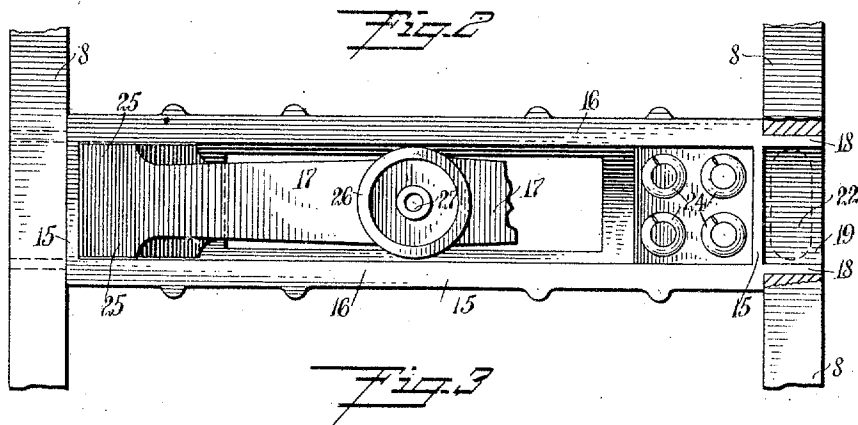
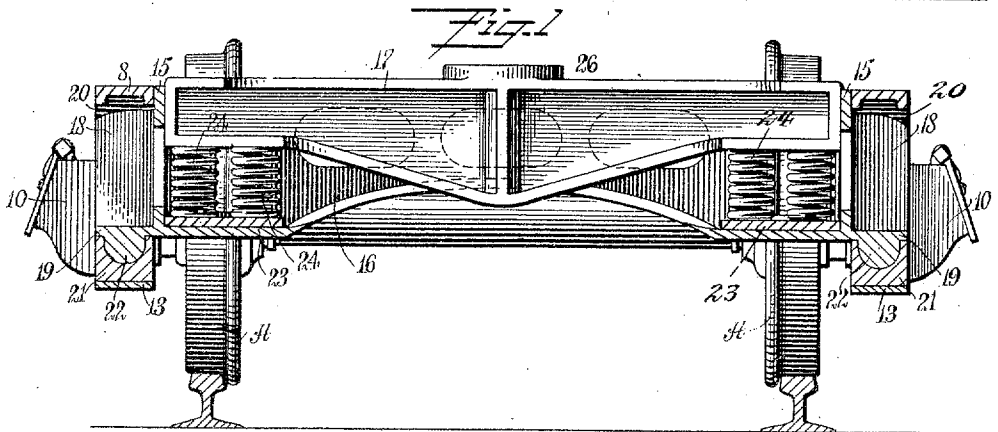
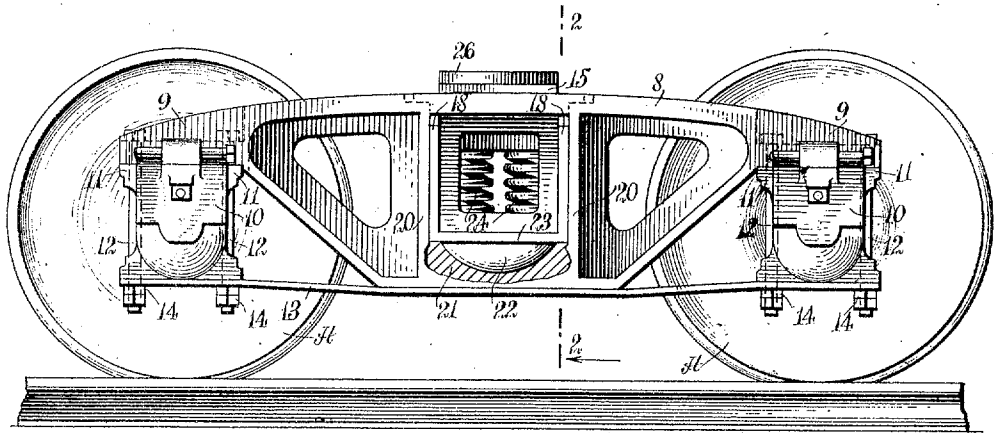


J. J. SULLIVAN.
CAR TRUCK.
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986,242.

Patented Mar. 7, 1911.



