

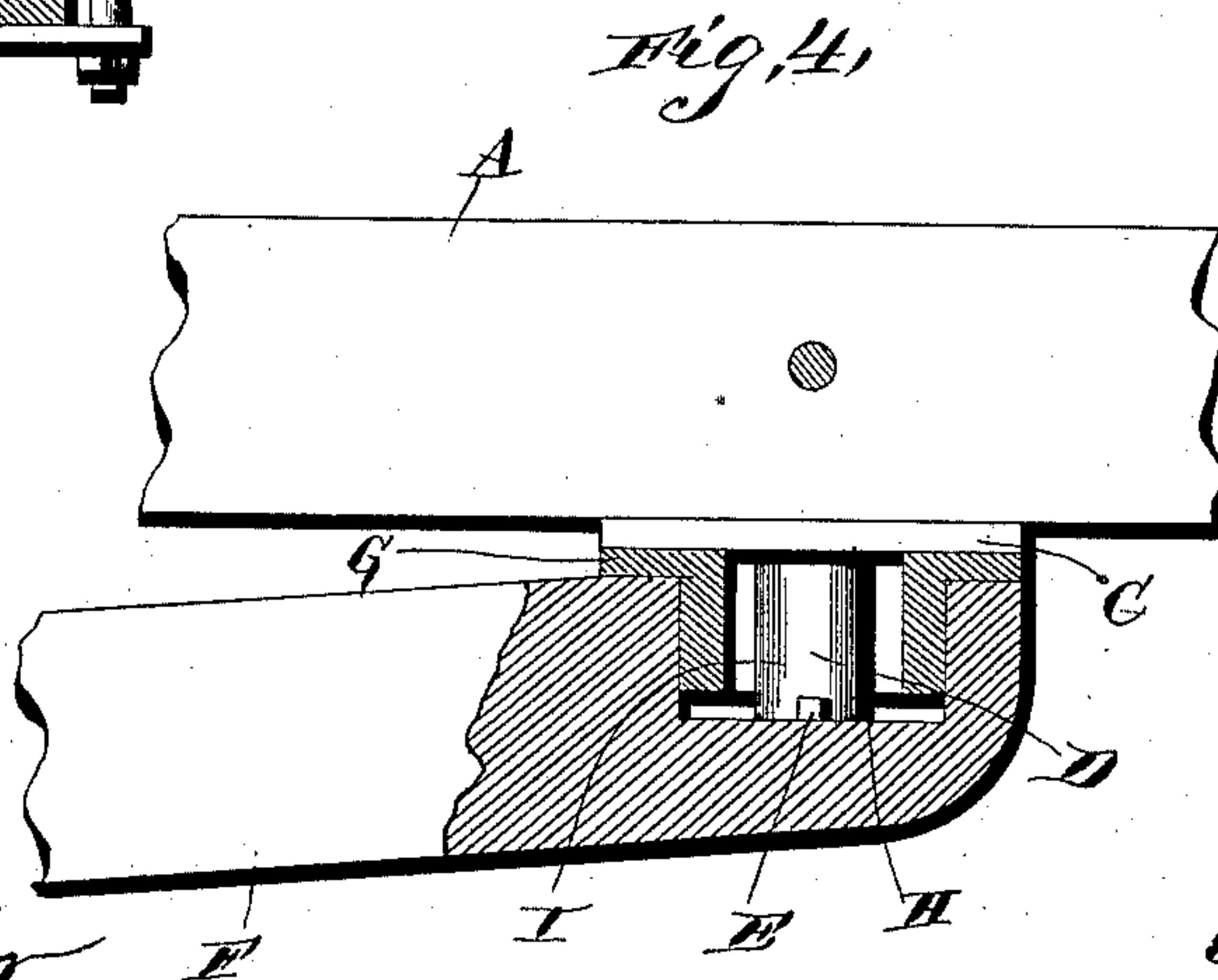
