

(No Model.)

C. A. & J. H. MILLER.
ROAD CART.

No. 438,700.

Patented Oct. 21, 1890.

Fig. 1.

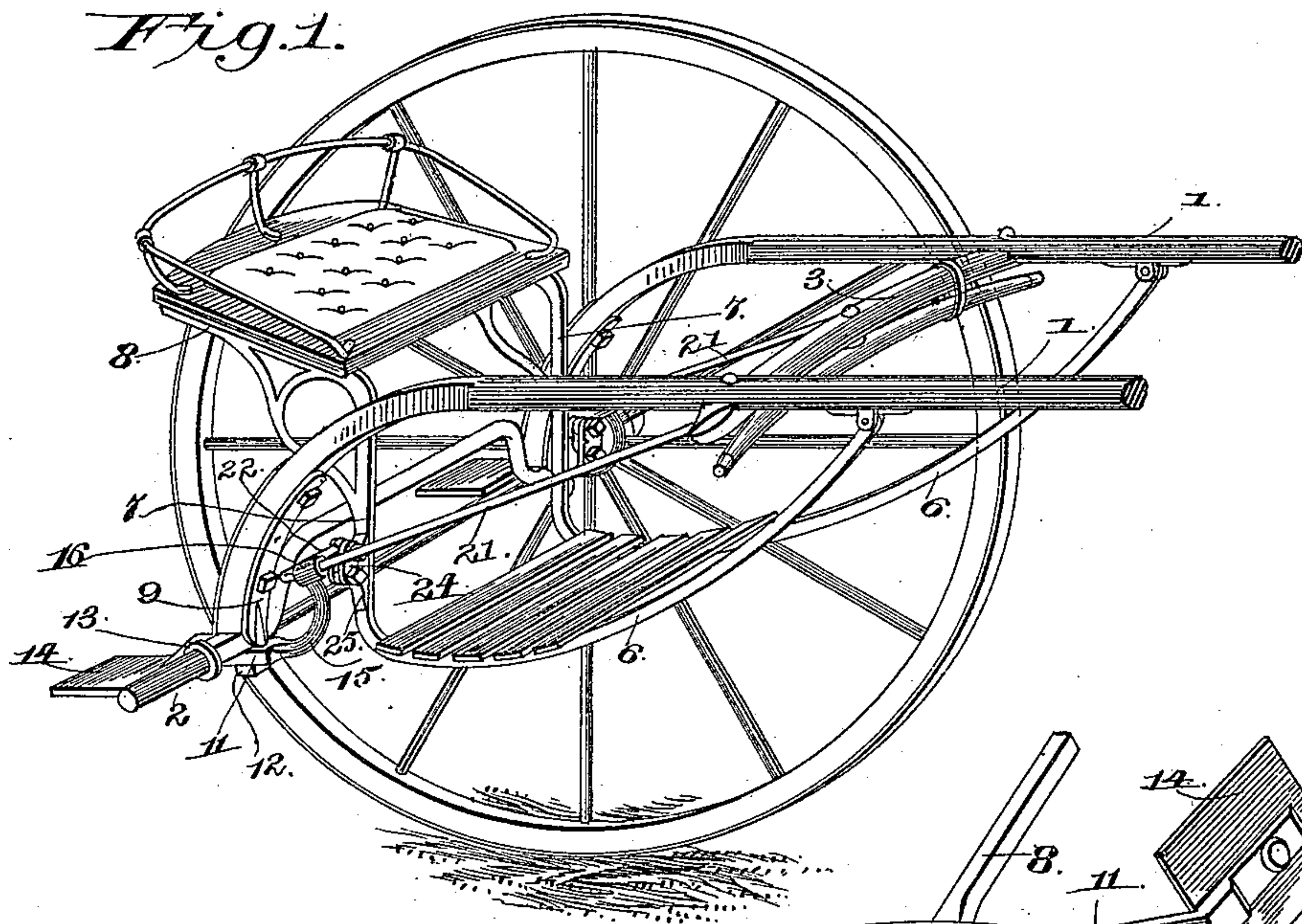
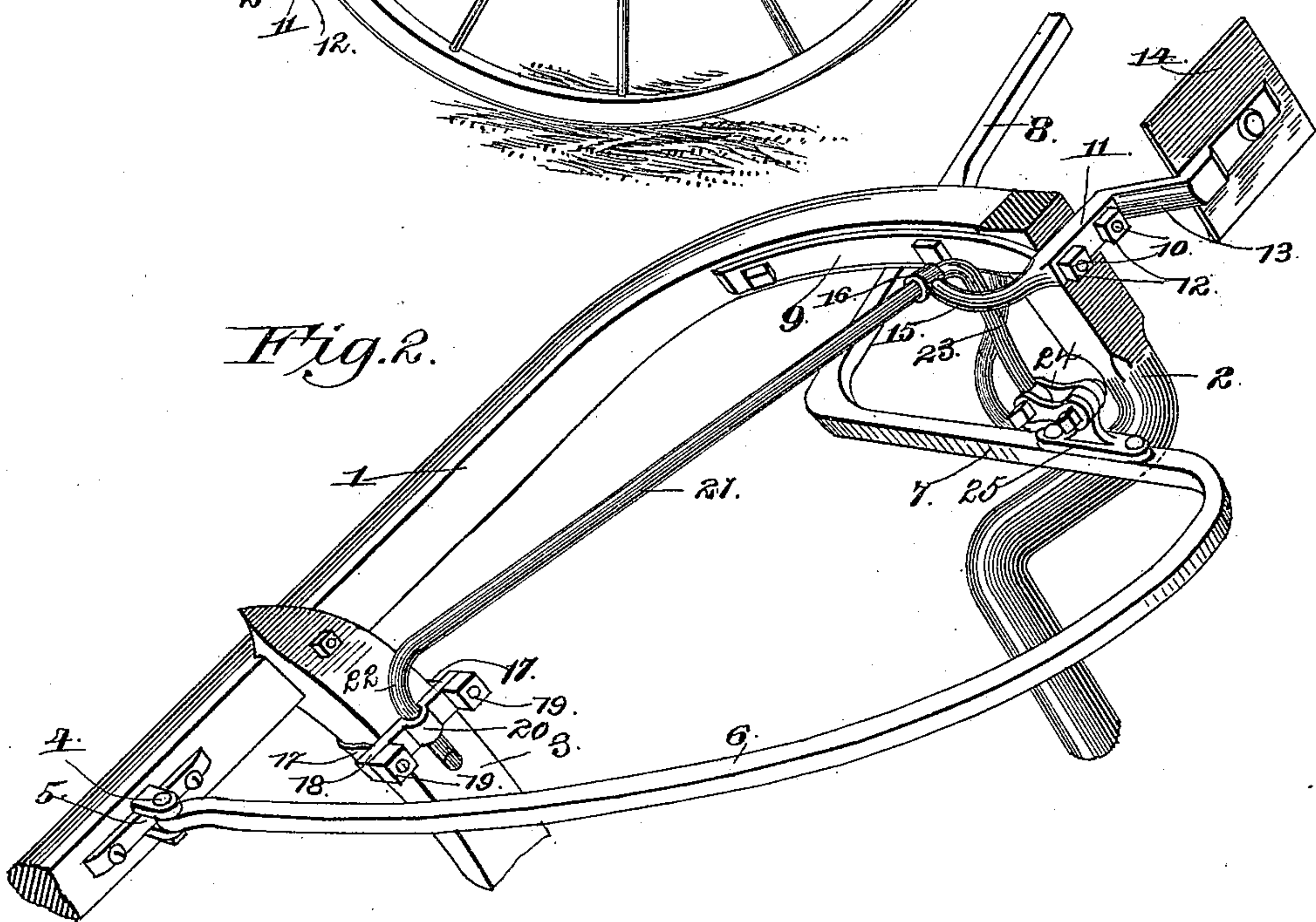


