(No Model.)

LA MARCUS A. THOMPSON.

CAR TRUCK.

No. 458,200. Patented Aug. 25, 1891.

Fig. 1.

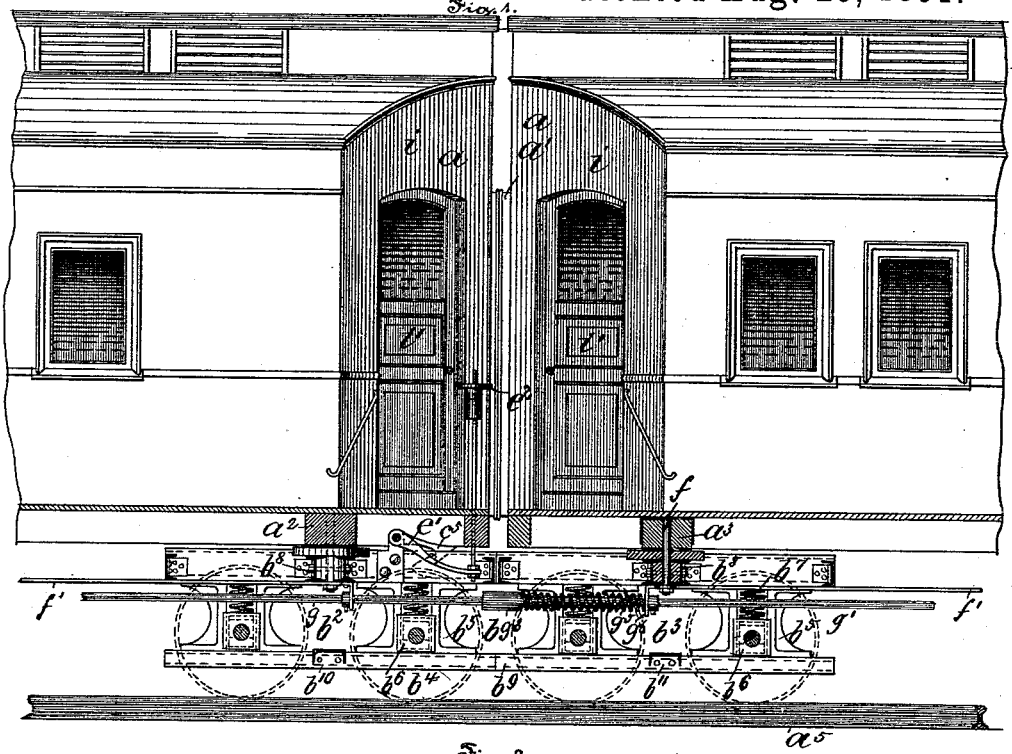


Fig. 2.

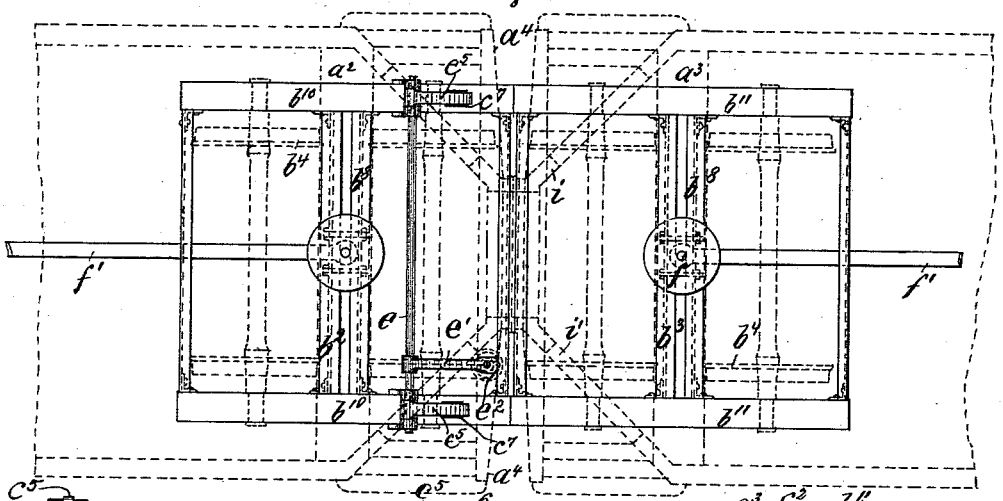


Fig. 4.

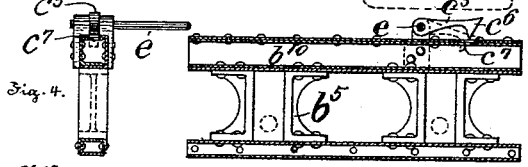


Fig. 3.

