

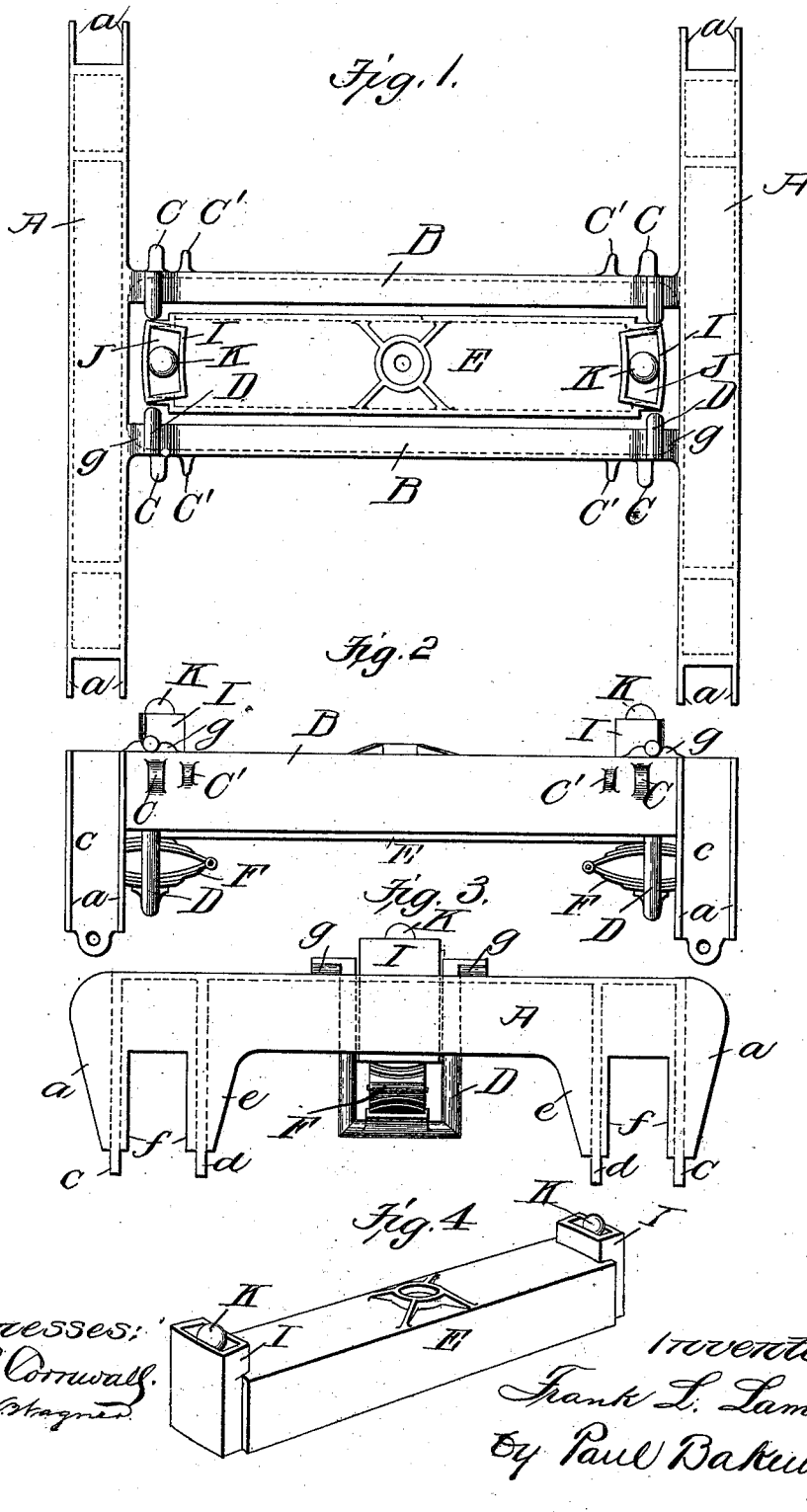
(No Model.)

2 Sheets—Sheet 1.

F. L. LAMKEY.
CAR TRUCK.

No. 554,278.

