

(No Model.)

2 Sheets—Sheet 1.

J. E. ANGER.
CAR TRUCK.

No. 508,362.

Patented Nov. 7, 1893.

Fig. 1.

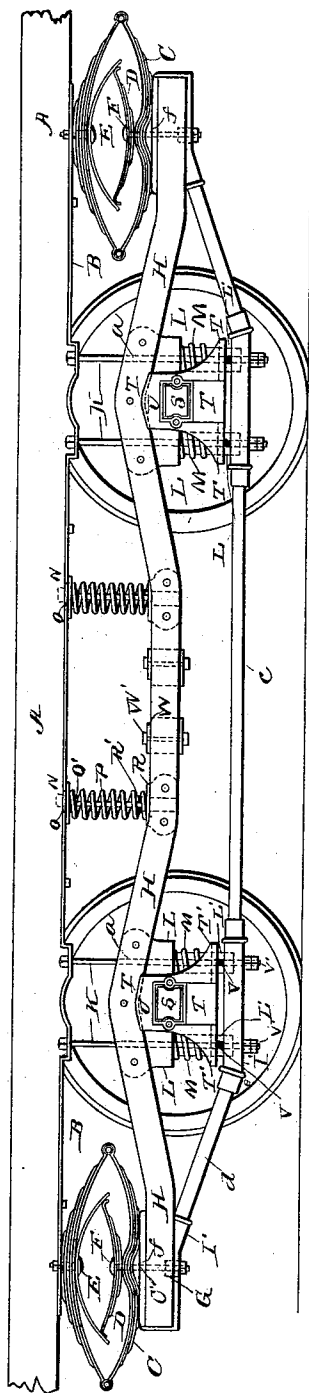


Fig. 2.

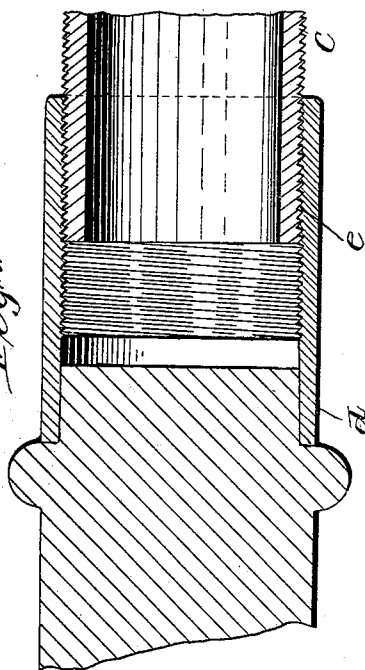
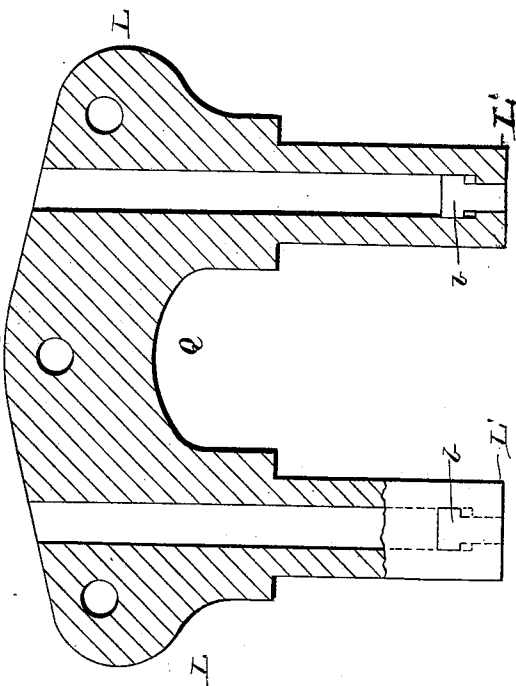


Fig. 3.



WITNESSES,
J. M. Fowler Jr.
Poland C. Fitzgerald.

INVENTOR.
John E. Anger
By Lehmann Patterson & Nesbit ATTYS.

