

(No Model.)

2 Sheets—Sheet 1.

I. E. STUMP.
RAILROAD VELOCIPEDE.

No. 436,811.

Patented Sept. 23, 1890.

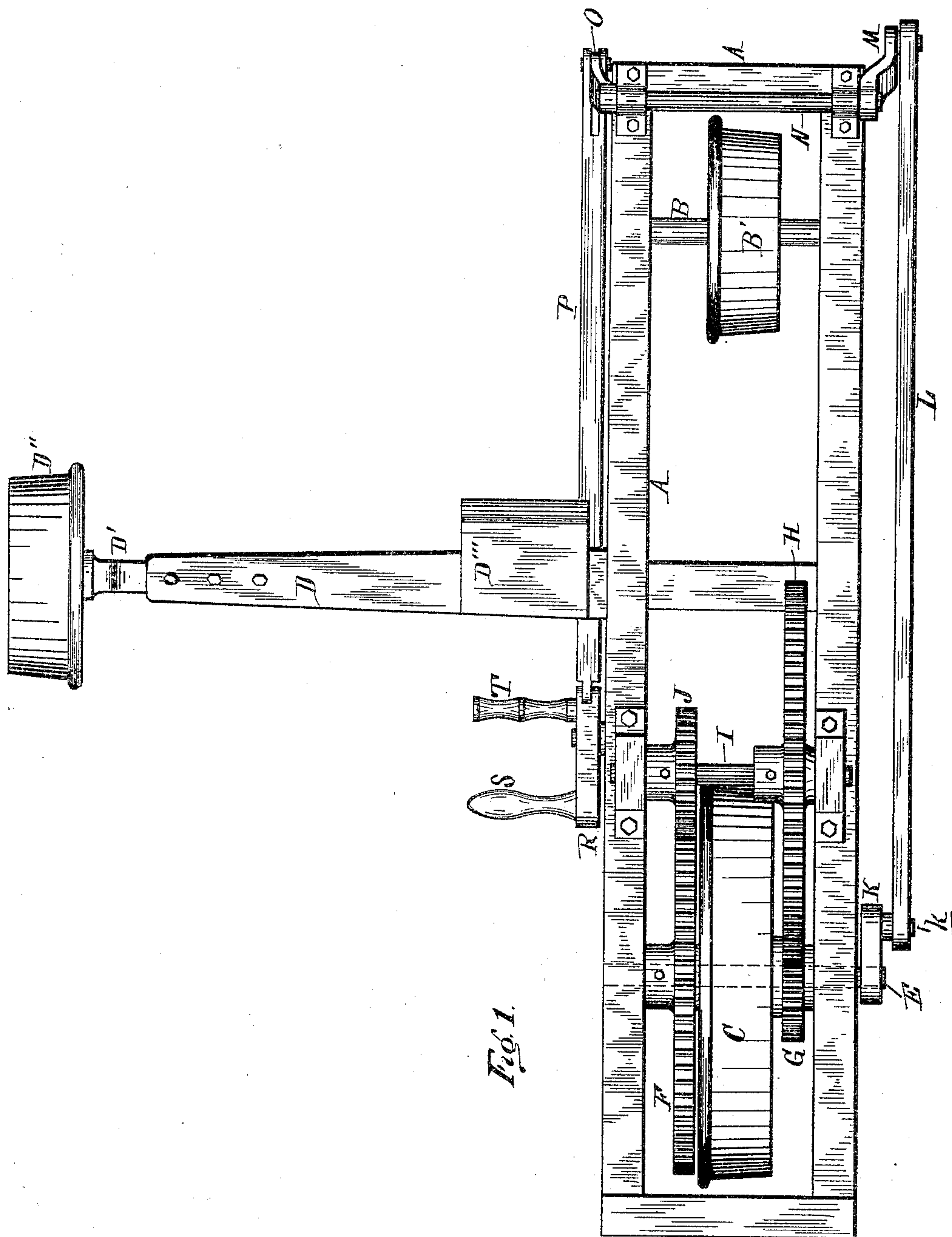


Fig. 1.

