

No. 753,626.

PATENTED MAR. 1, 1904.

W. G. PRICE.
CAR TRUCK.

APPLICATION FILED MAY 28, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

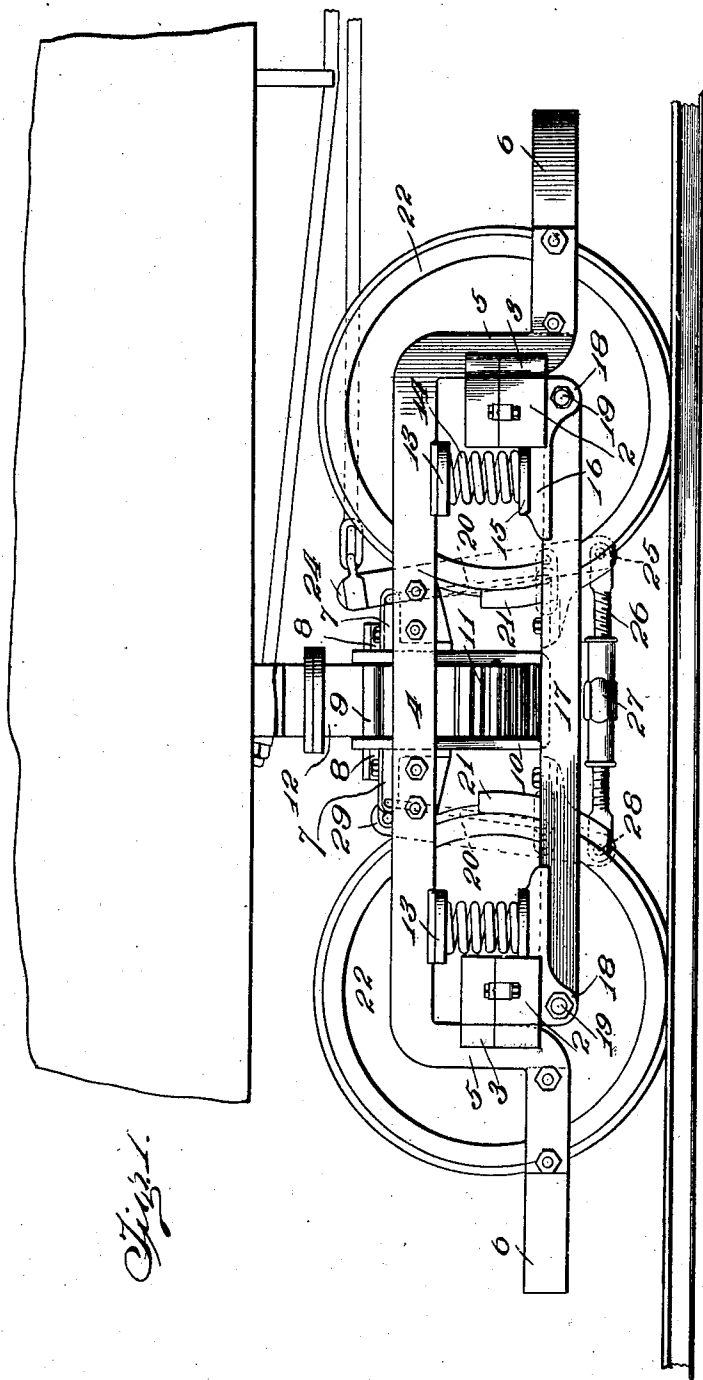


Fig. 1.

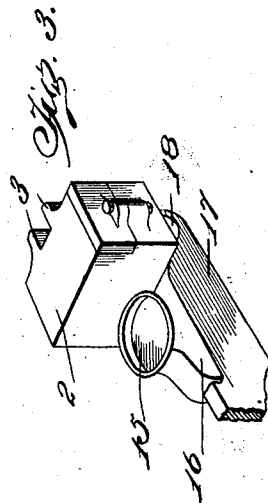


Fig. 3.

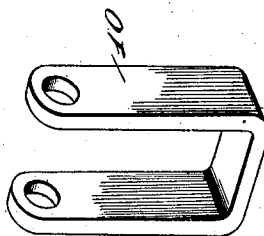


Fig. 4.