Fig. 2.



Witnesses:

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By their Attorneys

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UNITED STATES PATENT OFFICE.

CARMI A. MILLER AND JOHN H. MILLER, OF SPRING VALLEY, ILLINOIS.

ROAD-CART.

SPECIFICATION forming part of Letters Patent No. 438,700, dated October 21, 1890.

Application filed April 25, 1889. Serial No. 308,512. (No model.)

To all whom it may concern:

Be it known that we, CARMI A. MILLER and JOHN H. MILLER, citizens of the United States, residing at Spring Valley, in the county of Bureau and State of Illinois, have invented a new and useful Road-Cart Spring, of which the following is a specification.

This invention has relation to road-cart springs; and among the main objects in view are to provide a cheap and serviceable spring of the torsion class, and so arrange the same as to perform the additional function of a side brace, and also to yield the greatest amount of elasticity, to be arranged under the shaft or thill and out of the way, thus doing away with the unsightly and inconvenient side springs and braces usually employed. By the use of our spring we also overcome all disagreeable horse and side motions, and while retaining all the inherent strength and durability of the torsion-spring, yet by the peculiar manner of mounting and locating the same secure the vertical yielding movement common to other springs of a less durable quality.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a perspective of a road-cart constructed in accordance with my invention. Fig. 2 is a similar view of the spring in detail.

Like numerals of reference indicate like parts in all the drawings.

1 represents the thills or shafts, which terminate against and are suitably secured to the axle 2, and are provided with the cross-tree 3, these parts being of the usual and well-known construction. Having its front end pivoted, as at 4, in a bracket 5, secured to the under surface of the thill 1, is the usual seat and foot-slat supporting bar 6, there being a similar bar likewise pivoted to the opposite thill. The bars 6 are inwardly disposed and project to the rear to a point in front of the axle, where they are upwardly bent, as at 7, to a suitable height, and then again rearwardly disposed to form the usual seat-supporting arms 8.

The ends of the shafts or thills abut squarely

against the upper surface of the axle 2, and are secured thereby by opposite plates 9, bolted to the thills, said plates terminating in reduced threaded portions 10, snugly bound in position by a tie-plate 11, perforated for the passage of the threaded ends 10, to which ends are applied binding-nuts 12. The plate 11 is continued to the rear to form an arm 13, to which is secured the step 14, and is continued to the front to form a forwardly and upwardly curved arm or bracket 15, at the end of which there is provided a bearing-eye 16. The plate thus constructed may be easily and cheaply formed in a single piece. Near each end of the cross-tree there is mounted a clip 17, the ends of which are threaded and passed through a clip-tie 18, bound in position by nuts 19, applied to the ends of the clamp and provided with a central bearing 20.

21 represents the torsion-spring, and the same is formed with bent ends 22 and 23, said ends being bent parallel to each other and the forward one being mounted for pivotal movement in the bearing of the clip-plate 18. Intermediate the bent ends of the spring the same passes through the eye 16, and the rear terminal of the spring is connected to the slat-bar by means of a loosely-pivoted link 24, the connection being made by means of a bracket 25 projecting from the side of said bar. The spring described, it will be understood, is duplicated at the opposite side of the vehicle, and in this manner the two slat-bars and seat are supported.

From the above description it will be apparent that the spring, while performing its well-known function, also performs an additional function of a side brace and serves to support the slat-bar in a suspended position. It will be furthermore evident that any unpleasant side motion of the seat will be impossible, and that an easy uniform yielding takes place as the cart passes over obstructions, and this in a direct vertical line.

It will be seen that the torsion-springs are entirely out of the way of the rider in getting in or out of the cart. Our springs dispense with the stay-braces that are usually employed to connect the axle to the cross-bar or shafts, as our springs perform not only their ordinary function, but also form durable stay-braces.

Having described our invention, what we claim is—

1. The combination of the thills 1, axle 2, securing plates 9, and tie-plate 11, having the
5 bracket 15 terminating in the eye 16, with the side bars 6, pivoted in brackets 5, secured to the thills and bent at 7 and 8 and provided with a bracket 25, and opposite torsion-springs 21, having the bent end 22 pivoted in the clip-
10 plate 18, and having the end 23 loosely connected with the bracket 25 by means of the link 24, said spring being supported near its rear end by the bearing-eye 16, substantially as specified.
- 15 2. In a vehicle, the seat and seat-supporting bars 6, one on each side, pivoted to the thills at their front ends and having their rear ends bent vertically at 7 in front of the axle and rearwardly at 8 directly over the axle, the
20 vertical portions of the bars 6 being provided on their outer faces with brackets 25, com-

bined with the torsion-springs 21, arranged on the outside of the side bars and having their front ends journaled to the cross-bar of the thills and their rear ends bent inwardly at 25 right angles, the links pivotally connected to the rear ends of the torsion-springs and to said brackets 25, and the step-brackets 15, clipped to the axle and having formed integral with them curved arms, extending upward 30 and provided with eyes 16, which receive and support the torsion-spring at the angle of the bend, substantially as described.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures 35 in presence of two witnesses.

CARMI A. MILLER.
JOHN H. MILLER.

Witnesses:

W. A. BLAIR,
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