No Model.) 2 Sheets—Sheet 2.

# J. L. ELLIS.

## VELOCIPEDE.

No. 280,299. Patented June 26, 1883.

Fig. 2.

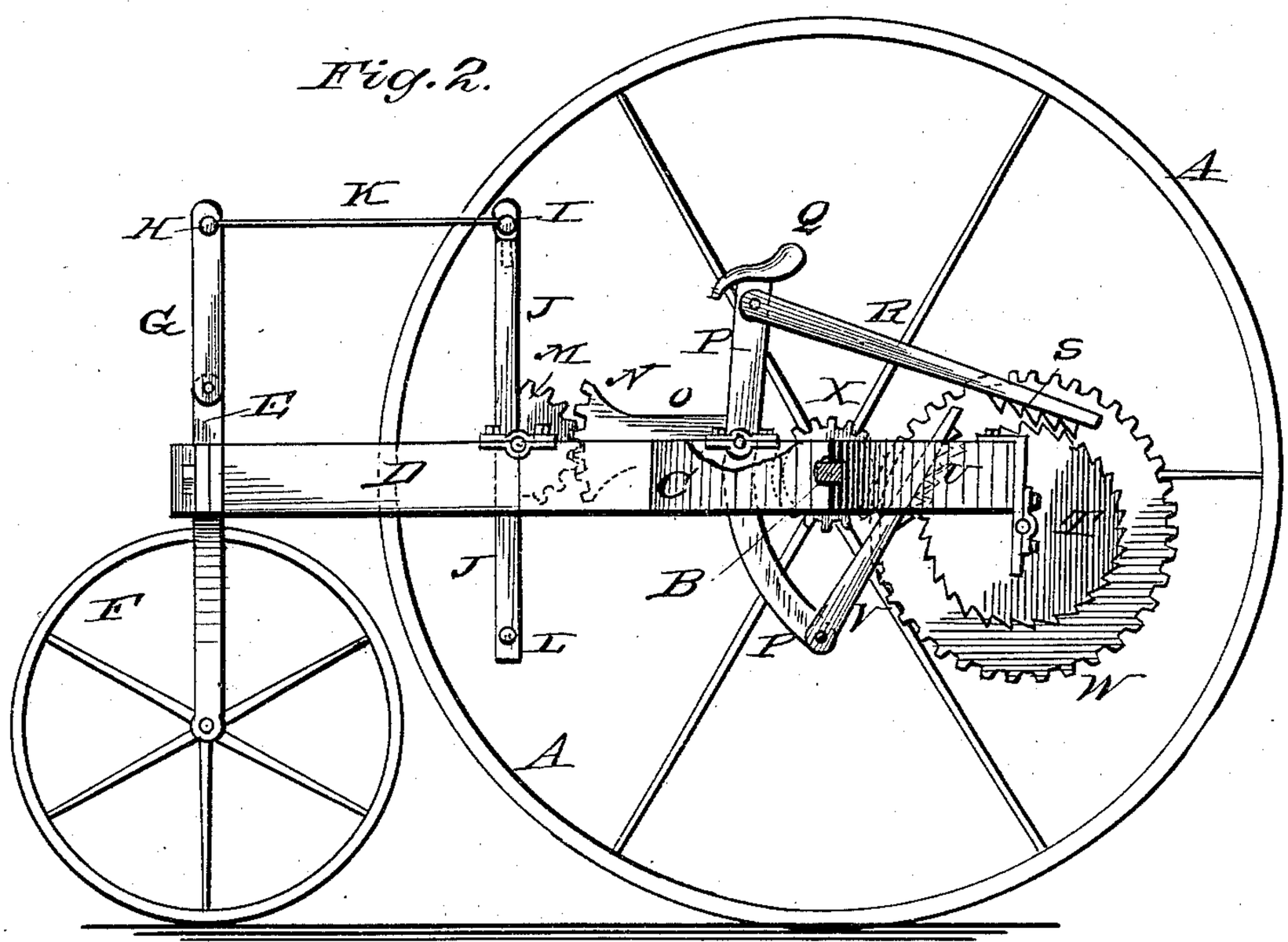
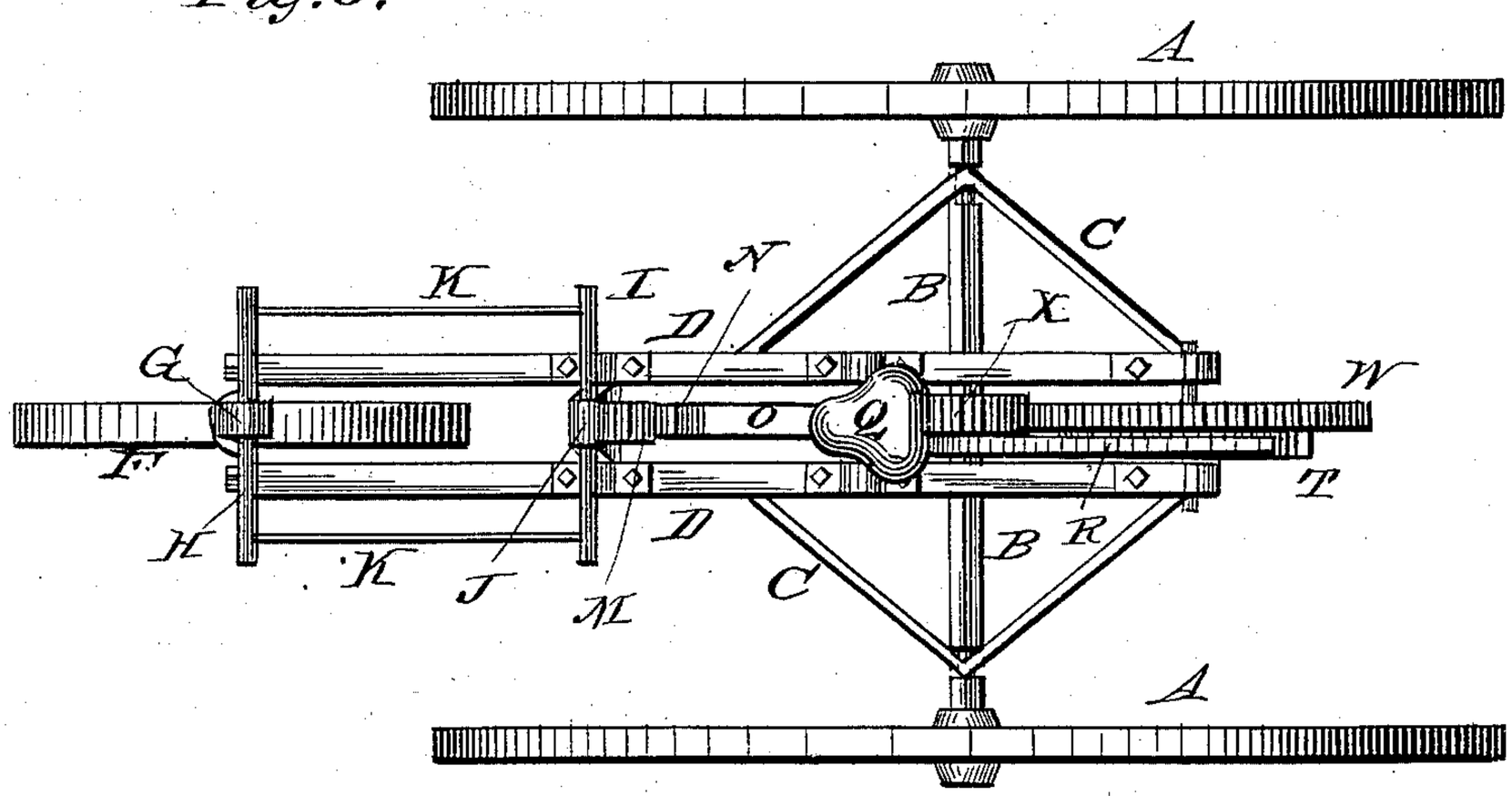



Fig. 3.