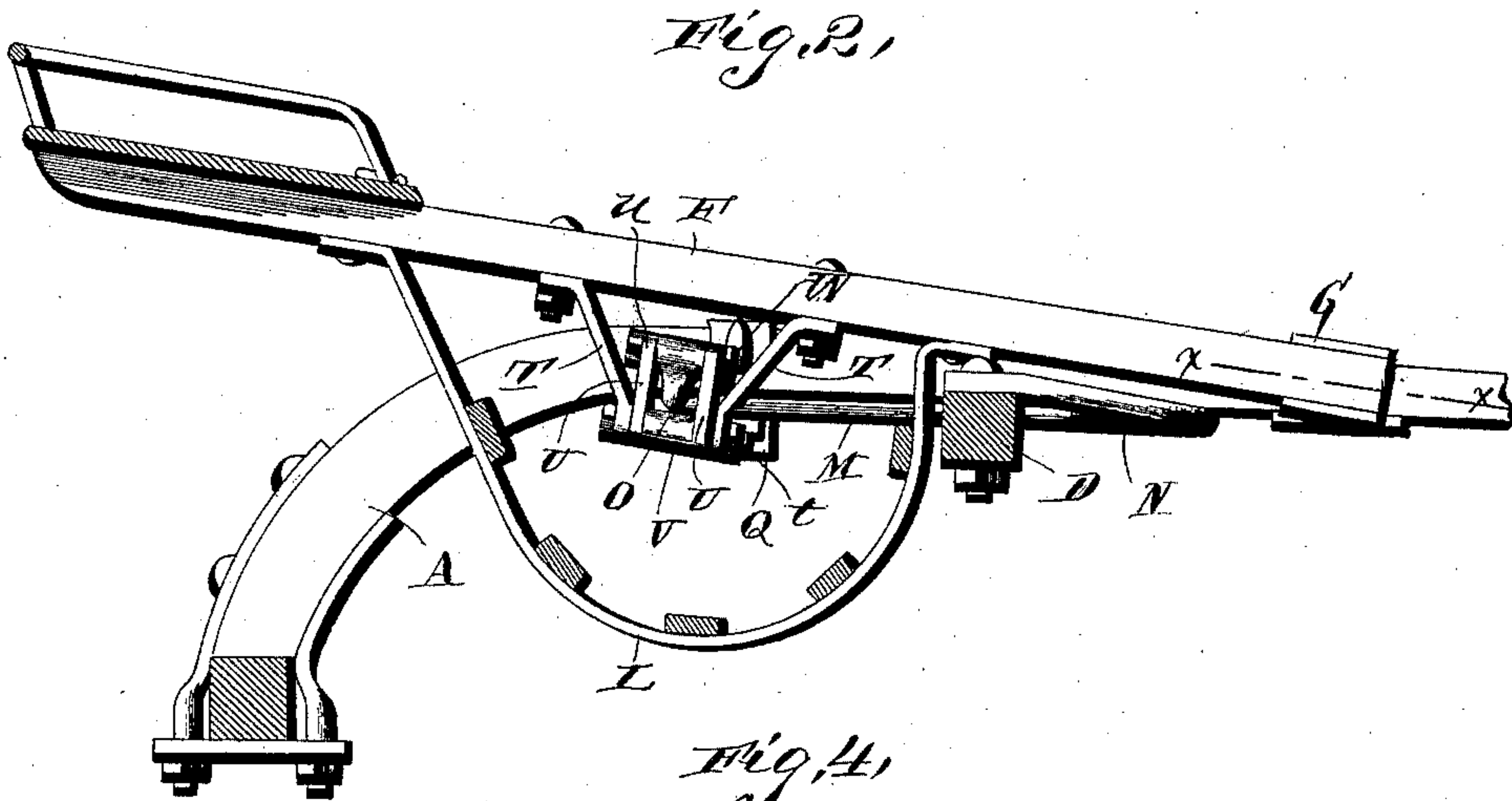
