No. 760,291. PATENTED MAY 17, 1904.

W. S. ADAMS.

MAXIMUM TRACTION CAR TRUCK.

APPLICATION FILED AUG. 29, 1903.

NO MODEL.

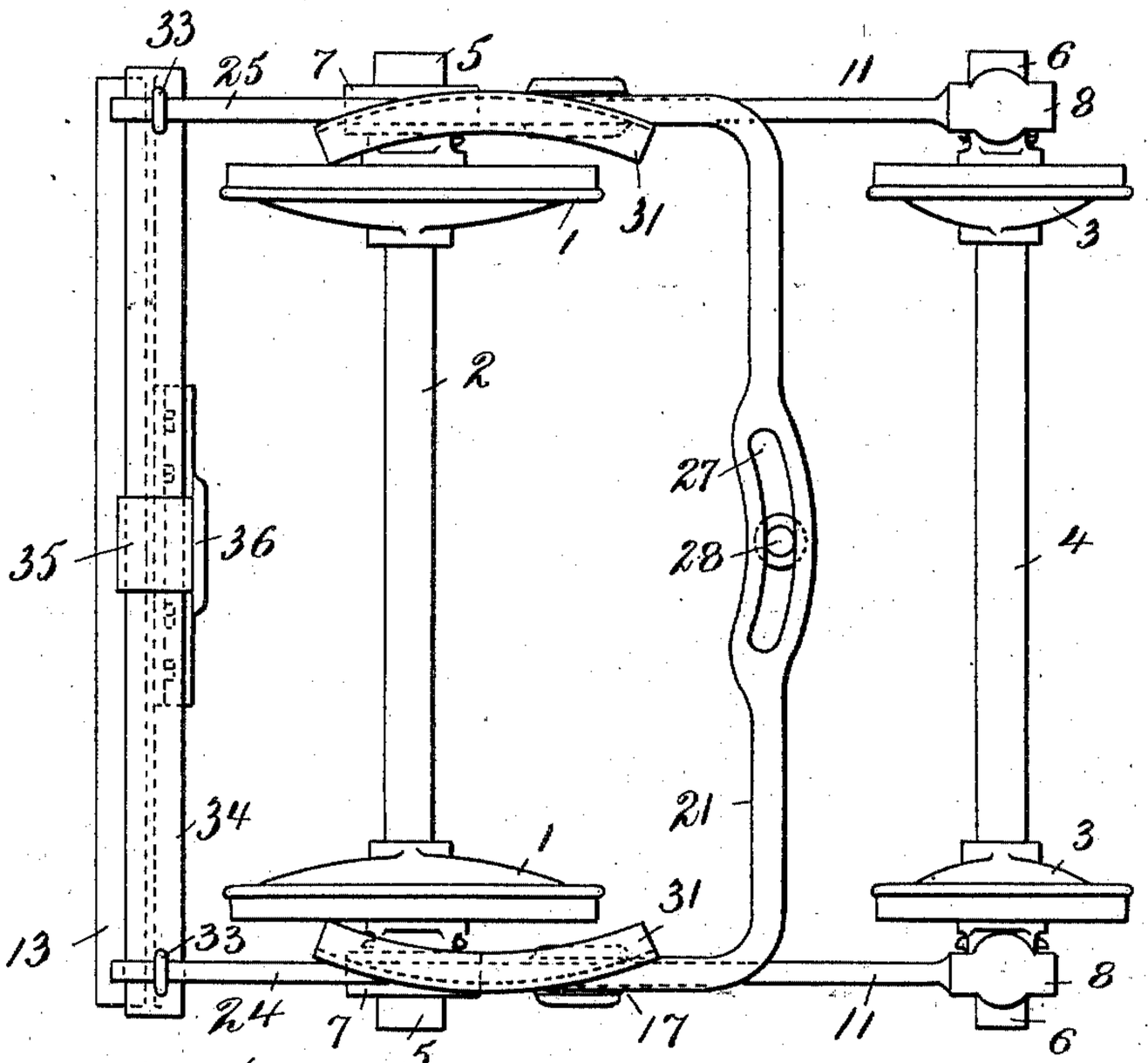

Fig. 1.

