No. 26,284. PATENTED NOV. 29, 1859.

F. I. PALMER.

CAR TRUCK.

2 SHEETS—SHEET 1.

Fig: 1.

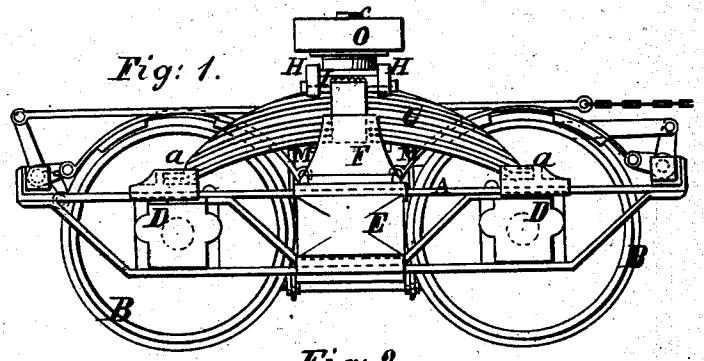


Fig: 2.

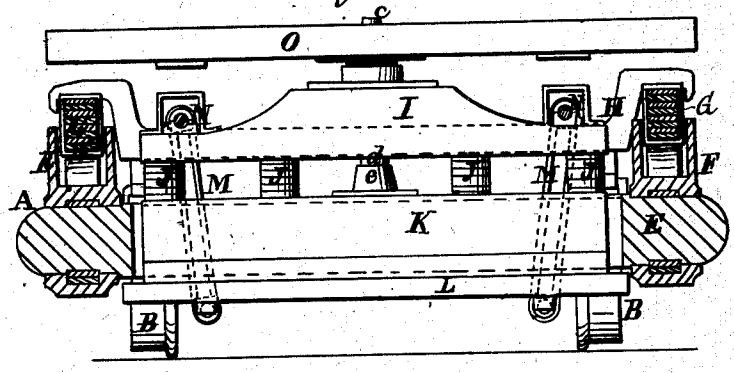
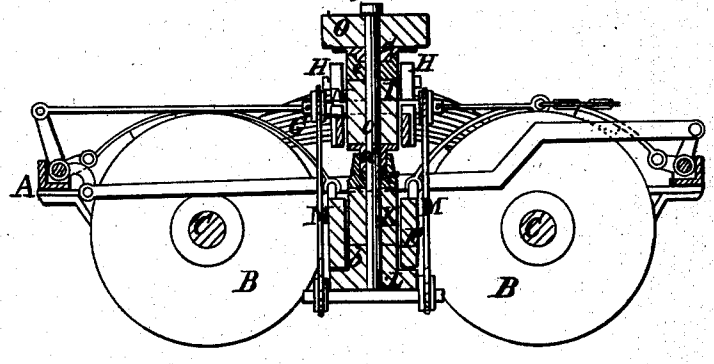


Fig: 3.



Witnesses:

Michael Hughes

H. C. Livingston

Inventor:

F. I. Palmer

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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2 SHEETS—SHEET 2.

Fig: 4.

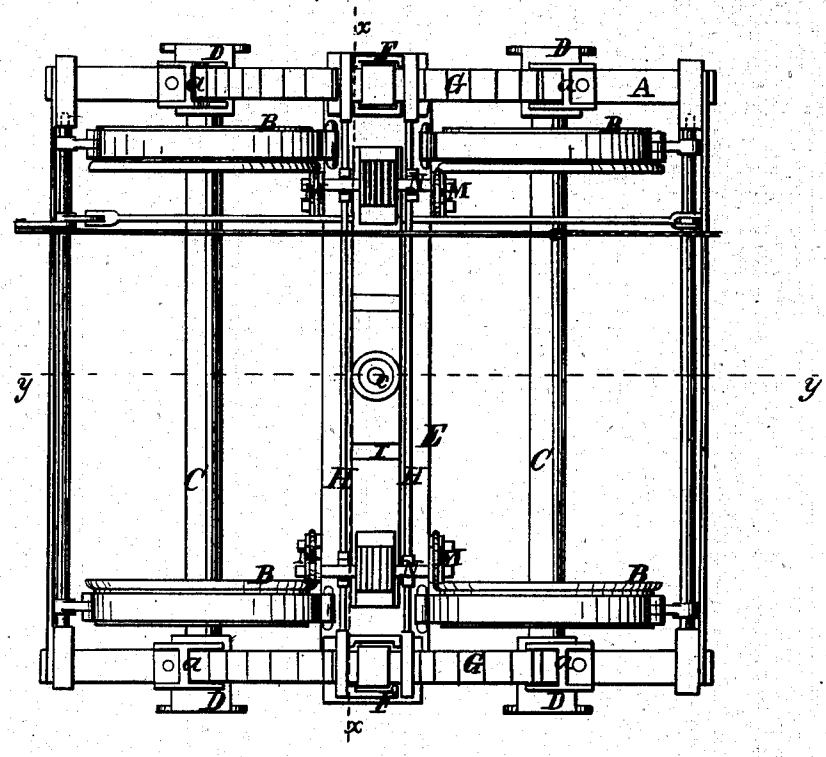
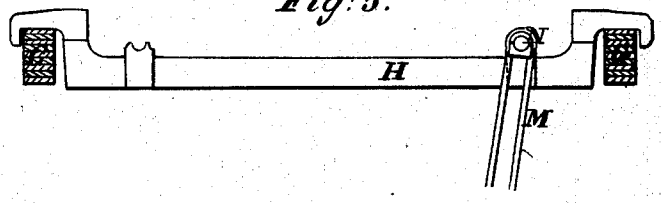


Fig: 5.



