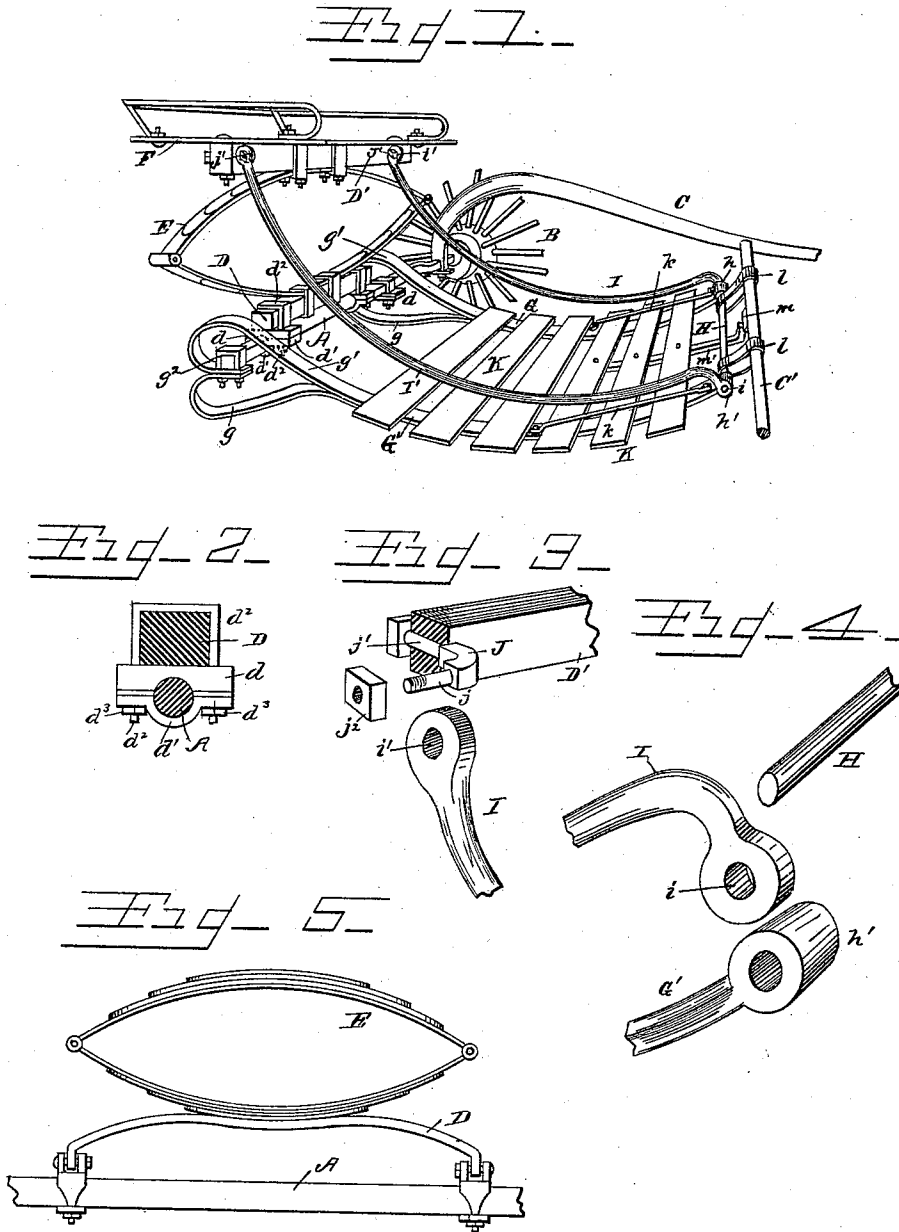


(No Model.)

A. L. SMITH & J. P. BETTS.  
ROAD CART.

No. 434,095.

Patented Aug. 12, 1890.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

ARTHUR L. SMITH AND JOHN P. BETTS, OF AUBURN, NEW YORK.

## ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 484,095, dated August 12, 1890.

Application filed December 11, 1889. Serial No. 333,324. (No model.)

### To all whom it may concern:

Be it known that we, ARTHUR L. SMITH and JOHN P. BETTS, both citizens of the United States, and residents of Auburn, county of Cayuga, and State of New York, have invented a new and useful Improvement in Road-Carts, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification.

Our invention relates to the manner of connecting the seat-spring support and platform or body of the cart with the axle for upholding them and relieving them from horse motion; and it consists in connecting the seat-support with the axle by a joint permitting a free rocking of the seat relatively to the axle; in the combination, with the seat connected to the axle to rock thereon and a body or platform supported on springs rigidly connected with the axle, of pivoted braces connecting the seat and body for upholding the seat in proper position; in a novel arrangement of means for preventing the body or platform from tilting in getting into or out of the cart, or on rough ground, and at the same time leaving it unsupported from the thills in ordinary use, and in certain details of construction and arrangement of parts, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a perspective view, partly in section, of so much of a road-cart as is necessary to show our improvements. Fig. 2 represents a vertical section through the axle and seat-spring supporting bar, showing the joint connecting the two. Fig. 3 is a perspective view in detail of the parts forming the connection between the platform-brace and the seat-bar. Fig. 4 is a similar view of the joint between said brace and the platform, and Fig. 5 is a front elevation showing a different form of seat-spring-supporting bar.

