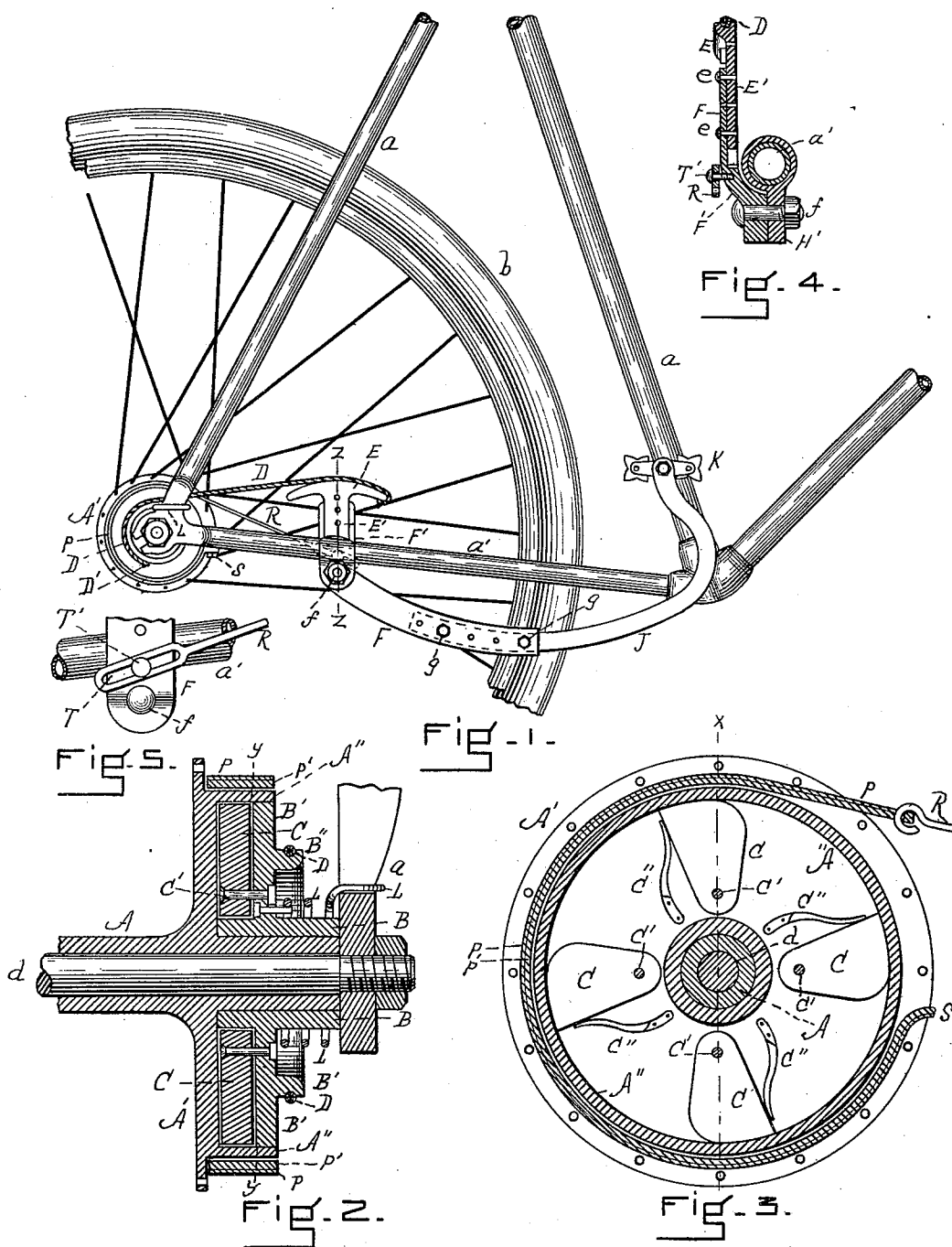


(No Model.)

J. A. ANDERSON.
BICYCLE.

No. 582,595.

Patented May 11, 1897.



WITNESSES
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UNITED STATES PATENT OFFICE.

JOHN A. ANDERSON, OF WAKEFIELD, MASSACHUSETTS, ASSIGNOR OF TWO-THIRDS TO EZRA M. SOUTHWORTH AND JUNIUS BEEBE, OF SAME PLACE.

BICYCLE.

SPECIFICATION forming part of Letters Patent No. 582,595, dated May 11, 1897.

Application filed September 24, 1896. Serial No. 606,841. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. ANDERSON, a citizen of the United States, residing in Wakefield, in the county of Middlesex and State of Massachusetts, have invented new and useful Improvements in Bicycles, of which the following is a specification.

