No. 777,575. PATENTED DEC. 13, 1904.

J. C. WANDS.

CAR TRUCK.

APPLICATION FILED SEPT. 28, 1904.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.

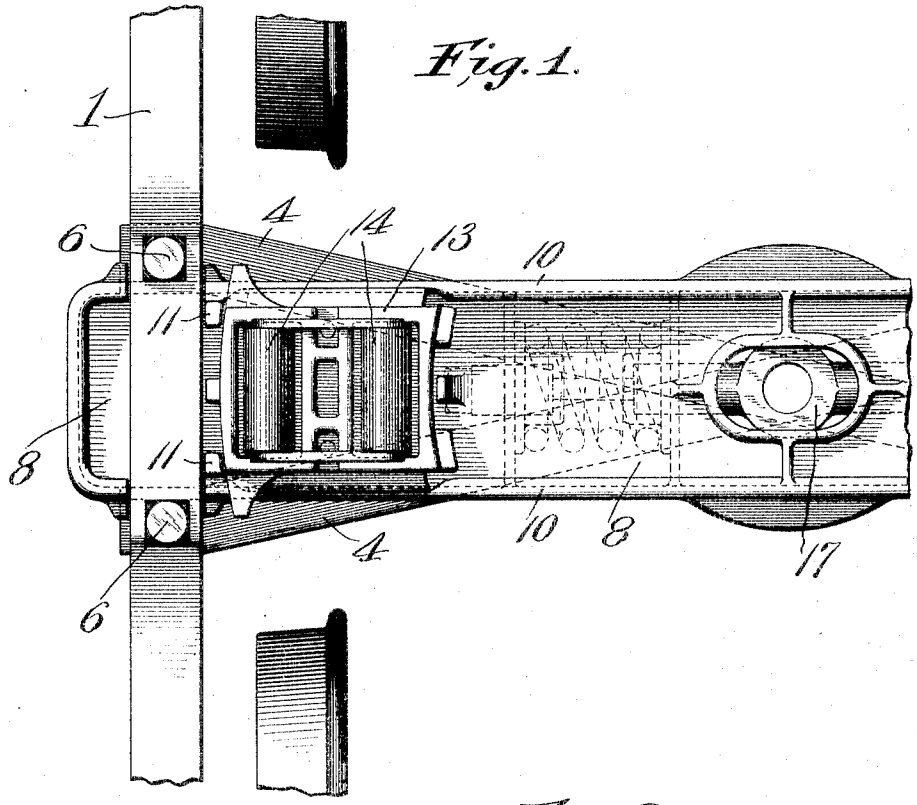
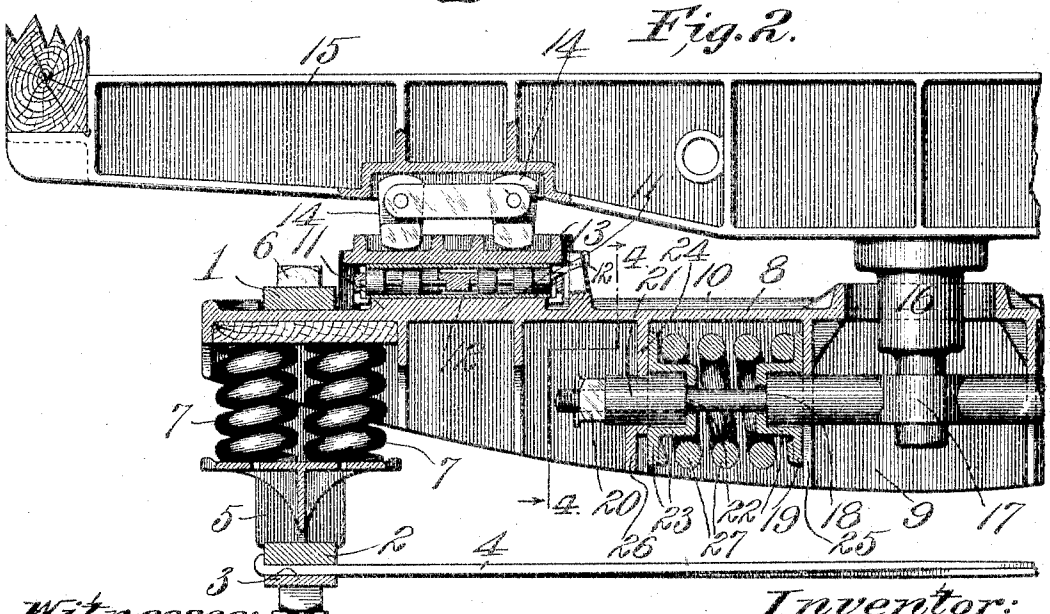


