

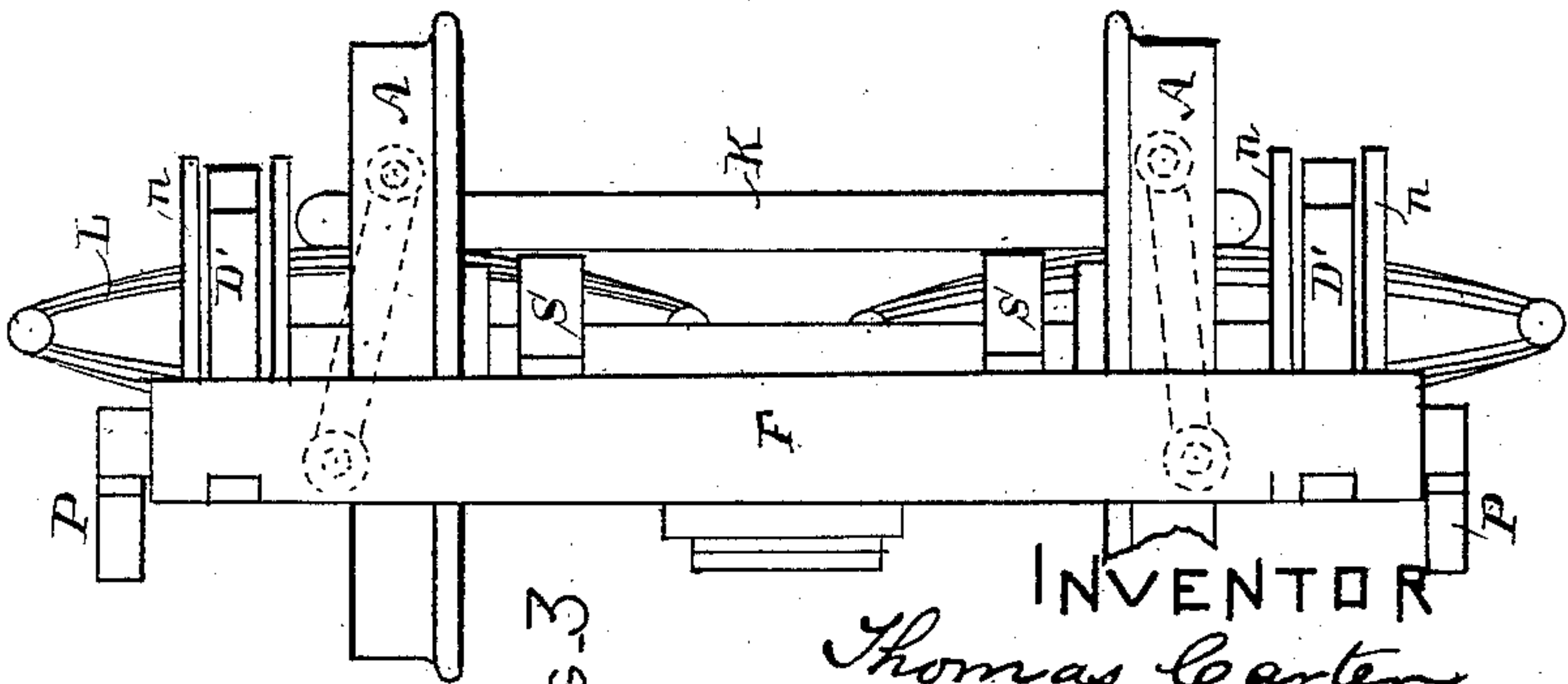
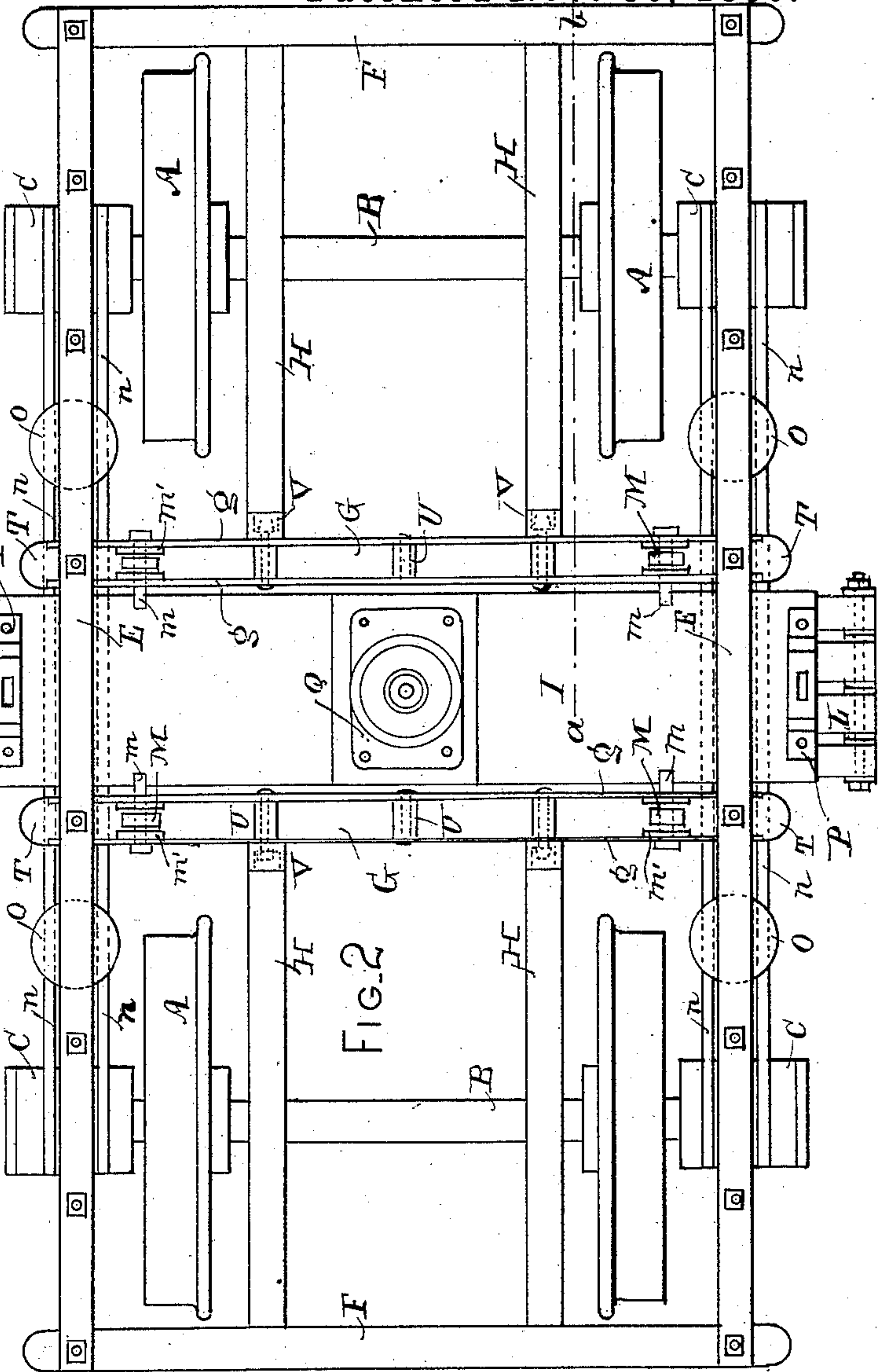