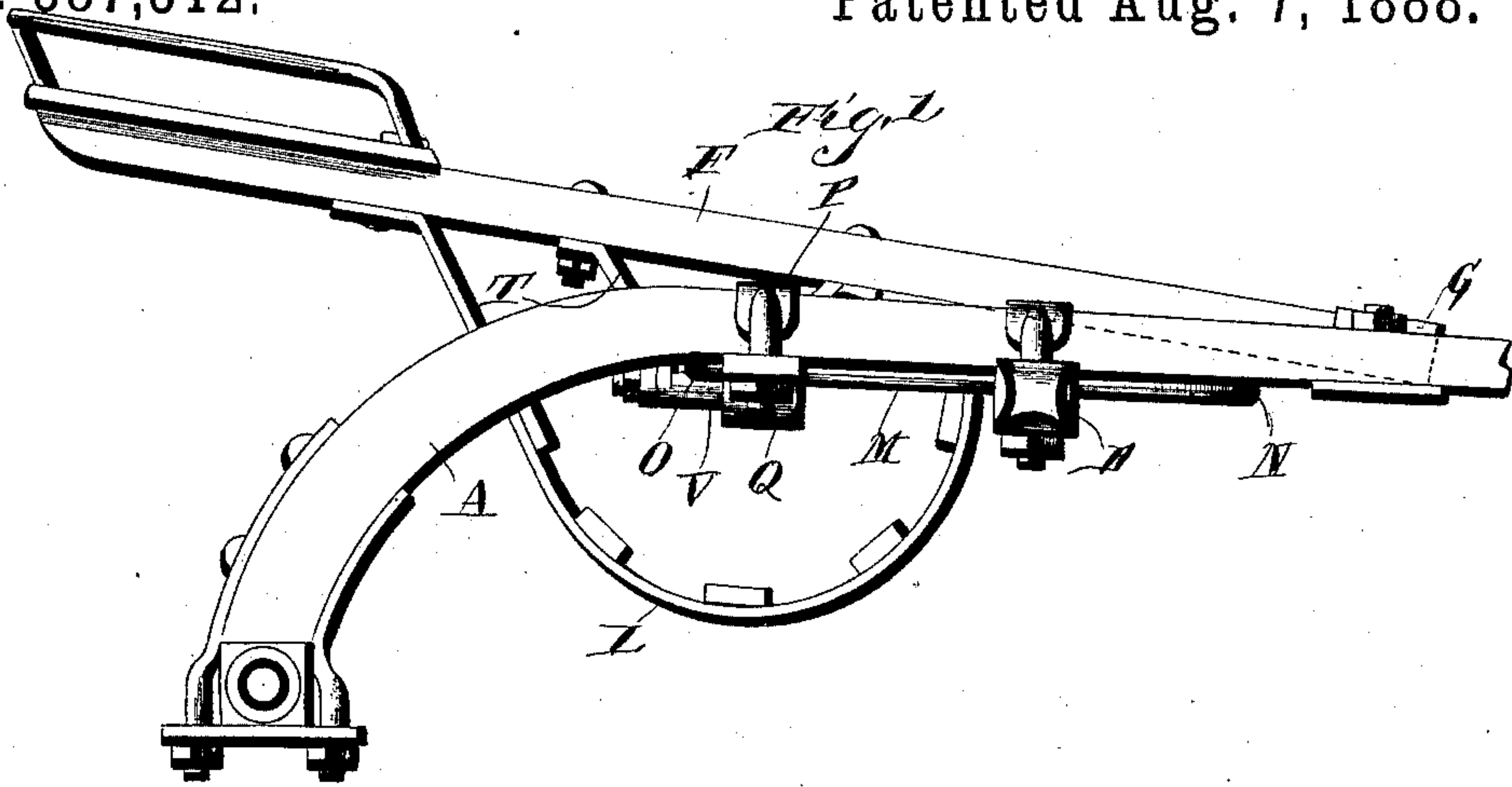
(No Model.)

