

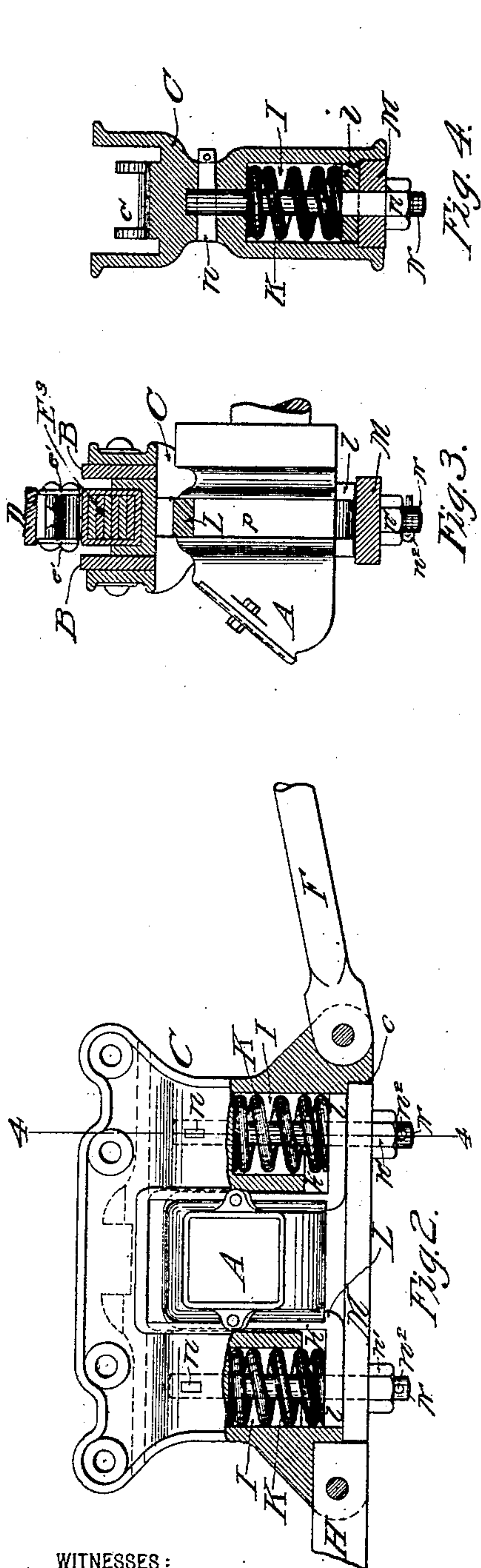
No. 677,042.

Patented June 25, 1901.

W. E. PRINDLE.  
CAR TRUCK.

(Application filed Oct. 24, 1900.)

(No Model.)



WITNESSES:

B. M. Smith  
Per A. C. Lee.

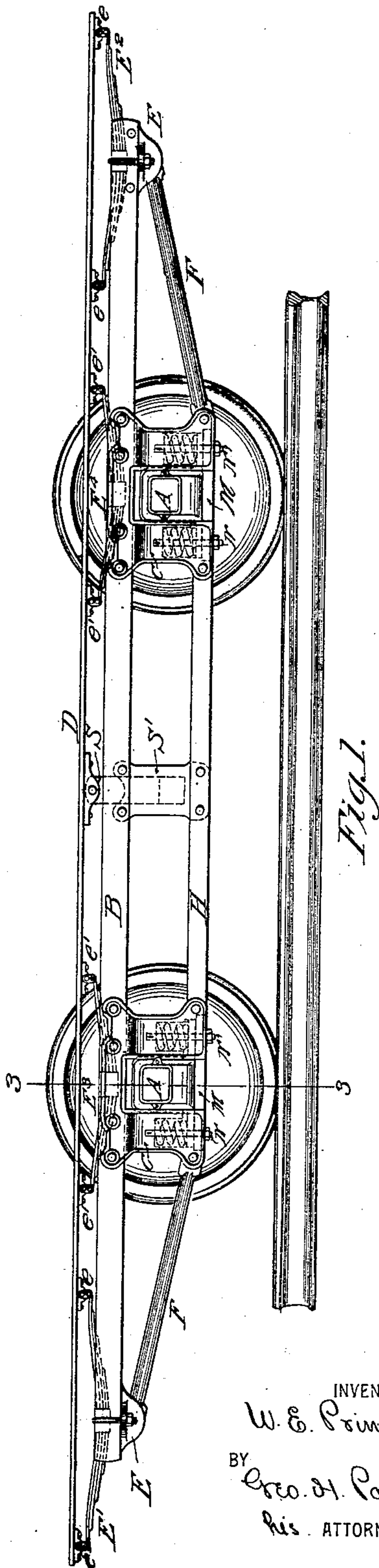


Fig. 1.

