

(No Model.)

M. STERNBERG.
RAILWAY VELOCIPEDE.

No. 545,746.

Patented Sept. 3, 1895.

Fig. 1.

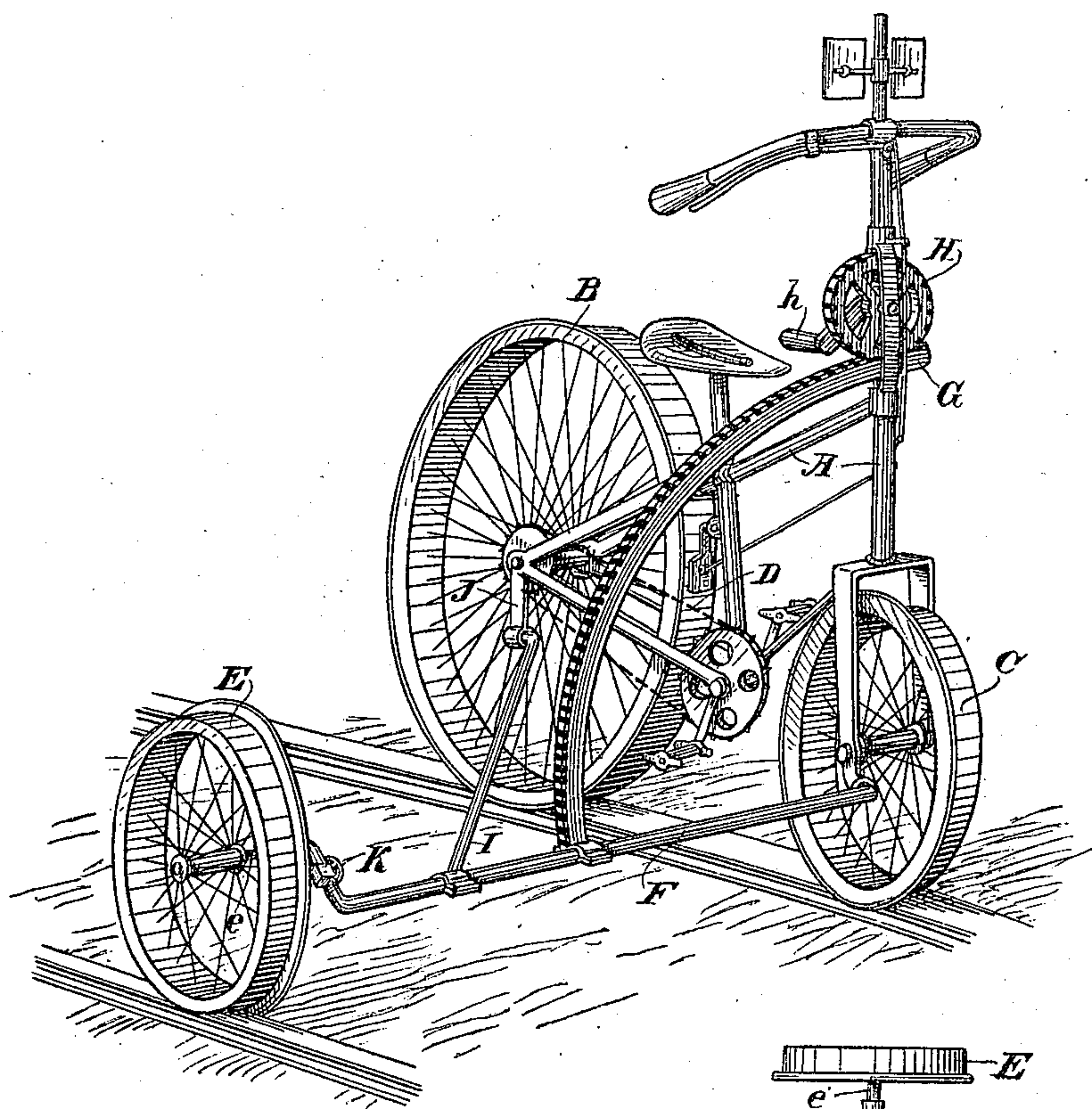


Fig. 2.

