

Patented Jan. 31, 1888.



By *Columb & Thacher*  
Attorneys



# UNITED STATES PATENT OFFICE.

REUBEN D. BUCKINGHAM, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF  
TO EDWARD F. CRAGIN, OF SAME PLACE.

## ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 377,061, dated January 31, 1888.

Application filed August 3, 1887. Serial No. 246,072. (No model.)

*To all whom it may concern:*

Be it known that I, REUBEN D. BUCKINGHAM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Road-Carts, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which--

Figure 1 is a plan view of a road-cart embodying my invention; Fig. 2, a sectional view of the same, taken on the line 1 1 of Fig. 1; Fig. 3, a detail view of the seat-supporting spring, and Fig. 4 a plan view of the same.

Like letters refer to like parts in all the figures of the drawings.

My invention relates to road-carts and other like two-wheeled vehicles, and more particularly to that class in which the seat-supports are connected at their front ends to the shafts by means of a flexible connection, and suspended at a point in the rear of this connection from a spring attached to a cross-bar or cross-bars.

The object of my present invention is to provide a construction whereby the parts may be rendered more compact and a spring of less stiffness employed without in any way sacrificing the easy-riding character of the vehicle; and to these ends my invention consists in certain novel features, which I will now proceed to describe, and will then particularly point out in the claims.

In the drawings, in which I have shown a construction in which my invention is practically carried out in one way, A represents the axle of the road-cart, B the wheels thereof, and C the shafts, secured to the axle and extending upward and then forward therefrom. Cross-bars D serve to connect and brace the shafts, these cross-bars being preferably reversely curved, as shown, and connected back to back by means of bolts *d*, or in any other suitable manner. Of course any other approved form of cross-bar, either double or single, may be substituted for the form shown.

E represents the seat, the supporting-bars F of which are connected at their forward ends to the shafts C by flexible connections. In the present instance springs *f* are employed for this purpose, although hinges or any other form of flexible connection may be used.

G represents the suspension-spring, from which the seat-supports F are suspended. This spring is secured to the cross-bars D, its central portion being somewhat flattened, as shown at *g*, and perforated to receive the bolt H, which passes up through the spring, cross-bars, and whiffletree I, of which latter it forms the pivot-bolt.

H' represents a clip surrounding the cross-bars D and spring G, its upper member, *h*, being of an inverted-U shape and its lower member being a cross-plate, *h'*, secured by screw-bolts *h''*, as well as by the bolt H. The spring G curves slightly downward and then upward in each direction from its center, and is also curved to the rear in each direction, as clearly shown in Figs. 1 and 4 of the drawings. Its free ends are each provided with an eye, *g'*, to receive a link, G', which is connected to the corresponding seat-support, F, by means of a clip, F'.

It will be observed that the seat-supports are connected to the under side of the shafts, and that they extend rearward under the cross-bars D and spring G, from which latter they are suspended. By reason of this construction the spring G absorbs the vibrations and renders the seat easy-riding and comfortable, while at the same time the said spring furnishes a foot-rest which will be free from jarring.

I am aware that it has heretofore been proposed to attach a spring to the under side of the cross-bar and to suspend the seat-supports from the free ends of said spring, such a construction being shown in Letters Patent No. 259,912, granted March 22, 1887, to Whittaker. In this construction, however, the spring extends straight across the cart and does not curve rearwardly, as in the case of the construction hereinbefore described. The advantages attendant upon this curvature of the spring are increased compactness and the employment of a lighter spring, for the following reasons: If the spring were straight, its ends would be connected to the seat-supports at a point much nearer the forward ends thereof, and the increased leverage thus given to the weight of the person occupying the seat by reason of the distance from the seat to these points of attachment would necessitate the use of a considerably stronger and stiffer spring in



order to properly support the same. This would render the riding motion jerky and would entail an increased cost. In order to remedy this the seat-supports would have to  
5 be made longer and attached farther forward on the shafts, or else the cross-bars and seat would have to be brought closer to each other. Either of these expedients would be undesirable, for obvious reasons. By the curvature  
10 of the spring, as set forth, I overcome these disadvantages and am enabled to properly proportion the arrangement of the several parts so as to gain a maximum of compactness and convenience without in any way sacrificing the  
15 easy-riding qualities of the cart, while at the same time I am enabled to employ a lighter and at the same time a cheaper and easier-acting spring.

It is obvious that various modifications in  
20 the details of construction may be made without departing from the principle of my invention, and I therefore do not wish to be understood as limiting myself to the precise details hereinbefore described, and shown in the drawings.  
25

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

1. In a road-cart, the combination, with the

axle, the shafts secured thereto, and a cross- 30  
bar or cross-bars connecting the same, of the suspension-spring attached to the cross-bar or cross-bars at its center and curving rearward in each direction from said center, the seat, and the seat-supports connected to the shafts 35  
at their front ends by means of a flexible connection and suspended from the free ends of the spring at a point in the rear of the cross-bar or cross-bars, substantially as and for the  
40 purposes specified. 40

2. In a road-cart, the combination, with the axle, of the shafts attached thereto, a cross-bar or cross-bars connecting the shafts, a spring attached at its center to said cross-bar or cross-  
45 bars and curving rearward in each direction from its point of attachment, and also curving first downward and then upward on each side of its said point of attachment, the seat, and the seat-supports connected to the shafts at  
50 their front ends by a flexible connection and suspended from the free ends of the spring at a point in the rear of the cross-bar or cross-bars, substantially as and for the purposes specified.

REUBEN D. BUCKINGHAM.

Witnesses:

ORSON H. BROOKE,  
IRVINE MILLER.