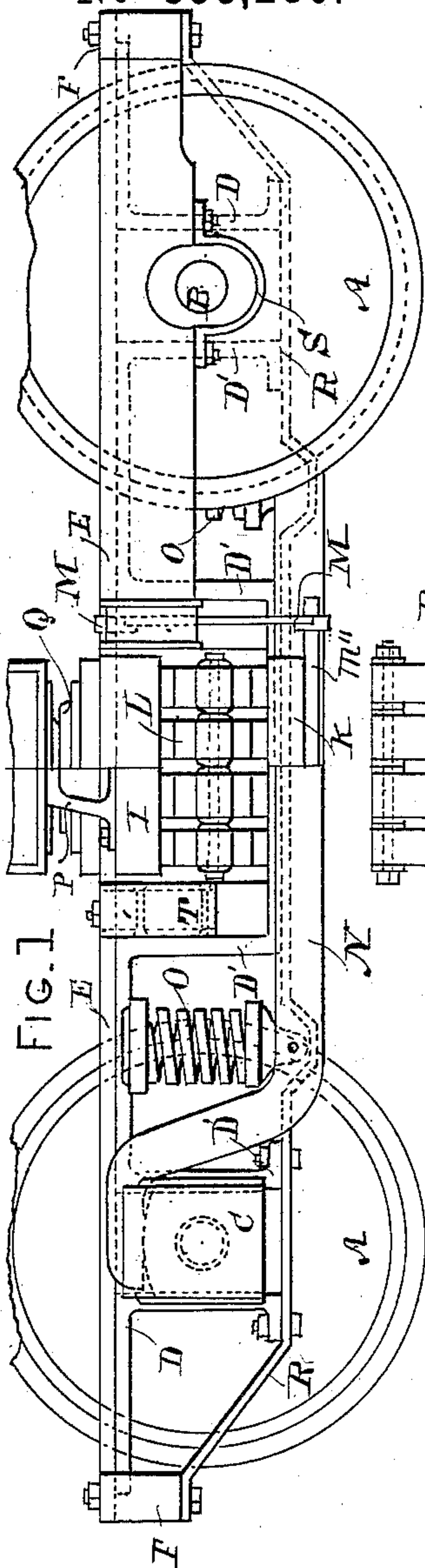
(No Model.)