Patented Feb. 11, 1896.



Witnesses:
F. R. Cornwall.
Hugh H. Stagner.

Inventor
Frank L. Lamkey
By Paul Bakewell
his atty.

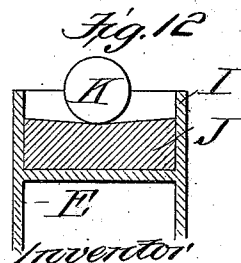
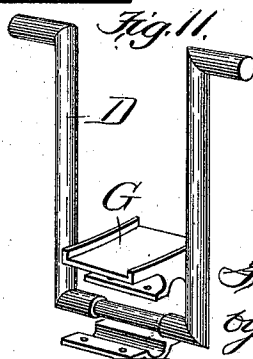
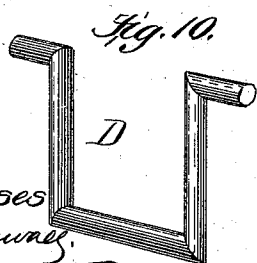
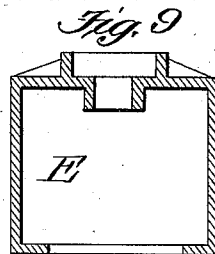
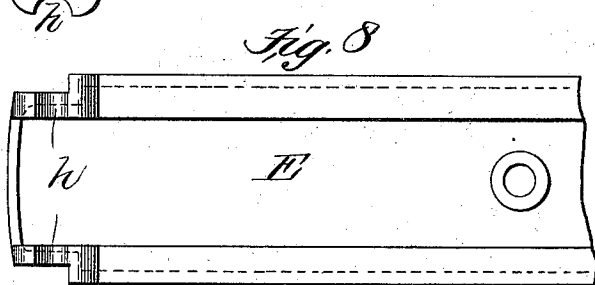
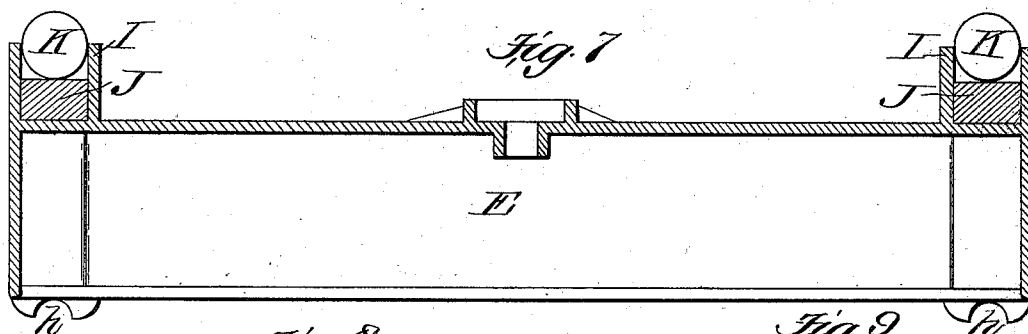
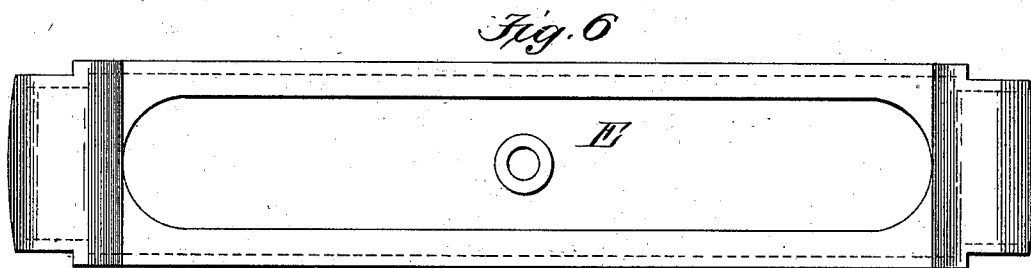
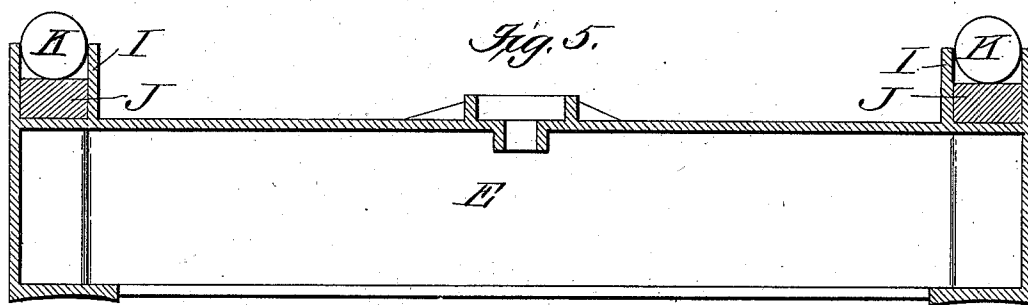
(No Model.)

