

No. 740,605.

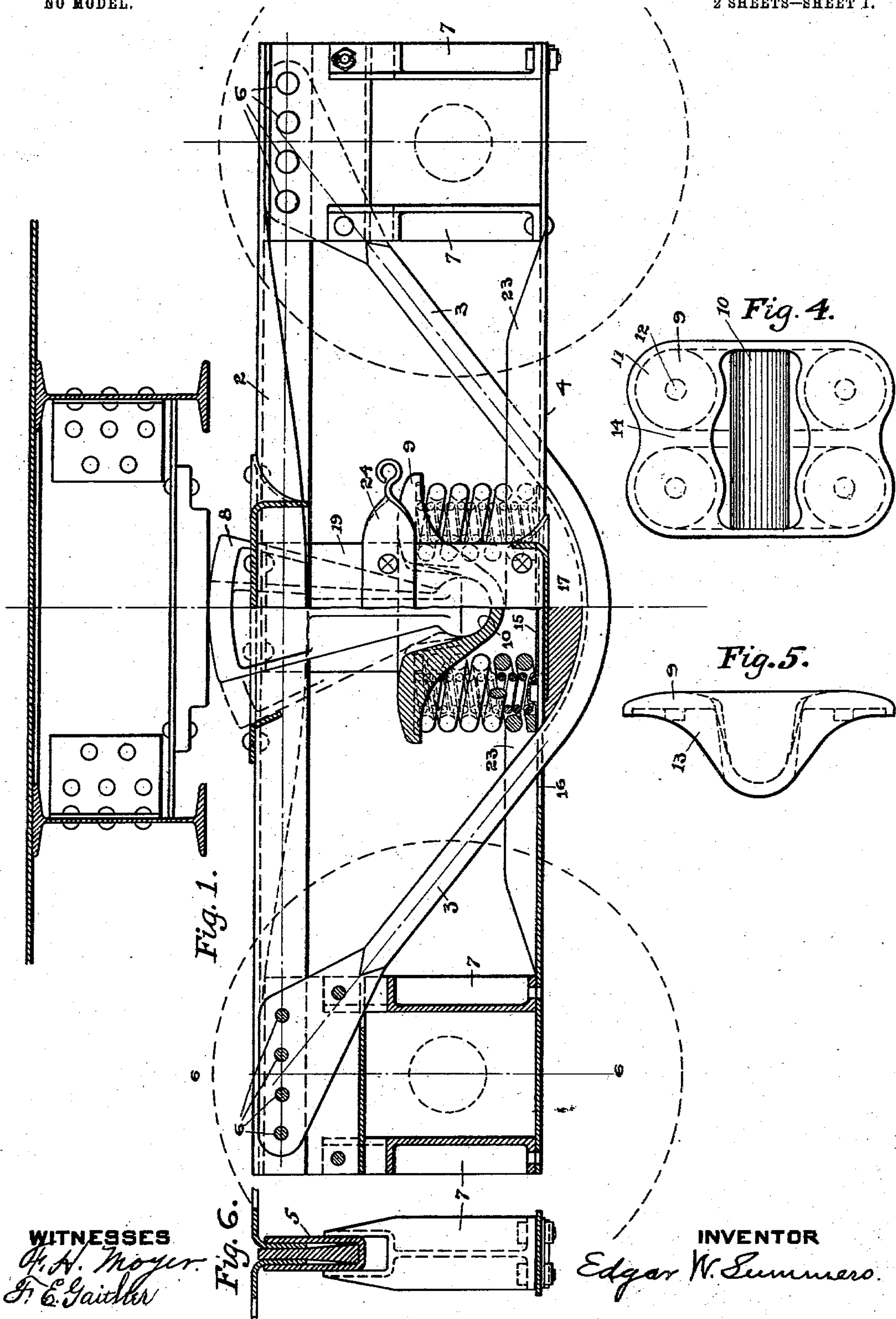
PATENTED OCT. 6, 1903.