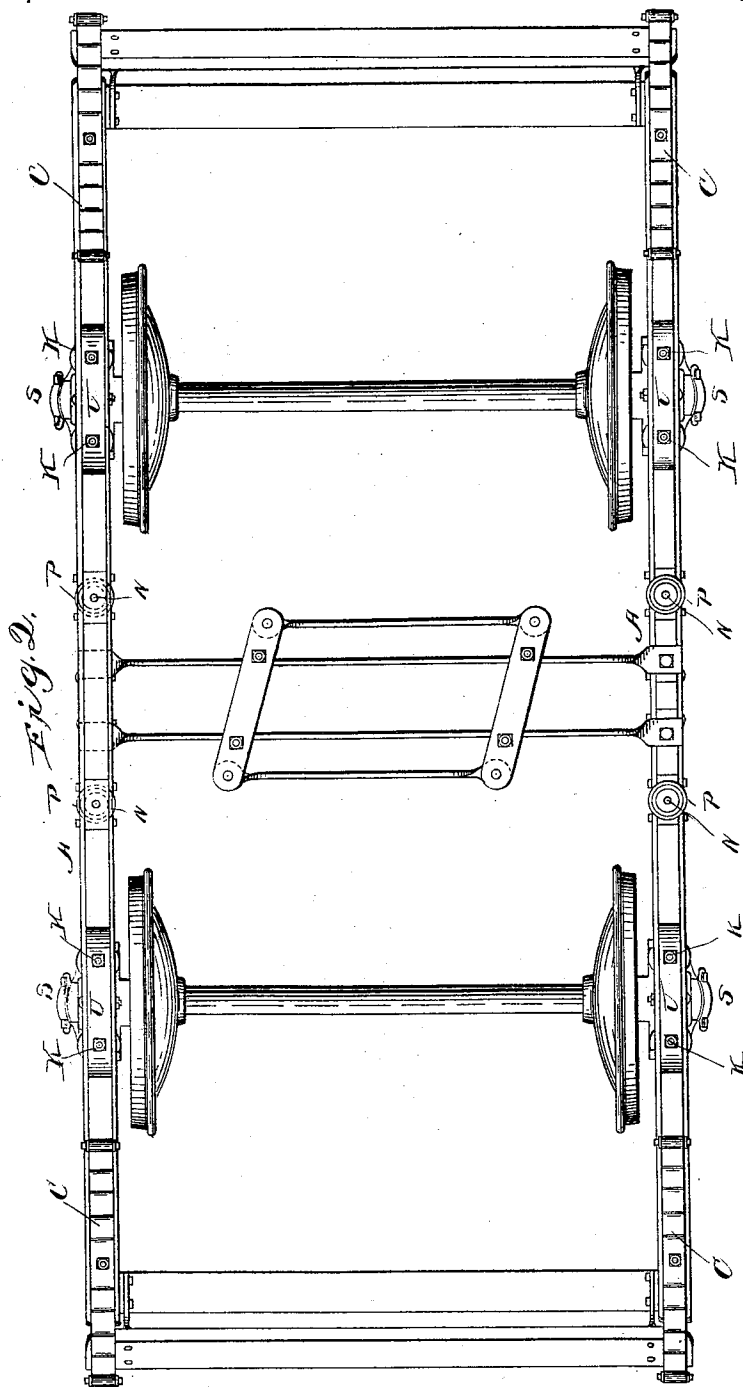
(No Model.)

2 Sheets—Sheet 2.

J. E. ANGER.
CAR TRUCK.

No. 508,362.

Patented Nov. 7, 1893.



WITNESSES.
J. M. Fowler Jr.
Poland A. Fitzgerald

INVENTOR.
John E. Anger
By Lehmann, Patterson & Nesbit ATTYS.

UNITED STATES PATENT OFFICE.

JOHN E. ANGER, OF GREEN ISLAND, NEW YORK, ASSIGNOR OF ONE-FOURTH
TO EDMUND J. GILBERT, OF SAME PLACE.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 508,862, dated November 7, 1893.

Application filed July 21, 1893. Serial No. 481,082. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. ANGER, of Green Island, in the county of Albany 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in car trucks, and it consists in the particular construction hereinafter fully shown and described, and particularly pointed out in the claims.

One object of my invention is to construct the castings which support the journal boxes, in the particular manner hereinafter shown and described, whereby a very rigid connection is made between the truck frame and the stays thereof, while at the same time the journal box is allowed a free and easy play against springs between the said journal box and the casting.

Another object of my invention is to construct springs substantially in the manner hereinafter shown and described, whereby the said springs have a graduating effect when they are heavily loaded, and which will still act as springs even when completely closed.

In the accompanying drawings: Figure 1, is a side elevation of a car truck, which embodies my invention. Fig. 2, is a plan view of the same. Fig. 3, is a detached view partly in section of one of the journal box castings. Fig. 4 is a view of the brace joint or union.

A indicates the sill of the car, to the under side of which are attached the plates B which form what I term the upper plates of the truck frame. The truck frame proper consists of longitudinal plates H, placed at each side of the truck and connected in pairs, as clearly shown in Fig. 2. The outer ends and centers of these plates extend substantially in a parallel line, but intermediate these horizontal portions, the said plates extend upward at the point where the journal box castings are attached to them. Castings L are secured between these plates H, by means of

cross bolts, and these castings L are provided at their under edges with the recesses Q, which receive the journal boxes T. These journal castings L are provided with downwardly extending pedestals L', which are made integral therewith and passing vertically through said castings L and the pedestals L' near their lower ends are the openings a, which receive the lower ends of the bolts K. The upper ends of these bolts K are rigidly connected with the upper plates B of the truck frame, while the lower ends of the said bolts pass loosely in openings a, and play up and down for the purpose of holding and guiding the car in its up and down movements against the tension of the supporting spring.

