

No. 760,292.

PATENTED MAY 17, 1904.

W. S. ADAMS.
MAXIMUM TRACTION TRUCK.

APPLICATION FILED AUG. 29, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

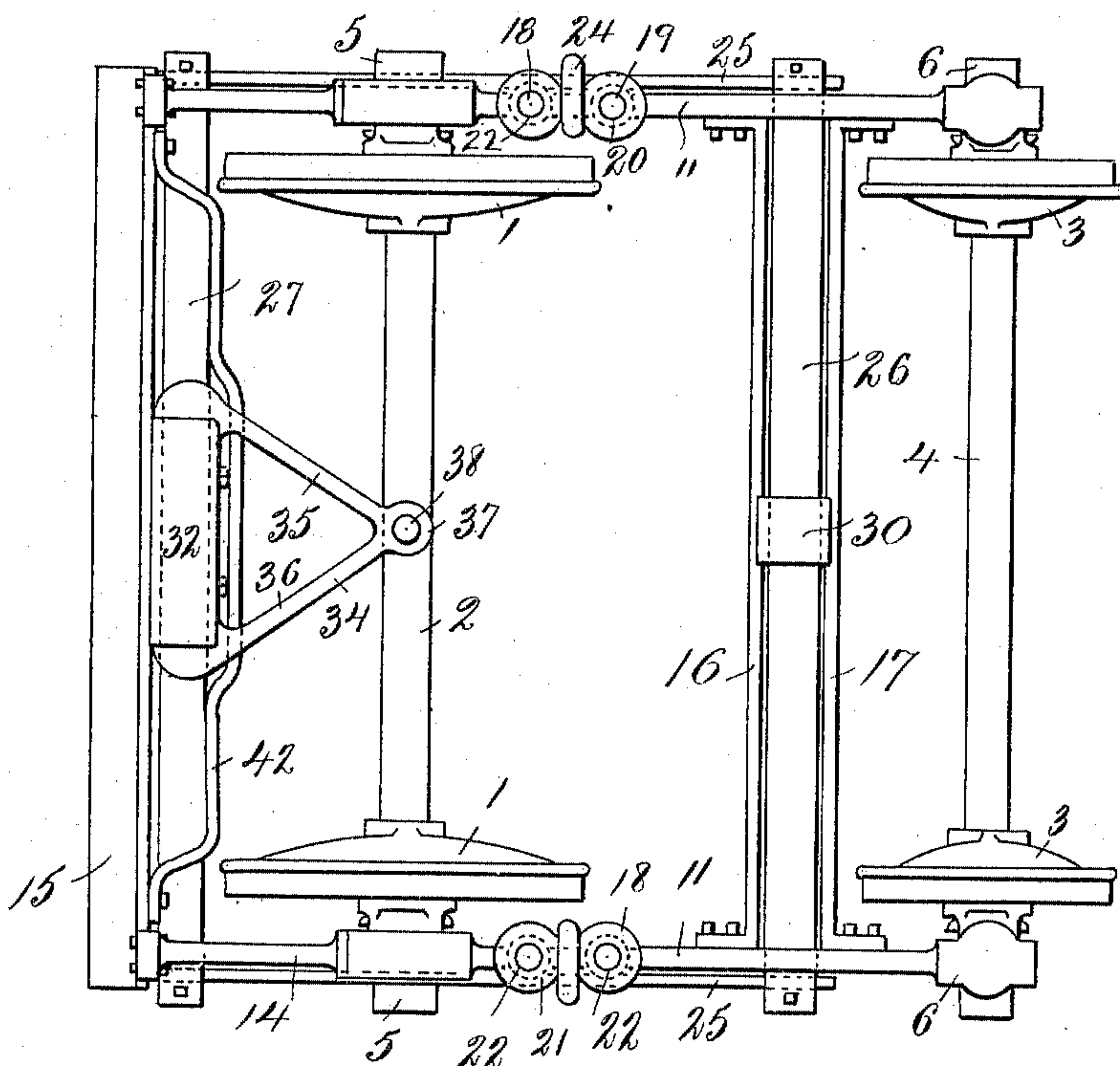


Fig. 1.

