

(No Model.)

J. JACKSON.  
SIDE SPRING VEHICLE.

No. 542,019.

Patented July 2, 1895.

Fig. 1.

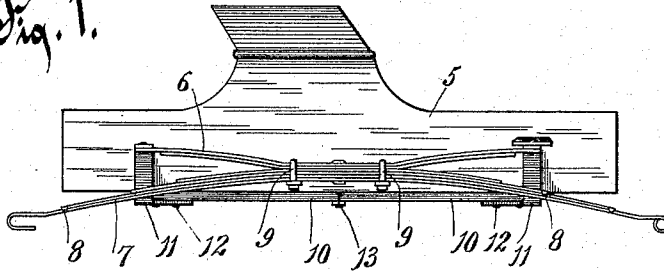


Fig. 2.

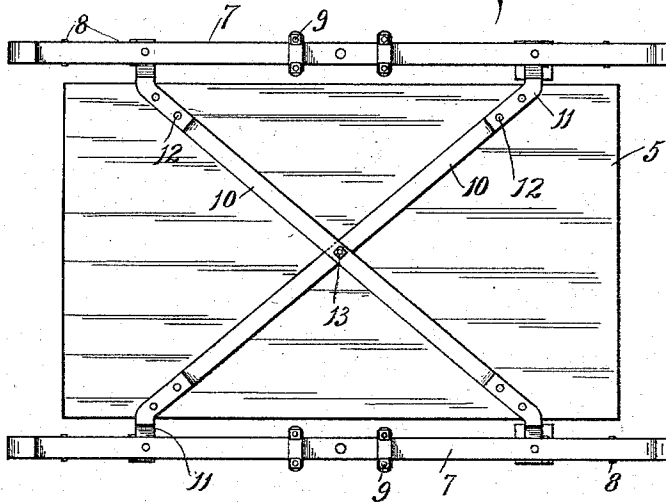


Fig. 4.

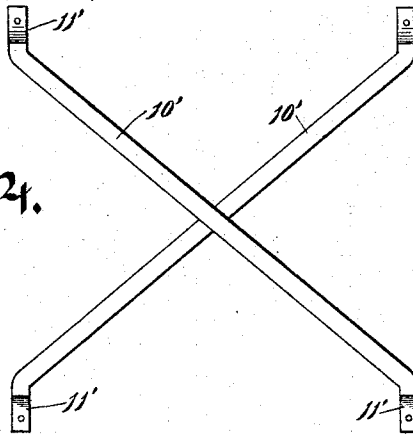
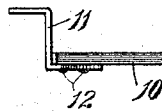


Fig. 3.



Witnesses.

*Wm. H. Keany*  
*Anna V. Faust*

Inventor.

*John Jackson*  
*Ray & Benedict & Mossell*  
Attorneys.

# UNITED STATES PATENT OFFICE.

JOHIEL JACKSON, OF COLUMBUS, WISCONSIN.

## SIDE-SPRING VEHICLE.

SPECIFICATION forming part of Letters Patent No. 542,019, dated July 2, 1895.

Application filed May 25, 1894. Serial No. 512,419. (No model.)

*To all whom it may concern:*

Be it known that I, JOHIEL JACKSON, of Columbus, in the county of Columbia and State of Wisconsin, have invented a new and useful Improvement in Side-Spring Vehicles, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

My invention has relation to improvements in side-spring vehicles.

The object of the invention is to provide an improved construction for so supporting the bodies of vehicles as to prevent side and end motion thereof.

With this object in view, the invention consists of the devices and parts or their equivalents, as hereinafter more fully described and claimed, said devices and parts constituting certain improvements upon the Letters Patent of the United States issued to me under date of September 14, 1886, and numbered 349,221.

In the accompanying drawings, Figure 1 is a side elevation of a vehicle-body embodying my improvement. Fig. 2 is an inverted plan view of Fig. 1. Fig. 3 is a detail view illustrating the connection at the end of the body-supporting strap, and Fig. 4 is a detail view showing a modification of the diagonal body-supporting straps.

Like numerals of reference denote like parts throughout the several views of the drawings. Referring to the drawings, the numeral 5 indicates a vehicle-body. Upon opposite sides of this body are arranged springs, each consisting of upper and lower sections, designated by the numerals 6 and 7, respectively. The lower section 7 consists of a suitable number of leaves or plates, the ends of each of which, being provided on both sides with downwardly-projecting ears 8, which lie over the edges of the leaf adjacent thereto and prevent displacement of the adjacent leaves. The upper section 6 of the spring is shown as consisting of an upper long leaf, which is supported beneath by a shorter leaf. The respective sections of each spring are secured to each other by means of clips 9.

