

No. 764,599.

PATENTED JULY 12, 1904.

A. A. KENNEDY.
DRIVING MECHANISM FOR BICYCLES.
APPLICATION FILED NOV. 16, 1903.

NO MODEL.

Fig. 1.

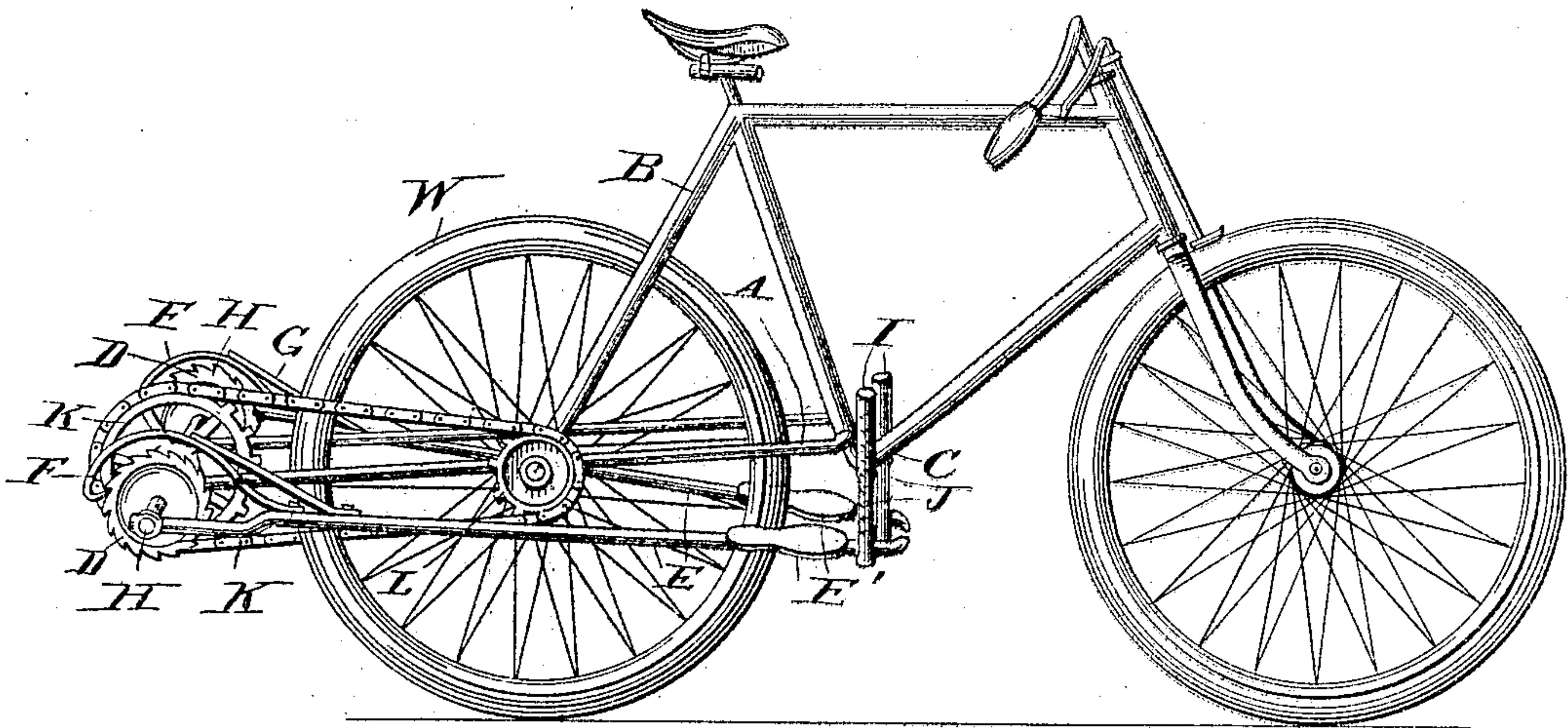
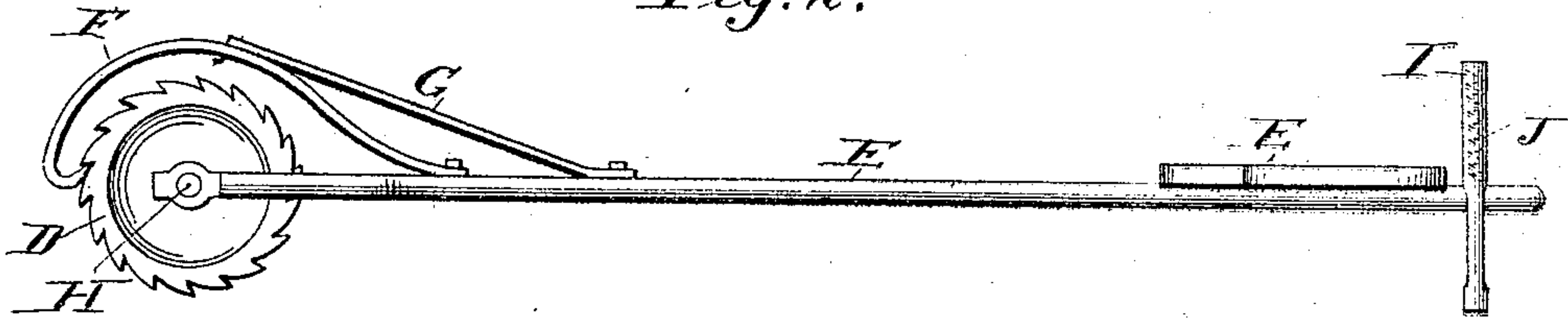


Fig. 2.