E. W. SUMMERS.
CAR TRUCK.

APPLICATION FILED AUG. 8, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES
H. N. Moyer.
J. E. Gaither

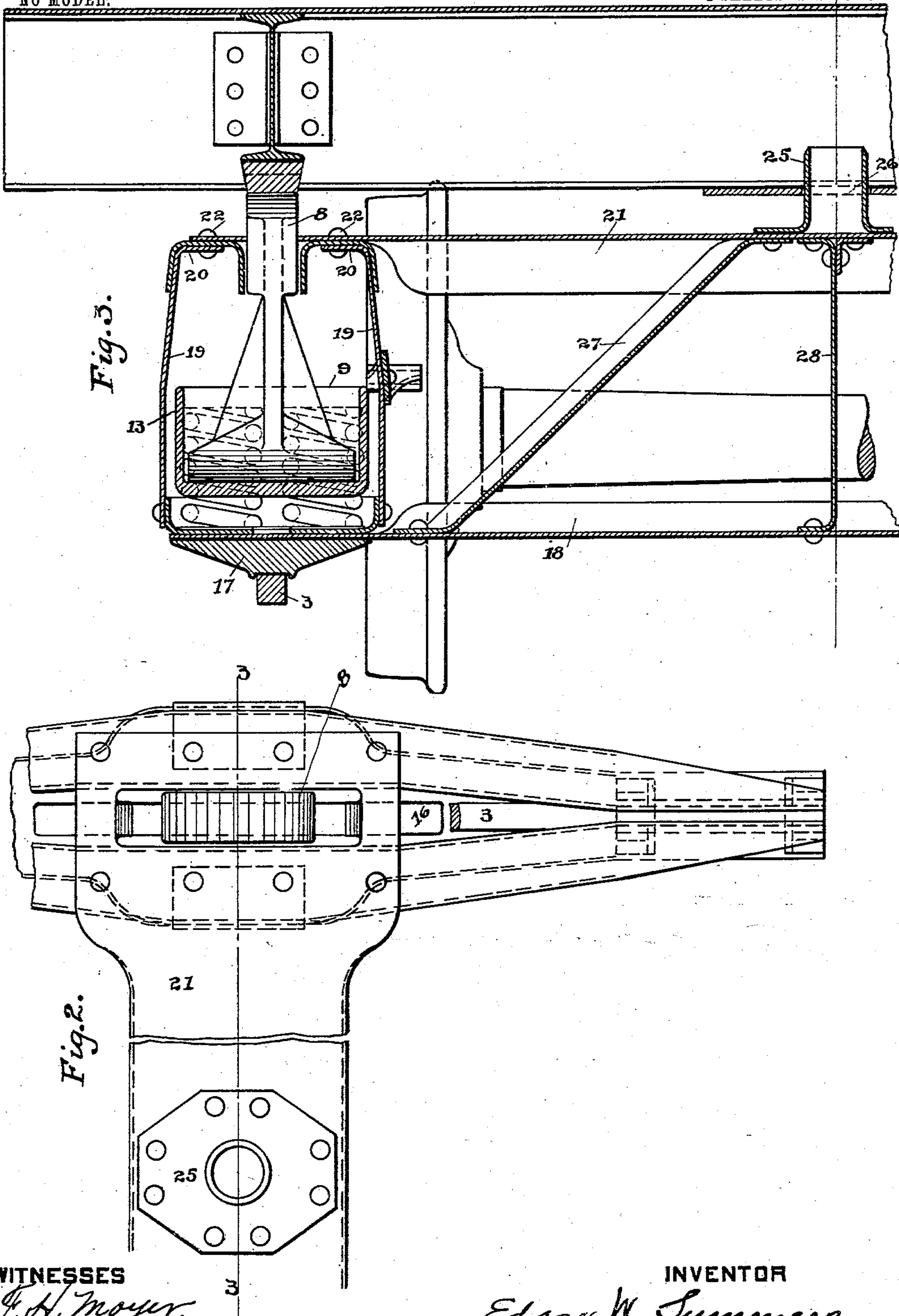
INVENTOR
Edgar W. Summers.

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WITNESSES

F. H. Moyer.
J. E. Yaiter.

INVENTOR

Edgar W. Summers

UNITED STATES PATENT OFFICE.

EDGAR W. SUMMERS, OF PITTSBURG, PENNSYLVANIA.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 740,605, dated October 6, 1903.

Application filed August 8, 1903. Serial No. 168,747. (No model.)

