

No. 750,247.

PATENTED JAN. 26, 1904.

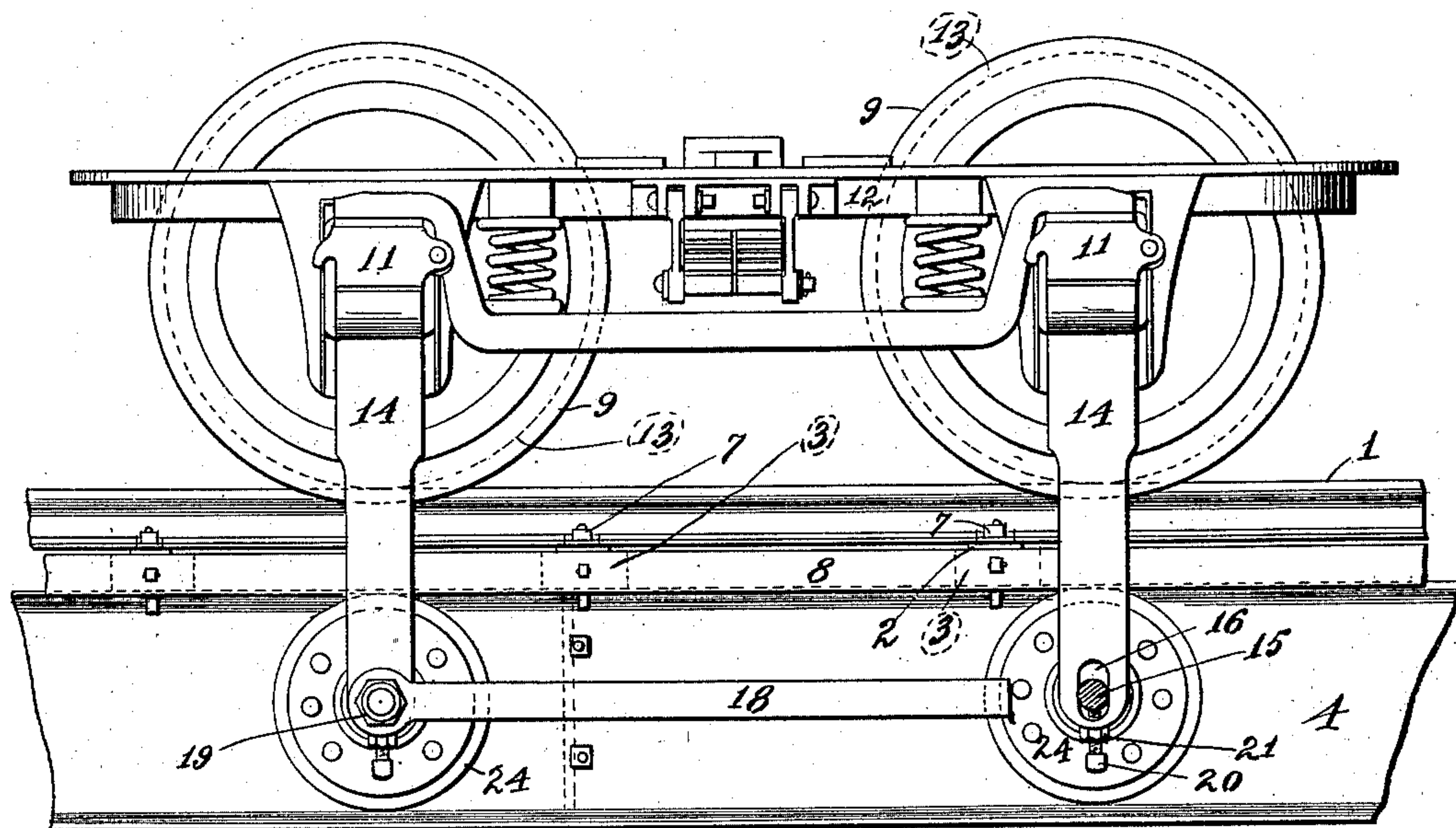
L. BEECHER.  
MONORAILWAY AND TRUCK THEREFOR.

APPLICATION FILED MAR. 6, 1903.

