(No Model.)

H. H. MARTIN.

TOY BICYCLE.

No. 560,103. Patented May 12, 1896.

Fig. 1.

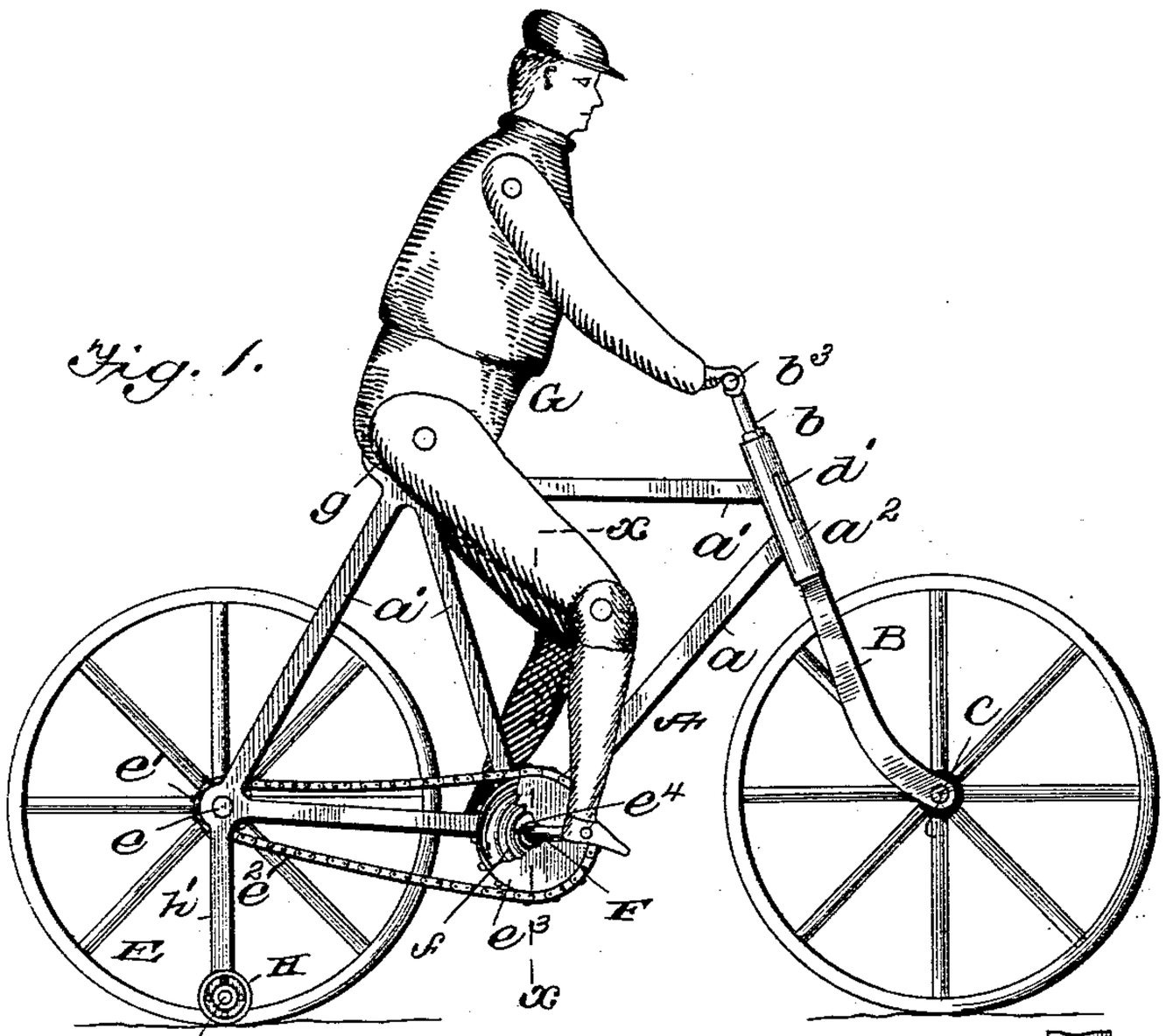


Fig. 2.

