(No Model.)

J. J. WOLFE.

VEHICLE SPRING.

No. 342,160. Patented May 18, 1886.

Fig. 1.

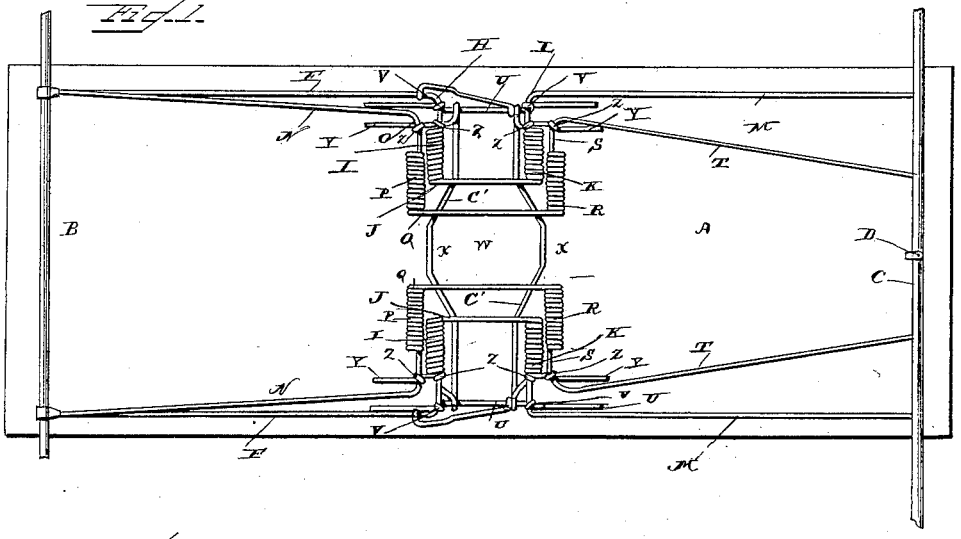


Fig. 2.

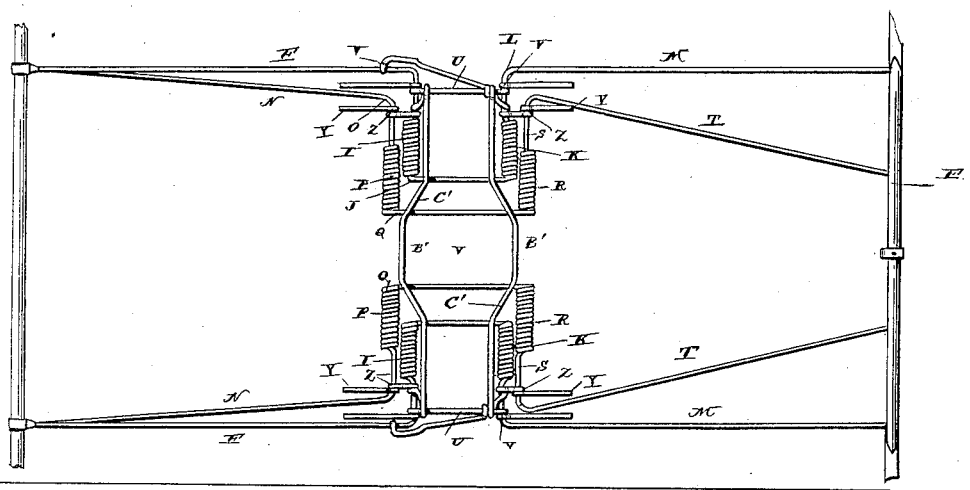
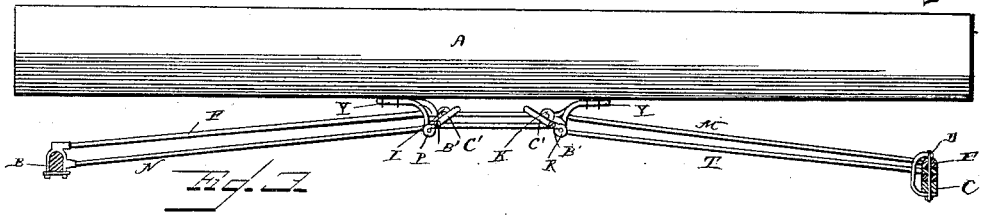


Fig. 3.



WITNESSES
F. L. Ourand.
Edward Stanton

John J. Wolfe,
INVENTOR
By Louis Bagger & Co.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN J. WOLFE, OF WEST MILLVILLE, PENNSYLVANIA.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 342,160, dated May 18, 1886.