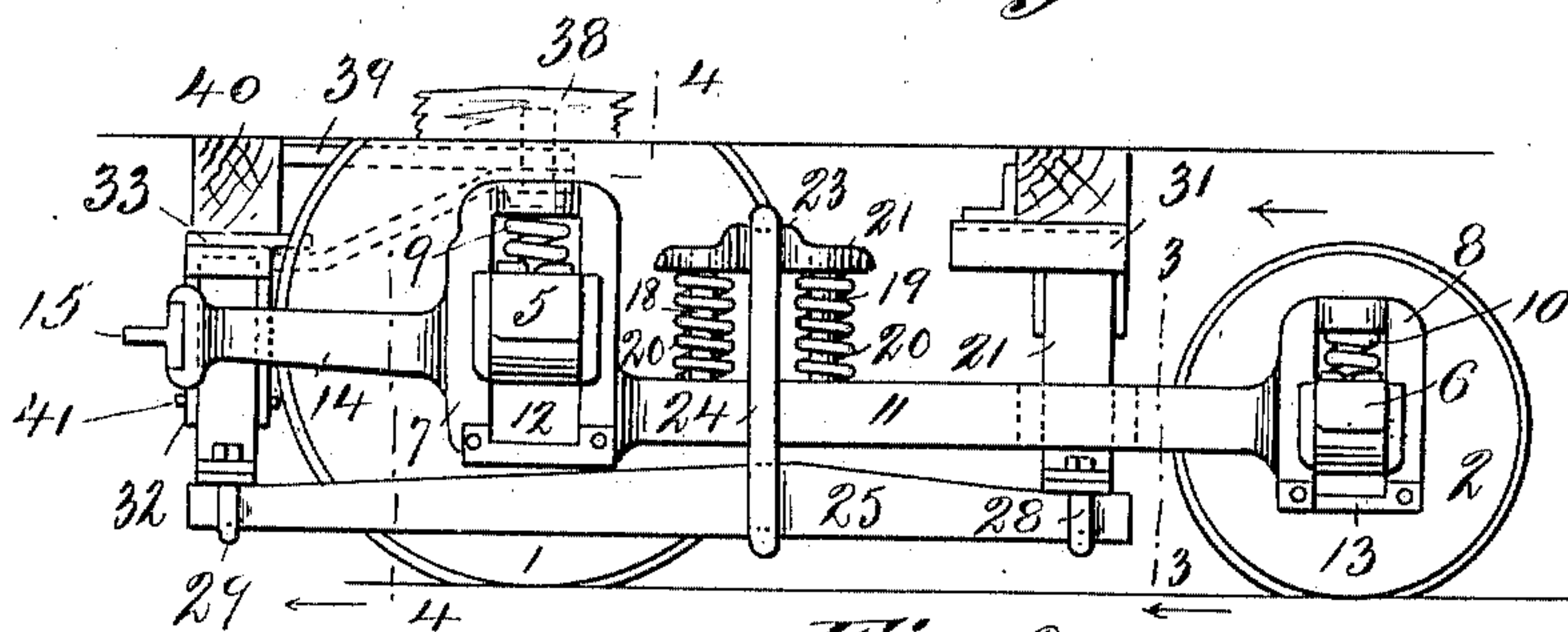


Fig. 2.