2 Sheets—Sheet 1.

C. A. MILLER.  
ROAD CART.

No. 387,312.

Patented Aug. 7, 1888.



Witnesses.

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*C. E. Doyle.*

Inventor,  
*Carmi A. Miller,*

By *his* Attorneys,

*C. A. Howley.*

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Fig. 3,

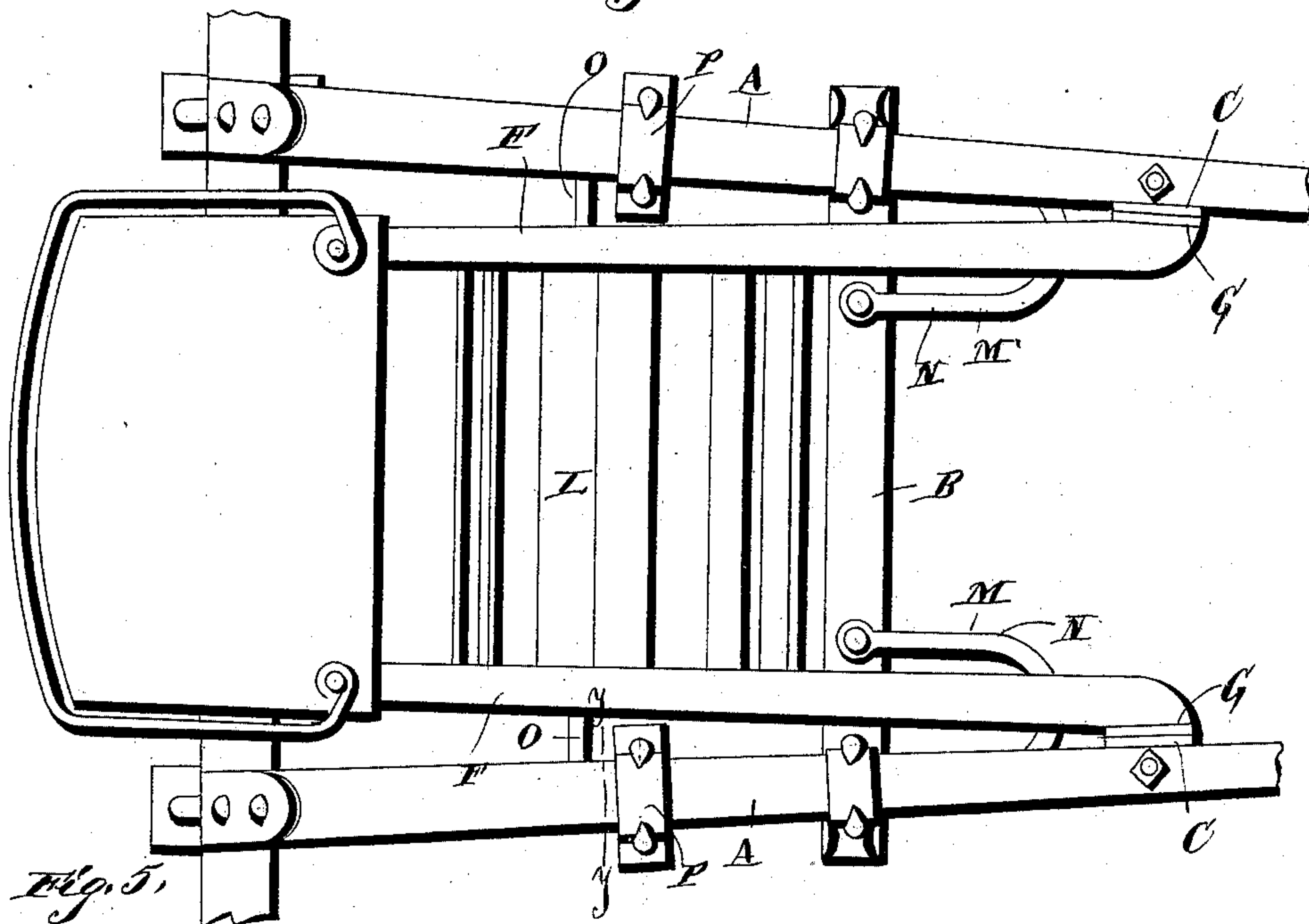