Made in the lower ends of the pedestals L' are openings b, which receive the upper ends of the headed bolts V, and these bolts secure the castings X to the lower ends of the said pedestals, the castings having recesses for the reception of their lower ends. The openings b, are so formed as to permit the bolts V being placed therein from its outer side, as shown in Fig. 3.

Placed between the extremities of the truck frame plates H are the castings I, and these castings together with the castings X, are provided with sockets I' for the reception of the ends of tubular braces c. The ends of these braces c, are screw threaded externally to receive the tubular connections d, which latter are internally screw threaded and pass around the said connection, whereby endwise tension can be given the braces by turning the connections, as will be readily understood.

The journal boxes T hereinbefore referred to are provided with wings T', between which and steps n, upon which the vertical coiled springs M are placed, and passing through these wings are steps T' or the pedestals L', the upper ends of the said springs M engaging the shoulders formed upon the castings L adjacent to the pedestals L'. By forming the pedestals L' integral with the castings L, and securing their lower ends firmly to the castings X, rigid connections are formed between the castings X and the plates H, of the car truck, while at the same time the journal boxes are allowed a free up and down move-

ment against the tension of the springs M, to receive the pound caused by the ends of the rails.

The upper faces of the castings I are provided with longitudinal ribs between which elliptical springs C, are placed. The lower portions of these springs C are provided with an upwardly extending central portion C', and passing through these lower portions C', are the bolts f, the said bolts also passing through the castings I. The lower sides of these castings I are recessed to receive rubber or other equivalent cushions G, against which the lower ends of the bolts f, abut. Connected to the inner side of the lower portions C' of elliptical springs C, are the small springs d, also held in place by the bolts f, and connected to the inner side of the upper portion of the elliptical springs are the small springs E. Owing to this construction of springs a graduating effect is produced for the reason that the top and lower portions of the springs will act easy until the load gets heavy enough to press them down considerably, when the center of the lower half will rise until the small springs G press against the top half, then the said springs will equalize themselves. The lower portions of these elliptical springs, owing to this construction, act as three small springs against one long one at the top, and should the springs become completely closed, they will still have a spring supplied by the raised portion of the lower half of the said spring. By means of this construction very durable and easy springs are provided for a car truck.

Secured between the central horizontal portion of the plates H are the castings R, having small upwardly projecting portions R', which receive coiled springs T, the upper ends of the said springs extending around projections O' of the upper plate O. Bolts M have their upper ends connected with the said top cap plates O, and their lower ends move freely up and down in the enlarged openings i, made in the castings R, to permit a free up and down play of the car. Castings W are also secured between the horizontal portions of plates H, and bars W' extend horizontally across and connect the plate at opposite sides of the truck.

Cross bars J, connect the ends of the truck, and support the plates in their proper parallel position.

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

1. The combination of a car frame, a truck frame having journal box castings provided with depending pedestals, castings connecting the lower ends of said pedestals, journal boxes having lateral wings sliding upon said pedestals, springs between said wings and the journal box castings, springs between the car and truck frames, and guid-

ing rods depending from the car frame upon which the journal box castings and the truck frame move, substantially as described.

2. The combination of a car frame, a truck having journal box castings provided with depending hollow pedestals, castings connecting the lower ends of said pedestals, journal boxes having lateral wings, sliding upon said pedestals, springs between said wings and the journal box castings, springs between the car and truck frames, and guiding rods depending from the car frame and passing through the said hollow pedestals, substantially as described.

3. A car truck comprising a truck frame having journal box castings provided with depending integral pedestals, castings connecting the lower ends of said pedestals, stays connecting the said castings and the frame, journal boxes having laterally extending wings sliding upon the said pedestals, springs placed beneath the said wings and the said journal box castings, a car frame, and bolts connected to the car frame having a longitudinal movement upon said journal box castings, substantially as specified.

4. A car truck comprising longitudinally extending truck frame plates having central and end longitudinal portions, and upwardly extending portions between and above the said end and central horizontal portions, journal box castings secured to the upwardly extending portions of the said plates, journal boxes sliding upon the said journal box castings, and springs between the said journal boxes and the said journal box castings, substantially as set forth.

5. In a car truck the combination with a truck frame and the car body, of elliptic springs having their lower portions raised at the center, and the small spring connected to the inner side of the said raised portion for co-acting with the upper portion of the said elliptical spring, substantially as shown.

6. In a car truck, the combination with the truck frame and the car body, of elliptic springs, the lower portions thereof having raised central portions a yielding connection between the said raised portions and the truck frame, substantially as specified.

7. The combination with a car truck and a car body, of elliptical springs, the lower portions of the said springs having raised central portions, a yielding connection between the said raised portions, and the car truck, and small springs between the upper and lower portions of the elliptic springs, substantially as set forth.

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

JOHN E. ANGER.

Witnesses:

GEORGE ANGER,

GEO. A. VAN BERGEN.