To all whom it may concern:

Be it known that I, EDGAR W. SUMMERS, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain
5 new and useful Improvement in Car-Trucks, of which improvement the following is a specification, reference being had to the accompanying drawings, forming part of this specification, in which—

10 Figure 1 is a side elevation of the side frame, partly in vertical section, showing a portion of my improved truck. Fig. 2 is a partial top plan view showing a portion of a side frame and of the transom. Fig. 3 is a transverse
15 vertical section taken in line 3 3 in Fig. 2. Figs. 4 and 5 are the top plan and side elevation views of the spring-cap, which spring-cap also serves as the pivoting-seat for the segmental roller side bearing. Fig. 6 is a ver-
20 tical transverse sectional view taken in the line 6 6 in Fig. 1.

My invention relates to the class of trucks for railway-cars, and is designed to provide
25 a truck of simple construction which may carry the whole load of the car on the side bearing directly over the center of the side frame. This truck is designed along the lines brought out in my Patents No. 723,755, patent-
30 ed March 24, 1903, and No. 728,043, patented May 12, 1903, some of the changes being, first, the springs for supporting the load are placed directly under the side bearing at the center of the side frame, the seat of the segmental
35 roller side bearing being below the top of the springs; second, the pivot at the center of the transom projects upward, coöperating with a hole in the framing of the car-body.

In the drawings I show a truck side frame as having an upper compression member 2, a
40 depending tension member 3, a lower connecting member 4. The compression member 2 is a composite member made of two parts, which are preferably pressed, having their central portion spaced apart and their end portions
45 brought nearer together, with end portions of the tension member 3 acting as a separator, and the U-shaped bearing-plate 5 inclosing the end portions of 2 and 3, and the whole held in place by the rivets 6, which makes a
50 rigid construction with but few rivets. The bearing-plate 5 rests on the top of the ordinary journal-box. Pedestals 7 have their top

ends attached to bearing-plate 5 and their lower ends attached to bottom member 4, the inner pedestal 7 being preferably fastened
55 with rivets and the outer pedestal 7 having bolt connections. The segmental roller 8, which is similar to that shown in my patents above referred to, rests in the spring-cap 9 in the pivot-seat 10, which is preferably be-
60 low the tops of the springs, the object being to obtain a side bearing of low frictional resistance by having a segmental roller of large diameter, and this can be best accomplished by extending the pivot-point of the roller below
65 the spring-top.

The spring-cap 9 is preferably made of a steel casting and is provided with spring-
seats 11 and inner projecting lugs 12, with side ribs 13 and center ribs 14. I also provide
70 a spring-seat 15 of the common pattern, which spring-seat rests on the horizontal member 4. The tension member 3 projects downward through a slot 16, which is in the central part of horizontal member 4. The saddle 17,
75 which is made preferably a steel casting, rests in the angle of the tension member 3. The lower transom member 18 is interposed between the saddle 17 and the horizontal
80 member 4, the whole assemblage carrying the spring load directly to tension member 3. At the center of the side frame I provide side plates 19, having inwardly-bent upper flanges
20, which are fastened to top compression member 2 and the top transom member 21 by
85 common rivets 22. The lower end of 19 is fastened to the upturned flange 23 of the horizontal member 4. These side members 19 serve as spacers between the upper and lower
90 horizontal members of the side frame, the inner side plate 19 serving also as a support for brake-beam hanger 24.

In this truck as the whole vertical load is to be carried on the side bearings in the side frame and no vertical load is carried on the
95 central portion of the transom other than that which may be caused by friction I therefore provide a light construction with a central pivot-pin 25, which is supported on transom member 21 and is adapted to coöperate with
100 a pivot-hole 26 in the bottom part of the car-body framing. This pivot-pin 25 is adapted to transmit horizontal forces between the truck-frame and the car-body and is also ar-

ranged to permit of a vertical movement of the truck relative to the car-body. In the transom I also provide diagonal members 27 and vertical member 28, which are clearly shown on Fig. 3. It will be noted that lines drawn through the centers of gravity of the tension member and compression member of the side frame intersect in a vertical plane drawn through the axis of the journal and also that the inner portion of the tension member is of constant section. These important features are covered in the patents above referred to and are only claimed specifically herein. In the modern cars of large capacity it has been found necessary, on account of the standard height of couplers between cars and on account of the greater strength required to carry the increased loads, to build the sides of the cars down lower and the tops of the truck-frames up higher than in the earlier cars of lighter burden capacity. Therefore in order to obtain a roller side bearing of low frictional resistance by the use of a segmental roller it is necessary to pierce through the truck side frame and support the roller near the base of the frame.

