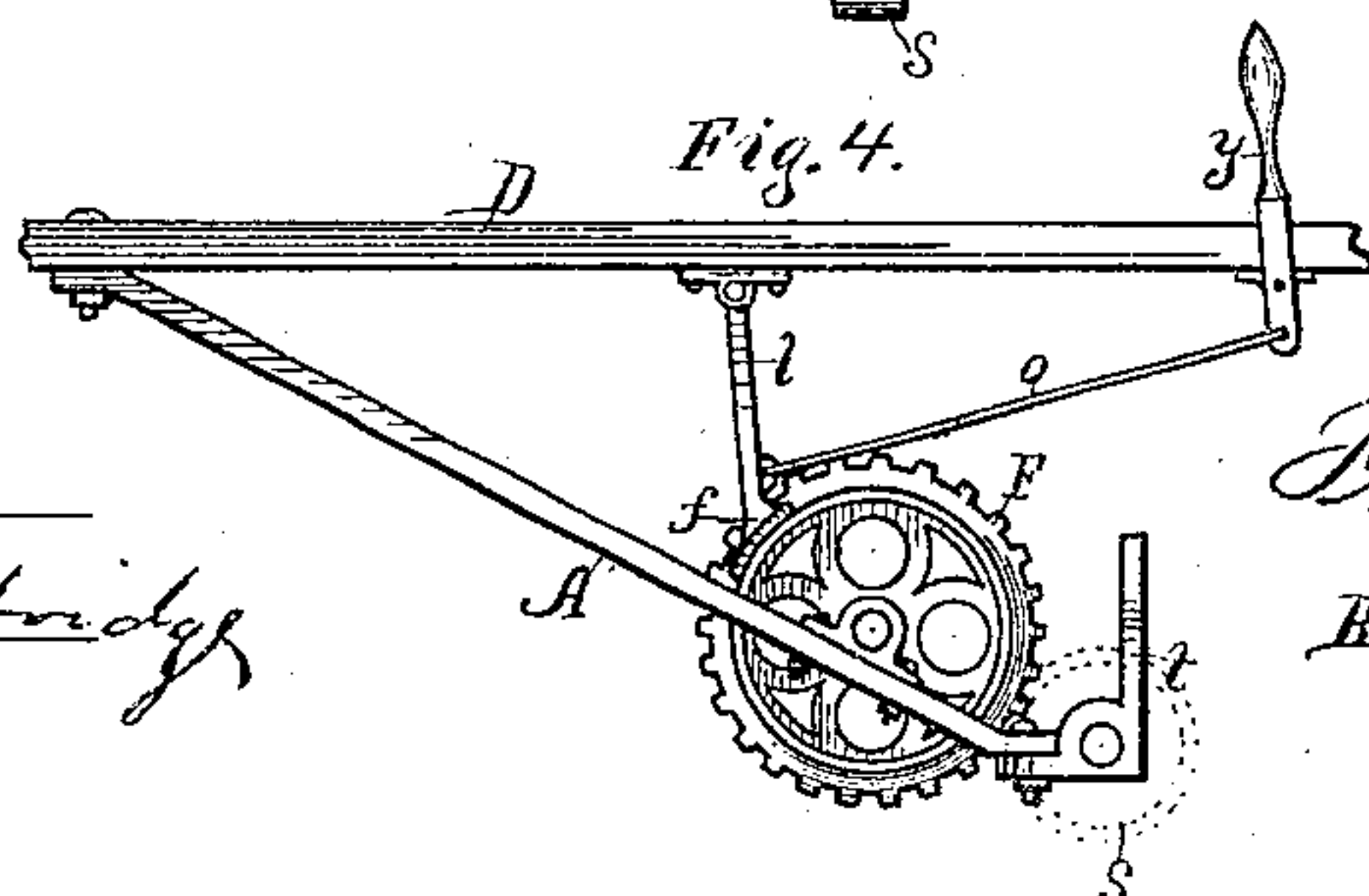