Beneath the body of the vehicle are arranged diagonal intersecting supporting-straps 10 10. In Figs. 1, 2, and 3 the ends of these straps are shown as connected to the

ends of the upper leaves of the upper sections 6 of the side springs by means of double-angled connections 11. The lower horizontal arms of these connections extend inwardly at obliquities and receive thereon the ends of the supporting-straps, which are secured thereto by means of bolts 12. The vertical arms of the connections extend upwardly along the sides of the vehicle-body, while the upper horizontal arms extend outwardly and have their ends attached to the ends of the upper sections of the side springs. The supporting-straps 10 10, at the point where they cross at 13, are secured together by a bolt or clips.

In Fig. 4 of the drawings I show a form in which the diagonal supporting-straps are made continuous in one piece from end to end. The supporting-straps in this figure of the drawings are indicated by the numerals 10' 10'. The separate end connections 11 are dispensed with, and in lieu thereof the ends of the supporting-straps are bent out laterally at angles, thence bent upwardly adjacent to the sides of the vehicle-body, and then outwardly again. This end formation of the strap is indicated by the numeral 11'. To the upper outwardly-bent ends the upper sections of the side springs are secured. This modified form of device simplifies the construction somewhat by reason of the omission of certain parts, and may, perhaps, in practice prove the most desirable form.

While I have shown the side springs as composed of upper and lower sections with connections between the ends of the upper sections and the ends of the diagonal supporting-straps, yet I do not wish to be understood as limiting myself to this particular arrangement of the springs. It is obvious that side springs may be employed not necessarily composed of upper and lower sections or diverging leaves so long as the side springs are so arranged that the ends of the diagonal straps may be conveniently attached thereto. The present improvements consist especially in the employment of under diagonal intersecting supporting-straps, the ends of which respectively are secured to opposite side springs of the vehicle at longitudinally distant points of said springs.

In the Letters Patent issued to me under

date of September 14, 1886, numbered 349,221, hereinbefore referred to, straps were shown and described extending crosswise under the body of the vehicle, said straps having their 5 outer ends secured to the ends of the upper section of the side springs. In that form of construction the vehicle-body was only supported transversely at its front and rear, and consequently there was danger of a tilting or 10 sidewise motion of the vehicle-body upon the straps both longitudinally and transversely. In the present improvement a strong support for the body is afforded throughout, and yet by the connections between the ends of said 15 supports and the side springs the resilient or springing movement of the body is not in the least interfered with. Most important of all is that the diagonal arrangement of the straps form long bearings for the body both longitudinally and transversely, thereby rendering 20 side or endwise motion of the vehicle-body impossible.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is— 25

1. The combination, of a vehicle body, springs arranged longitudinally of the outer sides of the vehicle body for the greater portion of the length of the body, said springs 30 having leaves arranged above the lower edges of the sides of said body, and diagonal straps arranged beneath the vehicle body and intersecting each other centrally, and adapted to support the vehicle body, opposite ends of 35 the respective straps, upon opposite sides of

the body, being near the front and rear of said body, said ends formed or provided with upwardly turned portions adjacent to the outer sides of and forming seats for the vehicle body, the extremities of said upwardly- 40 turned portions being connected to the ends of the leaves of the springs which lie above the lower edges of the sides of the body, substantially as set forth.

2. The combination, of a vehicle body, 45 springs arranged longitudinally of the outer sides of the vehicle body, said springs having leaves which diverge from each other, the opposite ends of the lower sections of the divergent springs adapted to be secured to the hind 50 axle and the front bolster, respectively, diagonal straps intersecting each other beneath the vehicle body, and connecting devices secured to the ends of the diagonal straps, and extending laterally beyond the sides of the 55 vehicle body, each connecting device consisting of a lower inwardly-extending horizontal part connected to the end of a strap, a central member extending for a distance vertically of the outer side of the body, and an 60 upper outwardly-extending horizontal member secured to the end of the upper section of a divergent spring, substantially as set forth.

In testimony whereof I affix my signature 65 in presence of two witnesses.

JOHIEL JACKSON.

Witnesses:

O. J. SCHENDEL,  
MIC. ADAMS.