This invention relates to mechanism intermediate of the pedals and driving-shaft whereby the driving-wheel may be operated to a greater advantage and with greater or less power or speed at the will of the rider and its speed quickly checked in case of necessity through the medium of the pedal.

The nature of the invention is fully described in detail below and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a sufficient portion of a bicycle to illustrate my invention. Fig. 2 is a vertical section taken through the driving mechanism on line X, Fig. 3. Fig. 3 is a section taken on line Y, Fig. 2. Fig. 4 is a section in detail taken on line Z, Fig. 1. Fig. 5 is an enlarged detail showing the rear end of the brake-rod and its connection, looking from the inner or rear side.

Similar letters of reference indicate corresponding parts.

a and *b* represent, respectively, portions of the frame and the driving-wheel.

d is the driving-shaft, and *A* is the hub thereon, extending up into the flange *A'* (from which the spokes extend) and formed into the drum *A''*.

B is a sleeve loose on the hub *A* and formed with the integral disk or flange *B'*, which extends up to the drum *A''* and constitutes with said drum and said flange *A'* a case for the dogs *C*, which are pivoted at *C'* to the portion *B'* and are held by the springs *C''* against the inner side of the drum *A''*.

A suitable cord or chain *D* has one end secured at *D'* to the annular ledge *B''*, formed on the part *B'*, while the opposite end is secured at *D''* to the segment *E*, whose shank *E'* is adjustably secured at *e* to the upright *F'*, pivotally secured at *f* to the bracket *H'*, extending down from the collar *H*, which is rigidly secured to the portion *a'* of the frame. Integral with this upright *F'* is a forward-

extending arm *F*, which is adjustably secured at *g* to the lever *J*, which supports the pedal *K*. This construction of course is duplicated on the opposite side of the wheel. Pressing down the pedal *K* swings down the lever *J*, and with it of course the arm *F*, thus causing the segment *E* to swing forward, so that the cord *D* imparts partial rotation to the case *B'*, causing the dogs *C* to clutch the drum *A''* and impart similar rotation to the hub *A* and hence to the wheel *b*. When the pedal is relieved from pressure, the case *B'* is returned to its original position in the ordinary manner by means of the spring *L*, which connects said case with the frame, the dogs *C* slipping back within the drum in the manner common in such mechanisms. To increase the power, the lever *J* is drawn rearward and readjusted with relation to the arm *F*, or the shank *E'*, which is the short arm of the lever, is lowered on the upright *F'*, or both said adjustments may be made. To increase the speed, the lever *J* is pushed forward, or the shank *E'* is raised, or both may be done. As will readily be seen, the parts *F* and *J* constitute the long arm and the parts *F'* and *E'* the short arm of an elbow-lever, both such arms being adjustable as to length.

A brake-band consisting, preferably, of the metallic outside strip *P* and leather inside strip *P'*, is secured at one end at *S* to the frame, thence extends around the drum *A''*, and is secured at its other end to the brake-rod *R*, which extends to the upright *F'*, which is rigid to the frame. The rear end of the brake-rod *R* is provided with a slot *T*, Fig. 5, whereby it is engaged by the pin *T'*, extending from said upright *F'*. The ordinary downward stroke of the pedal does not cause this pin to reach the rear end of the slot *T*; but should the rider desire, as in case of danger, to apply the brake to the machine he can do so instantly by lengthening the downward stroke of the pedal, so that the lost motion is taken up and the pin *T'* strikes the rear end of the slot *T* and draws forward the brake-rod *R*, thus applying the brake-band *P* to the drum *A''*. Thus the brake may be applied instantly without using the hands.

Having thus fully described my invention,

what I claim, and desire to secure by Letters Patent, is—

1. In a bicycle of the character described, in combination, the frame; driving-shaft; hub provided with the flange A' and drum A"; the clutching mechanism adapted to engage said drum; the brake-band P secured at one end to the frame and extending partially around the drum; the swinging segment E provided with the shank E'; the pedal-lever F F' pivotally secured to the frame and supporting said segment and shank; the connecting-rod R secured at one end to the brake-band and slotted at T at the other end; and a pin or bolt T' extending from the portion F' of said lever into said slot, substantially as set forth.

2. In a bicycle of the character described, in combination, a drum inclosing the mechanism for imparting motion to the wheel; a band-brake disposed around said drum; a lever actuated by the pedal and pivotally secured to the frame of the machine; a driving connection intermediate of and connecting said lever and drum; and a brake-rod secured at one end to the band-brake and by means of the slotted connection at the other end to the pedal-lever, whereby a lengthened stroke of said lever will apply the brake, substantially as described.

JOHN A. ANDERSON.

Witnesses:

HENRY W. WILLIAMS,
A. N. BONNEY.