2 Sheets—Sheet 2.

F. L. LAMKEY.
CAR TRUCK.

No. 554,278.

Patented Feb. 11, 1896.



Witnesses
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Hugh H. Wagner.

Inventor
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UNITED STATES PATENT OFFICE.

FRANK L. LAMKEY, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO
PETER H. MURPHY, OF EAST ST. LOUIS, ILLINOIS.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 554,278, dated February 11, 1896.

Application filed September 16, 1895. Serial No. 562,648. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. LAMKEY, 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, reference being had to the accompanying drawings, forming a part of this specification, wherein—

Figure 1 is a top plan view of my improved truck-frame. Fig. 2 is an end view of the same. Fig. 3 is a side elevational view. Fig. 4 is a detail view of the swinging bolster. Fig. 5 is a sectional view through the swinging bolster. Fig. 6 is a bottom plan view of the same. Fig. 7 is a sectional view through a slightly-modified form of bolster. Fig. 8 is a plan view of the same. Fig. 9 is a cross-sectional view through the bolster, taken at the center bearing. Fig. 10 is a detail of one of the hanger-arms. Fig. 11 is a detail view of a slightly-modified form of hanger-arm. Fig. 12 is a cross-sectional view through the side bearing at the end of the bolster.

This invention relates to a new and useful improvement in car-trucks; and it consists, generally stated, in making the truck-frame in one piece—that is, the side bars, pedestal, spring-seat, divided center bar, lugs for the brake-hangers, and lugs for the brake safety-chains are all formed in one piece, preferably by a casting, the material used being steel.

The invention further consists in suspending within the divided center bar a swinging bolster, which is preferably supported on springs, said bolster having its center bearings, side bearings, and spring-seat all made of one piece, the cross-section of the bolster being substantially the same throughout its length. The side bearings, pedestal, and the associate parts of the pedestal are shown, described, and claimed in an application filed concurrently herewith. Therefore I do not claim said features in this present application.

In the drawings, A indicates the side bars of the truck-frame, which are substantially of the same cross-section throughout their length—i. e., being of an inverted-U form—except at their ends, where they are provided with strengthening-flanges *a*. The lower edges of these side bars have formed thereon

internally-projecting flanges *b*, which greatly strengthen said bars without materially adding to the weight of the truck-frame.

At the ends of the side bars are formed the pedestals to receive the journal-boxes of the truck-axle, which pedestals permit vertical movement of said boxes. These pedestals are formed by vertical webs or partition-walls *c* and *d*, which are preferably strengthened by the webs *a* and *e*, respectively, said webs *c* and *d* extending somewhat below the line of the side bars, the space between the webs below the line of the side bars proper being cut away nearly, but not quite, to the webs *c* and *d* to permit the journal-boxes to play therein. In this manner lips *f* project inwardly to meet the edge of the webs *c* and *d*, which lips engage and hold in position suitable pedestal-linings. (Not shown in this present application, but fully shown and described in my other application, filed herewith.)

The center bar of the truck is divided or is formed practically by two channeled bars B, which are integral with the side bars.

C indicates lugs or ears which are cast on the center bars and whose function is to afford means of attachment for the brake-hangers, and C' are lugs for the attachment of the safety-chains of the brake mechanism.