Fig. 2.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

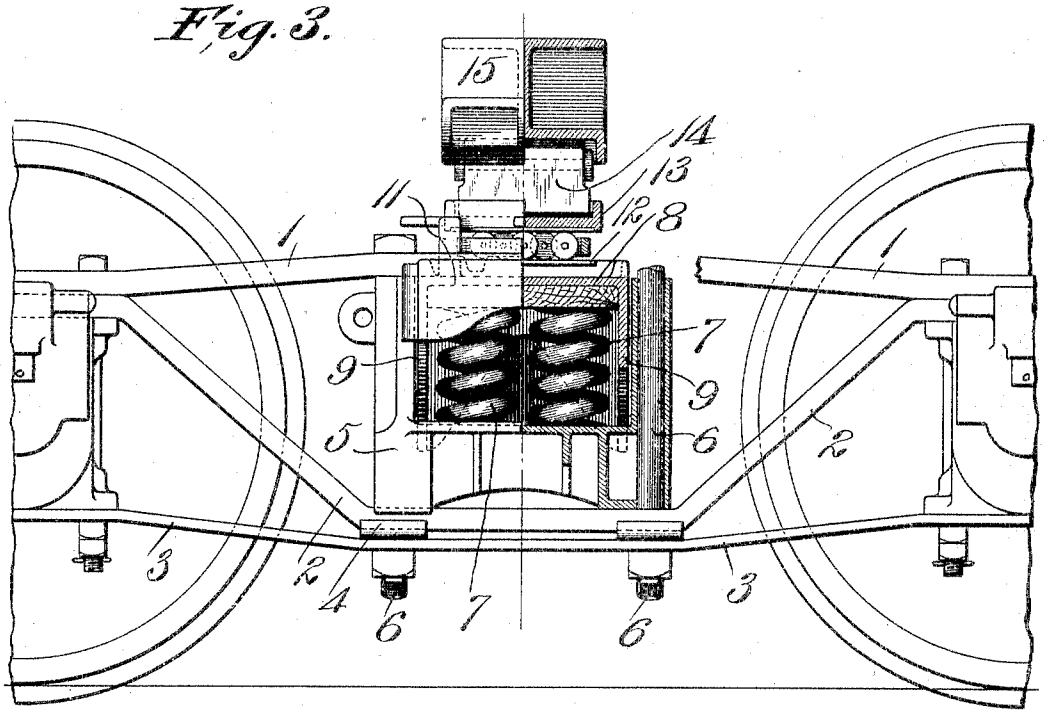


Fig. 4.

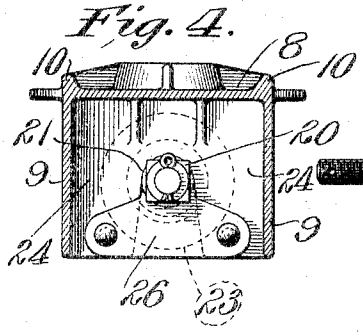


Fig. 5.