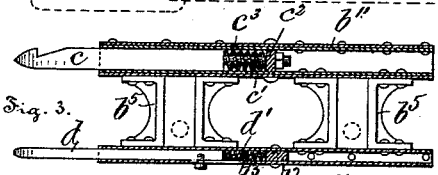
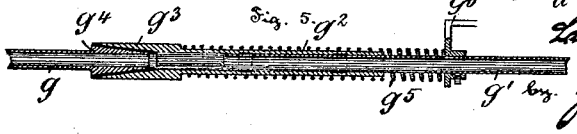


Fig. 5.



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UNITED STATES PATENT OFFICE.

LA MARCUS A. THOMPSON, OF PHILADELPHIA, PENNSYLVANIA.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 458,200, dated August 25, 1891.

Application filed February 26, 1891. Serial No. 382,935. (No model.)

To all whom it may concern:

Be it known that I, LA MARCUS A. THOMPSON, a citizen of the United States, residing at the city of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Car Trucks and in Mechanism Connected Therewith, of which the following is a specification.

In my present invention use is made of two-part trucks, whereof each section is provided with wheels and automatic coupling devices, and is attached to the extremity of a car-body by means of a king-bolt, so that in practice the respective cars are coupled together by the trucks instead of by the car-bodies.

The principal objects of my present invention are, first, to couple cars together automatically at the trucks instead of at the platforms, and consequently to draw a train of cars by the trucks instead of by the car-bodies, whereby comparatively little motion or traction-power is required to draw the train around curves, because the pull exerted by the locomotive tends to straighten the train, and therefore pulls the wheels of the two-part truck away from the outside rail, thus reducing friction and obviating in a greater or less degree so-called "flange-strain," which latter, as is well known, tends to spread the rails of the permanent way or line; second, to provide comparatively simple, efficient, and practical devices for automatically coupling and uncoupling the air-brake pipe, steam-conduit, whistle connection, &c., whenever the trucks are coupled or uncoupled, and, third, to afford a better and safer construction of vestibule and approaches therefor than has hitherto been possible.

My invention consists of the improvements in railroad cars and trucks hereinafter fully described, and particularly pointed out in the claims.

The nature and characteristic features of my present invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a view, partly in elevation and partly in section, of the adjacent extremities of two cars pivoted, respectively, to the two members comprising a two-part truck connected together, and also illustrating an automatic air or steam pipe coupling in application thereto. Fig. 2 is a top or plan view of Fig. 1, showing means for disconnecting the respective members of the two-part truck to uncouple the cars. Fig. 3 is a detail view, on an enlarged scale, of one of the members of a two-part truck-frame, showing means for automatically connecting the respective parts together. Fig. 4 is an end view of the left-hand portion of Fig. 3; and Fig. 5 is a transverse section, on an enlarged scale, of an appliance for automatically coupling and uncoupling the air-brake, steam-heat, or whistle pipe when the cars are either coupled or uncoupled.

In the drawings, a are the extremital portions of two adjacent cars provided, respectively, with an extensible vestibule connection a'. These car-bodies are respectively mounted on bolster-beams a^2 and a^3 and have the corners of their respective platforms cut away at a^4, Fig. 2, in order to permit a train composed of such cars to traverse curved portions of a roadway a^5.

b is a two-part truck comprising two sections b^2 and b^3, provided, respectively, with wheels b^4, axle-guards b^5, axle-boxes b^6, springs b^7, and swing-beams b^8. The truck-frame b^9 of the truck b is made in two parts b^{10} and b^{11}, and is preferably composed of box-girders or hollow beams of any preferred form in cross-section—for example, of wrought-iron pipe.

c, Fig. 3, are draw-heads having the respective shanks thereof fitted into the upper members of the truck-frame b^{11} and attached thereto by means of bolts c', connected with bridge-pieces c^2 or in any other preferred manner.

c^3 are spiral springs coiled around the bolts c' and interposed between the bridge-pieces c^2 and the extremities of the draw-heads c in order to afford the latter a slight freedom of motion in the direction of the center of the car—that is, toward the right in Fig. 1.

e is a shaft supported in suitable journals or bearings attached to the truck-frames b^{10} and provided with gripping devices c^5, having hook-shaped projections c^6. The hook-shaped projections c^6 are adapted to work in suitable slots c^7, formed in the upper members of the truck-frames b^{10}, so as to penetrate into the

interior thereof, Figs. 3 and 4, in order to engage with the draw-heads c when the latter are inserted into the truck-frames b^{10}, thus firmly attaching the two members b^2 and b^3 of the truck b together.

e' is an arm attached to the shaft e and connected with a suitable hand-wheel e^2, located at the platform of the car, so that the gripping devices c^5 may be raised out of engagement with the draw-heads c by the simple operation of actuating the hand-wheel.