Near the ends of the center bars B are formed seats *g*, which afford bearings for hangers D. These hangers are substantially U-shaped and support the bolster E between them, permitting said bolster to swing laterally independent of the movement of the truck-frame.

E indicates the bolster, which is substantially of inverted-U form throughout its length, which bolster is provided with a center bearing and with two end pockets to receive a ball, forming a ball-bearing, said parts being made of one piece. As shown in Figs. 1, 2, and 3, bolster E is supported on springs F, which are arranged upon the cross-bars of the hangers. These springs have suitable seats on the tops of the cross-bars of the hangers and on the bottom of the bolster, and, if desired, suitable means may be provided by which the springs may be secured to their respective parts. In Fig. 12 I have shown a slightly-modified form of spring-seat on the

hanger, in which G indicates a rocking seat, which is journaled on the bottom cross-bar of the hanger. In this manner both of the swinging seats for the springs move in parallel lines, which afford solid seats for the springs at all times. The spring-seat on the bolster, as shown in Figs. 5 and 6, is preferably formed by the bottom flange which bridges the bolster at its end.

If desired, springs F may be dispensed with and the bolster be supported solidly upon the hangers, in which event a hanger such as shown in Fig. 10 would have its bottom cross-bar seated in recesses *h* on the under side of the bolster, as shown in Figs. 7 and 8. The side bearings on the bolster consist of open pockets I, formed near the ends thereof, said pockets being preferably arranged on a curved line described from the center bearing. In the bottoms of these pockets are arranged wear seats or blocks J, whose upper faces are dished out or formed with a double incline, which converges toward the center, making the middle of the block its lowest point. Upon this block is a roller or ball K, which is held in place by the confining-wall of the pocket. By this construction, when the truck swings under the car-body, the ball in the bearing will accommodate such movement with the least possible friction, and when the body of the car sways from side to side, as it generally does, if such movement is not taken up by the spring and the lateral movement of the bolster, the ball will be released, and where it was at the end of the pocket it will now roll to the middle, thus presenting different surfaces for contact with the wear-plate J and the body-bolster of the car, which tends to wear the ball and its contacting surfaces evenly.

The advantages of a truck made as above described are many, as the number of parts necessary to constitute a complete truck, which includes a yielding and swinging bolster, are the fewest that are possible consistent with strength and utility. By making the truck-frame of one piece there are no parts to work loose, and, therefore, the truck requires but little attention in use.

I am aware that many minor changes in the construction, arrangement, and combination

or the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A car-truck frame, consisting of side bars having pedestals, and a divided center bar having bearings affording seats for bolster-hangers, said parts being made of one piece, substantially as described.

2. A car-truck frame, consisting of side bars having pedestals, and a divided center bar having seats for bolster-hangers and lugs or ears on said divided center bar for the attachment of the brake safety-chains, said parts being integral, substantially as described.

3. In a car-truck, the combination with a divided center bar formed with bearings, hangers seated in said bearings, a bolster mounted upon said hangers, and inverted-U-shaped side bars, having webs *c* and *d* arranged transversely to strengthen the vertical walls of said side bars and form pedestal-housings, webs *a* and *e* which strengthen said transverse ribs below the line of the side bars proper, said last-named webs extending inwardly beyond the transverse ribs to form vertical guide-lips *f*; substantially as described.

4. In a car-truck, the combination with a divided center bar formed with bearings, hangers seated in said bearings, a bolster mounted upon said hangers, open pockets formed on said bolster near its ends, balls in said pockets, and inverted-U-shaped side bars having webs *c* and *d* arranged transversely therein to strengthen the vertical walls of said side bars and form pedestal-housings, webs *a* and *e* which strengthen said transverse ribs below the line of the side bars proper, said last-named webs extending inwardly beyond the transverse ribs to form vertical guide-lips *f*; substantially as described.

In testimony whereof I hereunto affix my signature, in presence of two witnesses, this 9th day of September, 1895.

FRANK L. LAMKEY.

Witnesses:

F. R. CORNWALL,
HUGH K. WAGNER.