(No Model.)

2 Sheets—Sheet 1.

W. H. RUDY.

VELOCIPEDE.

No. 408,634. Patented Aug. 6, 1889.

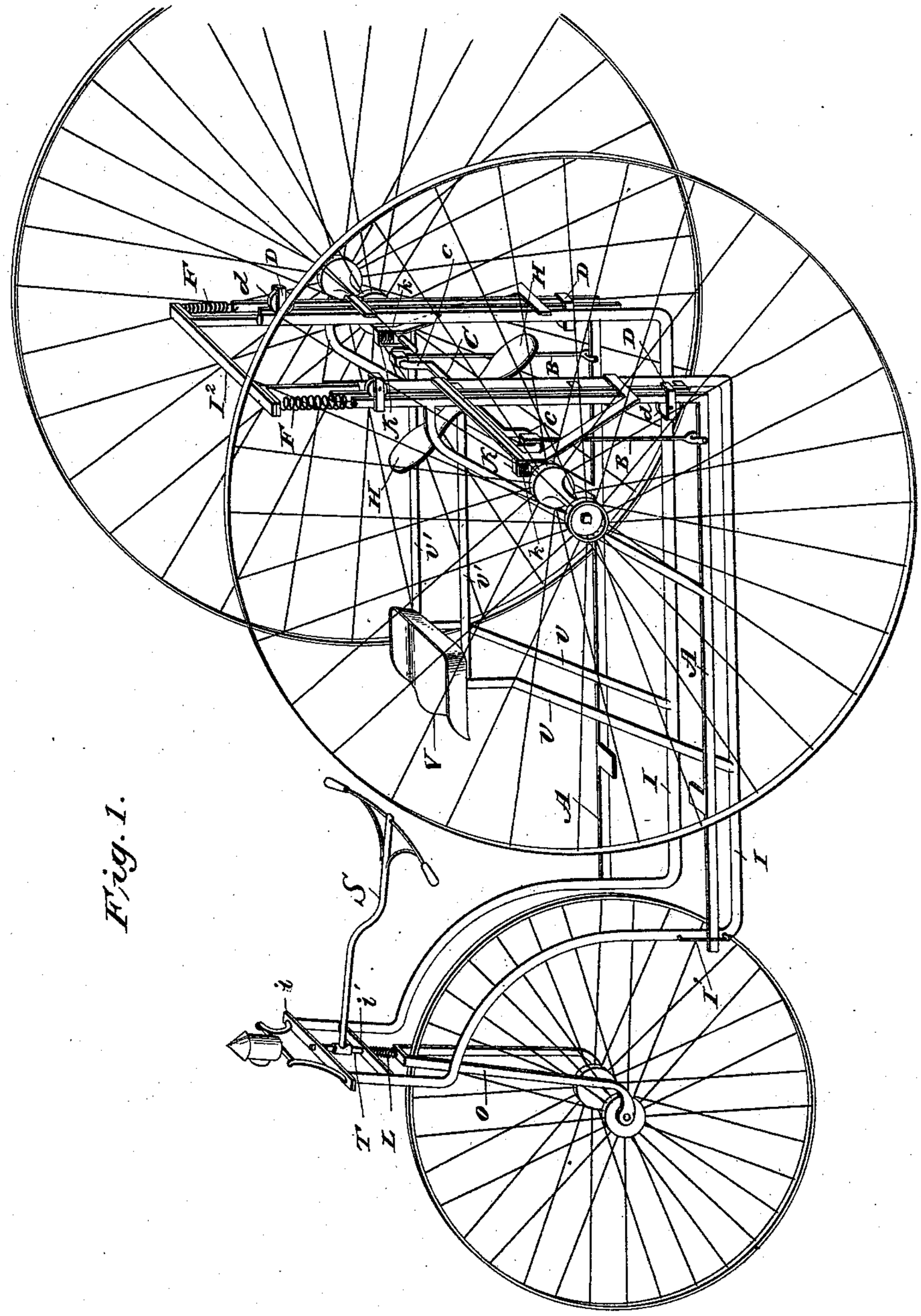

Fig. 1.

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(No Model.) 2 Sheets—Sheet 2.

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VELOCIPEDE.

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Fig. 2.