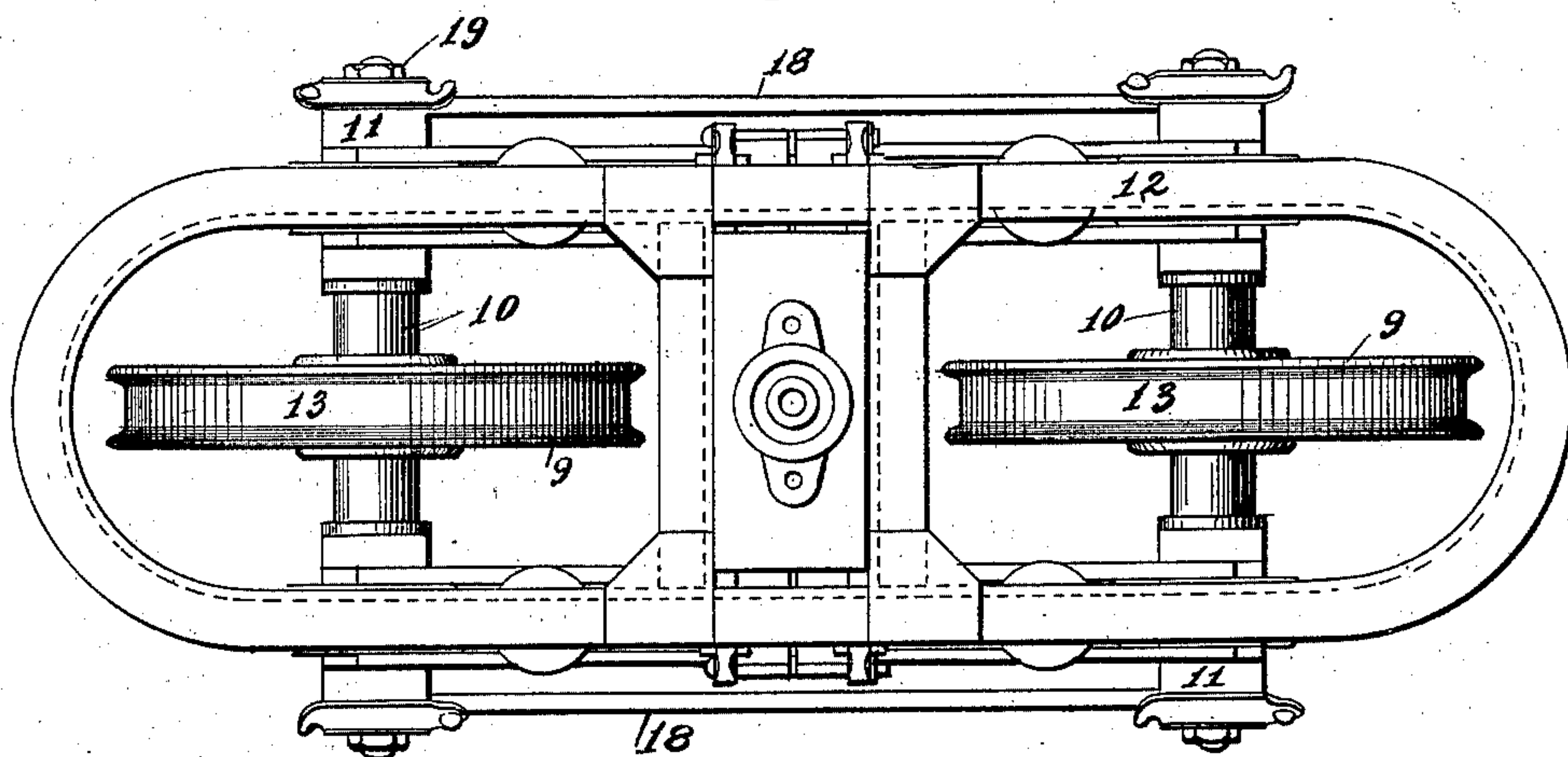
NO MODEL.

2 SHEETS—SHEET 1.

*Fig. I.*



*Fig. II.*



*Attest:*  
Edw. L. Dillon  
J. B. Megown

*Inventor:*  
Lina Beecher,  
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Att'ys.