INVENTOR  
W. E. Prindle,  
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# UNITED STATES PATENT OFFICE.

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## CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 677,042, dated June 25, 1901.

Application filed October 24, 1900. Serial No. 34,161. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. PRINDLE, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented a 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, which form a part of this specification.

My invention has reference to car-trucks, and is intended to provide a light, strong, and durable truck capable of supporting the propelling-motors of a car and in which the wheels and axles may be readily removed and replaced at any time; also, to provide a truck which shall be easy-riding and which may be constructed with a long spring-base without proportionably increasing the length of wheel-base. I attain these objects by the novel construction, combination, and arrangement of parts now to be described, and more particularly pointed out in the appended claims.

In the accompanying drawings, to which reference is made, Figure 1 is a side view of a car-truck embodying my invention. Fig. 2 is a detail view, partly in section and partly in side elevation, showing one of the pedestal-castings and the manner of seating the journal-box springs. Fig. 3 is a section on the line 3 3 of Fig. 1, and Fig. 4 is a section on the line 4 4 of Fig. 2.

A designates the axle-boxes, and B is one of the side bars, which is supported upon the said boxes by means of the pedestal-yokes C. The side bars B are preferably composed of two edgewise-disposed parallel plates, as shown in Fig. 3, and the yokes C are preferably of steel castings, which are rigidly secured to and depend from the said bars, the latter being extended some distance beyond the yokes.

D designates one of the sill-plates, to which the body of the car is secured and which is supported upon the side bar B by means of the four semi-elliptic springs E', E<sup>2</sup>, E<sup>3</sup>, and E<sup>4</sup>. The springs E' and E<sup>2</sup> have center bearings on blocks or castings E, which are secured between the outer end portions of the bars B, and their ends are connected to the sill-plate

by short links e. The springs E<sup>3</sup> and E<sup>4</sup> have center bearings on the yokes C, as best shown in Fig. 3, the latter being formed with seats c' therefor, and their ends are connected to the side plate by the short links e'.

The overhanging ends of the bars B are supported by oblique struts or braces F, loosely connected at one end to the castings E above referred to and at the other end to the lower outer corner portions of the pedestal-yokes.

H is a connecting piece or spreader which joins the inner lower corner portions of the said yokes and which may also be used as a motor-support.

Cored in the yokes at each side of the journal-boxes are spring-pockets I, in which are seated spiral springs K, whose lower ends rest on the horizontal arms l of U-shaped straps L, which embrace the journal-boxes. The inner walls of the pockets are cut away at k to permit vertical movement of said straps.

M designates distance-pieces which close up the openings at the bottoms of the yokes. One end of each of these pieces abuts against a shoulder c of the pedestal, and the other end abuts the end of the connecting-piece H. These pieces are supported by bolts N, which pass upwardly therethrough and also through the arms l of the straps L and the springs K, their upper ends being secured in the yokes by through-keys n. Nuts n' are threaded on the lower ends of the said bolts and are secured against displacement by pins n<sup>2</sup> or other suitable locking devices.

The straps L, one at each of the journal-boxes, are seated partly in grooves p in the sides of the boxes and partly in registering grooves in the pedestal-yokes, as shown in Fig. 2. It will be readily seen that any upward movement of the boxes due to track obstructions or inequalities will cause an upward pull on these straps and through the latter compress the springs K, and thus relieve the car-body of the shock. To remove the wheels and axles, the nuts n' are unscrewed, which frees the distance-pieces M and permits the frame to be jacked up and the wheels and axles rolled out, or they may be lowered into a pit provided for the pur-



pose. In case the nuts  $n'$  should become bound and difficult to remove the keys  $n$  may be driven out instead.

The distance-pieces  $M$ , above described, not only prevent any tendency of the yokes to close on the boxes, but their arrangement, as above described, makes rigid connections with respect to end thrusts between the braces  $F$  and connecting-piece  $H$ , so that there is practically a continuous brace connecting the two castings  $E$ . This makes a very rigid frame and also permits of a very considerable overhanging of the bars  $B$  and the employment of a long spring-base.