T. CARTER.

CAR TRUCK.

No 353,286.

Patented Nov. 30, 1886.



WITNESSES

*Jas. H. Briggs*  
*James L. Drum*

FIG. 3

INVENTOR

*Thomas Carter*  
*by George Parry Atty*



# UNITED STATES PATENT OFFICE.

THOMAS CARTER, OF SAN FRANCISCO, CALIFORNIA.

## CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 353,286, dated November 30, 1886.

Application filed August 12, 1886. Serial No. 210,733. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS CARTER, of the city and county of San Francisco, State of California, have invented a new and useful Improved Truck for Railway-Cars, of which the following is a specification.

The improvements relate to the construction of the frame and other parts of those trucks which are more generally applied to passenger-cars; and they consist in certain modifications and changes of form and arrangement of parts which permit a considerable and important reduction in the height of the truck and consequent lowering of the car body, thereby securing all the advantages arising from bringing the center of gravity nearer the rails, such as affect the facility of ingress and egress, increased safety of motion, &c.

In the accompanying drawings, forming part of this specification, Figure 1 is one-half side elevation and one-half longitudinal sectional elevation, taken on line *a b*, Fig. 2. Fig. 2 is a plan of the same. Fig. 3 is an end view of the truck.

In all the figures the same letters of reference are used to indicate the same parts.

A A are the carrying-wheels. B B are the axles. C C are the journal-boxes; D D', the pedestals.

The frame of the truck is composed of the wheel-pieces E E, the end pieces, F F, the transoms G G, the safety-beams H H, and the bars D D' D' D', which partly form the pedestals, and partly support the transom ends.

I is the truck-bolster. K is the spring-plank. L L are the bolster-springs. M M are the swinging hangers. N N are the equalizing-bars. O O are the equalizing-bar springs. P P are the side bearings. Q is the center-plate. R R are the pedestal tie-bars, and S S are the axle safety-straps.

All the above parts have corresponding functions with the similar parts found in ordinary trucks. The changes and improvements made by the present invention refer to the manner in which the members of the truck-frame, the pedestals, and the equalizing-bars are constructed.