Witnesses:

Examinations
Journal & Review

Inventor:

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UNITED STATES PATENT OFFICE.

ANDREW ALGOMA KENNEDY, OF CAMDEN, NEW JERSEY.

DRIVING MECHANISM FOR BICYCLES.

SPECIFICATION forming part of Letters Patent No. 764,599, dated July 12, 1904.

Application filed November 16, 1903. Serial No. 181,453. (No model.)

To all whom it may concern:

Be it known that I, ANDREW ALGOMA KENNEDY, a citizen of the United States, residing in the city of Camden, county of Camden, and State of New Jersey, have invented new and useful Improvements in Driving Mechanism for Bicycles, of which the following is a specification.

My invention relates to driving mechanism for bicycles in which the rear wheel is driven from a sprocket wheel and chain by means of ratchet-wheels, pawls, and pawl-levers; and the object of my invention is to provide a simple driving mechanism which can be applied to any form of safety-bicycle and by which the driving or propelling power is reduced to a minimum, making it possible to ride over steep hills with ease and comfort.

To this end my invention consists of a bicycle-frame of usual or any preferred form with rearwardly-extending bars in which a driving-shaft is journaled in rear of the rear bicycle-wheel, a set of levers with pawls hinged to said shaft and extending toward the front bicycle-wheel, a set of ratchet-wheels in line with said pawls and secured to said driving-shaft, and a guide with spring for each lever adapted to aline and elevate said levers; and my invention further consists of the improvements hereinafter more fully set forth, and pointed out in the claim.

My invention will be more fully understood taken in connection with the accompanying drawings, forming a part hereof, and in which—

Figure 1 is an elevation of a bicycle, showing my improved driving mechanism in application; and Fig. 2 is a view showing one lever, with pawl, ratchet-wheel, and guide, in detail.

Referring now to the drawings for a further description of my invention, W is the rear bicycle-wheel, journaled in the frame B C, of any preferred shape. A represents two bars secured to said frame B C and extending rearwardly beyond the periphery of the wheel W. At the rear extremities of these bars A is journaled a driving-shaft H, which carries the large sprocket-wheel K. A smaller sprocket-wheel L is secured to the rear wheel W and

receives its rotary motion from the wheel K by means of the sprocket-chain K'.

On the driving-shaft H are secured two ratchet-wheels D, adapted to rotate the said shaft by means of the levers E. Each of these levers is hinged with one end to the shaft H, as shown in Figs. 1 and 2, and extends forwardly to guides I, secured to the fork C of the frame B. The free ends of these levers E are protruded through slots in the guides I and are normally held in an elevated position by the springs J contained in the said guides I.

In order to give the feet of the rider a suitable rest, footboards E' are provided on the levers E. Near the hinged end of the levers E are secured the hoop-shaped pawls F, which are caused to engage with the teeth of the ratchet-wheels D by means of flat springs G.

The operation of my improved driving mechanism is as follows: The free ends of the levers E being normally in an elevated position through the action of the springs J, (Fig. 1 showing both of them in depressed position,) the rider mounting the wheel depresses one of the levers E against the action of its spring J and causes the rotation of the shaft H for a certain distance, thereby propelling the wheel W. After the downstroke of this lever E is completed the other lever is depressed at its free extremity, while the former regains its elevated position through the spring J.

It will be observed from the drawings that owing to the proportion of distance from shaft H to foot-piece E' and from shaft H to periphery of ratchet-wheels D the power to be applied in order to propel the bicycle need be very small and that on this account steep hills may be easily overcome.

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination with a frame and a rear driving-wheel of a bicycle, of a bar at either side of said wheel, fastened to said frame and having its free extremities extending rearwardly beyond the periphery of said wheel, a driving-shaft journaled in the free extremities of said bars, a lever hinged to the driv-

ing-shaft and extending on each side of the rear driving-wheel toward the front wheel, a ratchet-wheel secured to the driving-shaft for each of said levers, a spring-pawl on each lever adapted to engage with its respective ratchet-wheel, springs to maintain the free ends of the levers in an elevated position, and means to transmit the rotary motion of the driving-shaft to the rear driving-wheel of the

bicycle, substantially as and for the purposes 10 set forth.

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

ANDREW ALGOMA KENNEDY.

Witnesses:

EDWIN M. GILES,
JOHN W. BARR.