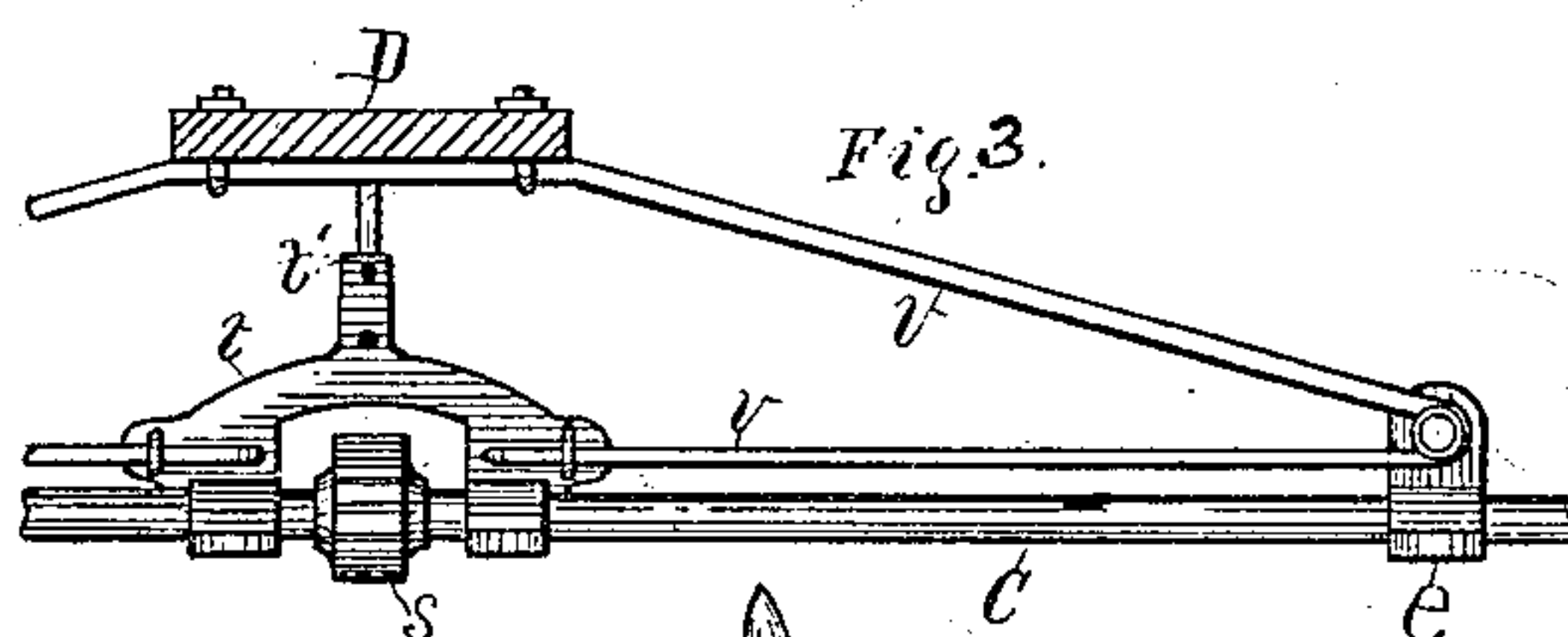