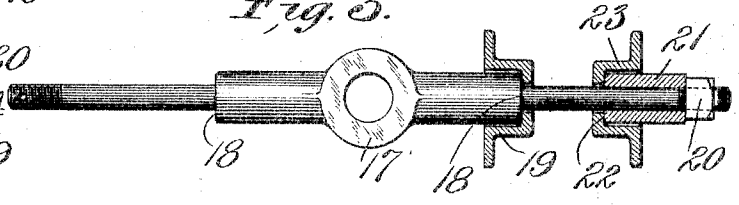
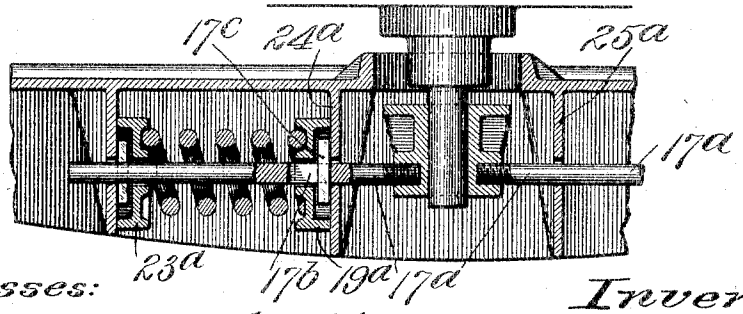


Fig. 6.



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Fig. 7.



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No. 777,575. Patented December 13, 1904.

UNITED STATES PATENT OFFICE.

JOHN C. WANDS, OF ST. LOUIS, MISSOURI.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 777,575, dated December 13, 1904.

Application filed September 28, 1904. Serial No. 226,334. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. WANDS, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Car-Trucks, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of a portion of my improved car-truck. Fig. 2 is a vertical sectional view through the same. Fig. 3 is a side elevational view. Fig. 4 is a cross-sectional view through the truck-bolster on the line 4 4 of Fig. 2. Fig. 5 is a detail view of the spring-bar carried by the swivel-pin. Fig. 6 is a vertical sectional view of the truck-bolster, showing a modified form of spring-bar; and Fig. 7 is a detail view of one of the spring-bar sections shown in Fig. 6.

This invention relates to a new and useful improvement in car-trucks, the same being of that type shown in my applications for patent filed March 25, 1904, Serial No. 199,945, and July 9, 1904, Serial No. 215,910.

The particular form of side bearing shown in the accompanying drawings is illustrated, described, and claimed in my said application for patent, Serial No. 215,910, and I will not describe the same in detail here. In my said application Serial No. 215,910 the truck-bolster is shown as a commercially-rolled I-beam, which necessitates the riveting of various accessories in adapting the beam of uniform cross-section throughout to my improved truck.

My present invention consists principally in the construction of a cast-steel truck-bolster upon which the various accessories are formed integral, thus enabling me to adapt the bolster to my particular improvements and in this way simplify the construction considerably, which renders it more acceptable and practical in service.

In the drawings, 1 indicates the top arch-bar, 2 the bottom arch-bar, 3 the side tie-bar, 4 the cross tie-bars, 5 the end casting, 6 the column-bolts, and 7 the bolster-supporting springs, all of well-known construction.

My improved truck-bolster is preferably U-shaped in cross-section and comprises a top web 8 and depending side flanges 9. Along the upper edges of the top web are strengthening-flanges 10, and near the ends of the bolster are raised portions 11, forming a solid support for a track-plate 12. On this track-plate run the antifriction devices of my improved side bearing shown and described in my aforesaid application Serial No. 215,910, the carrier 13 thereof traveling transversely the bolster and supporting rocking elements 14, movable at an angle to the direction of travel of the carrier and coöperating with the body-bolster 15 of the car. This body-bolster is provided with a depending swivel-pin 16, whose lower end is preferably reduced, as shown in Fig. 2. This reduced lower end passes through the eye of a spring-bar 17. (Shown more clearly in Fig. 5.) This spring-bar comprises arms disposed in opposite directions from the eye, said arms having shoulders 18, which coöperate with spring-followers 19. The reduced extensions of the arms are threaded at their extremities to receive nuts 20, which may be locked in position by cotter-pins, if desired, said nuts impinging against sleeves or collars 21, which form shoulders 22, coöperating with spring-followers 23.