Fig. 5,

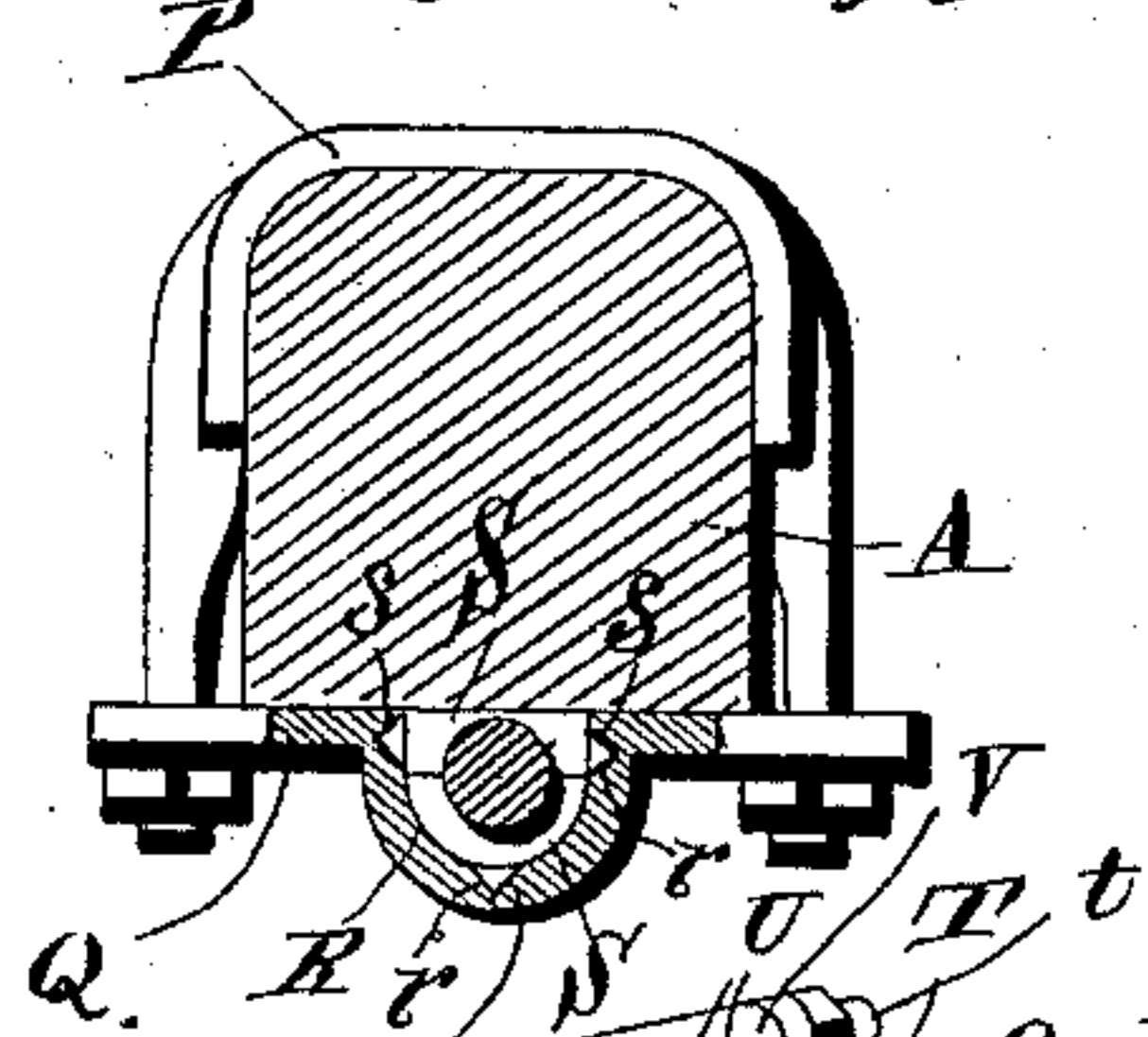


Fig. 7,

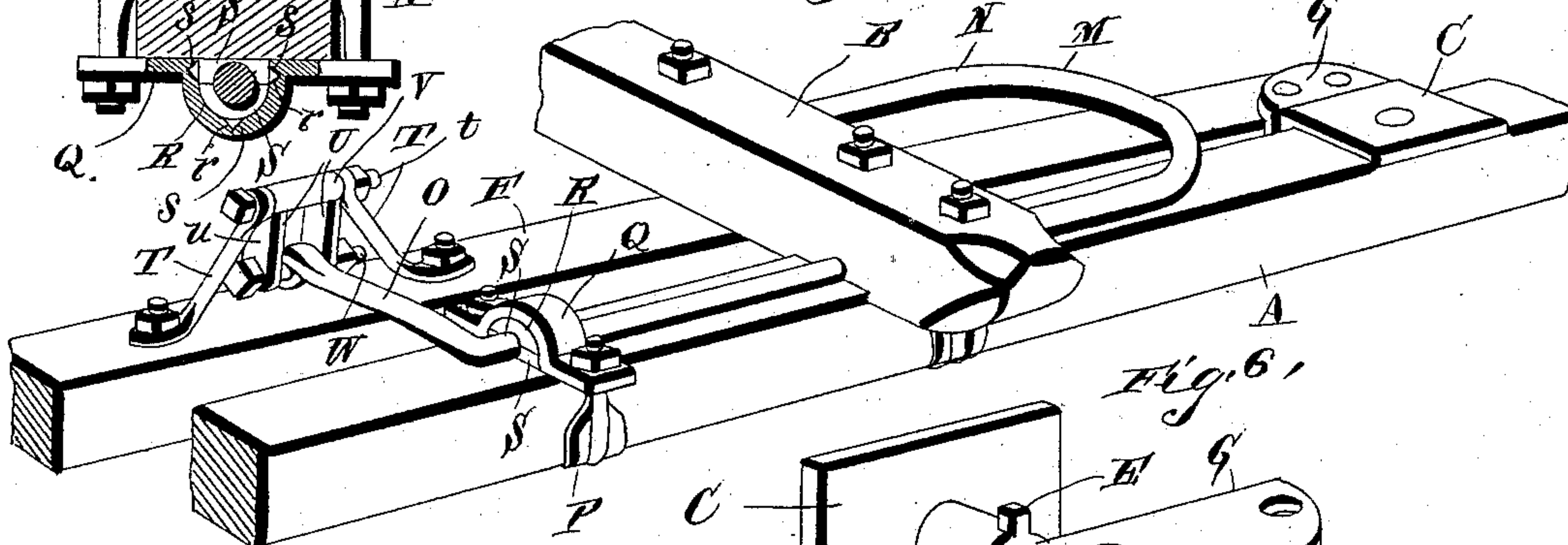
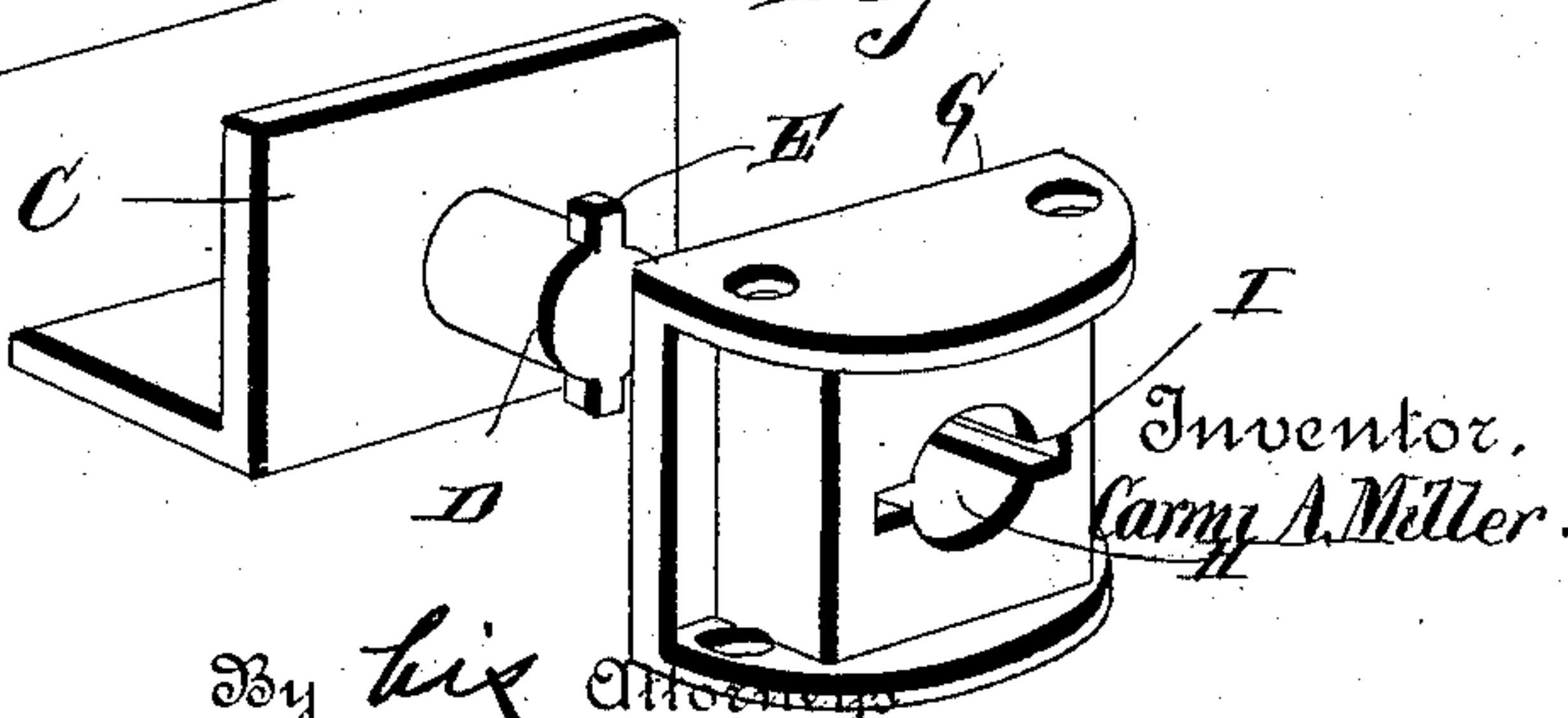