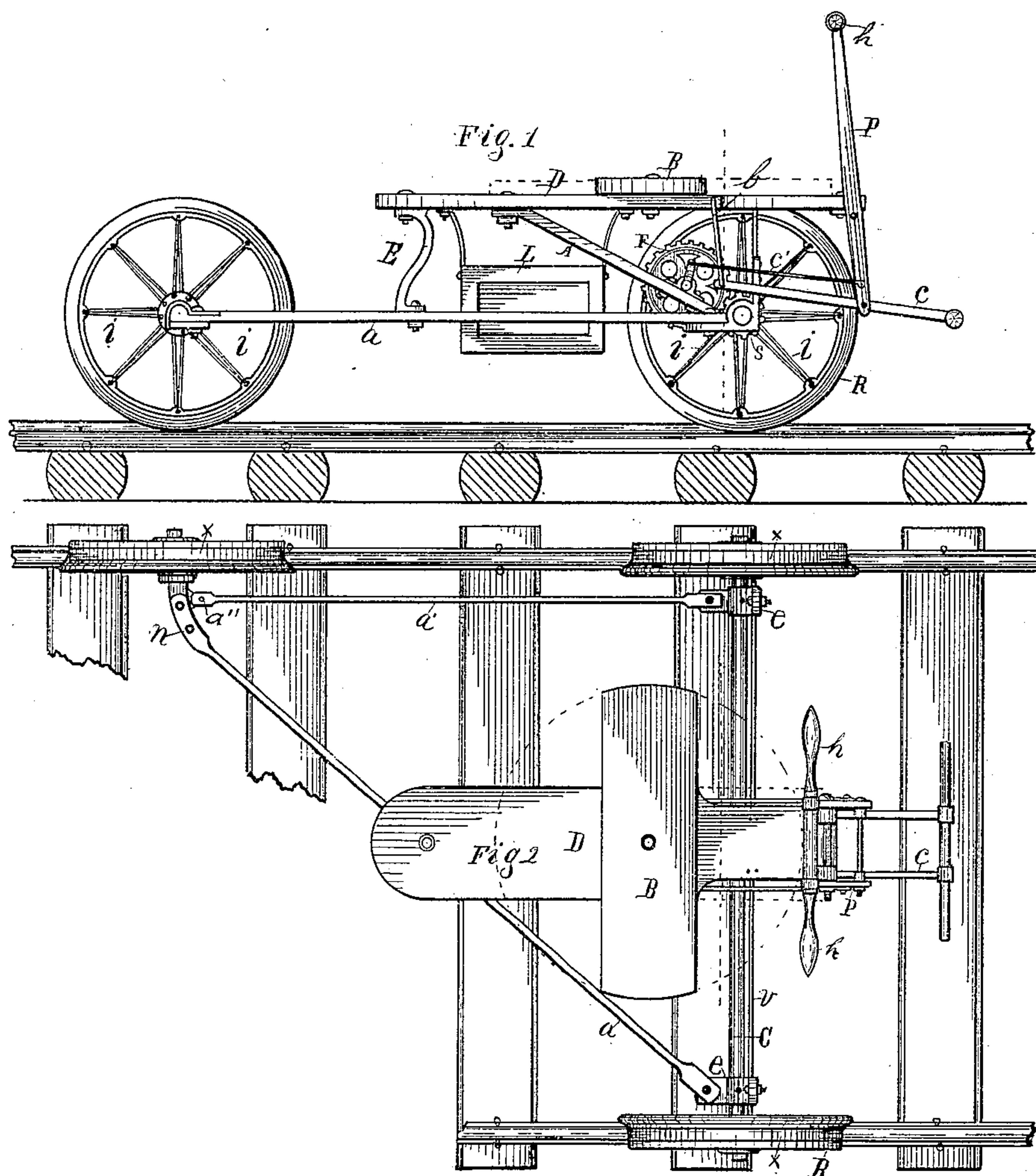