Application filed September 21, 1885. Serial No. 177,710. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. WOLFE, of West Millville, in the county of Clarion and State of Pennsylvania, have invented certain new and useful Improvements in Vehicle-Springs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a bottom view of my improved vehicle-spring. Fig. 2 is a top view of the same, showing it removed from the vehicle-box, and Fig. 3 is a longitudinal vertical sectional view of the vehicle-body and the springs and axles.

Similar letters of reference indicate corresponding parts in all the figures.

My invention has relation to springs for vehicles, and especially for light vehicles; and it consists in the improved construction and combination of parts of the same, as hereinafter more fully described and claimed.

In the accompanying drawings, the letter A indicates the vehicle-body. B is the rear axle, and C is the front axle, which is pivoted at its middle to turn in a horizontal plane upon the king-bolt D, which passes through the bolster E, having any desirable construction of fifth-wheel.

Two spring-rods, F F, are secured by means of clips to the rear axle near its ends, and pass forward to near the middle of the vehicle-body, where they are bent inward at a right angle, as shown at H, whereupon they are formed into transverse coils I, the ends J of which are again bent at right angles and continued forward, when they are again bent outward at right angles and formed into transverse coils K, the ends L of which project outward for a short distance, whereupon they are bent at right angles to form longitudinal portions M, the forward ends of which are clipped to the outer ends of the bolster. Two rods, N N, are clipped in a similar manner to the under side of the rear axle at the same clips as the former spring-rods, and these rods are bent inward at O, coiled at P, bent forward at Q, again bent outward and coiled at R, formed into straight outwardly-projecting portions S, and at last formed into forwardly-projecting straight portions T, which converge slightly at their forward ends, and which are secured at the said ends to the bolster a distance from the ends of the same, as shown in the drawings. These latter spring-rods and their bent and coiled portions pass inside of and slightly below the coiled and bent portions of the outer spring-rods, F, having all their coiled and bent portions corresponding to the coiled and bent portions of the aforesaid rods.

Two rods, U U, are secured at their ends to the bottom of the vehicle-body, near its outer edges, and these rods are formed with downwardly-projecting eyes V, in which eyes the inwardly-bent portions of the outer pair of springs rock, the said rods being secured longitudinally to the bottom of the vehicle-body.

A frame, W, is formed by two rods, X X, the ends Y of which are secured to the bottom of the vehicle-body inside of the ends of rods U, whereupon the said ends are formed with eyes Z Z, in which the straight inwardly-bent portions of both spring-rods rest when the frame-forming rods are bent outward and doubled over the straight middle portions of the rods U and bent transversely inward. The transverse portions B′ B′ of the rods are depressed at their middles, and the inclined ends C′ of the depressed portions have the longitudinal straight central portions of the springs secured to them, the said inclined ends serving to keep the middles of the springs in their proper relative positions.

The rods are secured at their forward ends to the central portions of the coupling-rods U, and project rearward with their eyed ends, which slide upon the straight rear portions of the outer pair of springs, bracing the said springs and re-enforcing the bent portions against any lateral wrench upon the same, as well as serving to take up a portion of the longitudinal strain upon the said straight portions of the springs when the vehicle is drawn over the ground.

The vehicle has no coupling between the rear axle and the bolster excepting the springs, and it will be seen that consequently the body will be hung between the said axle and bolster upon the ends of the coupling-rods and frame-

rods, resting upon the central bent and coiled portions of the springs, which will give a very sensitive support, cushioning any rocking or twisting motion imparted to the axles by obstructions and uneven places on the road.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. In a vehicle-spring support, the combination, with two pairs of spring-rods formed with straight longitudinal central portions, outwardly-bent portions coiled at their inner ends, and forwardly and rearwardly bent portions secured to the axle and bolster, of a coupling and frame secured to the central straight portions, and having eyes for the outer portions of the outwardly-bent portions, as and for the purpose shown and set forth.

2. In a vehicle-spring support, the combination of the axles and bolster, two pairs of spring-rods secured at their ends to the rear axle and to the bolster, formed at their middles into straight portions, bent outward and coiled at the inner ends of the said bent portions, and bent to project forward and rearward, coupling-rods secured at their ends to the vehicle-body and formed with eyes for the reception of the transverse straight portions of the springs, transverse frame-rods having their ends secured to the vehicle-body, and formed with eyes for the straight transverse portions of the springs doubled over the middle portions of the coupling-rods, and having their middles depressed and secured at the inclined ends of the depressed portions to the longitudinal middle portions of the springs, and rods secured with their forward ends to the middle portions of the coupling-rods and having their rear eyed ends sliding upon the inner ends of the rearwardly-projecting portions of the outer pair of springs, as and for the purpose shown and set forth.

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

JOHN J. WOLFE.

Witnesses:
CHARLES O'DONNEL,
DAVID A. WIANT.