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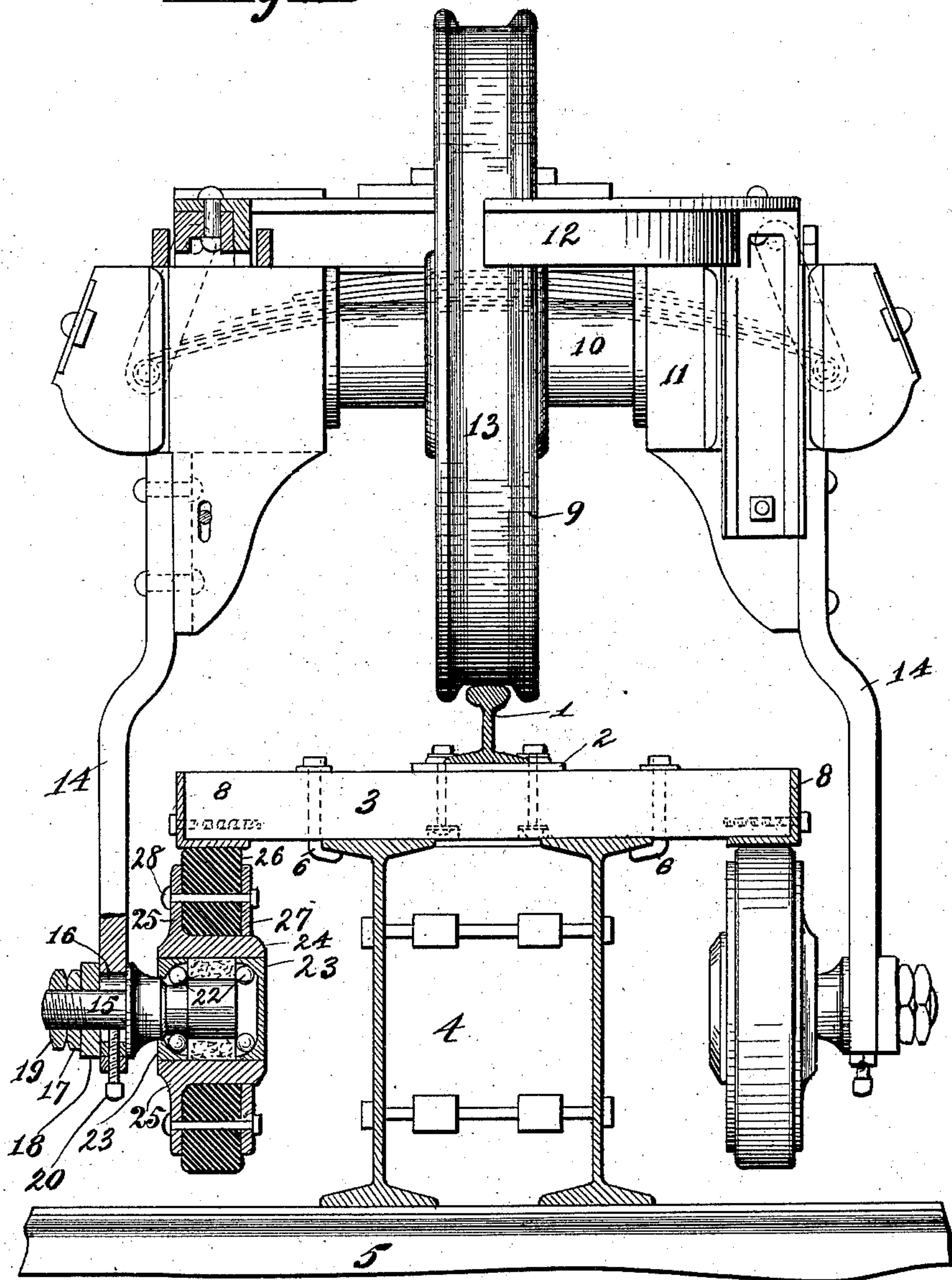
MONORAILWAY AND TRUCK THEREFOR.

APPLICATION FILED MAR. 6, 1903.

NO MODEL.

2 SHEETS—SHEET 2.

*Fig III.*



Attest:

Edw. L. Dillon

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*Inventor:*

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# UNITED STATES PATENT OFFICE.

LINA BEECHER, OF BATAVIA, NEW YORK, ASSIGNOR TO BEECHER CONSTRUCTION COMPANY, A CORPORATION OF MISSOURI.

## MONORAILWAY AND TRUCK THEREFOR.

SPECIFICATION forming part of Letters Patent No. 750,247, dated January 26, 1904.

Application filed March 6, 1903. Serial No. 146,541. (No model.)

*To all whom it may concern:*

Be it known that I, LINA BEECHER, a citizen of the United States, and a resident of Batavia, county of Genesee, and State of New York, have invented a new and useful Improvement in Monorailways and Trucks Therefor, of which the following is a specification.

My invention relates to monorailways, and has for its principal objects to secure smooth running of the trucks and to increase the safety and durability of the system.

My invention consists in the arrangements and combinations of parts hereinafter described and claimed.

In the accompanying drawings, which form part of this specification, and wherein like symbols refer to like parts wherever they occur, Figure 1 is a side view of a truck mounted upon a railway in accordance with my invention. Fig. 2 is a plan view of said truck; and Fig. 3 is a vertical view, partly in end elevation and partly in cross-section, of said truck and railway.

My railway comprises a single track composed of T-rails 1, whose upper surface is slightly convex. These rails are mounted upon sleepers 2, which rest upon cross-ties 3, which in turn rest upon girders 4, mounted upon any suitable support 5. The girders are of any suitable type, such as box-girders or parallel I-beams, bolted together. The ties are arranged transversely of their girders and are secured thereto by means of bolts 6 extending through said ties and having their lower ends turned underneath the flanges of the I-beam or girder. The ends of the tie project beyond the sides of the girder. The main rail or traction-rail 1 is secured to the ties by any suitable means, as by bolts or spikes 7, in conformity with common practice. Mounted upon the under side of the projecting ends of the ties are tracks for the guard-wheels, arranged parallel with the main track and on each side thereof. Each of the guard-tracks consists, preferably, of angle-plates 8, whose horizontal web constitutes the track and whose vertical web or flange is secured to the ends of the cross-ties.