Fig. 6,



Witnesses.

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*A. E. Doyle,*

By *his* *attorney*

*C. A. Snow & Co.*

Inventor,  
*Cary A. Miller.*



# UNITED STATES PATENT OFFICE.

CARMI A. MILLER, OF SPRING VALLEY, ILLINOIS.

## ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 387,312, dated August 7, 1888.

Application filed April 5, 1888. Serial No. 269,680. (No model.)

*To all whom it may concern:*

Be it known that I, CARMI A. MILLER, a citizen of the United States, residing at Spring Valley, in the county of Bureau and State of Illinois, have invented a new and useful Improvement in Road-Carts, of which the following is a specification.

My invention relates to improvements in road-carts; and it has for its object to provide means for attaching the seat-bars to the thills, whereby they may be readily detached; furthermore, to provide improved springs for the seat-bars; and, furthermore, to provide improved means for attaching the springs to the thills and seat-bars.

With these objects in view the invention consists in a certain novel construction and arrangement of devices, fully set forth hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a side view of a portion of a road-cart provided with my improvements. Fig. 2 is a longitudinal central sectional view of the same. Fig. 3 is a top plan view. Fig. 4 is a detail sectional view on the line *x x* of Fig. 3, to show the connection between the seat-bars and the thills. Fig. 5 is a similar view on the line *yy* of Fig. 3, to show the bearing for the spring which is secured to the under side of the thill. Fig. 6 is a detail perspective view of the parts forming the connection between the seat-bars and the thills. Fig. 7 is a detail view to show the attachment of the spring to the vehicle.