The wheel-pieces E E have heretofore generally been made of wood, though iron has been used for the purpose, variously shaped. In the present invention these wheel-pieces

E E and the bars D D' D' D' are combined to form both wheel-pieces and pedestals. The bars E E pass perfectly straight from end piece to end piece, and are firmly bolted thereto. The pieces D pass along the under surfaces of the bars E until they reach the sides of the axle-boxes. Then they drop down to form one side of a pedestal, and finally terminate in a foot-piece, to which the tie-bars R are bolted. The bars D' are similarly shaped, where they form one side of the pedestals, but extend downward to pass under the transom ends T, which rest upon these bars and are bolted to them; also, these bars pass under the projecting ends of the bolster-springs, as shown in Fig. 1. The bars E E and D D' are bolted firmly together by as many bolts as may be necessary; also, bolts will pass entirely through both bars E and D' and the transom ends T. The transoms are made of plates of iron, *g g*, which are riveted together by socketed rivets U U; also, several rivets or bolts will pass horizontally through the plates and the transom end pieces, T, which are of metal.

The safety-beams H H may be of wood, as shown. They will be secured to the end pieces F by tenon and mortise, and in similar fashion will be secured to the transoms, a cast-iron mortise-block, V, being riveted to the transoms to receive the tenon of the safety-beam where (in four places) they occur.

The equalizing-bars N differ from the ordinary kind, inasmuch as they are not made of single solid bars, but are made of two thick plates, *n n*, which rest upon the axle-boxes on either side of the wheel-pieces E, bars D', and tie-bars R. Thus much of the room they heretofore required, both for placement and clearance—as when they occupied space between the wheel-pieces and tie-bars—is saved in the height of the truck.

The equalizing-bar spring-seats rest on the plates of the equalizing-bars, and a lug passing between gives an opportunity to pass a bolt through to hold the seats in place. The spring-cap, as heretofore, rests without fastening against the wheel-piece of the frame.

It is not necessary to describe the minor details of these trucks, which are common to all trucks of this class. All matters referring to the brakes have also been omitted.

Where the pins *m* to support the hangers M



pass through the side plates *g* of the transoms, it will be necessary to supply thick washers *m'*, riveted or otherwise secured to the side plates, so as to give sufficient width of bearing for the pins. *m''* is the lower swing-hanger pivot-bar, which supports the spring-plank.

The operation of all the parts is essentially the same as heretofore, and it will be unnecessary to describe them. I would point out, however, that, owing to the transoms being made of the plates *g g*, leaving a space between, the swing-hangers may be made longer, as they are supported near the top surface of the transoms, instead of underneath, as when wooden transoms are used; also, the vertical play of the truck-frame upon the supporting-springs is in the present construction between the plates which form the equalizing-bars, and therefore increased vertical play may be allowed without increasing the height of the truck or varying the form of the equalizing-bars.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a railway-car truck, a combination of truck-frame and pedestals, consisting, essentially, of the wheel-pieces *E E*, of straight metal bars extending between and being fastened to the end pieces, *F F*, pedestal-frames and transom-supports, composed of the metal bars *D*, forming one of the sides of the pedestals, and bars *D'*, forming the other sides of the

same, and transom end supports, and the tie-bars *R*, with suitable transoms, end pieces, and safety-beams, substantially as herein set forth. 35

2. The equalizing-bars *N*, consisting, essentially, of two side plates, *n n*, placed a distance apart, so as to permit the truck-frame to vibrate between, in combination with a suitable truck-frame, pedestals, and axle-boxes, substantially as and for the purposes described. 40

3. In railway-car trucks, the improved transom-piece *G*, composed of metal plates *g g*, bound to each other by bolts or rivets and having separating blocks or sockets *n'* between, and solid end pieces, substantially as and for the purpose herein described. 45

4. A railway-car truck consisting, essentially, of a frame composed of straight metal bar wheel-pieces *E E*, connected together and combined with suitable end pieces, *F F*, transoms *G G*, safety-beams *H H*, pedestals and transom ends supports, composed of the bars *D D' D*, shaped in the manner shown and described, pedestal tie-bars *R R*, bolster *I*, spring-plank *K*, hangers *M*, and springs *O* and *L*, the whole arranged and combined with suitable carrying-wheels, axles, and boxes, substantially as described. 50

THOMAS CARTER.

Witnesses:

GEO. PARDY,  
JAMES COEY.