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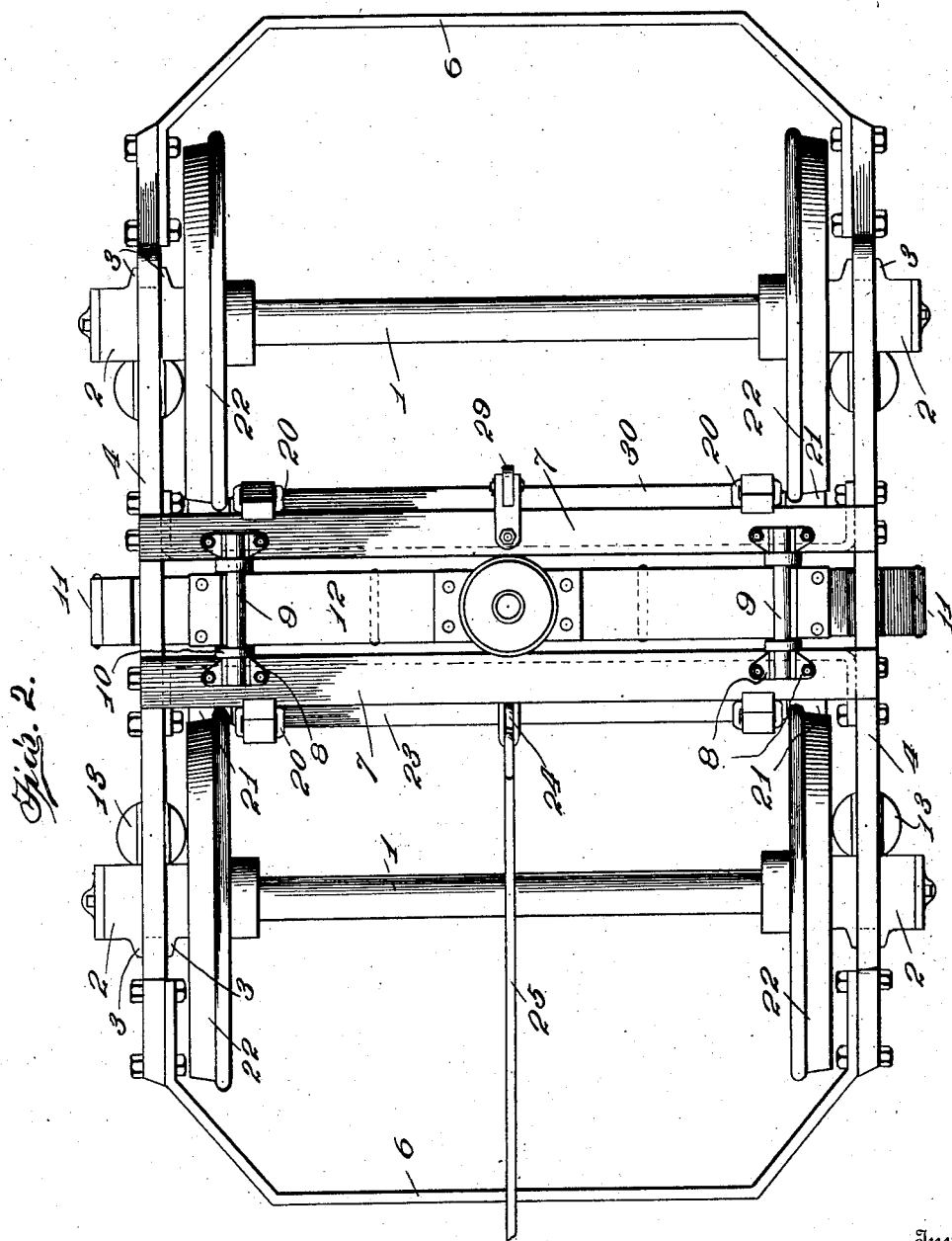
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2 SHEETS—SHEET 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM G. PRICE, OF NEW YORK, N. Y.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 753,626, dated March 1, 1904.

Application filed May 28, 1903. Serial No. 159,140. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. PRICE, a citizen of the United States, residing at New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Car-Trucks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to improvements in car-trucks, and particularly to such as are designed for use in connection with street-railway cars; and the object in view is the provision of a frame which is susceptible of formation from a single steel bar and which may be forged without welding, whereby cheapness and simplicity of structure is attained and strength and efficiency assured.