The weight of the gripping devices c^5 normally tends to cause the same to assume a downward position for automatically engaging the draw-heads c; but, if preferred, said gripping devices may be provided with suitable means for shifting them downward with a positive motion.

d are bolts having their shanks fitted into the lower members of the truck-frame b^{11} and attached thereto by means of bolts d' and bridge-pieces d^2.

d^3 are springs coiled around the shanks of the bolts d and interposed between the bolts and the bridge-pieces d^2 in order to afford the former a slight freedom of motion toward the center of the car—that is, toward the right in Fig. 3. These bolts d penetrate into the interior of the lower members of the truck-frame b^{10} when the two sections b^3 and b^2 of the truck are coupled together, in order to support and connect the lower members of the truck-frames. If preferred, the bolts d may be provided with draw-heads adapted to engage with suitable gripping devices attached to the lower members of the truck-frame b^{10} and actuated by means of the hand-wheel e^2 or in any other preferred manner.

f are king-bolts passing through the bolster-beams a^2 and a^3 and swing-frames b^8, so as to attach the cars to the respective sections b^2 and b^3 in order to permit the latter to swivel freely when the cars are uncoupled and in order to permit the cars to swivel on the truck b when the two sections b^2 and b^3 are connected together. The lower extremities of the king-bolts f, located at the opposite extremities of the cars, are connected together by reach-bars f', Figs. 1 and 2, so as to relieve the car-bodies of the strain of the pull of the locomotive or other prime mover.

g and g', Fig. 5, are sections of an air or steam pipe located, respectively, beneath the car-bodies. The section g' of this pipe is provided with a loose sleeve g^2, having an expanded internally-tapering extremity g^3, adapted for the reception of an externally-tapering tip or nozzle g^4, attached to the section g.

g^5 is a spring coiled around the sleeve g^2 and having one extremity in contact with the rim or projection formed upon the extremity g^3 of the sleeve and the other extremity thereof in contact with a bracket g^6, supported by the swing-beam b^8 or in any other preferred manner. This spring g^5 serves to force the sleeve g^2 outward—that is, toward the left in Fig. 5—and thus insures a tight joint between the nozzle g^4 and expanded extremity g^3, so that when the two sections b^2 and b^3 of the truck are connected together the two sections of pipe g and g' are automatically connected together.

The cars a are illustrated in the drawings as having diagonally-disposed corner portions i, provided with doors i' for the accommodation of passengers; but these corner-pieces may, if preferred, be disposed in the usual manner. However, the diagonally-disposed corner-pieces not only present an attractive appearance, but also increase the strength and rigidity of the vestibule connection, and therefore preference is given to their employment.

Cars provided with the hereinabove-described two-part trucks may be coupled together automatically by forcing the two adjacent ends of the cars together in the usual manner, so that the draw-heads c are engaged by the gripping devices c^5 and the bolts d engage with the interior portions of the lower members of the truck-frames b^{10}, while at the same time the two sections g and g' of the steam or air pipe are automatically connected by means of the sleeve g^2, as has been hereinabove explained. After the truck has been coupled together in the manner above described the two members b^2 and b^3 thereof constitute a solid truck. In the present instance a truck having eight wheels and not exceeding in length an ordinary eight-wheel truck has been shown, and the adjacent extremities of the two cars are connected with said truck by means of separate king-bolts f, so that the cars are rigidly connected together at the trucks.

The cars may be readily uncoupled by lifting the gripping devices c^5 out of engagement with the draw-heads c either by means of the hand-wheel e^2 or in any other convenient manner.

It will be obvious to those skilled in the art to which my invention appertains that modifications may be made in the details thereof without departing from the spirit of the invention, and hence I do not limit myself to the exact construction and arrangement of the parts hereinabove described; but,

Having thus described the nature and objects of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with cars provided with vestibule connections and steps, of a truck for supporting and connecting adjacent extremities of two cars and comprising two sections, pivoted, respectively, to different cars and composed of a frame having box-girders or hollow beams, draw-heads fitted in and attached to the beams of one of said frames and adapted to enter the corresponding beams of the second frame, gripping devices attached to the beams of the second frame and adapted

to engage said draw-heads, and means for actuating said gripping devices, substantially as and for the purposes set forth.

2. The combination, with cars provided with vestibule connections and steps, of a truck for supporting and connecting the adjacent extremities of two cars and comprising two sections composed, respectively, of a frame having upper and lower girders or beams, draw-heads fitted into and attached to the upper beams of one frame and adapted to enter the corresponding beams of the second frame, bolts attached to the lower beams of the first frame and adapted to enter the corresponding beams of the second frame, gripping devices attached to the upper beams of the second frame and adapted to engage the draw-bars, and means for actuating the gripping devices, substantially as set forth.

In witness whereof I have hereunto set my signature in the presence of two subscribing witnesses.

LA MARCUS A. THOMPSON.

Witnesses:
E. C. BICKEL,
C. W. FISH.