Referring to the drawings, A A designate the thills, which are connected by the cross-bar B, and C designates wear-plates, which are secured to the inner sides of the thills and are provided with horizontal inward-extending spindles D, having studs E E on their upper and lower sides at their inner ends.

F F represent the seat-bars, having wear-plates G on their outer sides, and in the centers of the said plates are sockets H, having grooves I I in their front and rear sides. The spindles D are adapted to fit in the sockets in the seat-bars, and to insert them the seat-bars are raised to a vertical position, so that the studs on the spindles align with the grooves in the sockets. When the seat-bars are returned to their normal position after insert-

ing the spindles in the sockets, the studs E E are out of alignment with the said grooves and engage the inner ends of the sockets. The seat H is attached to the rear ends of the seat-bars, and the foot-rest L is attached to the under side of the said bars.

M represents torsion-springs, which are mounted on the under sides of the thills, and they are provided at their front ends with the loops N, the ends of which are secured to the cross-bar B. The rear ends of the springs are provided with the inward-extending arms O, having bearings at their inner ends.

P represents a clip, which embraces a thill, and its lower threaded ends are passed through apertures in the clip-plate Q. This plate is provided at its center with the recess R, the sides of which are provided with sockets *r r*; and S S are Babbitt or other soft metal bushing-plates, which are provided on their outer sides with knobs *s s*, to fit in the said sockets and thus hold the plates in position. These plates together form a round bearing, in which the front end of the torsion-spring is mounted, to enable it to rotate freely and without rattling when the arms O are depressed.

T T represent depending convergent bars, which are attached to the under sides of the seat-bars, and the lower ends of the bars are connected by the bolts *t*. Links U connect the extremities of the arms on the rear ends of the springs to the bolts *t*. These links are double, consisting of the arms *u u*, which are connected at their lower ends by the barrels V, mounted on the bolts *t*, and are connected at their upper ends by the bolts W, which are mounted in the bearings on the inner ends of the arms O.

The operation of the device will be obvious from the above description.

The advantages are: The seat-bars may be removed from the vehicle by withdrawing the bolt *t* and raising the bars to a vertical position. The action of the seat-bars is gentle and easy, and, owing to the flexible connection afforded by the links, there is no lateral strain between the seat-bars and the thills. The loops at the front ends of the springs give the latter greater strength, as they provide more material to twist, and the clip or bearing through which the spring passes prevents rattling.



Having thus described my invention, I claim—

1. In a road-cart, the combination of the spindles attached to the thills and having studs on their inner ends, the seat-bars having sockets in their front ends to receive the spindles, and provided with grooves to receive the said studs, and the spring attached to the seat-bars, substantially as specified.
2. In a road-cart, the combination of the wear-plates attached to the thills and having spindles D, provided with lateral studs E E, the wear-plates attached to the seat-bars and having sockets H, provided with grooves I I, and the springs attached to the seat-bars, substantially as specified.
3. In a road-cart, the combination, with the seat-bars mounted on the thills, of the torsion-springs mounted on the thills and having the arms O, the depending bars on the under sides of seat-bars, and the links between the inner ends of the arms O and the lower ends of the said bars, substantially as specified.
4. In a road-cart, the combination of the torsion-springs attached to the thills and having

the arms O, provided at their inner ends with bearings, the depending bars T T, attached to the under sides of the seat-bars and connected at their lower ends by the bolts *t*, and the double links U, comprising the arms *u u*, connected at their lower ends by the barrels V, which are mounted on the bolts *t*, and are connected at their upper ends by bolts which are mounted in the bearing on the arms O, substantially as and for the purpose specified.

5. In a road-cart, the thills having the cross-bar B, the seat-bars F, pivotally attached to the thills, and the torsion-springs mounted on the thills and having their front ends formed with loops N, which are connected to the cross-bar B, and their rear ends provided with inwardly-extending arms O, and the links connecting the arms O to the seat, as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

CARMI A. MILLER.

Witnesses:

E. G. MOORE,

C. W. THOMPSON.