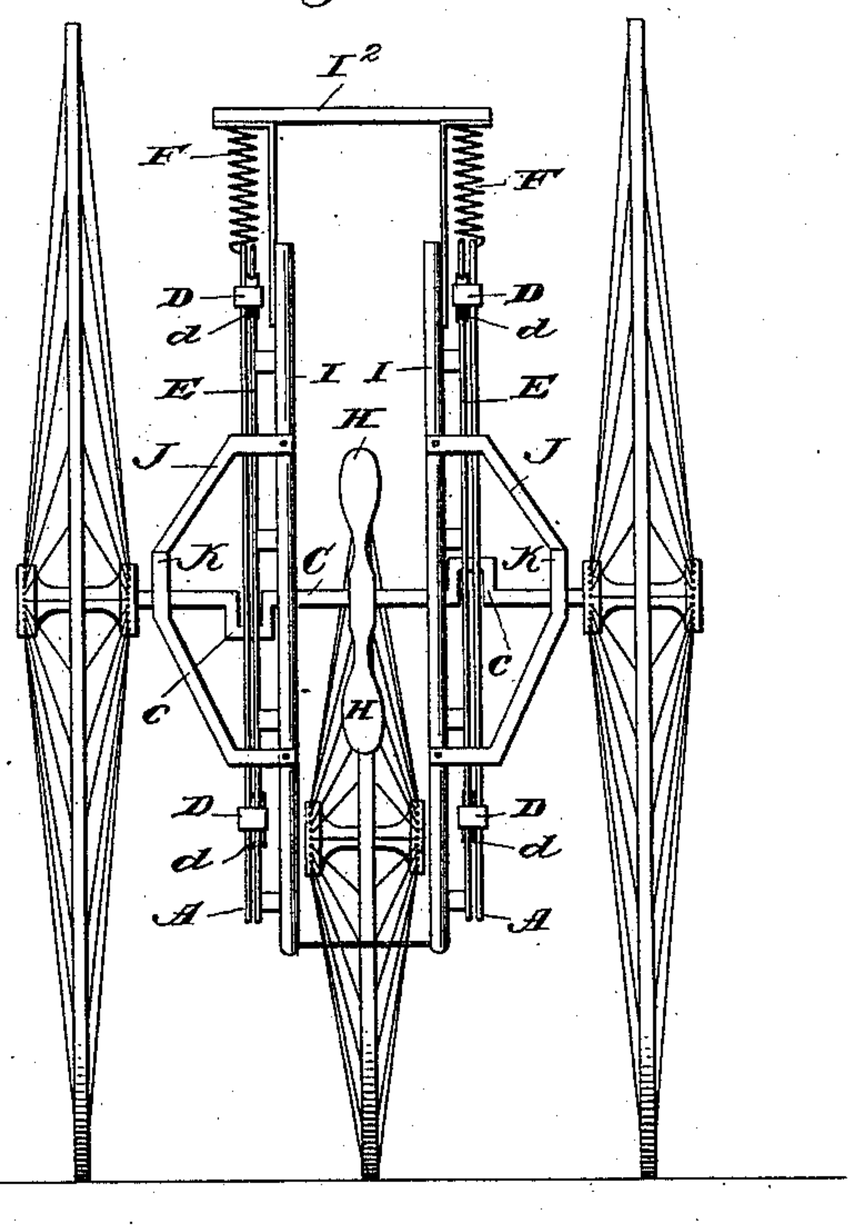


Fig. 3.

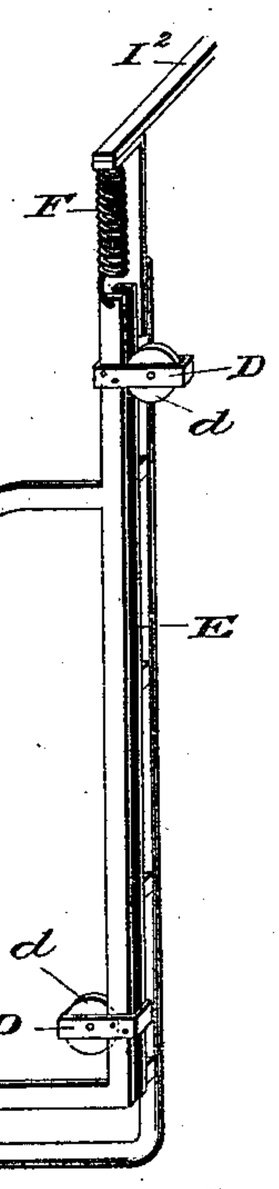
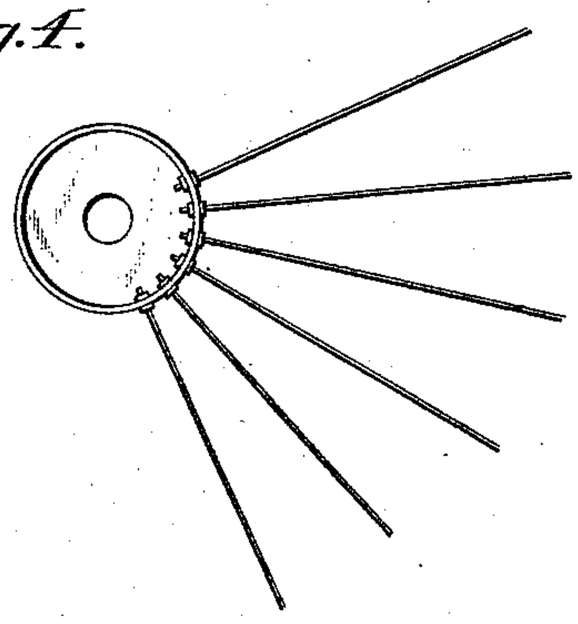


Fig. 4.



