

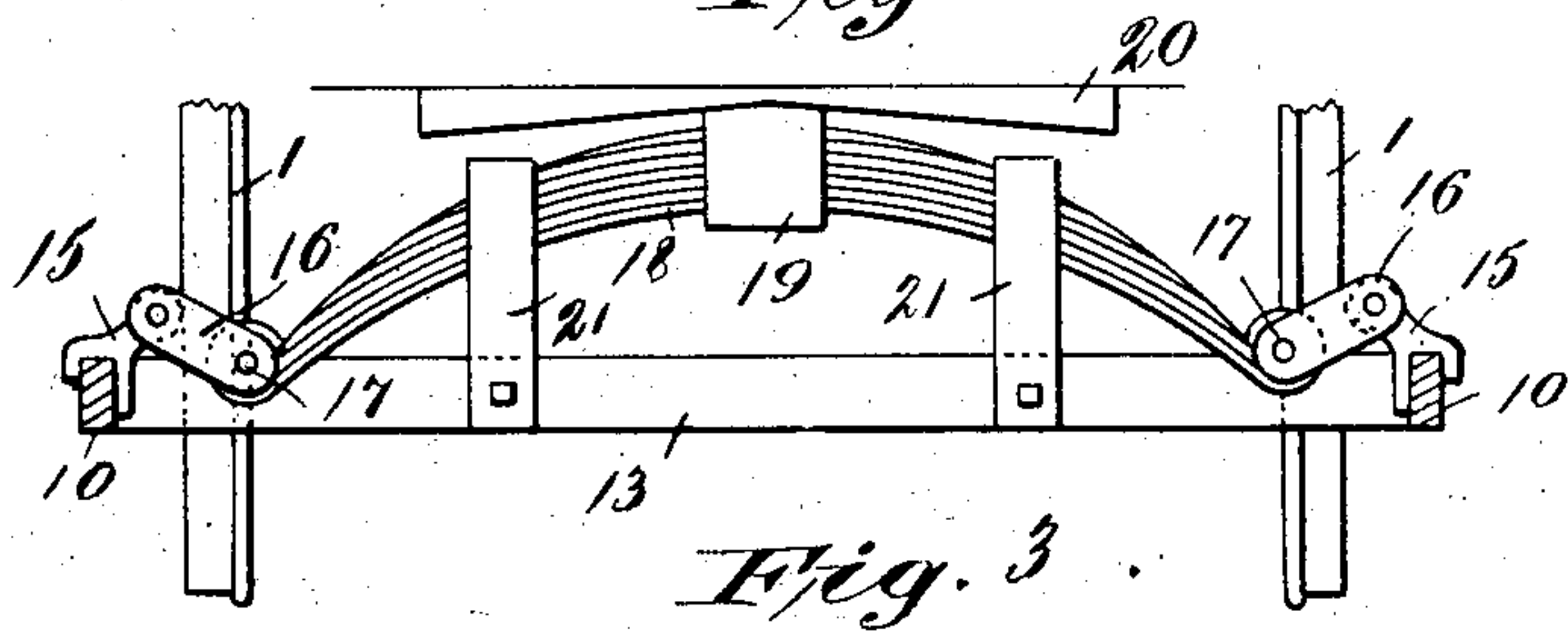