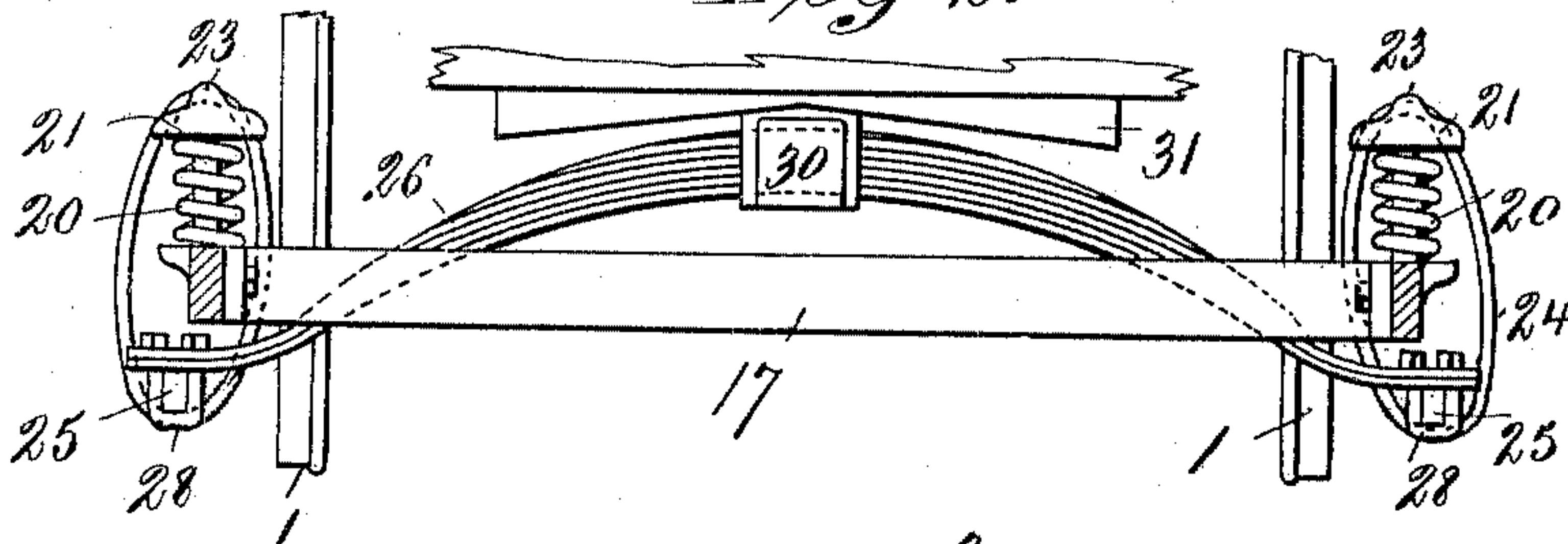


Fig. 3.