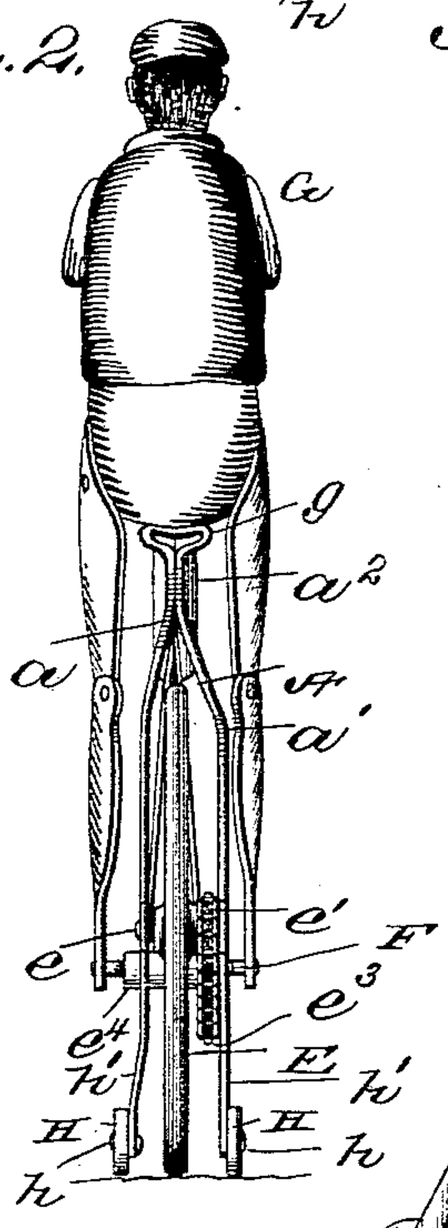


Fig. 3.

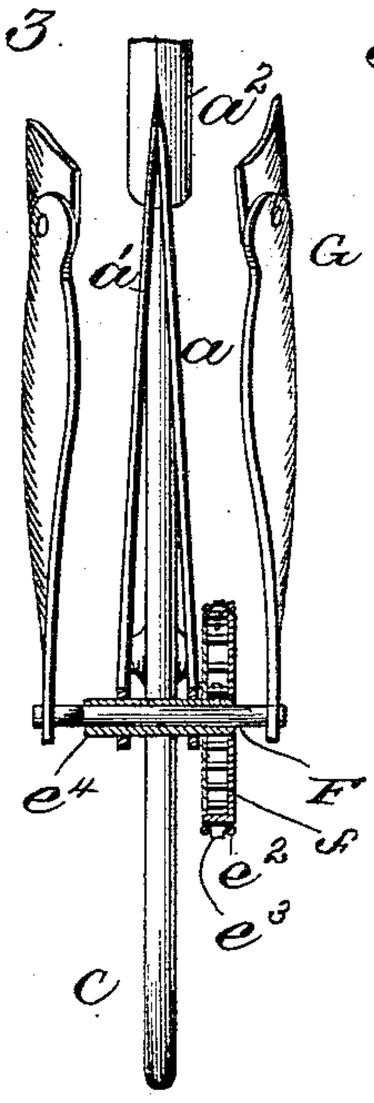


Fig. 4.

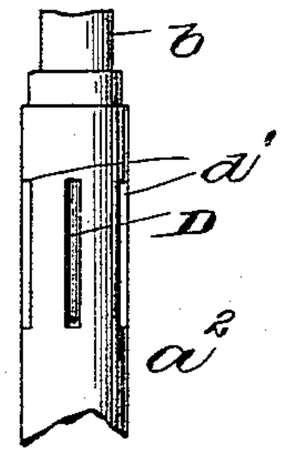


Fig. 5.