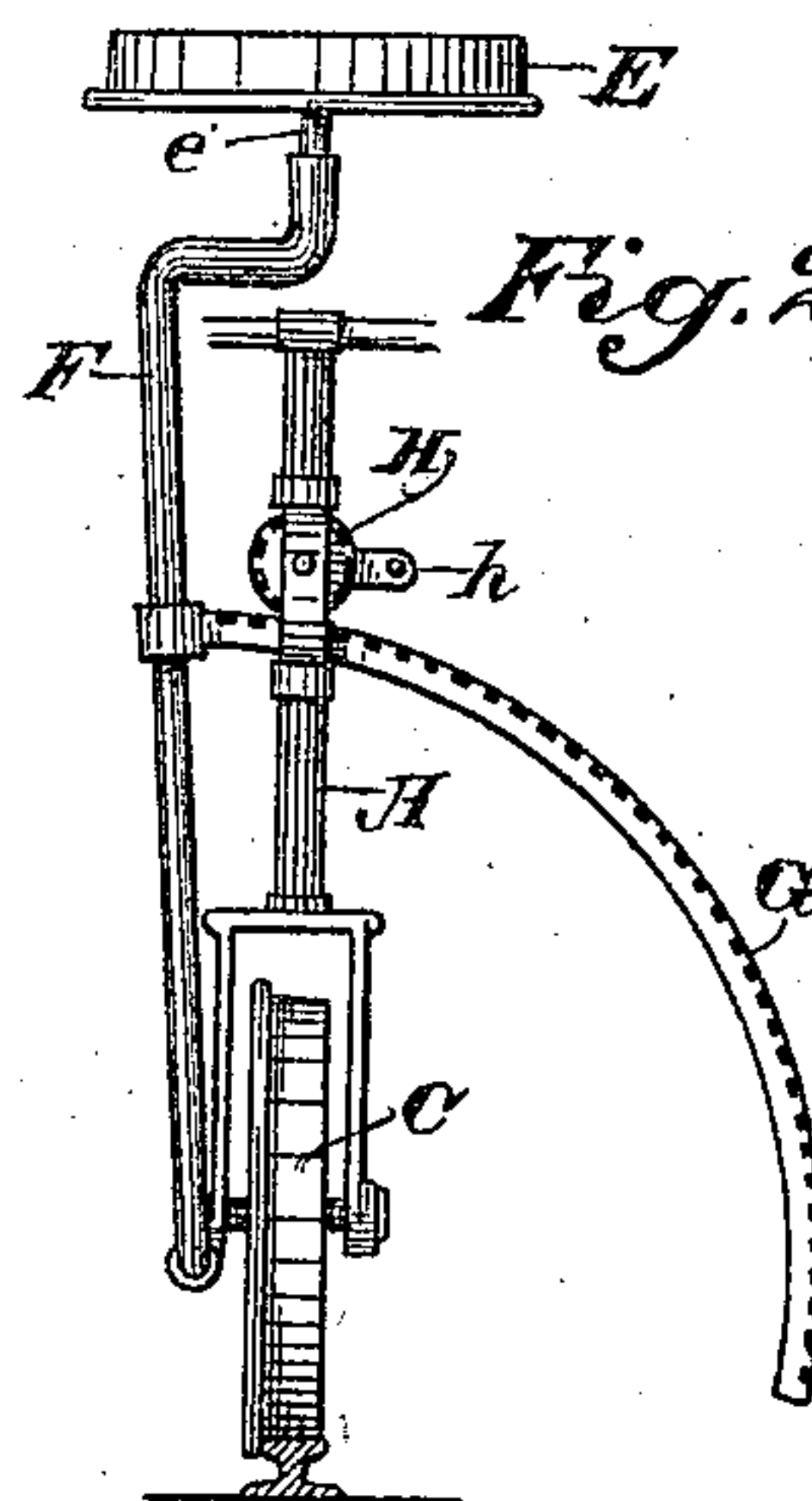
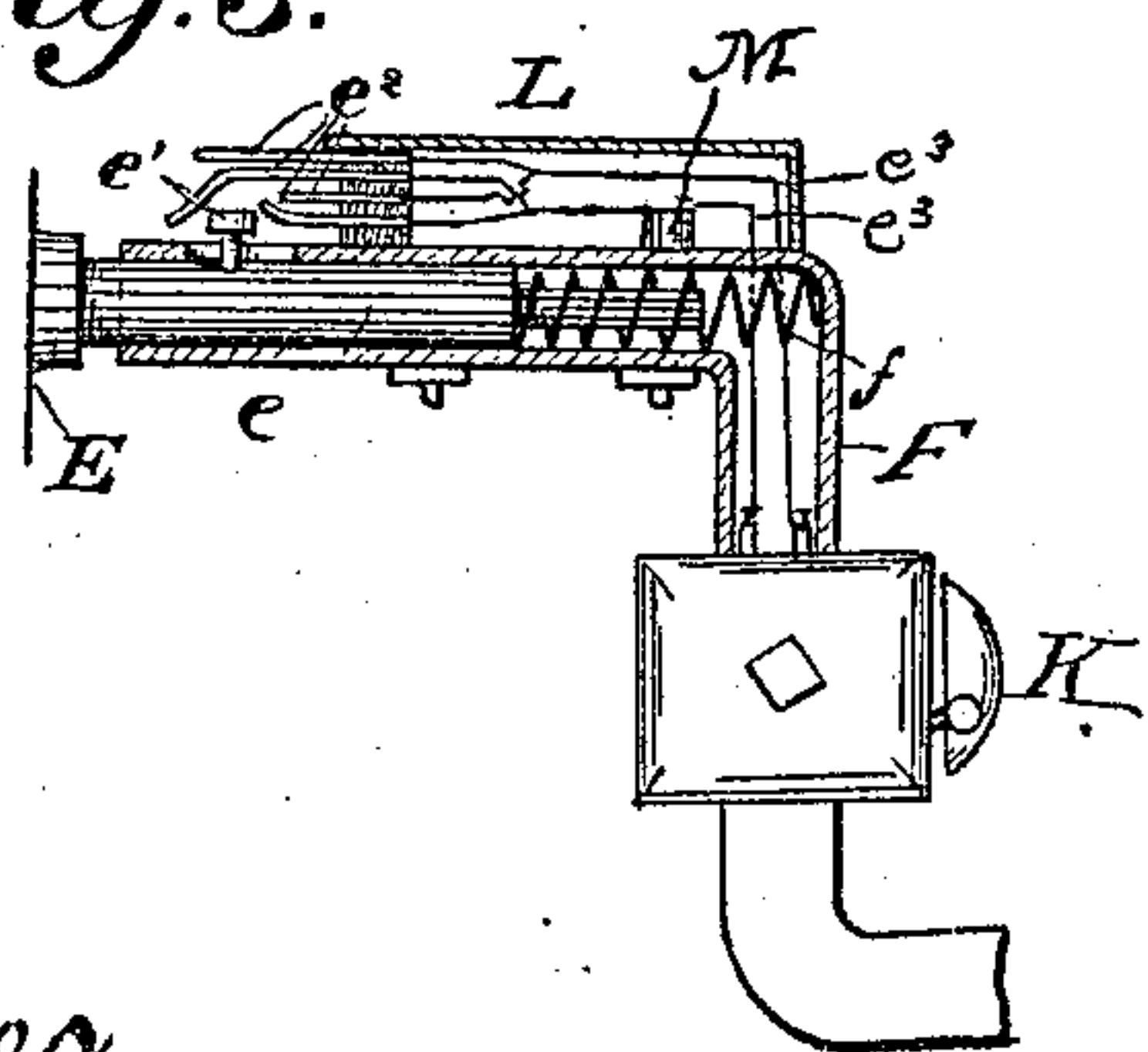