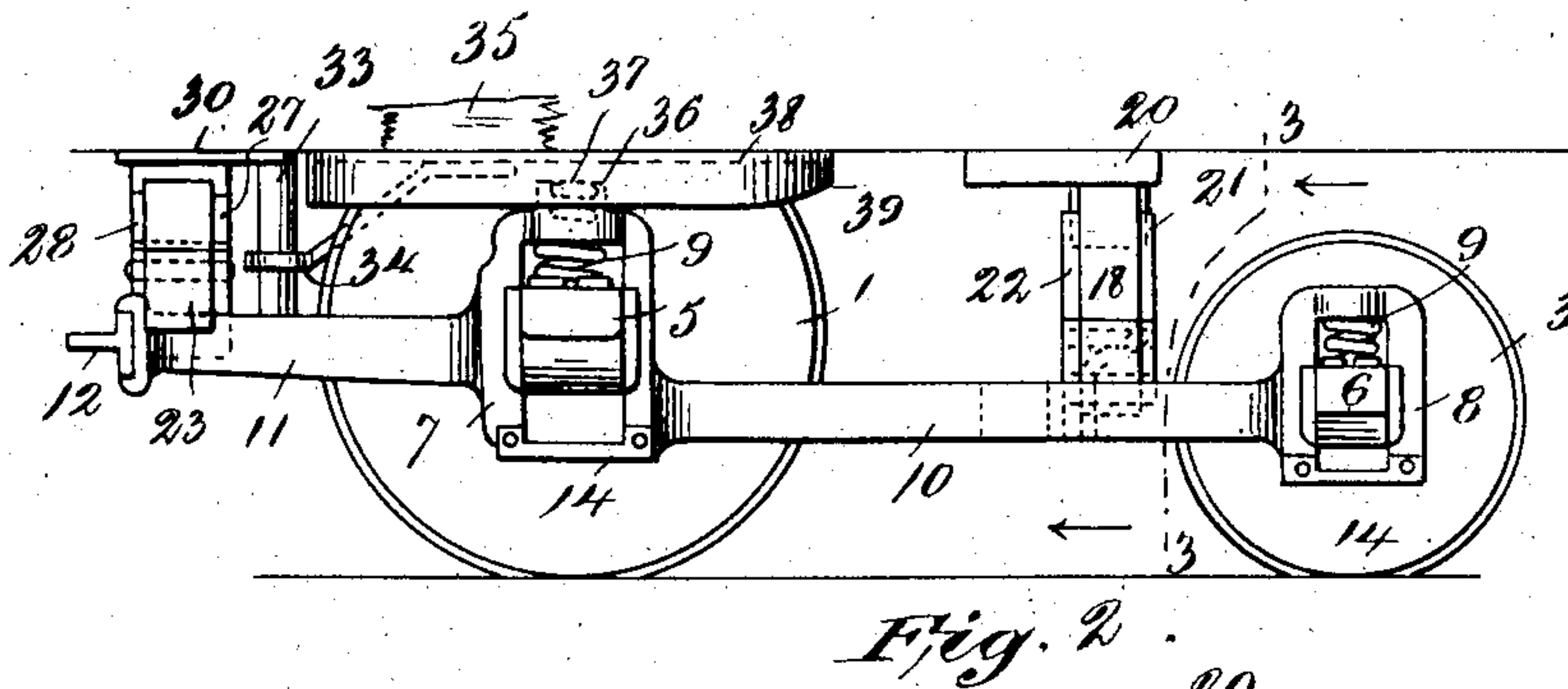