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UNITED STATES PATENT OFFICE.

F. I. PALMER, OF KNOXVILLE, TENNESSEE.

CAR-TRUCK.

Specification of Letters Patent No. 26,284, dated November 29, 1859.

To all whom it may concern:

Be it known that I, F. I. PALMER, of Knoxville, in the county of Knox and State of Tennessee, have invented a new and Improved Car-Truck for Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side view of my invention. Fig. 2, is a transverse vertical section of the same, taken in the line *x*, *x*, Fig. 4. Fig. 3, is a longitudinal vertical section of the same, taken in the *y*, *y*, Fig. 4. Fig. 4, a plan or top view of the same. Fig. 5, is a detached side view of one of the cross beams of the same.

Similar letters of reference indicate corresponding parts in the several figures.

The object of this invention is to bring the weight of the car body or cause the same to bear directly over the journal boxes of the axles and at the same time employ a swinging cross beam so as to admit of a certain degree of lateral play or movement of the car body, independently of the trucks, substantially as hereinafter described, whereby an uneven wear of the journals is prevented, an easy yielding capacity given the car both laterally and vertically while in motion, and much wear and tear avoided generally in the running gear and parts intimately connected therewith.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A, represents a car truck which may be constructed in the usual or in any proper way.

B, represents the wheels, C, the axles, and D, the journal boxes.

E, is a central cross bar which connects the two sides of the truck. This cross bar is slotted longitudinally nearly its whole length and on each end of said bar a box F is placed, said boxes serving as guides for the springs G, G, which are leaf springs of semi-elliptical form, the central parts of the springs fitting in the boxes, see Figs. 1, 2 and 3. The ends of the springs G, G, fit in bearings *a*, *a*, directly over the journal boxes D, as shown clearly in Figs. 1 and 4.

H, H, are two metal bars the ends of which are fitted on the springs G, G, and extend across the truck parallel with the cross bar E, and in the same vertical plane with it. The bars H, H, are placed at such a distance apart as to allow a swinging bar I, to be placed between them. The bar I, rests on india-rubber or other suitable springs J, which are placed on a bar K, fitted in the slotted cross bar E, and resting on a bar L, which is suspended by links M, from shafts N, placed transversely on the bars H, H, the shafts N, N, being near each end of the bars H, H. The bar L, is provided with a longitudinal central ledge *b*, which projects up within the bar E, and serves as a guide, the bar K, rests on the upper surface of the ledge *b*, as shown clearly in Fig. 3. The bar K, is made shorter than the slot in the bar E, in order to allow the former a requisite degree of play or movement in the latter and for a like reason the bar I, is made somewhat shorter than the bars H, H.

The car body rests on a bar O, through the center of which the king bolt *c*, passes, said bolt also passing through proper guides and sockets *d*, *e*, and the bars I, K, L, as shown clearly in Fig. 3.

From the above description it will be seen that the weight of the car body is transmitted by the bars I, K, L, H, H, and links M, to the centers of the springs G, G, and as the ends of the latter are fitted in the bearings *a*, over the journal boxes D, the weight of the car is made to bear vertically on the boxes and the journals therein are prevented from wearing unevenly as is the case where the cross beam and boxes are connected in such a way that the deflection of the former will twist or incline the latter and thereby produce an unequal bearing of the journals in the boxes. In connection with this advantageous result, which has been previously attained, I obtain a lateral movement or play of the car body independently of the trucks, this latter result being due to the arrangement of the bars I, K, L, H, H, and links M, the bars I, K, L, being allowed to swing respectively within the cross bars H, H, and E, on account of the lower bar L, being suspended from the bars H, H, by the links M. By combining these two features therefore a very great improvement is obtained, the truck rendered extremely durable in consequence of not being rocked and strained by the weight of the car in turning curves, etc., the lateral play or movement of the car obviating that

evil, the journals of the axles being prevented from wearing unevenly and the car body having an easy yielding capacity generally, that is to say, both vertically as well as laterally, the former effect being due to the springs G, and J.

I do not claim the bars H, and spring G, placed or resting in the bearings *a*, when said parts are separately considered or viewed independently of the means employed for giving the lateral play or movement of the car. Neither do I claim broadly a swinging bar devised so as to give the body of the car a lateral movement irrespective of the arrangement herein shown for effecting the purpose for the weight of a car body has been transmitted to or made to bear directly over the journal boxes of the axles, as may be seen in the patent of Fowler M. Ray, March 21st, 1845. A swinging beam has also been employed for allowing a lateral movement of the car.

I am not aware that an arrangement of parts as herein shown and described has ever been devised whereby the weight of the car has been made to bear directly over the journal boxes, and at the same time a lateral movement allowed the car, both results being obtained in one truck.

I claim therefore as new and desire to secure by Letters Patent,

The arrangement and combination of the bars I, K, L, H, H, substantially as and for the purpose set forth.

F. I. PALMER.

Witnesses:

MONT. M. LIVINGSTON,

MICH. HUGHES.