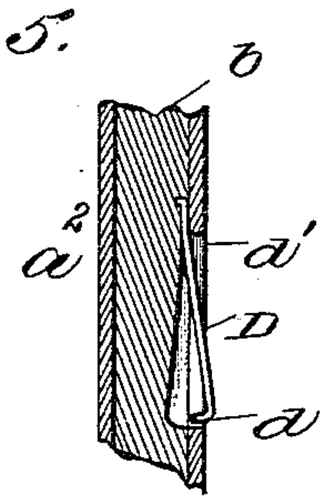
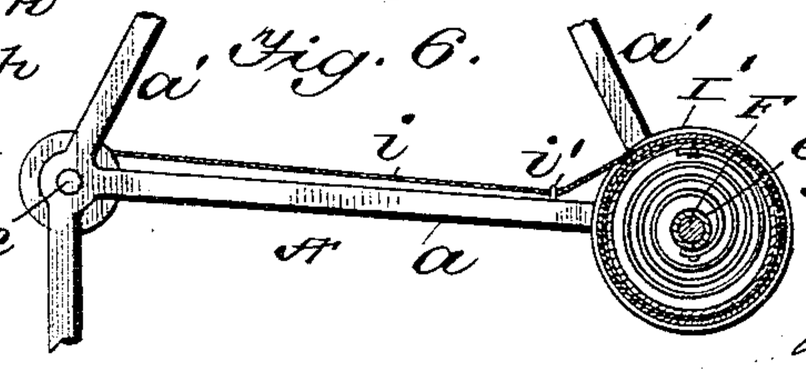


Fig. 6.



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UNITED STATES PATENT OFFICE.

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TOY BICYCLE.

SPECIFICATION forming part of Letters Patent No. 560,103, dated May 12, 1896.

Application filed September 13, 1895. Serial No. 562,428. (No model.)

To all whom it may concern:

Be it known that I, HENRY H. MARTIN, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Toy Bicycles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to toy bicycles, and the object thereof is to produce a simple and inexpensive toy of this character which shall possess the general appearance of a full-size bicycle and which can be made to travel on a straight line or describe circles in traveling to the left or right.

A further object is to provide simple means for impelling the toy and also for readily and easily winding or setting the same.

To these ends the invention comprises a bifurcated frame having front and rear centrally-located wheels, the axle of said rear wheel being engaged by a sprocket-chain which encompasses a sprocket-wheel on a centrally-located axle. Within this latter wheel is an impelling-spring which is wound by the turning of the rear wheel of the toy in the direction opposite to that in which it rotates when the toy is in operation. Two guide-wheels are on either side of this rear wheel, being supported by extensions of the frame. The handle-bar rod of the front fork is fitted in a hollow spindle of the frame and capable of being turned and held in different positions by means of a spring.

The invention will be hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation. Fig. 2 is a rear end view. Fig. 3 is a transverse sectional view on line $x\ x$, Fig. 1. Fig. 4 is an enlarged detail view with parts broken away. Fig. 5 is a sectional view thereof on line $y\ y$. Fig. 6 is a modification.

Referring to the drawings, A designates a frame having corresponding parallel spaced-apart sides $a\ a$, composed of a series of bars a' in imitation of the ordinary frame of a safety-bicycle. At its forward end this frame is bent to form a hollow spindle a^2, through which is passed the inclined rod b of the fork B, in the lower end of which latter is mounted the axle of the forward wheel C. Upon the upper end of the rod b is the handle-bar b^3. To that portion of the rod b inclosed within the spindle a^2 is secured one end of a plate-spring D, the projecting portion d of which is designed to fit in any one of a series of slots d', formed in said spindle. By this means the wheel C can be held in line with frame A or turned toward either side according to the direction in which it desired the toy shall travel.