It will be noted that in the construction illustrated the springs  $K$  are entirely inclosed by the pedestal-yokes and are thereby protected from accumulations of mud and dirt. It will also be noted that owing to the manner in which the springs  $K$  are seated they can be made of such length and character as to be put under any desired degree of initial pressure in seating them.

In order to relieve the semi-elliptic springs of end thrusts in starting and stopping the car, I may pivotally attach to each sill a depending thrust member  $S$ , which fits somewhat loosely in a socket member  $S'$ , secured to the connecting-piece  $H$ .

I do not wish to limit myself to the exact construction and combination of parts herein shown and described, as various changes may be made in the details thereof without departing from the spirit and scope of my invention.

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

1. In a car-truck, the combination with the running-gear, of the side bars composed of two parallel edgewise-disposed plates extended beyond the wheel-base, the pedestal-yokes secured to and depending from the said bars, braces connecting the extensions of said bars with the lower outer portions of the pedestal-yokes, pieces connecting the lower inner portions of said yokes at each side, the sill-plates supported on the side bars each by four semi-elliptic springs, two of which are located directly over the journal-boxes and the other two at the extensions of the side bars, and removable distance-pieces or spreaders closing the bottoms of the said yokes, together with suitable journal-box springs.

2. In a car-truck, the side bars extended at each end beyond the journal-boxes and consisting each of two parallel edgewise-disposed plates, the similarly-extended sill-plates, pedestal-yokes secured to and depending from the said bars, semi-elliptic springs seated between the extensions of the bars and sill-plates, semi-elliptic springs seated over the journal-boxes on the tops of the said yokes, and also supporting the sill-plates, braces supporting the extensions of said side bars, and connected to the pedestal-yokes, and braces joining the said yokes.

3. In a car-truck, the combination with pedestal-yokes having spring-pockets extending into the same from their under sides  $U$ -shaped straps embracing the journal-boxes and having their lower ends turned longitudinally underneath the said pockets, said straps also engaging bearings in the said yokes, springs in said pockets seated on the longitudinally-turned portions of said straps, and bolts engaging said portions and detachably secured in said yokes.

4. In a car-truck, the combination with pedestal-yokes loosely embracing the journal-boxes, of  $U$ -shaped straps extending over said boxes and seated partially in the walls of the box and partially in said yokes, springs seated on the lower horizontally-bent portions of said straps, and in seats or pockets of the yokes, distance-pieces across said yokes below the boxes and upon which the straps rest, and bolts passing upwardly through said distance-pieces, straps and springs and connected to the yokes.

5. In a car-truck, the combination with side frames having pedestal-yokes, and journal-boxes seated in said yokes, of  $U$ -shaped straps embracing said boxes, and also engaging guides in said yokes and carrying spring-seats at their lower ends upon each side of the boxes, springs bearing on said seats and in pockets in the pedestals, distance-pieces supporting the said straps, and bolts supporting the distance-pieces from the yokes.

6. In a car-truck, the combination with side frames having pedestal-yokes, formed with recesses for the journal-boxes, the walls of said recesses being grooved, and journal-boxes in said recesses having registering exterior lateral grooves, of guide-straps supported from said yokes and embracing said boxes, the vertical arms of said straps being seated in the grooves of the yokes and boxes.

7. In a car-truck, the combination with side frames having depending pedestal-yokes, formed with spring-pockets at their under sides, and springs bearing in said pockets, of straps fitting over the journal-boxes and seating the lower ends of said springs, bolts passing upwardly through the spring-seating portions of said straps and into the upper walls of said pockets, and fastenings for said bolts which can be disengaged from the bolts by lateral movement thereof.

8. In a car-truck, the combination of side frames having depending pedestal-yokes formed with spring-pockets at their under sides, and springs bearing in said pockets, of straps fitting over the journal-boxes and seating the lower ends of said springs, and bolts passing upwardly through the spring-seating portions of said straps and into the upper walls of said pockets, laterally-removable keys or fastenings for the upper ends of said bolts, and removable nuts on the lower ends of the same.

9. In a car-truck, the combination with



upper and lower side frames and sill-plates  
above the upper side frames, of vertical  
socket members secured to and connecting  
said upper and lower side frames, and thrust  
5 members pivotally secured to the sill-plates  
and telescopically engaging said socket mem-  
bers.

In testimony whereof I have affixed my sig-  
nature in presence of two witnesses.

WILLIAM E. PRINDLE.

Witnesses:

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H. W. SMITH.