Fig. 3.



Witnesses,
B. H. H. H.
J. F. Elschek

Inventor,
Max Sternberg
By Dewey & Co. atty

UNITED STATES PATENT OFFICE.

MAX STERNBERG, OF CREFELD, GERMANY.

RAILWAY-VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 545,746, dated September 3, 1895.

Application filed May 27, 1895. Serial No. 550,841. (No model.)

To all whom it may concern:

Be it known that I, MAX STERNBERG, a subject of the Emperor of Germany, residing at Crefeld, Germany, have invented an Improvement in Railway-Velocipedes; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to that class of velocipedes especially adapted for travel along the rails of a railway and used by track-walkers and others having charge of the road-bed.

My invention consists of the constructions, arrangements, and combinations of devices hereinafter described and claimed.

The main object of my invention is to provide a railway-velocipede which can be quickly made to occupy but a very small or narrow space, in order that it may be taken out of the way instantly and in situations where the space is very limited—as between two tracks, in tunnels and narrow cuts, on bridges and trestles—and by this capability adapt the machine for operation and use at times when it would otherwise be dangerous or unadvisable to proceed upon the road with a machine.

Another object of my invention is to determine any variation in the gage of the tracks.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a perspective view of my velocipede ready for use. Fig. 2 is a front view showing it in a vertical position out of the way. In this view the rear wheel is purposely omitted to avoid confusion. Fig. 3 is a detail of the gage-alarm.

The main portion or what may be termed the "bicycle part" of the velocipede consists of a suitable frame designated generally by A, which unites a rear wheel or driver B with a front wheel C, the rear wheel being driven by means of the usual endless chain D, operating between sprocket-wheels in the usual manner.

