

No. 606,952.

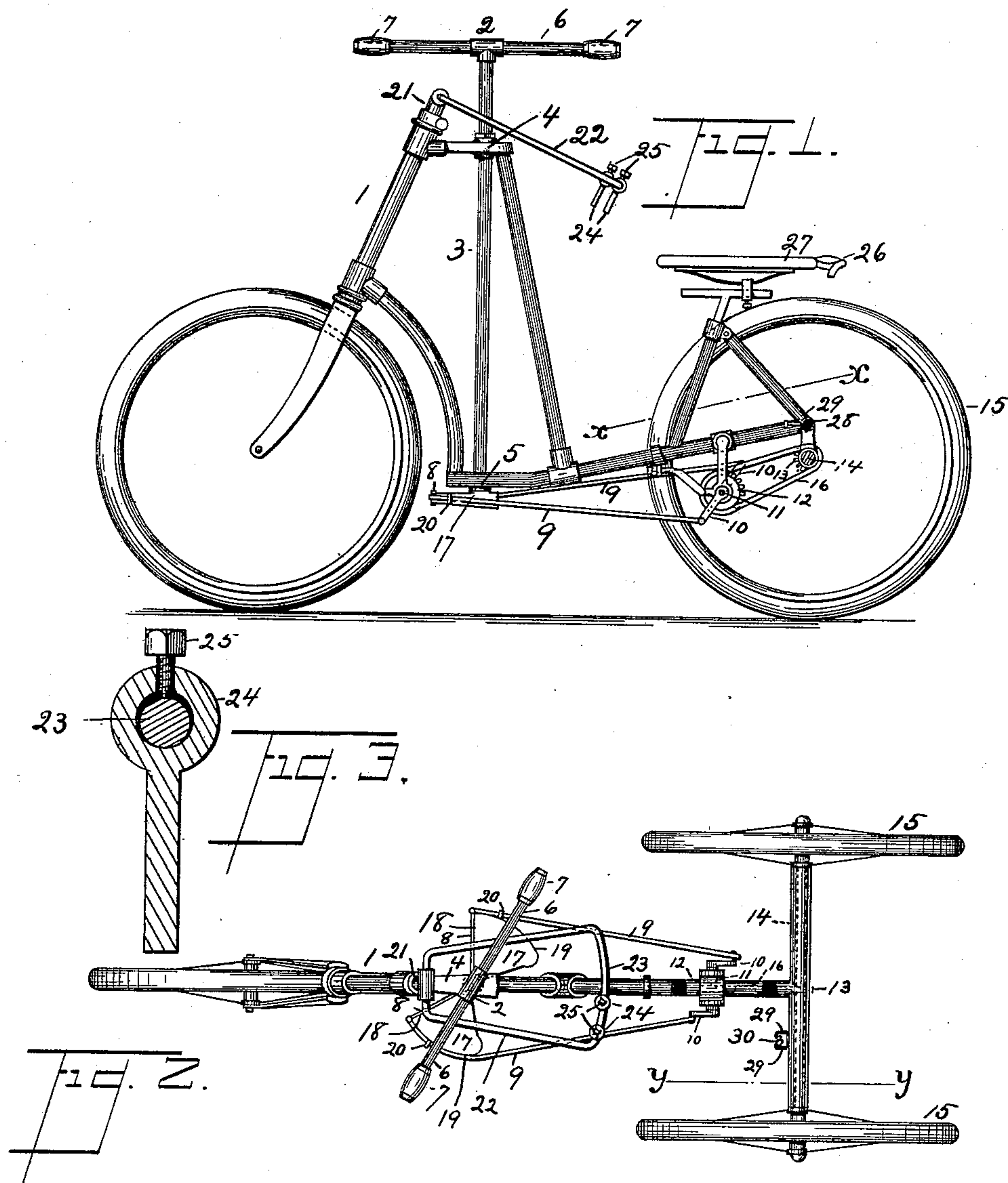
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F. S. ALLEN.

TRICYCLE FOR PROPULSION BY HAND POWER.

(Application filed Jan. 4, 1897.)

(No Model.)



WITNESSES _____ INVENTOR

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UNITED STATES PATENT OFFICE.

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TRICYCLE FOR PROPULSION BY HAND-POWER.

SPECIFICATION forming part of Letters Patent No. 606,952, dated July 5, 1898.

Application filed January 4, 1897. Serial No. 617,913. (No model.)

To all whom it may concern:

Be it known that I, FREDERIC STURGES ALLEN, a citizen of the United States, residing at New York, county and State of New York, have invented a new and useful Tricycle for Propulsion by Hand-Power, of which the following is a specification.