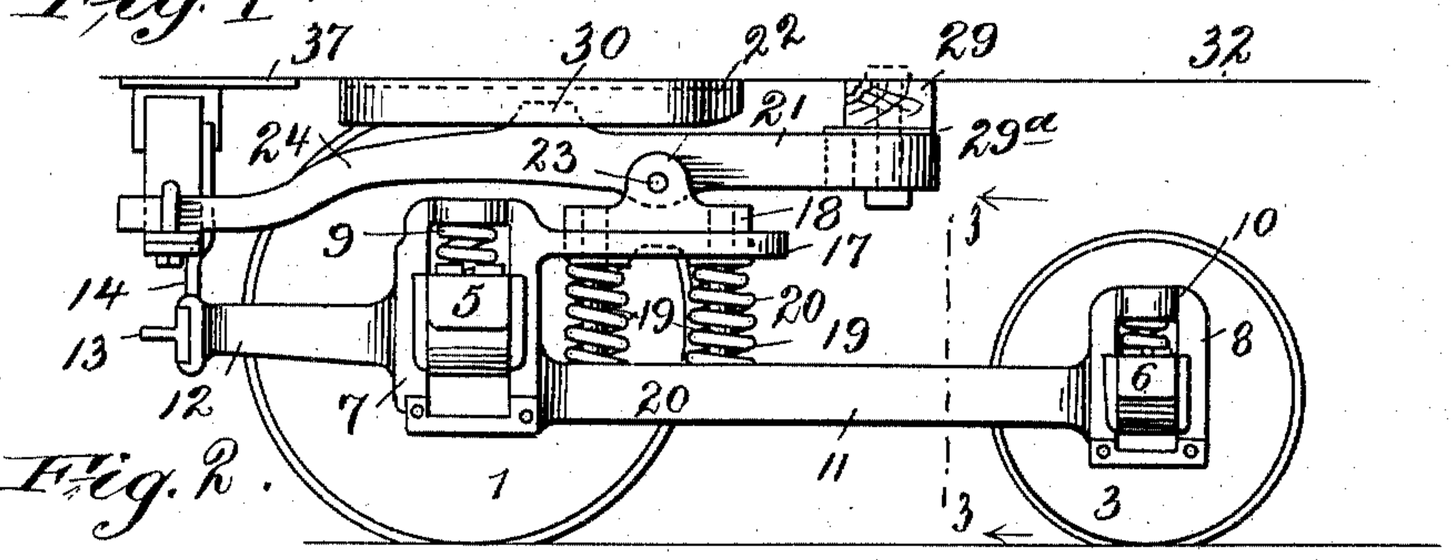

Fig. 2.

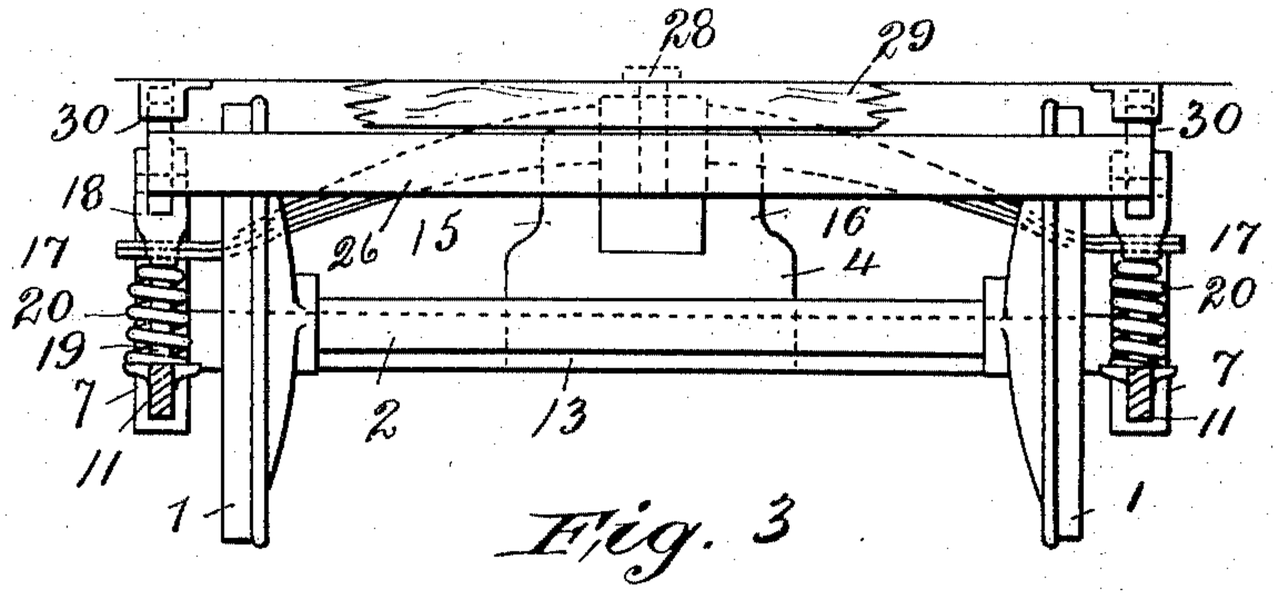

Fig. 3

Witnesses
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By his Attorney Joseph L. Levy

No. 760,291. Patented May 17, 1904.

UNITED STATES PATENT OFFICE.

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

MAXIMUM-TRACTION CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 760,291, dated May 17, 1904.

Application filed August 29, 1903. Serial No. 171,221. (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 Car-Trucks, of which the following is a specification.