Witnesses
C. W. Benjamin,
Phas Mensley

Inventor
Walter S. Adams.
By his Attorney Joseph L. Levy

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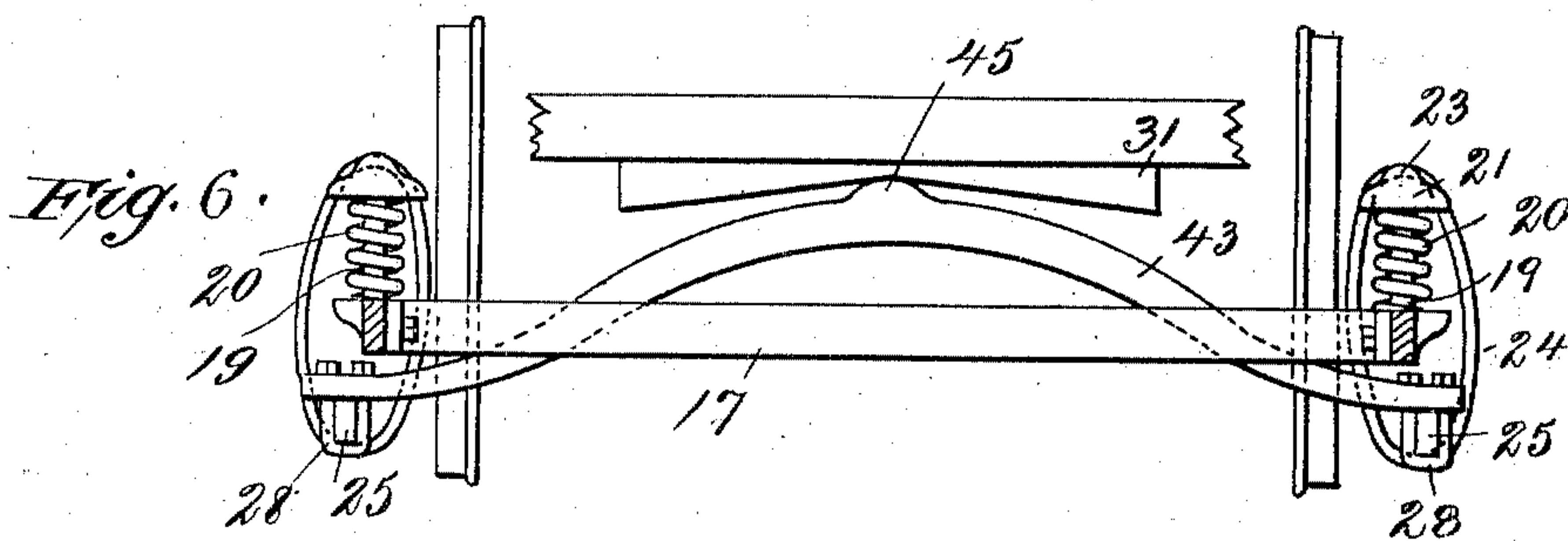
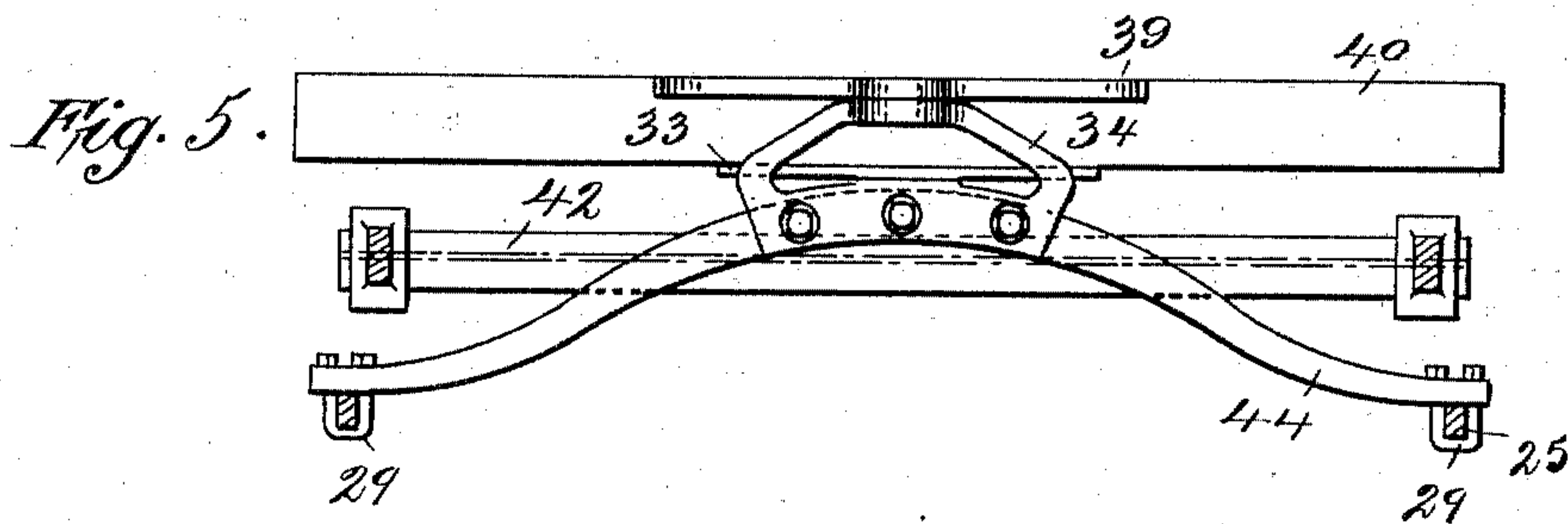
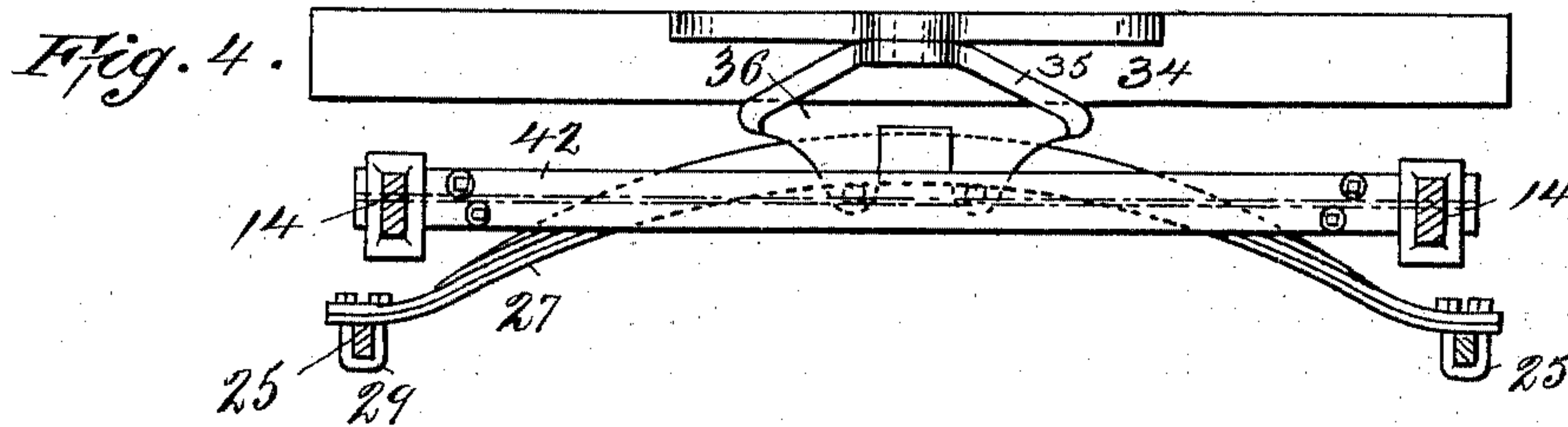
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2 SHEETS—SHEET 2.