My invention relates particularly to improvements in that class of tricycles propelled by the hand; and it consists in the combination and arrangement of parts, which will be more fully described hereinafter, and whereby the steering can be done by the knees of the rider while both hands are in use.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several views where they occur, Figure 1 is a side elevation of an ordinary hand-propelling tricycle having my improvement secured thereto and having the rear portion of the frame in section on the line *y y* of Fig. 2. Fig. 2 is a top plan view of said Fig. 1, having the frame portion supporting the seat in section on the line *x x* of Fig. 1. Fig. 3 is a detail view, enlarged, of the projecting pin, showing the construction of securing said pin to the steering-rod, so as to be movable on said rod.

In said drawings, 1 represents the frame of an ordinary hand-propelling tricycle having the wheels, ball-bearings, &c., of the ordinary construction, and therefore need no further explanation.

The propelling-gear 2 consists of the vertical rod 3, passing through and resting in the bearings 4 and 5 of the frame, and to this vertical rod 3 is permanently secured a cross-bar 6, having at each extremity handles 7, said handles being so arranged as to be able to be extended and inserted, as indicated by the dotted lines in Fig. 1. When the said handles are extended, an increased length of leverage is obtained in propelling the machine against unusual resistance. At the bottom of said vertical rod 3 and beneath the bearing 5 are permanently secured projecting arms 8, to which are secured wings 17, which are hinged, as at 18, to the projecting arms 8, so as to freely swing up and down, and their outer edge being curved, as at 19, so as to continue the leverage. One end of said band or rod 9 is secured to said projecting arm 8 and the

other end being secured to the crank 10, which is fastened to the axle 11 of the sprocket-wheel 12 and connecting with another sprocket-wheel 13, secured to the axle 14, carrying the wheels 15. Said sprocket-wheels 12 and 13 are connected by the chain 16, as will be clearly understood upon referring to the drawings. Said band or rod 9 is kept continuously to the side of the curved portion 19 of the wing 17 by the loop 20, secured to said wing and through which the band or rod passes.

On the front portion of the frame 1 is secured the steering apparatus 21, having fastened thereto the steering-rod 22, having sufficient width to enable it to swing around far enough to turn the front wheel at right angles to the rear wheels and of sufficient length from the steering apparatus 21 to the back so as to rest upon the knees or in easy reach of the person manipulating the machine. To said rear end 23 is secured projecting pins 24, having a set-screw 25 or any other appropriate means for holding said projecting pin to the steering-rod when once placed in position. These projecting pins may be movable on said steering-rod by releasing the set-screw, so as to enable the same to slide on said rod, and by fastening the set-screw again the pins are held in place, as will be understood upon referring to Fig. 3.

Strap 26 is secured to the rear portion of the seat 27, and to the rear cross-bar 28 of the frame 1 are permanently secured pins 29, having projections 30 on the inner side of said pins, so that the crutches can be inserted in at the lower part, where they are smaller in diameter, and then allowed to drop down far enough to set firmly between the pins 29 and being prevented from slipping out by the projections 30, and the strap 26 is then buckled firmly about the crutches, so that they stand vertically, or nearly so, at the rear of the person sitting on the seat, thus being out of his way entirely, but in easy reach when required.

In operating my invention the person who is manipulating the machine sits upon the seat and rests his feet upon any convenient foot-rest secured to the frame and places the projecting pins secured to the steering-rod on his knees, so that one pin will be on each side, thus enabling him to grasp the handles

secured to the vertical rod and by oscillating the same operates the cross-bar secured at the bottom of said vertical rod, thus imparting motion to the band or rod, which in turn
5 operates the sprocket wheel and chain to the rear axle, carrying the wheels of the machine, as will be understood upon referring to the drawings.

What I claim as new, and desire to secure
10 by Letters Patent of the United States, is—

1. In a tricycle to be propelled by hand, the partially-turning vertical rod 3, the cross-bar 6 secured to its upper end, the arms 8 secured to its lower end, and the wings 17 secured to the rod 3, and the arms 8, and which
15 are curved upon their outer ends, combined with the bands 9 secured at their front ends to both the arms and the wings, the cranks,

and means for transmitting motion to the rear wheel, substantially as shown. 20

2. In a hand-propelled tricycle, the vertical partially - turning rod 3, provided with the bar 6 at its upper end, and the arms 8 at its lower end, combined with the wings 17 having curved outer ends and which are
25 loosely hinged to the arms so as to have a rising and a falling movement, the bands 9 secured to the arms and the wings, the cranks to which the rear end of the pins are fastened, and means for communicating motion to the
30 rear wheel, substantially as described.

FREDERIC STURGES ALLEN.

Witnesses:

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