With this and other objects in view the invention consists in combination, with axles and a bolster of the truck, of side frames, springs supported by said axles and carrying said frames, transoms connecting the frames on each side of said bolster, and springs carried by said transoms supporting the bolster.

It further consists in combination, with suitable axles, of vertically-movable side frames connecting the same, means carried by the axles for guiding said frames, and a bolster supporting said frames.

It also consists in certain other novel constructions, combination, and arrangement of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a view in side elevation of a car-truck embodying the features of the present invention. Fig. 2 represents a top plan view of the same. Fig. 3 represents an enlarged detail perspective view of one of the bearing-boxes. Fig. 4 represents an enlarged detail perspective view of one of the elliptic-spring hangers.

In carrying out the present invention I contemplate providing a truck having side frames of yoke shape engaging laterally-projecting guiding-lips carried by the bearing-boxes of the axles of the truck, each of said side frames being formed of one piece and transoms connecting the side frames and carrying an in-

terposed bolster. By the provision of the integral formation of the side frames or yokes I obviate the necessity for the use of a plurality of parts, and in the embodiment disclosed in the accompanying drawings I employ, in connection with suitable axles 1 1, bearing-boxes, (indicated by numerals 2 2,) inclosing the ends of said axles. Each of the boxes 2 is formed with laterally-projecting lips 3 3, leaving a vertical pathway therebetween, which pathway is filled by the respective side frames 4, each of which side frames is formed yoke shape, with the vertical portions 5 5 lying within said pathway between the respective pairs of lips 3, whereby said yoke will be guided in its movement. The side frames 4 have their ends connected together by end frames 6 6 and are connected centrally together by transoms 7 7, each of the said transoms being formed, preferably, of an angle-bar bolted at its ends to the said side frame. The transoms 7 are spaced apart, and each is provided at each end with a bracket 8, retaining a transversely-arranged supporting-bar 9, each bar 9 being passed through the apertures in the upper end of the U-shaped hanger 10, which hanger is passed about its respective elliptical springs 11 and forms the support therefor. The elliptical springs 11 are of the common type and support a suitable bolster 12, extending transversely of the truck between the transoms 7. Each side frame 4 is provided with a suitable cap 13 near each end of the upper horizontal portion of said frame for receiving the upper end of a coiled spring 14, the lower end of which spring rests upon a seat 15, carried by a laterally-projecting flange 16, extending from and formed integral with bearing-boxes 2 and projecting upon each side of a horizontally-arranged connecting-bar 17, which bar extends between depending ears 18, formed integral with and extending downwardly from the bearing-boxes 2. A suitable bolt or other securing means 19 extends through the ears 18 and the bar 17 for securing the parts together, the said bolts and bars retaining the bearing-boxes against any lateral movement, which accomplishes a very valuable function, as will be hereinafter more fully described.

Of course it will be apparent that the cush-

ion means can be rested upon the equalizing-bar 17 in any suitable manner or may engage the said bar without any means interposed between them and the said bar.

5 Depending from each transom 7, near each end thereof, is a link 20, carrying a brake-shoe 21, designed to contact with the wheels 22, carried by the axles 1. A transverse bar 23 connects the links 20 on one side of the bolster 12 together and is itself carried by a brake-lever 24, which lever is designed to be operated by any suitable draw-bar 25', the forward movement of the drawing-bar in operation moving the transverse bar 23 toward the wheels 22 for effecting the braking operation. 15 The lower end of the lever 24 is pivoted, as at 25, to a link 26, provided with an interposed turnbuckle 27 and connected at its opposite end pivotally, as at 28, to the brake-lever 29, which lever is arranged on the opposite side of bolster 12 from lever 24, both of said levers being preferably arranged centrally of the truck. The lever 29 carries a transverse bar 30, which is connected with the respective links 25 20 at its opposite ends, so that when the lever 24 is moved for throwing the shoes 21 against the wheels upon its side of the bolster 12 the link 26 will cause the lower end of lever 29 to swing in the direction of the wheels upon its side of the bolster, whereby the bar 30 will be caused to move and swing the shoes 21, connected with the links 20, to which said bar is attached, into contact with said wheels.

