(No Model.)

V. O. JEFFRIES.

VEHICLE SPRING.

No. 476,385. Patented June 7, 1892.

Fig. 1.

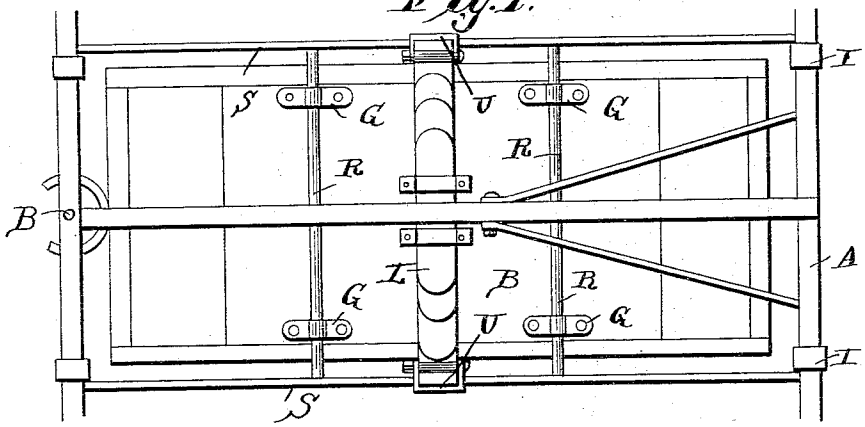


Fig. 2.

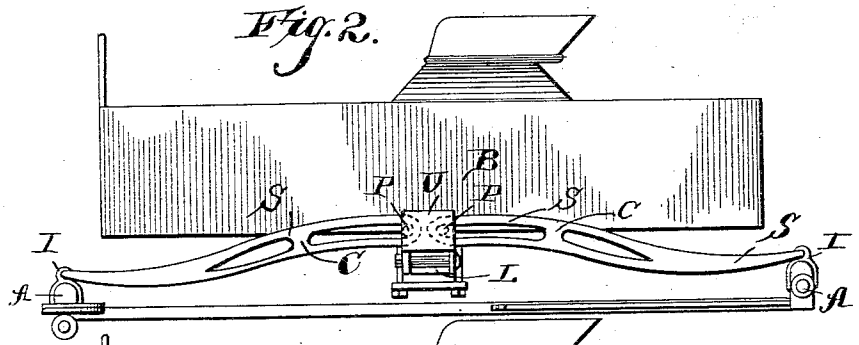


Fig. 3.

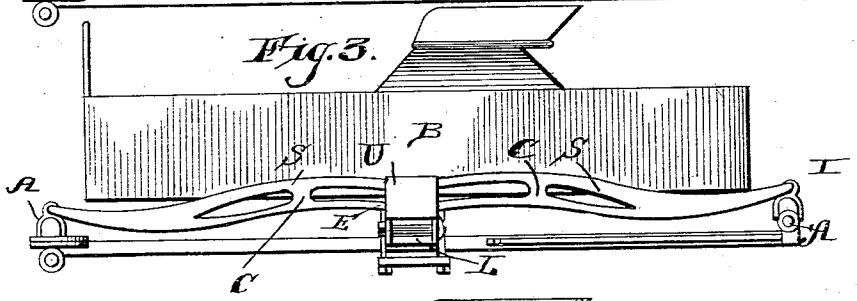
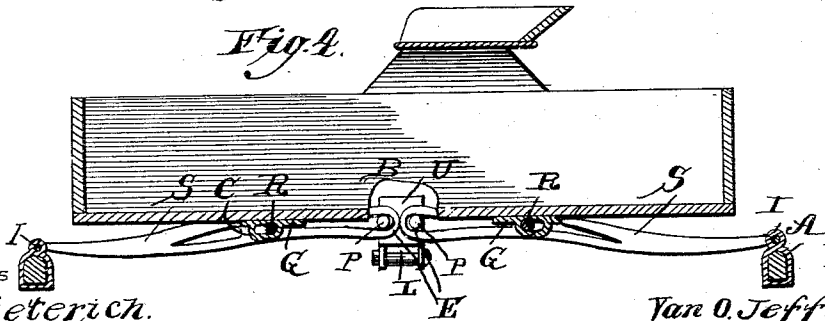


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

VAN O. JEFFRIES, OF COSHOCTON, OHIO.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 476,385, dated June 7, 1892.