Many changes may be made in the form and arrangement of the truck and its parts, as well as the side bearing and the center pivoting-pin, without departing from my invention.

I claim—

1. A car-truck side frame having an upper compression member, a lower tension member, a segmental roller side bearing which is supported on springs at the center of the side frame, and is adapted to carry the whole live load on the truck side frame; substantially as described.

2. A car-truck side frame having a composite, spaced-apart, upper compression member, a lower tension member, a segmental roller side bearing resting on a spring-cap near the base of the side frame, and having its upper end project up between the sides of the composite, spaced-apart compression member; substantially as described.

3. A car-truck side frame having an upper compression member, a lower tension member, a segmental roller side bearing resting in a spring-cap, the point of support being below the spring-seat which is on the under side of the spring-cap; substantially as described.

4. A car-truck side frame having an upper compression member, a lower tension member, a plurality of load-carrying springs, a spring-cap, a segmental roller side bearing which pivots in the spring-cap; substantially as described.

5. A car-truck side frame having an upper compression member, a lower tension member, a plurality of load-carrying springs, a spring-cap, a segmental roller side bearing which pivots in the spring-cap, the pivot-seat being below the top of the springs; substantially as described.

6. A car-truck side frame having an upper compression member, a lower tension member, a plurality of load-carrying springs, a spring-cap, a roller side bearing which rests in the spring-cap, the seat for the roller being below the top of the springs.

7. A car-truck side frame having a plurality of load-carrying springs located at or near the center of the side frame, a spring-cap resting on said springs, a segmental roller side bearing having its seat in the spring-cap and below the top of the springs; substantially as described.

8. A car-truck side frame having a plurality of load-carrying springs located at or near the center of the side frame, a spring-cap resting on said springs, a segmental roller side bearing resting on the spring-cap; substantially as described.

9. A car-truck side frame having an upper compression member, a lower tension member, a saddle resting on the lower tension member, a plurality of springs supported on the saddle, a spring-cap resting on the springs, a segmental roller side bearing resting on the cap; substantially as described.

10. A car-truck side frame having a composite, spaced-apart upper compression member, a lower tension member having its ends between the ends of the composite upper compression member, with the ends of the tension and compression members riveted together, a saddle and load-carrying springs resting on the central portion of the lower tension member; substantially as described.

11. A car-truck side frame having a composite, spaced-apart upper compression member, a lower tension member having its ends between the ends of the composite upper compression member, with the ends of the tension and compression members riveted together, a saddle and load-carrying springs resting on the central portion of the lower tension member, the longitudinal lines through the centers of gravity of said tension and compression members intersecting, substantially in a vertical plane lying in the longitudinal axis of the journal; substantially as described.

12. A car-truck side frame having a composite, spaced-apart, upper compression member, a lower tension member having its ends between the ends of the upper compression member, a U-shaped bearing-plate incasing the ends of the tension and compression members, said top compression member, bottom tension member and U-shaped bearing-plate being secured together by the same rivets; substantially as described.

13. A truck-frame having roller-bearings in its side frames and said side frames connected by tie-bars provided with a pivot-pin, combined with the car-body framing supplied with side bearings resting directly on said roller-bearings, and a socket-hole cooperating with the pivot-pin aforesaid.

14. A truck-frame having roller-bearings in its side frames, and said frames connected

by upper and lower transom-bars, the upper transom-bar being provided with a pivot-pin, combined with a car-body framing supplied with side bearings resting directly upon said roller-bearings, and a socket-hole coöperating with the pivot-pin aforesaid.

15. A car-truck side frame having an upper compression member, a lower tension member, a plurality of springs near the central portion of the side frame, a lower horizontal member, tie-bars connecting the lower hori-

zontal member and the upper compression member, and a brake-beam hanger attached to a tie-bar aforesaid, substantially as described.

In testimony whereof I have hereunto set my hand.

EDGAR W. SUMMERS.

Witnesses:

F. E. GAITHER,
F. H. MOYER.