It is to be observed that the weight of the 35 car-body is supported by the bolster 12, resting upon the springs 11, carried by the transoms 7 and frames 4, which in turn rest upon the springs 14, whereby a comparatively great pressure is borne by the seats 15, whereby the bars 17 are prevented from having any lateral or longitudinal play and through their connections with the ears 18 will prevent the wheels 22 from spreading, whereby the brake-shoes 21 may be caused to act much more effectively and quickly than could be accomplished were the said wheels free to spread 45 apart slightly.

In operation any jarring of the wheels 22 will be absorbed by the springs 14 and the 50 spring 11, the bolster 12 being free to move vertically between the transom 7 and the frames 4 being left free for vertical movement while being positively guided and limited against lateral play by the lips 3.

55 Although I have set forth the details of a particular embodiment of the present invention, yet it will be observed that many slight alterations may be made and changes as to the size and shape of the parts, and I wish it to be understood that I contemplate making 60 any and all such changes within the spirit and scope of the invention.

It will be observed that the entire weight of the car is sustained by the equalizing-bar 17, 65 and as such bar is fixed to the boxes 2, which

boxes are provided with guiding-lugs engaging the pedestals of the frame 4, the said boxes will be positively retained against any lateral play or twisting action and held firmly in alignment with their respective axles. 70

As best seen in Fig. 3, the element which I have mentioned as a flange consists simply of a bar or piece of material formed integral with the box 2 and extending laterally therefrom in position for resting upon the bar 17, 75 and may or may not be formed with parallel depending flanges for inclosing said bar, as desired, said flanges being preferable, as they effectually prevent lateral play of the element 16. The ears 18 are illustrated as continuous of and formed integral with the depending parallel flanges, so that a pair of ears or jaws is formed for inclosing each end of each bar 17. However, the ears 18 need not be made integral with the element 16 or even 85 continuous thereof, but may be formed in any desired manner, so long as they are made integral with their respective box 2.

Having thus fully described my invention, what I claim as new, and desire to secure by 90 Letters Patent, is—

1. In a car-truck, the combination of yoke-shaped side frames, cushioning means supporting the same, means connecting the said frames, a bolster, and cushioning means suspended from said connecting means in substantially the same horizontal plane with the first-mentioned cushioning means for supporting the bolster. 95

2. In a car-truck, the combination of yoke-shaped side frames, cushioning means supporting the same, transoms connecting said side frames, a bolster, and cushioning means carried by said transoms supporting said bolster. 100

3. In a car-truck, the combination with axles, 105 of bearing-boxes therefor, flanges extending from said boxes, bars connecting the boxes engaged by said flanges, cushions mounted upon said flanges, side frames carried by said cushions, and a bolster carried by said side frames. 110

4. In a car-truck, the combination with axles, of bearing-boxes inclosing the ends thereof, a bar connecting the boxes of each pair of ends of the axles, a flange extending from each box 115 resting upon the respective bar, and car-body-supporting means carried by said flanges.

5. In a car-truck, the combination with axles, of bearing-boxes therefor formed with laterally-projecting flanges, bars connecting said boxes and supporting said flanges, yoke-shaped side frames inclosing said boxes, cushioning means carried by said flanges supporting said frames, and car-body-supporting means carried by said frames. 120

6. In a car-truck, the combination with axles, of bearing-boxes therefor, ears depending from said bearing-boxes, bars connecting said ears, and car-body-supporting means mounted upon said bars. 125 130

7. In a car-truck the combination with axles and bearing-boxes therefor, flanges extending from said boxes, bars connecting the boxes, cushioning means carried by the flanges, and car-body-supporting means carried by the said cushioning means.

8. In a car-truck the combination with axles of bearing-boxes therefor, main flanges extending from said boxes, auxiliary parallel flanges depending from said main flanges, a bar connecting said boxes inclosed by said flanges and car-body-supporting means carried by said bar.

9. In a car-truck, the combination with axles and bearing-boxes therefor, means for sustaining a car-body connecting said boxes, the weight sustained by said retaining means locking the same in such position relative to the boxes as to prevent lateral spreading of the boxes.