E is the rear carrying-wheel, whose axle e is mounted in the sides of a frame A, and upon said axle is a small sprocket-wheel e', with which engages a sprocket-chain e^2, said chain also engaging a second larger sprocket-wheel e^3, whose tubular axle e^4 is mounted in the sides of frame A. Through this tubular axle is loosely passed a crank-shaft F, one end of which is attached to said sprocket-wheel e^3, so as to rotate therewith. Within the sprocket-wheel e^3 is a coil-spring f, one end of which is firmly attached to the tubular axle e^4, its other outer end being connected to said sprocket-wheel. A figure G is fitted on the seat g of frame A, and the feet of its articulated legs are connected to the crank portions of shaft F, while the hands of the pivoted arms are attached to the ends of the handle-bar.

H H designate two small balancing-wheels, whose axles h are supported by depending portions h' of frame A, said axles being diametrically beneath the axle of rear wheel E, on either side of which said balancing-wheels are located, their peripheries being on the same plane as the lowermost portion of said wheel.

To effect the winding of the impelling-spring, the operator holds the toy in one hand and revolves the rear wheel E in the direction opposite to that in which it rotates when the toy is being used. The spring being wound the operator adjusts the front fork according to the course it is desired the toy shall travel, and then placing the toy upon the ground the spring in unwinding will propel the toy, the movement of the sprocket-wheel e^4 being imparted to the axle of rear wheel E by means of the connecting sprocket-chain. To change the course or direction of travel of the toy, it

is only necessary for the operator to depress the spring D and turn the handle-bar until said spring enters one of the other slots. Thus it will be seen that I have provided extremely simple and inexpensive means for controlling the line of travel of the toy; that the latter presents all the main characteristics of a full-size bicycle; that, as in the case of the latter, the power is transmitted from the central portion of the frame to the axle of the rear carrying-wheel. It will also be noted that the balancing-wheels being very small and supported by extensions of the frame do not materially affect the appearance of the toy and serve to properly balance the latter.

In Fig. 6 I have shown a slight modification of my invention, the same relating to the operating connection between the spring-impelled wheel and the axle of the rear wheel. In this form sheave-wheels I I′ are substituted for the sprocket-wheels and a cord *i* for the chain. The spring is inclosed in sheave-wheel I′, and the cord is guided by an eye *i′*, attached to one side of frame A. The winding of the spring is effected by the winding of the string on the sheave-wheel I.

I claim as my invention—

1. The herein-described toy, comprising the frame, having a hollow spindle at its forward end provided with a series of slots, front and rear carrying-wheels, the fork for said front wheel having a rod fitted in said spindle, and a plate-spring attached to said rod and designed to engage and fit within any one of said slots, as set forth.

2. The herein-described toy comprising the bifurcated frame having corresponding sides, front and rear carrying-wheels mounted between said sides, a tubular axle mounted in said sides, a hollow wheel on said tubular axle, a spring within said wheel connected thereto at one end, its other end being connected to said axle, the wheel on the axle of said rear carrying-wheel, the belt or the like engaging said wheel of said axle and also said hollow wheel, the depending portions extending from the sides of said frame, and the wheels mounted in the lower ends of said depending portions, substantially as and for the purpose set forth.

3. The combination with the frame having a forward hollow spindle provided with slots and the carrying-wheels, of the fork supporting one of said carrying-wheels having a rod adjustably fitted in said spindle, a plate-spring secured to said rod and designed to enter said slots, a sprocket-wheel on the axle of the rear carrying-wheel, a hollow sprocket-wheel, the axle on which said wheel is loosely mounted, and the coil-spring located within said hollow sprocket-wheel and connected to the latter and its axle, as set forth.

4. The combination with the frame having spaced-apart sides and lower extensions, and also having a forward spindle provided with slots, of the fork having a rod adjustably secured in said spindle, a plate-spring secured to said rod and designed to enter said slots the front carrying-wheel supported by said fork, the rear carrying-wheel mounted between said sides of said frame and having a sprocket-wheel on its axle, the balancing-wheels supported by said extensions of said frame, the tubular axle supported by said frame, the sprocket-wheel thereon, the spring within said sprocket-wheel connected thereto and to said axle, and the crank-shaft extended through said axle, substantially as set forth.

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

HENRY H. MARTIN.

Witnesses:
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WM. S. HODGES.