

E. W. BEAM.
ROAD CART.

Patented June 18, 1889.

[illegible]

A diagram of a beam with a central section labeled G and end sections labeled a and b . The beam is shown in perspective, with a central section G and end sections a and b . The beam is labeled S at the top.

Inventor:
Elias W. Beam.
By *Thos. A. Spurgeon*
Atty

UNITED STATES PATENT OFFICE.

ELIAS W. BEAM, OF PLYMOUTH, MICHIGAN.

ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 405,299, dated June 18, 1889.

Application filed December 8, 1888. Serial No. 292,980. (No model.)

To all whom it may concern:

Be it known that I, ELIAS W. BEAM, a citizen of the United States, residing at Plymouth, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Road-Carts, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in road-carts; and the invention consists in the peculiar construction and arrangement of the parts constituting the seat-support, whereby an easy-riding cart is obtained, combined with great strength, and, further, in the means whereby the tension of the spring-supports of the seat may be adjusted to suit riders of different weights, all as more fully hereinafter described, and shown in the accompanying drawings, in which—

Figure 1 is a vertical central longitudinal section of a road-cart provided with my improvements. Fig. 2 is a cross-section thereof on line *xx* in Fig. 1, looking toward the rear; Fig. 3, a detached elevation of the spring-bar; Fig. 4, a section plan of one of the brackets which adjustably supports the said springs from the shafts.

B is the axle, C the shafts, D the cross-bar, E the seat, and F the curved seat-bars, of a road-cart, such parts being of known construction, and forming no part of my invention.

G is a spring-bar, preferably made of spring metal in the form of a round bar thicker in the center and tapering toward the ends, with an upset or shoulder *a* near the outer ends, and terminating in screw-threaded studs or pins *b*. This spring-bar is clipped in the center to the under side of the cross-bar, preferably some distance below it, by means of the bearing-block H and the clips I I. The outer ends of this spring-bar then extend in proximity to the shafts, and the seat-bars F F have their forward ends upon the ends of the spring-bars, suitable eyes being formed on the spring-bars for that purpose to form a pivotal connection. By means of suitable nuts *c*, or otherwise, the seat-bars are adjustably secured to the spring-bars.

J are seat-supporting springs adjustably

suspended from the shafts by means of the notched plates or brackets K, secured to the inside of the shaft and provided with the adjusting-notches L, with either one of which the upper end of the spring may be engaged. The lower ends of the springs J are secured to the ends of a tension-rod L', preferably by forming hooked ends *d* on the ends of the tension-rod. This tension-rod L' passes below the seat-bars and engages adjustably into notched plates or brackets M, which are secured to the under side of the seat-bars, and the notches of which are adapted to hold the tension-rod L' detachably and adjustably in position.

A suitable foot-rest is constructed by means of bars N, secured directly to the seat-bars, which are suitably curved to form a curb, and horizontal truss-rods O are secured to strengthen the seat-bars by forming a truss in the bight of the seat-bars.

It will be seen that by adjusting the upper ends of the springs J backward or forward upon the plates K, or engaging the tension-bar L' with another notch of the plate M, the leverage of the springs on the seat-bars may be changed, and thereby the tension of the springs made to suit the different weights upon the seats and adapt the cart to be as easily adjusted for one or two persons upon the seat.

It will be noticed that the spring-bar G is calculated by its form to play as well in the horizontal direction as in a vertical direction or any other direction, whereby the thrust in starting, stopping, or in any alteration in the gait of the horse is readily cushioned, and thereby makes the riding easy under all circumstances—a result which is not accomplished by the use of the ordinary flat springs, which are only calculated to ease the vertical motion, having no effect in any other direction.

I preferably arrange the notches in one of adjusting-plates K or M, preferably the latter plate, in a different horizontal plane—as, for instance, shown in Fig. 1 in the drawings, where the notch *e* is made deeper than the notch *f*. Thus by changing the tension of the bar L' and the notch *e* the seat is lowered.

This allows a change in the height of the seat, which in long drives allows the rider to change his position, and thereby effect a grateful change from a higher position to a lower position, or vice versa. It is obvious that the notches in the upper plate may be arranged in a similar manner to accomplish this object by providing the tension-bar L' with the crank d upon their outer ends. All liability of disengagement of the tension-bar L' from the notches in the plate is avoided, as an easy hinge is thereby formed, which allows the tension-bar to rock in its bearings, and thereby compensate in horizontal direction.

What I claim as my invention is—

1. In a road-cart, the combination, with the shafts, cross-bar, and seat-bars, of a round spring-bar centrally secured to the cross-bar and supporting with its free ends the front end of the seat-bars, and tapered from its middle toward its ends, substantially as described.

2. The combination, with the shafts and cross-bar of a road-cart, of the round spring-bar G , the bearing-block H , and clips I , for securing it to the cross-bar, and the seat-bars provided with eyes upon their forward ends pivotally engaged with the free ends of the spring-bar, substantially as described.

3. The combination, with the shafts, cross-bar, and seat-bars of a road-cart, substantially as described, of the spring-bar G , supporting the free ends of the seat-bars, said spring-bar being centrally secured below the cross-bar and tapering from its middle toward the ends and provided with the upsets a and pivot pins or lugs b , substantially as described.

4. In a road-cart, the combination, with the shafts and seat-bars pivotally secured at their forward ends, of the supporting-springs suspended from the shafts, the notched plates M , secured to the under side of the seat-bars, and the tension-rod L' , adjustably engaging with these plates and having their free ends connected to the supporting-springs, substantially as described.

5. In a road-cart, the combination, with the shafts and seat-bars pivotally secured at their forward ends, of the springs J , suspended from the shafts, the plates M , secured to the under side of the seat-bars and provided with two or more notches of different height, and the tension-rod L' , adjustably engaging into the notches of these plates, substantially as described.

6. In a road-cart, the combination of the shafts C , the cross-bar D , the spring-bar G , centrally secured below the cross-bar, the seat-bars F , pivotally secured to the spring-bar, the springs J , suspended from the shafts, the notched plates K , upon which the upper end of the spring is adjustably engaged, the tension-rod L' , and the notched plates M , secured to the seat-bars and adjustably engaging the tension-rod, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 7th day of June, 1888.

ELIAS W. BEAM.

Witnesses:

J. PAUL MAYER,
N. B. SMITH.