10. In a car-truck, the combination with axles and bearing-boxes therefor, of flanges extending from said boxes, bars connecting said boxes and inclosed by said flanges, cushions mounted in said seats, and car-body-supporting means carried by said cushions.

11. In a car-truck, the combination with axles and bearing-boxes therefor, of connecting means for pairs of said boxes, cushion means carried by each box at one side thereof, a yoke-shaped side frame inclosing each pair of boxes, guiding lips or flanges extending from the respective side of each box opposite said cushion and engaging the respective side frame for guiding the same, and car-body-supporting mechanism carried by said side frames.

12. In a car-truck, the combination with axles, and bearing-boxes therefor, bars connecting said boxes, means carried by the boxes engaging said bars for sustaining a car-body, the weight of the car-body holding such sustaining means in such relation to the bars as to prevent lateral separation of said boxes.

13. In a car-truck, the combination with axles and bearing-boxes therefor of means held in such position by the load on the truck as to prevent lateral separation of the boxes.

14. In a truck, the combination with journal-boxes, of means fixing said boxes against lateral play, a spring-support formed integral with and projecting from each of said boxes, springs mounted on said supports, and car-body-supporting means carried by said springs.

15. In a truck, the combination with journal-boxes, of an equalizing-bar fixed to said boxes beneath the same, and means carried by said bar between the boxes for supporting a car.

16. In a truck, the combination with suitable axles and journal-boxes therefor, of an equalizing-bar connected to said boxes at points outside the plane of the axes of rota-

tion of the axles, and means carried by said bar between said boxes for supporting a car.

17. In a truck, the combination with suitable axles and journal-boxes therefor, of a side frame, an equalizing-bar therefor, spring-seats between the axles, springs resting on said seats and supporting said frame, the spring-seats being formed integral with the journal-boxes, and jaws on said seats engaging the equalizing-bar.

18. In a truck, the combination with suitable axles and journal-boxes therefor, of a side frame, an equalizing-bar, spring-seats mounted on said bar between said axles, and springs resting on said seats and supporting said frame, the spring-seats being formed integral with the journal-boxes.

19. In a truck, the combination with suitable axles and journal-boxes therefor, of an equalizing-bar rigidly connecting the journal-boxes, and a one-piece side frame inclosing said boxes, and supported on the equalizing-bar at points between the journal-boxes.

20. In a truck, the combination with suitable axles, and journal-boxes therefor, of a one-piece side frame formed with an integral vertically-extending pedestal at each end, guiding-lugs on said journal-boxes engaging said pedestals, means carried by said journal-boxes engaging said equalizing-bar for supporting the boxes against lateral play, and means carried by said bar supporting said frame.

21. In a truck, the combination with journal-boxes, of a side frame formed of a single bar of material bent into yoke shape producing two pedestals, one at each end, a flange extending from each box, a bar supporting said flanges and means carried by the flanges supporting said side frame.

22. In a truck, the combination with journal-boxes of a side frame formed of a single bar of material bent in yoke shape forming a pedestal at each end and a load-sustaining flange extending from each box.

23. In a truck, the combination with axles and bearing-boxes therefor, of an equalizing-bar pivotally connected to the boxes and means carried by the said bar for supporting a car-body.

24. In a truck, the combination with journal-boxes, of an equalizing-bar fixed to said boxes beneath the same, a yoke-shaped side frame inclosing said boxes and means carried by said bar between the boxes for supporting said side frame.

25. In a truck, the combination with axles and journal-boxes carried thereby, of a bar connecting said boxes, flanges extending from said boxes engaging said bar for preventing rotation of the boxes and means sustained by said bar for supporting a car-body.

26. In a car-truck, the combination with axles and bearing-boxes therefor, of a flange

extending from each of said boxes, a bar connecting said boxes, and car-body-supporting means mounted upon each of said flanges for retaining the same in engagement with said
5 bar and preventing movement of the bar and lateral separation of the boxes.

27. In a truck, the combination with suitable axles and journal-boxes therefor, of an equalizing-bar connecting the journal-boxes,

and a one-piece side frame inclosing said boxes 10 and supported by said bar at points between the boxes.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

WILLIAM G. PRICE.

Witnesses:

H. M. PENDLETON,

W. M. WESTON.