(No Model.)

F. W. RANDALL.  
RAILWAY VELOCIPEDE.

No. 270,480.

Patented Jan. 9, 1883.



*Arrest.*

John C. Perkins

Samuel E Walbridge

*Inventor:*

Francis H. Randall

By Lucius C. West

Atty-



# UNITED STATES PATENT OFFICE.

FRANCIS W. RANDALL, OF TEKONSHA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO WM. E. HILL AND GEORGE W. MILLER, BOTH OF KALAMAZOO, MICHIGAN.

## RAILWAY-VELOCIPED.

SPECIFICATION forming part of Letters Patent No. 270,480, dated January 9, 1883.

Application filed July 25, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, FRANCIS W. RANDALL, a citizen of the United States, residing at Tekonsha, (Burlington P. O.,) county of Calhoun, State of Michigan, have invented a new and useful Railway-Velocipede, of which the following is a specification.

My invention has for its object to so construct a three-wheel velocipede that its operation and movement shall not be retarded by the usual friction and side draft of the brace (or single) wheel in prior devices; that it shall have greater driving or propelling capacity, and all danger of upsetting obviated. Other objects are explained in the detailed description.

In the drawings forming a part of this specification, Figure 1 is a side elevation; Fig. 2, a top view; Fig. 3, a broken detached front view, hereinafter explained; and Fig. 4 is a detached portion, showing a brake device in connection with the gear-wheel.

The axle C, bearing the two driving-wheels R R, has bearings at each end in castings *ee*, and is provided with a pinion, *s*, in the center. With the end castings, *ee*, are jointly connected bars *a a'*, which converge to the rearward and meet where they terminate in an axle bearing the brace-wheel. These bars *a a'* are detachably bolted at *a''*, by which means they may be disconnected at this point and the two bars swung around against the axle C, thus closing the device. The frame is completed by the forward truss, *r r*, which also connects with the castings *ee*, Fig. 3. The upper part of the truss supports the forward end of the seat-board D, located half-way between the two driving-wheels on either rail. The lower rod of the truss *r* is broken in the center, the ends being secured to the bridge *t*, which rises above to clear the axle-pinion *s*, and is provided with a center bearing to said axle C. An upright extension, *t'*, connects the bridge with the truss-rod under seat D.

F is a gear-wheel provided with a crank and a rod, *e'*, connecting it with the foot-treadle *e* and hand-lever P, said foot-treadle being suspended at the rear end by swing-bar *b*, all substantially as in Fig. 1.

A velocipede thus provided with means for propelling the same, located in the center of the two forward wheels, one on each rail, and the same being driving-wheels, is equally balanced on the track by the weight of the operator, and cannot become accidentally upset. It will be observed, also, that the forward wheels are driven, which wheels draw the device instead of pushing it; that the brace-wheel follows in the rear, exerting no side draft, which it would do were this the driven wheel and the right-hand wheel the brace-wheel, and that power is applied to the revoluble shaft C in the center, which exerts a like effect on each driving-wheel.

The rear end of the seat-board D is supported by brace E. A is an oblique bar and brace, supporting the bearing of the gear F. L is a box supported beneath seat D, which is designed for carrying an electric battery as a power for running the velocipede.

B is an adjustable seat pivoted to seat D in a manner to be swung in position shown in Fig. 2, when two persons may ride, facing the front and propelling the device, one being on each end of seat B.

Y is a pivoted brake-lever, and *l* a brake-arm, provided at the lower end with brake-shoe *f* and hinged at the upper end to seat-board D. Rod *o* is jointly connected with said lever Y and arm *l*. The brake-shoe *f* is set bracing or wedging to the surface which it engages, the same being the periphery of a side extension to the gear F. By means of a brake thus arranged the operator can readily and effectually brake the device by retarding the motion of the revoluble axle C.

Having thus described my invention, what I claim as new is—

1. In a three-wheel velocipede, the revoluble axle having the center pinion, a drive-wheel secured at each end, and means for coacting with said pinion to propel the device, in combination with a brace-wheel located in the rear of one of said drive-wheels, all substantially as set forth.

2. A velocipede having two drive-wheels rigidly secured to a revoluble axle, and a brace-

wheel located on a line with one of said drive-wheels and at right angles to said axle, substantially as set forth.

3. The combination, with the frame, of a seat  
5 consisting of the base-board and the double seat revolvably pivoted thereon, substantially as set forth.

4. The combination, with the revoluble axle,  
10 provided with the drive-wheels at each end and having the center pinion, of the gear having the side extension, and the brake device having the shoe adapted to engage the periphery of said extension, all substantially as described.

5. The frame consisting of the two side bars  
15 and the forward truss and bridge, constructed and arranged substantially as set forth.

6. In a velocipede, the side bars jointedly connected with the forward bar and detachably connected at the rear, whereby they may be swung around parallel with the axle, closing the device, substantially as set forth. 20

7. In a combined hand and foot treadle, the hand-lever and foot-treadle pivoted together, said hand-lever being connected by a rod to the gear-crank, and the rear end of the foot- 25 treadle suspended by a rod to the seat-board, substantially as set forth.

FRANCIS W. RANDALL.

Witnesses:

JOHN H. CHASE,  
WM. E. HILL.