E is the outer or balancing wheel of the machine, adapted to travel upon the other rail. This wheel is connected with the remaining portion of the velocipede in such a manner that it may be turned from a horizontal or working position to a vertical position. The means for thus mounting the wheel consists

of the shaft or axle F, upon one end of which the wheel is mounted, and which has its other end extending over toward, but entirely free of, the remaining or main portion of the velocipede. In this instance it extends over toward and lies very near to the hub of the wheel C. Rising from this axle is a curved or segment rack G, which passes in engagement with a pinion H, seated in the head of the main portion of the machine and adapted to be rotated by means of a suitable crank-handle h. The engagement of the rack and pinion is maintained by means of a suitable guide in the head, through which the rack passes.

In order to further brace and support the axle or shaft F, there is a brace-arm I extending rearwardly from it and pivoted to a downwardly-extending hanger J from the rear of the main frame A. Now, it will be seen that when in a horizontal or working position the outer wheel is held rigidly and firmly; but when it becomes necessary to so fold the machine as to occupy but a small space the rider, by turning the crank-handle, causes the pinion to operate the rack and thereby to turn the shaft or axle to a vertical position with the wheel standing up beside the machine. In this condition the machine is very narrow and can occupy a limited space.

The wheels may be covered with rubber, so that they are noiseless and an approaching train can be heard. By having the outer wheels adjustable curves in track may be safely passed, as the wheel can be adjusted to the different heights of the rails.

In order to give notice of the variation in the gage of the track, the wheel E is mounted on the axle F in such a manner that it will slide in and out to conform to the gage, and by this movement it is made to sound an alarm. I have illustrated this in Fig. 3, where, it will be seen, the wheel E has a spindle e, which telescopes in the tubular outer end of axle F and is controlled by a spring therein. A button e', rising from spindle e and playing in a slot in axle F, is adapted to make electrical connection between two sets of electrodes e² in either direction, and said electrodes may be supposed to connect electrically with a bell placed in any suitable position, such as I have indicated at K in Fig. 1.

On the axle F is a casing or housing L, having a battery M. The wires e^3 extend from the electrodes e^2 and include the bell K and battery M in the circuit. These electrodes
 5 are in pairs, one pair being adapted to be brought into contact by the button e' when the wheel moves outwardly under the effect of a wider gage, and the other pair is adapted to be brought into contact when the button e'
 10 moves inwardly, when the wheel moves inwardly to a narrower gage.

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

15 1. A railway velocipede, having an outer or balancing wheel connected with the main portion by a joint whereby said wheel may be turned from a horizontal or working position to a vertical position out of the way, a curved
 20 bar connected with the support of the wheel, and slidably mounted in the main frame of the machine, and means for engaging said bar to effect the change of position of the wheel.

25 2. In a railway velocipede and in combination with the main or bicycle portion thereof, an outer or balancing wheel, and a connection comprising a curved rack and engaging pinion between said wheel and the main portion
 30 enabling the wheel to be swung from a horizontal to a vertical position to be out of the way and permit the machine to occupy a limited space.

35 3. In a railway velocipede, the combination of a main wheeled frame, the outer or balancing wheel, the axle or shaft of said wheel free at its inner end, the curved or segment rack of said axle or shaft, and the pinion on the main frame engaging and operating said
 40 rack, whereby the outer or balancing wheel may be thrown to a vertical position out of

the way, to permit the machine to occupy a limited space.

4. In a railway velocipede, the combination of a main wheeled frame, the outer or balancing wheel, the axle or shaft of said wheel
 45 free at its inner end, the curved or segment rack of said axle, the pinion on the main frame engaging and operating said rack whereby the outer or balancing wheel may be
 50 thrown to a vertical position out of the way to permit the machine to occupy a limited space, and the hinged brace of the axle or shaft connected with the rear of the frame of the machine.

55 5. In a railway velocipede, the combination, with the main wheeled frame, of an axle or shaft jointed thereto so that it may be moved from an approximately vertical to a horizontal position and vice versa, said axle or shaft
 60 having a tubular outer end, and a balancing wheel having a spindle slidably mounted in the outer end of the shaft whereby it automatically conforms to the changes of gage, and an alarm mechanism actuated by said
 65 wheel in its sliding movement.

6. In a railway velocipede, the combination with a wheeled frame, of an axle extending across the road-bed, and having a tubular
 70 outer end, a balancing wheel having a spindle telescoping in said tubular outer end, a spring to control the sliding movement of the wheel, a bell and electrodes in circuit therewith, and a means on the wheel spindle for operating the electrodes.

In witness whereof I have hereunto set my hand.

MAX STERNBERG.

Witnesses:

RICHARD THOMAS,
 FERDINAND STEDUEMANN.