Witnesses
C. J. Cross.
Mary H. Johnson

Inventor
Ira E. Stump
By his Attorneys Osborn & Co

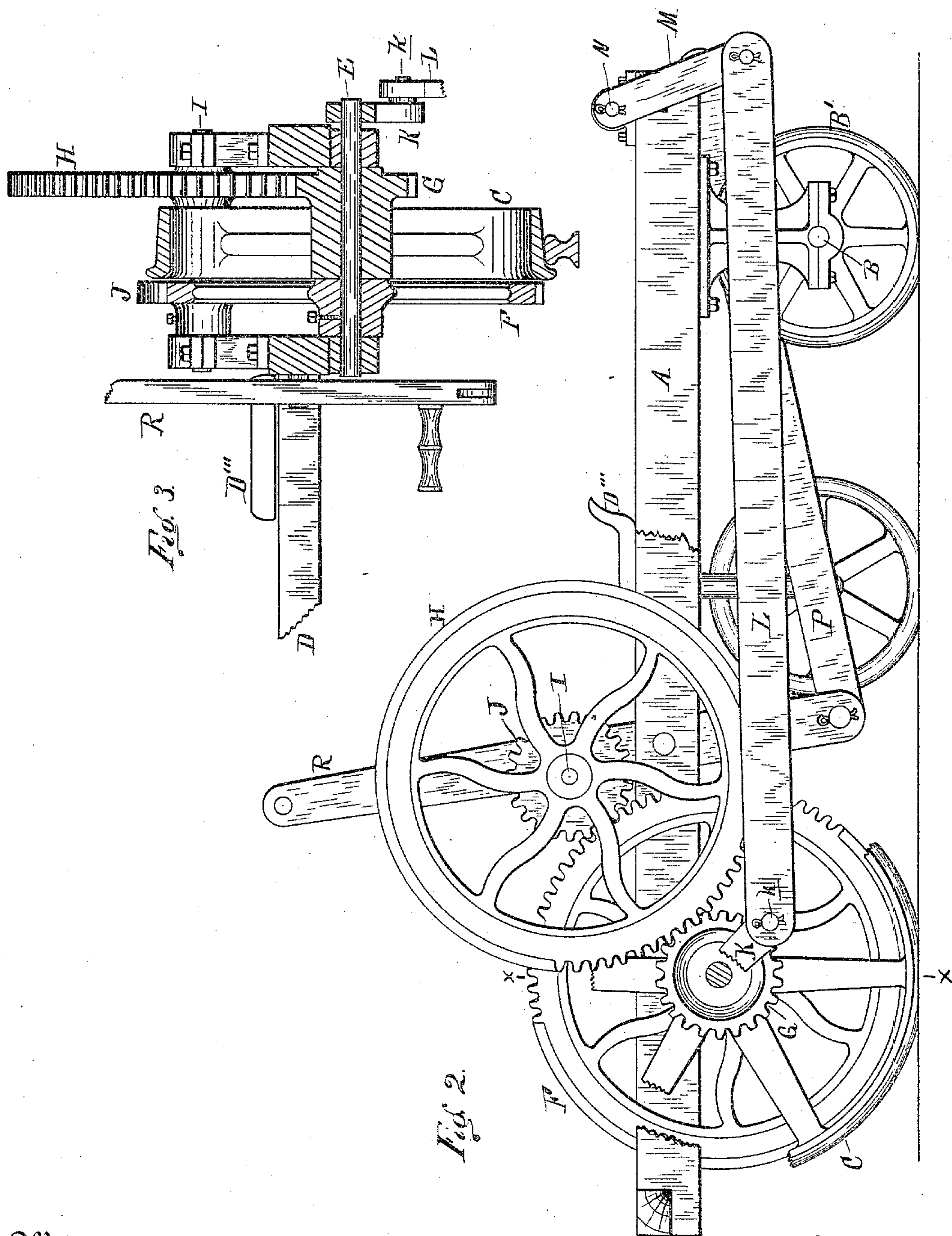
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2 Sheets—Sheet 2.

I. E. STUMP.
RAILROAD VELOCIPED.

No. 436,811.

Patented Sept. 23, 1890.



Witnesses
C. J. Cross.
Henry H. Johnson.

Inventor
Ira E. Stump
By his Attorneys Osborne & Co

UNITED STATES PATENT OFFICE.

IRA E. STUMP, OF CLEVELAND, OHIO, ASSIGNOR OF ONE-HALF TO CALVIN S. PIERCE, OF SAME PLACE.

RAILROAD-VELOCIPED.

SPECIFICATION forming part of Letters Patent No. 436,811, dated September 23, 1890.

Application filed February 24, 1890. Serial No. 341,585. (No model.)

To all whom it may concern:

Be it known that I, IRA E. STUMP, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Railroad-Velocipedes, of which the following, with the accompanying drawings, is a specification.

My invention relates to certain new and useful improvements in railway-velocipedes.

The object of the invention is to provide a velocipede especially designed for use upon railroads, whereby increased speed may be obtained at the minimum expenditure of power.

The invention consists in the peculiar construction, arrangement, and various combinations of the parts, all as more fully hereinafter set forth, and pointed out in the claims.