The track is provided with two traction-wheels 9, mounted upon separate axles 10, which turn in journal-boxes 11, provided therefor in the main frame 12 of the truck. These wheels are in alinement with each other and have their treads grooved. The bottom of this groove 13 is substantially parallel with the axis of the traction-wheel and of sufficient width to permit the head of the T-rail to bear against it, and the sides of the groove are inclined to clear such rail.

Suspended from each of the journal-boxes or other part of the truck-frame below the axle is a hanger 14, whose lower end is arranged to support a spindle 15, parallel with the axle of the traction-wheel. For this purpose a vertically-elongated slot 16 extends transversely through the lower portion of the hanger, and the outer portion of the spindle is reduced in diameter to extend outwardly through said slot, and the projecting end thereof is screw-threaded. In use the shoulder of the spindle is drawn tight against the inner face of the hanger by means of a nut 17, working on the threaded end of the spindle. In connection with this nut it is desirable to use a suitable washer 18 and a suitable lock-nut 19, working on the threaded end of said spindle. The spindle is vertically adjustable by means of a set-screw 20, which works in a threaded hole provided therefor in the lower end of the hanger. This set-screw extends vertically upward in position to bear against the spindle, and the manipulation of said screw effects the vertical adjustment of the spindle. This adjusting-screw is preferably provided with a set-nut 21 in conformity with common practice.

The inner end of the spindle has bearing-surfaces formed thereon for bearing-balls 22, which cooperate with bearing-cones 23, adjustably mounted in the hub of the guard-wheel 24. The guard-wheel has an outwardly-projecting web 25 near one end of its hub, and abutting flatwise against said web is a ring 26, of soft rubber, whose outer portion projects beyond said web. Alongside of said rubber ring is a metal ring 27, fitting over said hub.



The rubber ring is clamped in place between said web and said metal ring by means of threaded bolts 28 extending through them and provided with nuts on their inner ends. The  
 5 rubber ring constitutes a tire or rim for the guard-wheel and is arranged directly below the guard-rail, and the spindle on said guard-wheel is so arranged that the rim or tire thereof will clear the girder-support below it and  
 10 have its uppermost portion rest flush with said guard-rail. By this arrangement the ball-bearing reduces the friction on the spindle, and the rubber, which yields in all directions, tends not only to deaden the lateral oscillation of the  
 15 truck, but to steady the entire movement thereof.

What I claim is—

1. A truck for a monorailway comprising a frame and traction-wheels journaled therein in  
 20 alinement with each other and having peripheral grooves arranged to cooperate with the track-rail, and guard-wheels suspended from said truck below the axles and vertically adjustable on their supports and arranged to  
 25 bear upwardly against their tracks, the bearing portion of said guard-wheels being made of rubber, substantially as and for the purpose set forth.

2. A truck for a monorailway, comprising a  
 30 frame and traction-wheels journaled therein in alinement with each other, and having peripheral grooves arranged to cooperate with the track-rail, and guard-wheels suspended from said truck below the axles, the bearing portion  
 35 of said guard-wheels being made of rubber, each of said guard-wheels being mounted upon

a vertically-adjustable spindle and having a ball-bearing on said spindle.

3. A monorailway comprising girders, cross-ties thereon, a main track on said cross-ties 40 consisting of slightly-convex T-rails adapted to cooperate with peripherally-grooved wheels, and angle-plates arranged on the projecting ends of said cross-ties parallel with the main track to constitute flat guard-wheel 45 tracks.

4. A monorailway comprising girders, cross-ties supported thereon and projecting beyond said girders, a main track on said cross-ties, and angle-plates arranged on the projecting 50 ends of said cross-ties parallel with the main track to constitute tracks for the guard-wheels.

5. The combination with a monorailway comprising girders, cross-ties thereon, traction-rails with a convex upper face on said 55 cross-ties and smooth guard-tracks parallel with the main track and consisting of angle-plates arranged on the under side of the cross-ties at the ends thereof, of a truck comprising a frame and traction-wheels journaled therein 60 in alinement with each other and having peripheral grooves arranged to cooperate with the track-rail and having guard-wheels suspended from said frame and arranged to bear upwardly against said guard-tracks, substan- 65 tially as described.

St. Louis, Missouri, February 28, 1903.

LINA BEECHER.

Witnesses:

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 JAMES A. CRANE.