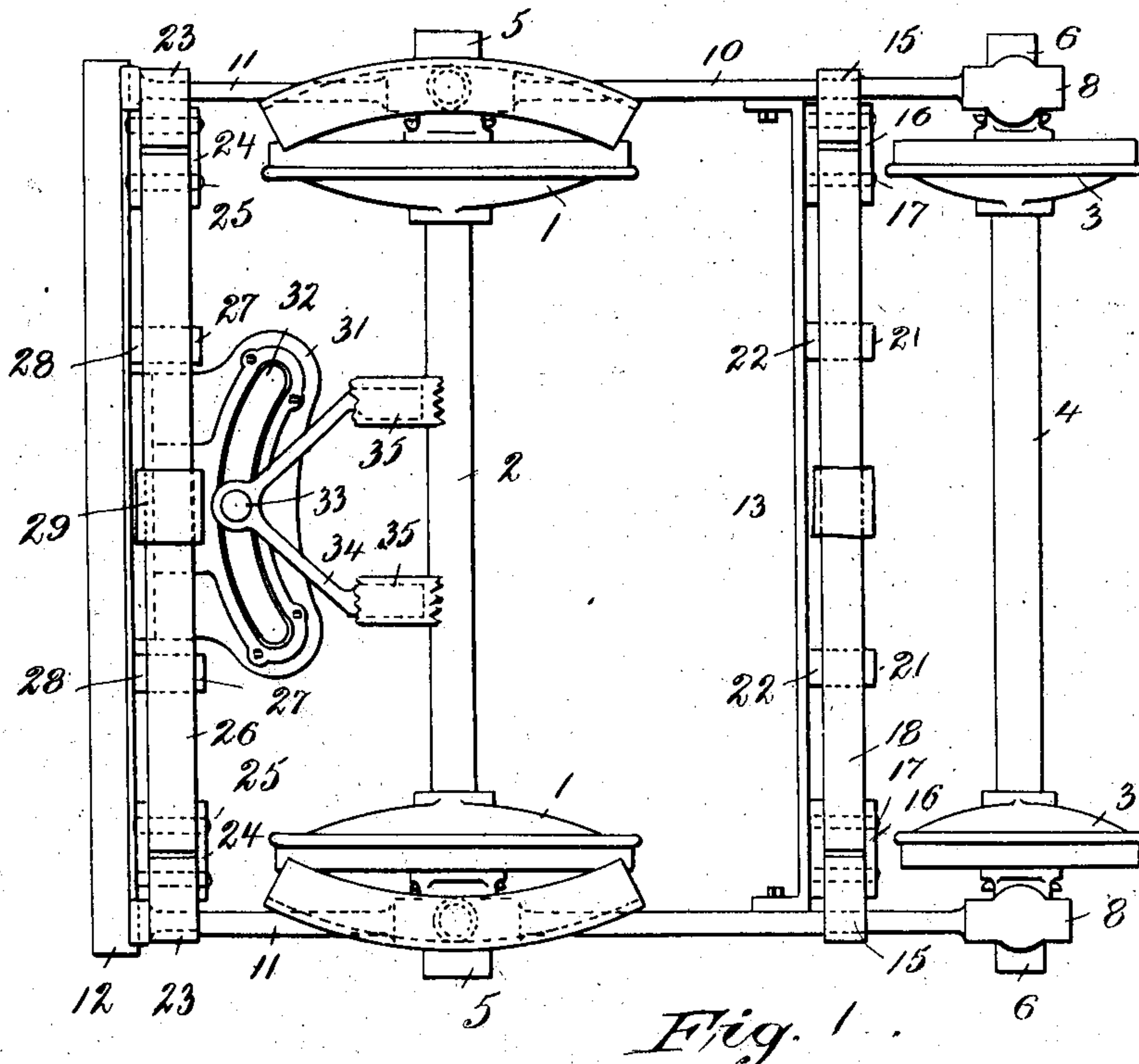
No. 760,179.