Application filed September 13, 1890. Renewed April 23, 1892. Serial No. 430,420. (No model.)

To all whom it may concern:

Be it known that I, VAN O. JEFFRIES, a citizen of the United States, residing at Coshocton, in the county of Coshocton and State of Ohio, have invented a new and useful Vehicle-Spring, of which the following is a specification.

This invention relates to carriages and wagons, and more especially to the springs used in connection therewith.

The invention consists of the details of construction hereinafter more fully described, and illustrated in the drawings, in which—

Figure 1 is a bottom plan view of the wagon-body and the supporting devices therefor. Fig. 2 is a side elevation of the same. Fig. 3 is a similar side elevation showing the wagon-body depressed. Fig. 4 is a longitudinal section through the supporting-eyes for the side bars and through the journals for the cross-bars.

Referring to the said drawings, B is the body, and A A are the rear axle and the bolster to the front axle of an ordinary buggy, in connection with which I have illustrated my invention in the present instance. The letters I designate eyes secured to said bolster and axle, and in these eyes are pivoted the front and rear ends of four side bars S, whose bodies are open, except at their ends and at their centers C. Cross bars or rods R are journaled loosely in bearings G, secured to the bottom of the body, and their ends are connected to the cross-pieces C between the sides of the two members of each side bar at its center. The inner ends of the sides of each side bar are connected in a curved end E, as best seen in Fig. 4.

L is a leaf-spring secured at its center to the center of the bottom B in any suitable manner and having pivoted to its ends peculiar-shaped shackles U, which pass outside the inner ends of the side bars S. Each shackle has, preferably, two pins P projecting inwardly therefrom, as seen in Fig. 4, and on these pins the inner ends E of the side bars are loosely mounted, although it will be understood that without departing from the spirit of my invention a single pin P may be used and both ends E loosely mounted thereon.

With the above construction, when a weight is placed within the body, the latter is borne down, bearing down both rods R and the center of the spring L. As the rods furnish the weight for the side bars, which are approximate levers having their fulcrums in the eyes I, such downward pressure upon the rods causes the inner ends of the side bars to be depressed to a greater extent than the downward movement of the body. Hence while the body, and with it the spring L, moves downwardly to a certain extent the ends of said spring move still farther.

An important advantage arising from the above construction is that no part of the body can be depressed without the whole, the reason for which is that if any number of levers have a common fulcrum I and a common sustaining power L their weights R must be the same and the application of weight to one lever operates the power for all the levers and the resisting force sustaining such weight is correspondingly distributed. I consider this an important feature in vehicle-springs of this character, because it avoids the tilting or tipping of the body under an unevenly-balanced load and a consequently greater strain upon the springs of one side or one end than those of the other. By making the side bars open, with cross-bars at their centers, lightness is combined with strength, as the shape is similar to the well-known truss. As the pins on the shackles project inwardly, they are out of the way of the running-gear, and the curved ends of the side bars can be disengaged from such pins with ease when desired. Moreover, said ends by being curved form excellent bearings, in which the pins turn, and as they are closed the pins cannot draw out of them when the body is considerably depressed.

What I claim is—

In a vehicle-spring, the combination, with the bolster and rear axle and the four side bars S, pivoted at their outer ends to said bolster and axle standing outside the buggy-body, said bars being provided with rounded inner ends E, of the body B, bearings G thereon, cross-rods R, journaled loosely in said bearings and rigidly connecting the two front

and the two rear side bars between their ends, a spring L, centrally connected to the body and having shackles U, pivoted to and depending from its ends, and two pins projecting inwardly from each shackle end and loosely engaging said rounded ends of the two side bars, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

VAN O. JEFFRIES.

Witnesses:
C. B. DONAGHY,
C. T. ANDERSON.