WITNESSES:
E. G. Bromley,
C. A. Mudock

INVENTOR
Jeremiah J. Sullivan
BY *Mumford*
ATTORNEYS

UNITED STATES PATENT OFFICE.

JEREMIAH JOSEPH SULLIVAN, OF NEW DECATUR, ALABAMA.

CAR-TRUCK.

986,242.

Specification of Letters Patent.

Patented Mar. 7, 1911.

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To all whom it may concern:

Be it known that I, JEREMIAH J. SULLIVAN, a citizen of the United States, and a resident of New Decatur, in the county of Morgan and State of Alabama, have invented a new and Improved Car-Truck, of which the following is a full, clear, and exact description:

Among the principal objects which the present invention has in view are: To provide a construction for car trucks which is flexible, being adapted to equalize the carrying strain and to relieve the flange pressure on the truck wheels; to provide a spring plank constructed and arranged to hold the side frames and bolster in alignment; to provide a rocking connection for the spring plank with the side frames, said connection being arranged to yield to sudden strains and to resume its position under normal conditions; and to provide a construction wherein is eliminated bolted connections or fastening devices.

One embodiment of the present invention is disclosed in the structure illustrated in the accompanying drawings, in which like characters of reference denote corresponding parts in all the views, and in which—

Figure 1 is a side elevation, partly in section, of a car truck constructed and arranged in accordance with the present invention; Fig. 2 is a vertical cross section taken on the line 2—2 in Fig. 1; and Fig. 3 is a top view of the spring plank, carrying bolster and fragments of the side frames, the bolster and part of one of the side frames being cut away to expose the construction of the spring plank.

The side frames 8, 8 are constructed substantially as shown in the drawings, having end extensions 9, 9 to rest over the journal boxes 10, 10. Extended downward from the extensions 9, 9 are guide flanges 11, 11 to form seats for the said boxes. The boxes are held in position upon the side frames by means of bolts 12, 12, which are connected to a strap 13. The strap 13 is suitably secured to the frames 8, 8 and extended forward under the boxes 10 to receive the bolts 12, 12 and the nuts 14, 14 for the said bolts.

Between the side frames 8, 8 is extended a spring plank 15. The plank 15 as constructed by me is formed with vertically extended side flanges 16, 16 to serve as guides for, and to constitute a pocket for a bolster 17. At the extreme ends of the plank 15 are formed side flanges 18, 18 and a bottom flange 19. The box-like structure formed by the side flanges 18 and the bottom flange 19 extends through pockets formed in the side frames 8, 8 by vertical flanges 20, 20, and a horizontal bed 21.

It will be understood that all of the structural members herein described are suitably webbed in form to provide the maximum strength with the minimum weight. The bed 21 is provided with a recess formed therein, having an elongated curved bottom longitudinally disposed in each of the frames 8. The recesses are transversely shaped to a short curve, all square surfaces or corners in these recesses being avoided, as the same form a rocking pocket for a rocker 22 which is extended from the bottom flange 19 of the spring plank 15.

The flanges 18, 18 are vertically elongated to fit within the pocket formed by the flanges 20, 20 in the frames 8. The said flanges 18 are curved at their upper edges to permit the extension of the said flanges in the said pocket after the rocker 22 is seated in the recess provided therefor. The inner edges of the flanges 18, when the same are extended within the pocket formed by the flanges 20, are disposed sufficiently close to the top of the frames 8 to prevent the lift of the plank 15 to raise the rocker 22 out of the recess provided in the bed 21.

The two side frames 8, 8 are connected by the spring plank 15, being adjusted thereto in the manner above indicated. When the frames are held in upright or vertical position, as shown in the drawings, the connection between the frames established by the plank 15 is positive. The wheels A, A of the truck, together with the journal boxes 10, are then connected to the frames 8, 8, and the frame of the truck is complete, and this without bolts being used to secure the spring plank and the side frames. It will

also be noted that the connection thus formed between the side frames 8, 8 by means of the spring plank 15 and the rockers 22, 22 thereof, is such that a certain amount of independent action on the part of the frames 8, 8 is by this construction permitted. It will also be noted by reason of the connection between the rockers 22 and the recesses formed in the bed 21, that while the frames 8, 8 may be rocked laterally and longitudinally, the weight applied to the spring plank 15 will force the rockers 22 to seat within the recesses in the bed 21, and thereby right the parts, or cause the same to resume the normal position when moved therefrom.