Cross-webs 24 and 25 are cast on the bolster and serve not only as strengthening-webs, but also as stops with which coöperate the spring-followers 19 and 23, said webs being provided with appropriate openings for the passage of the spring-bar, its followers, and springs from beneath. The web 24 has its opening closed by a removable plate 26. Springs 27 are interposed between the spring-followers. By this construction it is obvious that the spring-bar, its followers, and springs can be assembled before the introduction of said parts in the bolster. By tightening up the nuts 20 the springs 27 can be compressed, so that the followers will fit between the stop-webs 24 and 25. The spring-bar and its associate parts can now be introduced into the

bolster from beneath, the reduced end of the swivel-pin being arranged in the eye of the spring-bar and the springs and their followers being placed in position between the stop-webs 24 and 25. When the parts are in the proper position, the removable plates 26 may be inserted to hold the spring-bar and its associate parts in proper position, the plate 26 being preferably riveted by two rivets to the web 24. After this, if desired, the nuts 20 may be unscrewed a short distance to permit the springs to expand and force their followers firmly against their respective webs, the nuts being locked in their finally-adjusted positions by appropriate cotter-pins or in any other suitable manner.

When the parts are assembled, any lateral motion of the car-body with respect to the truck will be taken up by the springs 27, both springs on opposite sides of the swivel-pin acting in multiple to absorb the shock and both exerting their energies to restore the car-body to its normal central position.

From the construction shown in the drawings it will be obvious that if the car-body moves to the left from the position shown in Fig. 2 the shoulder 18 will lift the inner spring-follower 19 from its stop-web 25 and compress the spring 27 against the other follower resting against its abutment-web 24. The sleeve 21 will move outwardly in this operation. The spring on the opposite side of the swivel-pin will also be compressed; but the action of the spring-bar will be the reverse, to wit: The shoulder 18 will leave its inner spring-follower 19 against the web 25, while the sleeve 21 will lift the outer spring-follower 23 for the purpose of compressing the spring.

In Fig. 6 I have shown a modified form in which I have shown the eye for receiving the lower reduced end of the swivel-pin as being in the form of a hub-casting, into the opposite sides of which are secured two bars 17^a. These bars pass through openings in the webs 24^a and 25^a and are slotted at 17^b for the reception of cross-pins 17^c, which are introduced through suitable openings in the followers 19^a and 23^a, respectively. The slots in the bars 17^a are of such length as to accommodate the movement of said bars laterally in compressing the springs.

In the event that it is necessary to make repairs the cross-pin is removed and the bars unscrewed from their hub and removed to permit the springs and their followers to be withdrawn from between their respective stop-webs.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without departing from the spirit and principle of my invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a car-truck, the combination with a cast-steel bolster, of centering-springs for the car-body arranged between the transversely-disposed webs of said bolster, and a spring-bar for compressing said springs, said spring-bar being designed to be connected to the car-body; substantially as described.

2. In a car-truck, the combination with a cast-steel bolster of inverted-**U** shape, said bolster having transversely-disposed webs, spring-followers designed to abut against said webs, springs coöperating with said followers, and a spring-bar connected to the car-body and coöperating with said spring-followers; substantially as described.

3. In a car-truck, the combination with a bolster having stop-abutments on its lower face, and a spring-bar for centering the car-body designed to be inserted in position from beneath the bolster; substantially as described.

4. In a car-truck, the combination with a bolster having slotted abutments, the slots thereof being open at their lower ends, a spring-bar adapted to be inserted in position in said slots from beneath, and means for closing the lower ends of certain of said slots; substantially as described.

5. In a car-truck, the combination with a bolster having fixed abutments, a spring-bar having an eye in its center for receiving the pivot-pin of the car-body, followers strung on said spring-bar and coöperating with said abutments, and springs interposed between said followers; substantially as described.

6. In a car-truck, the combination with a bolster having a raised portion on its upper face for receiving a side-bearing track, flanges depending from each side of said bolster, transverse webs forming stop-abutments, and a spring-bar coöperating with said webs; substantially as described.

7. In a car-truck, the combination with a bolster having fixed abutments, of a spring-bar comprising a centrally-located eye for receiving the pivot-pin on the car-body, arms oppositely disposed from said eye and provided with shoulders, spring-followers coöperating with said shoulders and with said fixed abutments, the outer extremities of said arms being threaded, nuts on said threaded portions, sleeves coöperating with said nuts, spring-followers coöperating with said sleeves and with other of said fixed abutments on the bolster, and springs interposed between said followers; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 24th day of September, 1904.

JOHN C. WANDS.

Witnesses:
F. R. CORNWALL,
GEORGE BAKEWELL.