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I William H. Rudy
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By his Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM HENRY RUDY, OF HAGERSTOWN, MARYLAND.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 408,634, dated August 6, 1889.

Application filed November 9, 1887. Serial No. 254,719. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY RUDY, a citizen of the United States, residing at Hagerstown, in the county of Washington and State of Maryland, have invented certain new and useful Improvements in Velocipedes, of which the following is a specification.

The invention relates to that class of velocipedes known as "tricycles;" and it consists in the novel features of construction and combination to be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a tricycle embodying my invention. Fig. 2 is a rear view of the same. Fig. 3 is a perspective detail of one of the treadle-bars and its supports. Fig. 4 is a view of a portion of one of the drive-wheels.

The side bars I of the frame are arranged at a proper distance apart and provided at front with two bridge-pieces *i* and *i'*, having bearings to receive the steering-pin or center pin T of the fork O of the front or guiding wheel. Encircling the center pin T is a spiral spring L, the ends of which bear upon the top of the front fork and lower bridge *i'* to cushion shocks or jars occasioned by the unevenness of the road. From a point just below the steering-head the side bars are curved to the rear and downward, and extend thence horizontally to the rear of the drive-wheel axle, and thence vertically, as shown in Figs. 1 and 3. The side bars are braced together at the rear by means of tie-rods. Rigidly secured to the vertical rear ends of the side bars I are diagonal braces J, extending outward toward the wheels and provided at the point of junction with boxes K, inclosing coiled springs *k*, the lower ends of which bear upon the journals of the crank-axles C, thus interposing a cushion between the axle and the rear end of the frame to take up jars occasioned by the unevenness of the road. From the side bars I project horizontal and vertical bracket-arms *v v'* to support the rider's seat V.

The axle C is provided with two oppositely-arranged bell-cranks *c*, each connected by a pitman B with one of the pedal-bars A. These bars are L-shaped, as shown, the short arms thereof being provided with guide-loops D, which embrace vertical guide-bars E, secured to and supported by the vertical members of the side bars I of the frame. These guide-loops D are provided with friction-rolls *d*, which travel on the front and rear edges of the guide-bars E to reduce friction. The longer horizontal arms of the pedal-bars A are provided with pedals or footholds, and their forward ends are supported against lateral movement by guide-straps I', secured at their ends to the side bars of the frame.

Secured to the upper ends of the vertical members of bars I is a cross-bar I^2, to which the upper ends of two coiled springs F are connected, the lower ends thereof being connected to the short or vertical arms of the pedal-bars A. These springs are designed to lift the pedal-bars at their normal or highest position after depression by the foot of the rider. To the center pin T is secured one end of a steering-bar S, the rear end of which terminates near the seat and is fitted with handles, as shown.

To the center of the crank-axle C is secured two weighted arms H, arranged to project from the axle at an angle to the cranks and tending to carry the cranks off their dead-centers in the operation of the machine.

The ends of the crank-axle are fitted with wheels, as shown, one or both of which should be keyed or otherwise rigidly secured, in order that the rotation of the axle result in the forward or backward movement of the machine.

I claim—

1. The combination, substantially as described, of the side bars of the frame, bridges *i i'*, carrying bearings, the center pin journaled in said bearings, a coiled spring interposed between the top of the fork and the lower bridge, and a steering-bar secured at its forward end to the center pin between the bridges.

2. The combination, substantially as set forth, of the steering-wheel, the crank-axle and its wheels, the frame supported by the wheels, the pedal-bars sliding vertically on the frame, and the guide-loops secured to the pedal-bars and embracing the frame.

3. The combination, substantially as described, of the steering-wheel, the crank-axle and its wheels, springs interposed between wheels and frame, the vertically-sliding pedal-

bars and their pitmen, and guide-loops secured to the pedal-bars and embracing the frame.

4. The combination, substantially as described, of the steering-wheel, the crank-axle and its wheels, the frame, the guide-bars secured to the frame, the vertically-sliding pedal-bars and their pitmen, and guide-loops secured to the pedal-bars and embracing the guide-bars of the frame.

5. The combination, substantially as described, of the wheels and their axles, the frame mounted thereon and provided with vertical guide-bars, the pedal-bars and their pitmen, guide-loops secured to the pedal-bars to embrace the guide-bars of the frame, and friction-rolls journaled in the guide-loops to run in contact with the guide-bars.

6. The combination, substantially as described, of the wheels and their axles, the frame, the vertically-sliding pedal-bars and their pitmen, and springs connecting the pedal-bars with the side bars of the frame.

7. The combination, substantially as described, of the steering-wheel, the crank-axle and its wheels, a weighted arm secured to the crank-axle at an angle to the cranks, the frame, the vertically-sliding pedal-bars, and the pitmen and springs connecting the pedal-bars with the side bars of the frame.

WILLIAM HENRY RUDY.

Witnesses:
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