PATENTED MAY 17, 1904.

J. A. BRILL.
MAXIMUM TRACTION TRUCK.

APPLICATION FILED AUG. 29, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

MAXIMUM-TRACTION TRUCK.

SPECIFICATION forming part of Letters Patent No. 760,179, dated May 17, 1904.

Application filed August 29, 1903. Serial No. 171,226. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. BRILL, a citizen of the United States, and a resident of the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Maximum-Traction Trucks, of which the following is a specification.

The object of my invention is to provide a truck of this class that will be durable, efficient, and economical and which will resiliently support the car-body by means of upwardly-arched semi-elliptic springs, as more particularly hereinafter set forth, and to provide certain other improvements necessary to attain this object.

For a more particular description of one embodiment of my invention reference is to be had to the accompanying drawings, forming part hereof, in which—

Figure 1 is a plan view of a truck provided with my improvement. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional view taken on the line 3 3 of Fig. 2 looking in the direction of the arrows, only a portion of the truck being shown.

Throughout the various views similar reference characters designate similar parts.

The truck is provided with the usual driving-wheels 1, connected by the axle 2, and the trailing wheels 3, connected by the axle 4. The axles 2 and 4 support axle-boxes 5 and 6, which slide in pedestals 7 and 8, which they support through springs 9, and these pedestals are connected by chords 10. Arms 11 protrude from the pedestals 7, and these arms are connected by a crossing 12. A second crossing 13 connects the chords 10, and these crossings are secured to the arms and chords in any suitable manner, as by bolts. The lower ends of the pedestal-arms are connected by the rods 14. The chords 10 are provided with upwardly and inwardly extending brackets 15, which are fixed to said chords adjacent to the crossing 13. Links 16 are suspended from said brackets by a pivotal connection and are united at their free ends by rods 17, which engage and support the ends of the semi-elliptic spring 18, which is upwardly arched from said rods and provided with a band 19 at its longitudinal center. The up-

per surface of this band forms a bearing which rubs against a rub-plate 20, which is fixed to the car-body. Vertical guides 21 and 22 are placed on each side of the spring 18 and fixed at their lower ends to the crossing 13. These guides cause the spring 18 to move only in a vertical plane when stresses are put upon it.

Brackets 23, which are similar in all respects to the brackets 15, except that they are a little larger, are placed near the ends of the arms 11, and links 24 are pivotally supported by said brackets. The free ends of these links are joined by rods 25, which support an upwardly-arched semi-elliptic spring 26, which slides between vertical guides 27 and 28, which are fixed to the crossing 12, and the spring 26 is surrounded by the usual band 29, which forms the bearing that rubs against the rub-plate 30, secured to the car-body. The springs 26 and 18 and their attendant parts are identical except that the spring 26 is larger.

To the crossing 12 is fixed a horizontally-disposed plate 31, which is provided with a curved slot 32, which is concentric with the pivot of the truck. The walls of the slot 32 are engaged by a pin 33, which is suspended by brackets 34 from sills 35 of the car-frame.

The upper surfaces of the pedestals 7 are provided with hollow projections 36, in which rest coil-springs 37, which are adapted to bear against curved side bearings 38, fixed to the car-body, whenever the car-body is inclined, as when going around a curve. These side bearings 38 are provided with a downwardly-extending flange 39 and are curved in the arc of a circle which is concentric with the pivot of the truck.

From this description the operation of my improved truck will be readily understood. When the weight of the car-body is placed on the springs 18 and 26, they are flattened and the links 24 and 16 are drawn downwardly at their free ends, and these springs move only in a vertical plane because of the guides 21, 22, 27, and 28. The pin has also a free vertical movement in the slot 32. The rub-plates 20 and 30 come in contact with the bearings 29 and 19. When the car passes around a curve and is inclined, the side bearings 39 come in contact with the spring 37. The rub-

plate 20 is made slightly concave on its lower surface, so that as the truck turns under the car-body the spring 18 will force the trailing wheels 3 more firmly against the track, and
5 so prevent these wheels from leaving the track. The springs 18 and 26 are relieved from all torsional strains due to the propulsion of the car by the pin 33, which is fixed to the car-body and slides freely in the guide-
10 plate 31.

While I have shown and described one embodiment of my invention, it is obvious that many others may be made which employ the characteristics herein set forth, and so I re-
15 gard all such structures as within the scope of my invention and covered by the following claims.

What I claim is—

1. The combination in a truck or similar
20 device, of wheels, axles, axle-boxes, pedestals, arms, chords and crossings, with brackets extending upwardly from said arms and chords, links suspended from said brackets, upwardly-arched semi-elliptic springs suspended from

said links and means on said springs for sup- 25
porting the car-body.

2. In a truck or similar device, the combination of the wheels, axles, axle-boxes, pedestals, chords, arms and crossings, of brackets, links suspended from said brackets, upwardly- 30
arched semi-elliptic springs connecting said links, and guides fixed to said crossings which cause said springs to move in vertical planes.

3. In a truck or similar device, the combination of the wheels, axles, axle-boxes, pedestals, arms, chords, and crossings, with brackets, upwardly-arched semi-elliptic springs suspended from said links, bearings secured to said springs, and a slotted plate secured to one of said crossings, and adapted to receive a pin 40
which is fixed to the car-body.

Signed in the city and county of Philadelphia, State of Pennsylvania, this 27th day of August, 1903.

JOHN A. BRILL.

Witnesses:

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