The object of my invention is to provide a simple and durable truck of this class which will resiliently support the car-body and cause a minimum wear on the running-gear and road-bed. This object I accomplish by means of the structure hereinafter described, in which one embodiment of my invention is disclosed.

For a more particular description 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 made in accordance with my improvement. Fig. 2 is an elevation of the same, and Fig. 3 is a section on the line 3 3 of Fig. 2 looking in the direction of the arrows.

Throughout the various views similar reference characters designate similar parts.

The truck is provided with the usual driving-wheels 1, connected by an axle 2, and the trailing wheels 3 on the axle 4. The axles 2 and 4 are provided with the axle-boxes 5 and 6, which engage pedestals 7 and 8, respectively, and the axle-box springs 9 and 10 are interposed between the pedestals and the upper surfaces of the axle-boxes.

The pedestals 7 and 8 are connected by a chord 11, and the outer guides of the pedestals 7 are provided with projecting arms 12, all of which is customary in such structures.

The arms 12 are united by a crossing 13, to which are fixed vertical guide-plates 14, with guides 15 and 16 for a purpose described below. The chords 11 are united by a crossing. (Not shown.)

The inner arms of the pedestals 7 are provided with projecting brackets 17, which extend above and parallel to the chords 11, and these brackets 17 are each provided with a central opening through which pass with a loose fit the bolster-supports 18, and these bolster-supports are also guided by guide-pins 19, which pass through and fit openings in the brackets prepared for them. Coiled springs 20 are interposed between the chords 11 and the bolster-supports 18, which also inclose the guide-pins 19. The springs resiliently sustain the supports 18 and the pivoted frame 21, which is secured to the ears 22 of the supports 18 by means of a pivot-pin 23.

The frame 21 is preferably U-shaped, with two arms 24 and 25, which are slightly offset downwardly near their ends and are connected by the transverse bar 26, which is curved at its center and slightly enlarged and provided with a curved slot 27, concentric with the pivot of the truck, the walls of which engage the king-bolt 28. This king-bolt may be secured to the crossing 29 of the car-body in any suitable way. A rub-plate 29^a is interposed between the crossing 29 and the transverse bar 26.

Projections 30 extend from the arms 24 and 25 slightly within the wheel-base, but adjacent to the axle 2, and these projections 30 are adapted to engage the curved rub-plates 31 on the car-body 32 whenever the load is sufficient to compress the springs enough to bring these parts together.

The free ends of the arms 24 and 25 are connected by yokes 33 to the end of the semi-elliptic spring 34, which is upwardly-arched and provided with a band 35 at its center. The band 35 has a projecting head 36, which engages the guides 15 and 16, thus permitting said spring to have only a vertical movement, and the upper surface of the band 35 forms a bearing which rests against a rub-plate 37 on the car-body 32. The yokes 33 permit the ends of the spring 34 to be flayed outwardly in a horizontal line, because the openings through which said yokes pass are elongated to permit this movement.

From the above it is obvious that the weight of the car-body is distributed between the band 35 and the transverse bar 26, and at these points only unless the projections 30 and curved plates 31 engage to form a side bearing. In any case the load is transmitted to the pivot-pins 23 and through them to the

bolster-supports 18 to the springs 20, which rest on the chords 11. The pivoted frame also acts as a draw-bar and as a pivot for the truck to turn on, so that the truck is connected to the car-body by a spring-supported universal joint, which will enable the truck to readily adjust itself to all irregularities of the track with a minimum jar to the car-body.

The springs are protected against all transverse or torsional stresses by the brackets 17, which receive all horizontal thrusts of the pivotal frame 22.

While I have shown and described an embodiment of my invention, it is obvious that many equivalent structures may be made which employ its features.

Having thus described my invention, what I claim is—

1. In a truck or similar device, the combination of the wheels, axles, axle-boxes, pedestals, chords and crossings, with a spring-supported pivotal frame which is adapted to resiliently support the car-body, one side of said frame being formed by a spring.

2. In a truck or similar device, the combination of the wheels, axles, axle-boxes, pedestals, chords and crossings with a spring-supported pivoted frame, said frame comprising a U-shaped bar with its ends united by a semi-elliptic spring and means for causing said spring to move in a vertical plane.

3. In a truck or similar device, the combination with the wheels, axles, axle-boxes, pedestals, chords and crossings, of a pivoted frame, supports to which said frame is pivoted, brackets extending from some of said pedestals and engaging said supports, and springs for supporting said supports.

4. In a truck or similar device, the combination with the wheels, axles, axle-boxes, pedestals, chords and crossings, of a pivoted frame comprising a U-shaped bar and a semi-elliptic spring, guides adapted to cause said semi-elliptic spring to move only in a vertical direction, supports to which said frame is pivoted, brackets guiding said supports, and springs sustaining the said supports.

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

WALTER S. ADAMS.

Witnesses:
H. A. HEULING,
TERRENCE MCCUSKER.