

No. 679,561.

Patented July 30, 1901.

J. T. M. HIRCOCK.
STEERING OF CYCLES.
(Application filed Mar. 8, 1901.)

(No Model.)

FIG. 1.

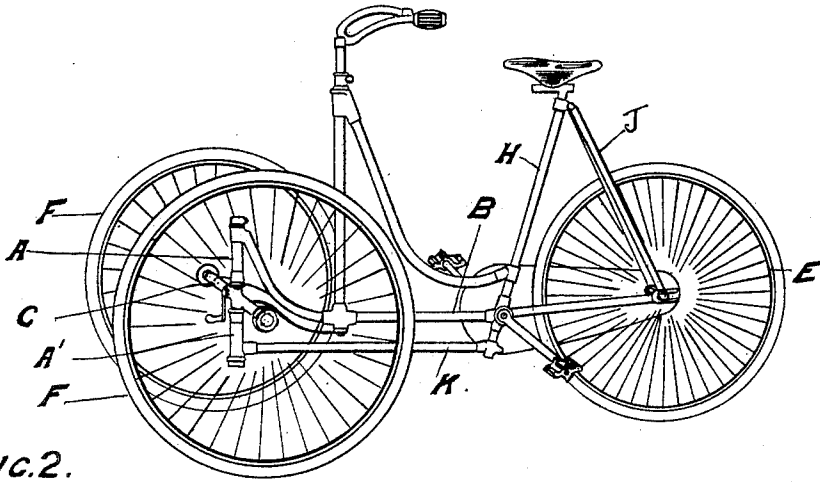
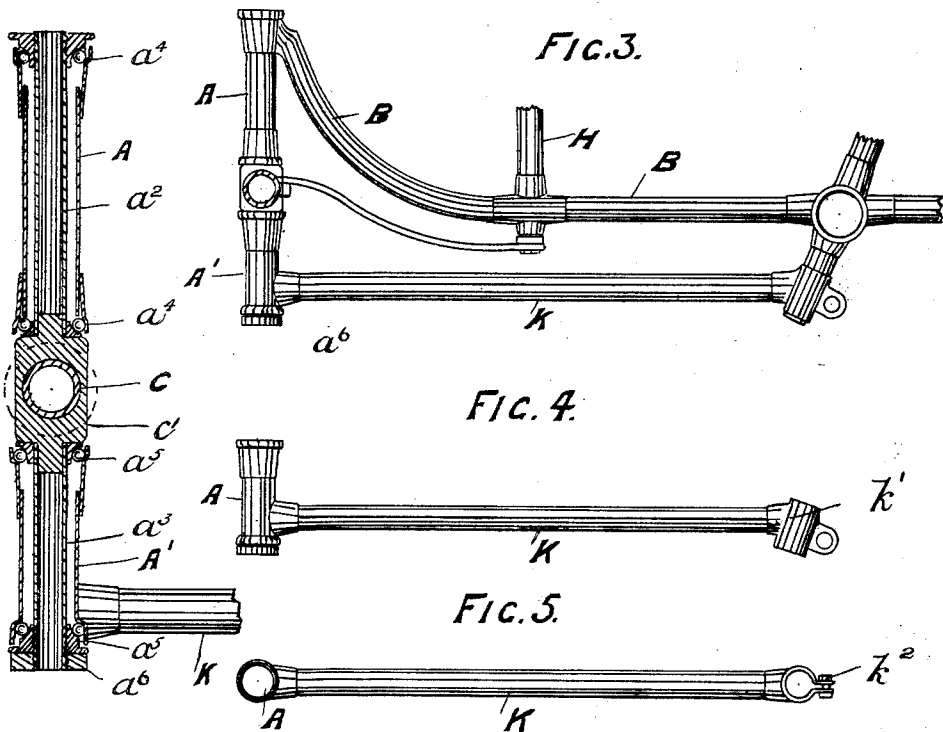


FIG. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN THOMAS MILSON HIRCOCK, OF BIRMINGHAM, ENGLAND.

STEERING OF CYCLES.

SPECIFICATION forming part of Letters Patent No. 679,561, dated July 30, 1901.

Application filed March 8, 1901. Serial No. 50,409. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMAS MILSON HIRCOCK, engineer, a subject of the King of Great Britain, residing at 34 Priestley road, Sparkbrook, Birmingham, in the county of Warwick, England, have invented new and useful Improvements in and Connected with the Steering of Cycles and other Machines, (for which I have applied for a patent in Great Britain, No. 13,586, dated July 28, 1900,) of which the following is a specification.

My invention has for its object improvements in and connected with the steering of cycles and other machines, and particularly refers to the connection of the head to the frame in that class of cycles having a pair of steering-wheels mounted upon a cross-axle, by which I obviate a considerable amount of the strain or leverage at the point of such connection and at the same time convey the weight to the axle in a perfect vertical direction instead of an inclined direction, as heretofore, thus reducing any undue strain upon the axle steering-head and frame connection thereto.

In order that my invention may be clearly understood and more easily carried into practice, I have appended hereunto a sheet of drawings, upon which I have fully illustrated the nature of my said improvements.

Figure 1 is a view showing the class of tri-cycles to which my improvements are applicable. Fig. 2 is a vertical section through the connection between the frame and axle. Fig. 3 is an elevation of the axle connection and part of frame connected therewith. Fig. 4 is an elevation of the part of the frame which is made detachable, as hereinafter described. Fig. 5 is a plan of Fig. 4.

My improvements refer to the class of tri-cycles illustrated in Fig. 1, consisting of the rear driving-wheel E, supporting the stays J, and pair of front steering-wheels F, the lat-

ter of which are connected together by the axle C, my invention consisting of the improved connection between the frame B, which supports the seat-pillar H, and the axle C of the steering-wheels F. In carrying the same into effect I provide the vertical tubular head A A' upon the axle C, such head consisting of the inner tubes a^2 and a^3 , which are fixed to the collar c' of the axle C with cones or cups a^4 and a^5 to form ball-bearings at the top and bottom of both parts A A' of the head, which are thus mounted to turn upon the aforementioned tubes a^2 and a^3 . The part A' of the head and bottom stay K are formed in one piece and are secured to the main frame at the bottom of the down-tube by the detachable lug k' and screw-pin k^2 , the other or A' end being attached to the axle C by the screw-nut a^6 upon the inner tube a^3 , by which means the compression strain upon the member B is taken up by the tension of the part K, thus preventing any unequal strains upon the steering-head and increasing the rigidity of the machine.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

In a cycle the combination of a transverse axle, a central collar for the axle having upwardly and downwardly projecting studs, a vertical tubular head consisting of a sectional sleeve the ends of which are connected to the cycle-frame, tubes within the sleeve rigidly fitted to the studs of the collar, and anti-friction-bearings between the sleeve-sections and inner tubes, substantially as specified.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN THOMAS MILSON HIRCOCK.

Witnesses:

LEWIS W. GOOLD,
WALTER H. BARTLAM.