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# UNITED STATES PATENT OFFICE.

JOSEPH L. ELLIS, OF MILLINGTON, MICHIGAN, ASSIGNOR OF ONE-HALF TO JOHN A. DAMON AND ISAAC T. DAMON, OF SAME PLACE.

## VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 280,299, dated June 26, 1883.

Application filed March 30, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH L. ELLIS, of Millington, in the county of Tuscola and State of Michigan, have invented certain new and useful Improvements in Velocipedes; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved velocipede. Fig. 2 is a side view with one wheel removed. Fig. 3 is a top view, and Fig. 4 is a side view, of a part of the same, showing a slight modification in the frame when a large guide-wheel is desired.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to velocipedes; and it consists in the improved construction, combination, and arrangement of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letters A A indicate the driving-wheels, which may be of any desired construction, and are fastened upon the ends of an axle, B, journaled diagonally in a rhombic frame, C, having two bars, D D, extending longitudinally in the machine and at right angles to the axle. An upright, E, is pivoted between the front ends of these bars, and a guide-wheel, F, is journaled in the lower bifurcated ends of the same, while an arm, G, having a cross-piece, H, at its upper end, is hinged to the top of the same. The outer ends of this cross-piece are connected to the outer ends of a cross-piece, I, pivoted upon the upper end of a lever, J, pivoted between the bars D by means of two rods, K; and the said lever is provided with a cross-piece, L, at its lower end, upon which the rider's feet are to be placed, while his hands are placed upon cross-piece I, rocking the lever and guiding the machine. A semicircular cogged rack, M, is secured to the rear edge of lever J, at its fulcrum, and engages a segmental rack, N, upon the outer end of an arm, O, projecting forward from the fulcrum of a lever, P, pivoted between bars D, and having a saddle or seat, Q, upon its upper end. An arm, R, having a short series of ratchet-teeth, S, upon its rearward-pointing end, is hinged to the upper end of lever P, immediately below the seat, and the ratchet-teeth engage the teeth of a ratchet-wheel, T, journaled between the rear ends of bars D, while a short series of similar ratchet-teeth, U, upon the rear end of an arm, V, hinged to the lower end of lever P, likewise engage the teeth of the ratchet-wheel alternately with the teeth upon the other arm. Upon the same shaft, and concentric with this ratchet-wheel, is a cog-wheel, W, fastened, which meshes with a pinion, X, fastened upon the shaft B.

By the foregoing description, taken in connection with the accompanying drawings, the operation of my machine will be readily understood. The rider sits upon the seat or saddle, straddling the longitudinal frame-bars, with his hands upon the upper cross-piece of the working-lever and his feet upon the lower; and by rocking the latter the saddle-bearing lever is rocked, operating the ratchet-arms, which alternately engage the teeth of the ratchet-wheel, from which motion is communicated to the drive-shaft and wheels, propelling the machine, while by turning the upper pivoted handle or cross-piece the bar pivoted in the front end of the frame is turned, and with it the guide-wheel, thus guiding the machine.

When a large guide-wheel is desired, the front ends of the parallel longitudinal frame-bars may be curved upward and forward, as shown in Fig. 4.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

The herein-described velocipede, consisting of the frame C D D, wheels A, axle C, having pinion X, pivoted upright E, having guide-wheel F, and hinged arm G, provided with cross-head H, rods K, pivoted lever J, having cross-pieces I and L at its upper and lower

end, and cogged rack M at its fulcrum, pivoted lever P, having arm O, provided with segmental rack N and seat Q, hinged arms R and V, having ratchet-teeth S and U, ratchet-wheel T, and cog-wheel W, all constructed, combined, and arranged as and for the purpose shown and set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

JOSEPH L. ELLIS.

Witnesses:

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J. M. TORREY.