The spring plank 15 is provided at each end with a platform 23, 23. The platforms 23, 23 are provided to receive buffer springs 24, 24. The springs 24, 24 are mounted in the usual manner, and are provided to support the bolster 17. The bolster 17 is seated upon the springs 24, 24 and guided between the flanges 16, 16, the said bolster being provided with end extensions 25, 25 to thus operate as a guide. The bolster 17 is provided with a central bearing ring 26 and a bolt hole 27 for the king bolt, whereby the same is secured upon the locomotive tender or car for which the said truck is provided.

The truck thus constructed is particularly designed for locomotives and tenders. It will be seen that when attached to rapid running cars the forward wheels, in striking a curve in the track, receive a severe impact on the flange of the wheel. This impact, when the truck is rigid, is exceedingly trying to the connections thereof, and is a strain upon the car structure to which it is attached. By providing a yielding truck structure adapted to give to the impact and strain, as is the truck herein described, the shock of the impact is dissipated, and the car and truck structure are relieved from the rending action of the impact. Further, it will be understood that the slight fore and aft movement permitted by the rocker 22 provides for an adjustment of the truck longitudinally to a change of grade, or permits the truck to rock slightly forward when the brakes are applied, and the checking strain to overcome the inertia of the engine is upon the wheels of the truck. Also, the transverse curvature of the rockers 22 permits a slight transverse rock of the frames 8, 8 and the bolster 17 to relieve the torsional strain due to the overcoming of the inertia of the engine body when entering upon a curved section of track.

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

1. A car truck, comprising a plurality of side frames having formed in the median

section thereof a guide opening; a spring plank disposed between the said frames and having formed thereon rockers curved longitudinally and transversely; and pockets mounted on said frames and in the guide openings thereof to receive the said rockers.

2. A car truck, comprising a plurality of side frames having formed in the median section thereof a guide opening; a spring plank disposed between the said frames and having formed thereon rockers curved longitudinally and transversely, and having guide flanges arranged perpendicular to the said rockers to operate in conjunction with the said guide openings in said frames; and pockets mounted on said frames and in the guide openings thereof to receive the said rockers.

3. A car truck, comprising a plurality of side frames having formed in the median section thereof a guide opening and an elongated recess having a bottom curved longitudinally and transversely; and a spring plank disposed between said frames and having formed thereon rockers curved longitudinally and transversely to conform with the said recesses in said frames, and having guide flanges arranged perpendicular to the said rockers to operate in conjunction with the said guide openings in said frames.

4. A car truck, comprising a plurality of side frames having formed in the median section thereof a guide opening and an elongated recess having a bottom curved longitudinally and transversely; and a spring plank disposed between said frames and having formed thereon rockers curved longitudinally and transversely to conform with the said recesses in said frames, and having guide flanges arranged perpendicular to the said rockers to operate in conjunction with the said guide openings in said frames, and said plank having bearing sections to impinge upon the inner sides of said frames to maintain the vertical disposition thereof.

5. A car truck, comprising a plurality of side frames having formed in the median section thereof a guide opening and an elongated recess having a bottom curved longitudinally and transversely; a spring plank disposed between said frames and having formed thereon rockers curved longitudinally and transversely to conform with the said recesses in said frames, and having guide flanges arranged perpendicular to the said rockers to operate in conjunction with the said guide openings in said frames, and said plank having bearing sections to impinge upon the inner sides of said frames to maintain the vertical disposition thereof, and said plank having vertically disposed side frames to form a box-like receptacle

and end platforms to form seats for buffer springs; a plurality of buffer springs mounted on said platforms; and a carrying bolster mounted on said springs in guided relation to said vertically disposed side frames.

6. In a car truck, the combination with side-frames; of a bolster; springs for yieldingly supporting said bolster; and load transmission means interposed between said
10 springs and the adjacent side-frame, and

adapted to have a rocking movement, with respect to said side-frame.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

JEREMIAH JOSEPH SULLIVAN.

Witnesses:

F. A. BLOODWORTH,

G. A. HOFF.