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C. W. Benjamin
Phas G. Munsley

Inventor
Walter S. Adams.
By his Attorney Joseph L. Levy

UNITED STATES PATENT OFFICE.

WALTER S. ADAMS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
JOHN A. BRILL, OF PHILADELPHIA, PENNSYLVANIA.

MAXIMUM-TRACTION TRUCK.

SPECIFICATION forming part of Letters Patent No. 760,292, dated May 17, 1904.

Application filed August 29, 1903. Serial No. 171,222. (No model.)

To all whom it may concern:

Be it known that I, WALTER S. ADAMS, 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 simple, efficient, and durable truck of this class which will support and carry a car-body without undue friction or jarring over an uneven and irregular track. This object I accomplish by means of a frame which is swung from spring-supports on the side frames of the truck, and the cooperating parts, as will hereinafter appear.

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

Figure 1 is a plan view of a truck embodying my improvement. Fig. 2 is a side elevation of the same. Figs. 3 and 4 are sectional views taken on the lines 3 3 and 4 4 of Fig. 2 looking in the direction of the arrows, all unnecessary parts being omitted. Figs. 5 and 6 are similar views showing a modified structure.

Similar reference characters designate similar parts throughout the various views of the drawings.

The truck contains the usual driving-wheels, each with their connecting-axle 2, and the trailing wheels 3, connected by their axle 4. These axles 2 and 4 are provided with axle-boxes 5 and 6, which slide in pedestals 7 and 8, and the said pedestals are supported on springs 9 and 10, which are interposed between the upper surface of the axle-boxes and the pedestals. The pedestals 7 and 8 are connected by a chord 11 and are provided with the usual tie-rods 12 and 13, which secure the axle-boxes in place.