A indicates the axle, B a portion of one of the wheels, and C one of the thills, C' indicating a cross-bar connecting with the other thill, and to which in practice the singletree is attached. The axle, for the main portion of its length, is square or rectangular in form in cross-section, as shown in Fig. 1, and the thills or shafts are rigidly attached to it in

any suitable manner to prevent the axle from turning relatively thereto.

D indicates the seat-spring bar or bolster, supported over the axle on two short blocks or plates  $d d$ , each provided with a semi-cylindrical socket in its lower face, forming a half-box and matching similar plates  $d'$ , extending underneath the axle and forming lower half-boxes, between which and the upper halves rounded portions of the axle are clasped by means of rectangular loops or U-shaped bolts  $d^2$ , the screw-threaded ends of which pass through the perforated ends of the boxes and are secured by nuts  $d^3$ . By this construction the bar D is firmly clasped to the boxes and at the same time is adapted to rock freely on the axle, for a purpose that will appear.

The seat-spring (indicated at E) is preferably elliptical in form, as shown, though any other suitable form of spring may be used, and is rigidly connected on its lower side by loops, bolts, or other suitable fastenings with the bar D, to rock with it.

D' indicates a bar or support for the seat secured to the upper part of the spring, and upon which the seat F is secured in any suitable manner.

G G' indicate the platform-supporting springs, the rear ends of which are bifurcated, one arm  $g$  of each passing under the axle and being recurved in C form, and the other  $g'$  passing over the axle, where it joins the end of the arm  $g$ , both ends being firmly and rigidly secured to the axle by loops or U-shaped bolts  $g^2$ , as shown. The arms  $g$  and  $g'$  unite forward of the axle to give the body of the spring considerable stiffness and strength, and terminate at their forward ends in or are rigidly connected to short transverse sleeves  $h h'$ , connected by a transverse rod or bar H.

I and I' indicate brace rods, the forward ends of which are bent downward and provided with eyes  $i$ , which pivotally connect them with the rod H. From the angular forward ends the braces extend backward and form side rails to the platform, (indicated at K,) curving upward in front of the seat-bar, and are provided at their rear ends with eyes  $i'$ , through which they are pivoted to the transverse arms  $j$  of the angular bracket-bolts J and J', the rear longitudinal arms  $j'$  of which

pass through the seat-bar  $D'$ , securing the brace-rods thereto, as shown. Nuts  $j^2$  secure the brace-rods on the arms  $j$  and prevent their displacement. For further stiffening the forward ends of the springs  $G$  and  $G'$ , supporting the platform  $K$ , braces  $k$  extend from said ends back over the upwardly-curved portions thereof, as shown, and are secured at their ends to said springs by bolts or rivets.

By the construction described it will be seen that the seat and platform or body of the cart are supported entirely from the axle and disconnected from the thills, through which the horse motion referred to would be imparted, and that the seat-support, while journaled on the axle to rock or turn freely relatively thereto, is yet upheld in proper position by means of the long pivoted braces connecting it with the forward end of the platform-springs, which in turn are rigidly connected with the axle, but which, by their elasticity, allow the seat to rock relatively thereto, and so prevent the horse motion referred to.

To prevent the platform from being too much depressed in getting in or out of the cart, or on very rough ground, straps  $ll$  connect the rod or bar  $H$  loosely with the cross-bar  $C'$ . The bar  $C'$  has a cushion of india-rubber or spring  $m$  secured to its lower face, and an angle iron or rod  $m'$ , secured to the rod  $H$  and to the forward part of the platform, serves, by coming in contact with said spring or cushion, to relieve the body of the cart from all liability of excessive backward tilting and at the same time acts only when required for that purpose, and so does not interfere with the freedom or ordinary movement of the seat and body of the vehicle.

In Fig. 5 we have shown a modification in the form of the seat-spring-supporting bar, in which the bar is made arching or in bow shape and has its ends pivoted on the axle instead of being pivoted to the axle through said boxes, this latter construction, like that above described, leaving the seat-support free

to rock on the axle, upheld in operative position by the pivoted links connecting it with the platform, as described.

Having now described our invention, we claim—

1. In a road-cart, the seat-support pivoted to the axle to rock freely thereon, in combination with a body or platform supported on springs independent of the seat-support and rigidly connected to the axle, and transversely-arranged link-rods pivoted to and connecting the seat-support and platform, substantially as described.

2. The vehicle body or platform supported on springs rigidly connected at their rear ends to the axle, and the thills also rigidly connected to said axle, in combination with a seat-support pivoted to rock freely on the axle, transversely-arranged link-rods pivotally connecting the seat-support and platform, and stops connecting the front of the platform loosely with the thills, substantially as and for the purpose described.

3. The combination, in a road-cart, of the axle, the thills rigidly connected thereto, the platform supported on springs also rigidly connected to said axle, and the interposed cushion and angle iron or rod for preventing backward tilting of the platform, substantially as described.

4. The combination, in a road-cart, of the thills rigidly connected with the axle, the seat-support pivoted on said axle, the platform supported on springs rigidly connected with the axle, the pivoted links connecting said seat-support and platform, and stops for limiting the rocking of the platform relatively to the thills, substantially as described.

In testimony whereof we have hereunto set our hands this 9th day of December, A. D. 1889.

ARTHUR L. SMITH.  
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Witnesses:

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FRANK S. WRIGHT.