Figure 1, Sheet 1, is a top plan of my improved velocipede. Fig. 2, Sheet 2, is a side elevation, with the frame partially broken away to the more clearly show the operating parts. Fig. 3, Sheet 2, is a vertical cross-section on the line $x-x$ in Fig. 2.

In the accompanying drawings, which form a part of this specification, A represents a rectangular frame. In the rear portion of this frame is journaled in proper bearings an axle B, upon which is secured the flanged trail track-wheel B'.

In the forward portion of the frame A is located the main track drive-wheel C, the mounting and connections of which, with the driving mechanism, will be hereinafter fully described.

D is an outrigger, removably or rigidly secured to the frame A, as may be desired, but preferably at or about its longitudinal center. The outer or free end of this outrigger carries a suitable stub-axle D', upon which is mounted the flanged track-wheel D''.

D''' is a seat mounted upon the outrigger bar and upon which the operator sits when propelling the velocipede.

E is a rotatable shaft journaled laterally across the forward portion of the frame A, and upon this shaft is secured the gear-wheel F, and loosely mounted upon this said shaft is the main track and drive wheel C. The hub of this wheel C is enlarged and elongated,

as shown, and carries a pinion G, which is adapted to mesh with the gear-wheel H upon the counter-shaft I, which also carries a gear-wheel or pinion J, designed to mesh with the gear-wheel F upon the axle E. The relative sizes of the intermediate gear (illustrated in the drawings) is such that as the axle E makes one revolution the main track-wheel C will revolve sixteen times, but it must not be understood that I desire to confine myself to the particular ratio in sizes and revolution shown and described.

To one end of the rotatable axle E is secured a crank-arm K, to the crank-pin k of which is connected one end of the connecting-rod L, the opposite end of which is connected to the rocker-arm M of the rock-shaft N, journaled laterally across the rear end of the frame A. The opposite end of this rock-shaft N also carries a rocker-arm O, to which is connected one end of the pitman P, the opposite end of which is in turn connected to the lower end of the actuating-lever R, pivotally secured to the side of the frame A, as is clearly shown in Figs. 1 and 2 of the drawings. This actuating-lever is provided with a hand-hold S and a foot-rest T, both of which may be utilized in oscillating the lever.

It will be observed that on an oscillating movement being given to the actuating-lever R a rocking motion is, through the medium of the pitman P, connected to the rock-shaft N. This rocking movement, through the connecting-rod L and the crank K, rotates the shaft E, and this latter motion is conveyed through gear-wheel F to the pinion J upon the counter-shaft I, and thence to the gear-wheel H, the pinion G, and the main drive track-wheel C. By this construction and arrangement of parts it will rapidly be seen that the velocipede can be rapidly driven over the track, and with but a slight exertion upon the part of the operator seated upon the seat D'''.

What I claim as my invention is—

1. In a railway-velocipede, the combination of the main frame provided with two track-wheels and an outrigger, with an actuating-lever connected to a rock-shaft journaled laterally across said frame, a rotatable axle, a connecting-rod between said rock-shaft and said rotatable axle, and a chain of multiplying

gear interposed between said rotatable axle and the main drive track-wheel loosely journaled upon said rotatable axle, substantially as and for the purposes described.

5 2. In a railway-velocipede, and as a means for rotating the main axle, the combination of the main frame, an actuating-lever pivotally secured to said main frame, a pitman-connection between such actuating-lever and one end
10 of a rock-shaft, and a connecting-rod connecting the opposite end of said rock-shaft with the rotatable axle, substantially as described.

3. In a railway-velocipede, the combination of a rotatable axle carrying a gear-wheel engaging with a pinion secured upon a counter-shaft, and a gear-wheel on said counter-shaft meshing with a pinion secured upon the hub of the main drive track-wheel, which is loosely
15 journaled upon the said rotatable axle, the whole being adapted to impart rotation to the said main drive track-wheel, substantially as
20 set forth.

4. The combination of the main frame A, provided with the main drive track-wheel C and a trail track-wheel B', an outrigger D, 25 carrying a track-wheel D'', the actuating-lever R, pitman P, rock-shaft N, connecting-rod L, and crank K, as a means for rotating the rotatable axle E, substantially as described.

5. The combination, in a railway-velocipede, 30 of the rotatable axle E, carrying a gear-wheel F, a pinion J, and gear-wheel H, mounted upon the counter-shaft I, and the main drive track-wheel C, carrying a pinion G, the parts being constructed, arranged, and operating 35 substantially in the manner and for the purpose set forth.

In testimony whereof I affix my signature, in presence of two witnesses, this 11th day of February, 1890.

IRA E. STUMP.

Witnesses:

JOSEPH A. OSBORNE,
C. J. CROSS.