Intermediate of the ends of the outer arms of the pedestals 7 extend arms 14, which are united at their ends by a crossing 15, which may be of any suitable form, although I prefer to use a T-iron. The chords 11 are connected by transoms 16 and 17. These chords

are also provided with cylindrical rods 18 and 19, which extend upwardly from said chords adjacent to the pedestals 7 and parallel to the arms thereof, and these rods are surrounded by coil-springs 20, which support a cap 21, which is provided with cylindrical bores 22, which are adapted to fit the rods 18 and 19. The caps 21 are provided with seats 23 intermediate of the rods 18 and 19, and from these seats are suspended links 24, which extend below the chords and on each side thereof engage the bar 25 of the suspended frame.

The swing-frame comprises the bars 25, which are connected at their ends by upwardly-arched semi-elliptic springs 26 and 27, respectively, and these springs are secured to these bars by means of yokes 28 and 29, which surround the said bars on three sides and pass through perforations in the springs and are secured by means of nuts. The spring 26 is provided with a band 30, the upper surface of which is made convex and forms a bearing which rubs against the concave surface of the rub-plate 31, which is secured to the car-body.

The spring 27 is also provided with a band 32, the upper surface of which forms a rub-plate which engages a bearing 33, affixed to the car-body, and a draw-bar 34, with converging arms 35 and 36, extends from each of the rub-bands 32 to a point above or substantially above the axle 2, where the said arms unite at 37 to form the pivot of the truck. A pivot-pin 38 engages the draw-bar and is secured to the car-body in any suitable manner, as by a longitudinally-extending bar 39, which is fixed to a cross-sill 40. The sides of the band 32 are extended and bolted together at their lower ends by means of bolts 41, and these extended sides pass adjacent to the crossing 15 on one side and a guide-bar 42 on the other. The guide-bar 42 is secured at its ends to the crossing 15 and is bent over the spring 27 to the opposite edge of said spring, where it runs parallel to the said crossing 15, and at its center the said guide-bar 42 is further offset to allow the bearing 32 and draw-bar 34 to have a free vertical movement on the pivot-pin 38. The transoms 16 and 17 and the crossing 15, with its guide-bar 42,

form guides which permit the springs 26 and 27 to have a vertical movement only. When pressure is put on the bearings 30 and 32, the springs 26 and 27 are somewhat flattened, thus forcing the bars 25 to assume the position permitted by the links 24, which swing freely on the caps 21, and the said springs and bars, which I designate as a "swing-frame," are resiliently supported on the coil-springs 20, so that the car-body is suspended on both leaf and coil springs in a manner that insures easy-riding cars.

Should the semielliptic springs 26 and 27 be considered unnecessary, as they may be for certain purposes, they may be replaced by upwardly-arched rigid iron sill-bars 43 and 44, as shown in Figs. 5 and 6. In this modified structure bands are unnecessary, so that a projection 45 is placed on the bar 43, which forms a bearing that engages the concave surface of the rub-plate 31, and the draw-bar 34 is bolted directly to the sill-bar 40; otherwise the structure is substantially the same as above described.

The rub-plate 31 is concave on its lower surface, so that when the truck passes around a curve and the car-body is inclined the pressure on the spring 26 will not in any way be reduced.

While I have shown and described two embodiments of my invention, it is evident that many others may be made, and so I do not consider my invention as limited to this disclosure and regard it as broad enough to cover

all structures which come within the scope of the annexed claims.

What I claim is—

1. In a truck or similar device, the combination of the wheels, axles, axle-boxes, pedestals, chords, arms, crossings and transoms, with springs supported by said chords, caps resting on said springs, links suspended from said caps, bars supported by said links, and upwardly-arched semi-elliptic springs connecting the ends of said bars, and adapted to support a car-body.

2. In a car-truck or similar device, the combination of the wheels, axles, axle-boxes, pedestals, arms, chords, crossings and transoms, with the guide-rods extending upwardly from said chords, springs surrounding said rods, caps resting on said springs with bores adapted to fit said rods and links seated on said caps and suspended therefrom, bars supported by said links, and upwardly-arched semi-elliptic springs uniting the ends of said bars, each of said springs being provided with a band, and one of said springs being disposed between the transoms and the other between the crossing, and a bar secured to said crossing.

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

WALTER S. ADAMS.

Witnesses:

H. A. HEULING,
TERRENCE McCUSKER.