(No Model.)

J. G. GAY.

VEHICLE SPRING.

No. 405,547. Patented June 18, 1889.

Fig. 1.

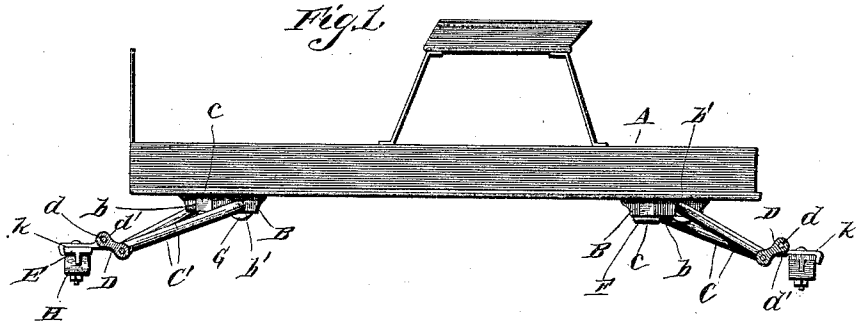


Fig. 2.

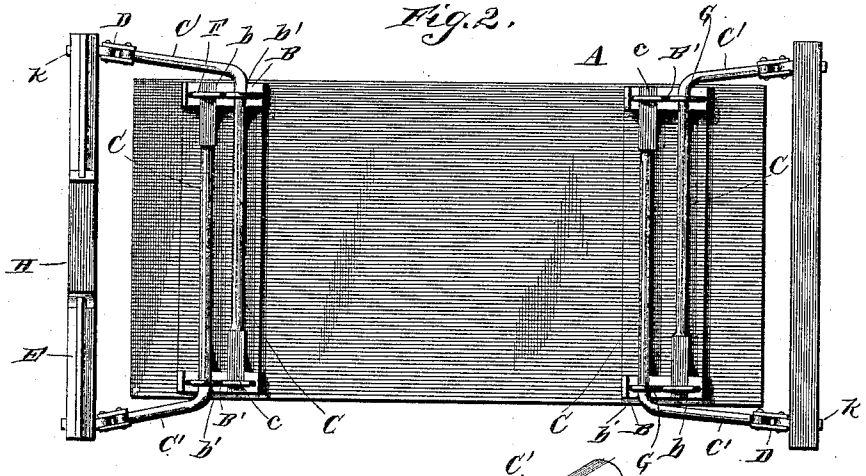


Fig. 3.

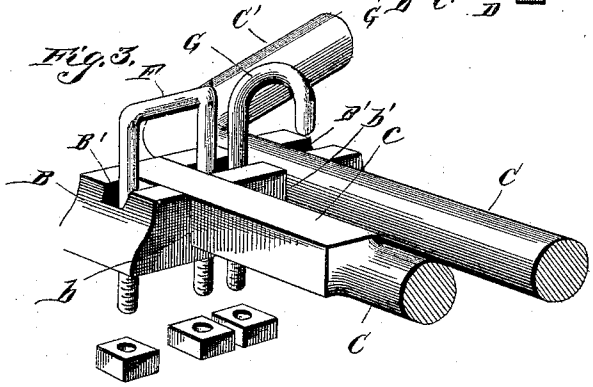
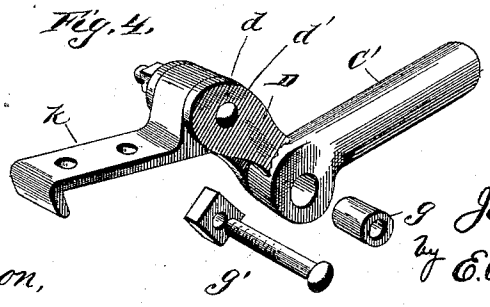


Fig. 4.



Witnesses.
Mary Boykin.
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by E.W. Anderson,
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UNITED STATES PATENT OFFICE.

JOSHUA G. GAY, OF OTTAWA, ILLINOIS.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 405,547, dated June 18, 1889.

Application filed February 21, 1889. Serial No. 300,694. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA G. GAY, a citizen of the United States, and a resident of Ottawa, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Vehicle-Springs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of a side view of my invention applied to a buggy. Fig. 2 is a bottom view. Figs. 3 and 4 are detail views.

In the accompanying drawings, the letter A designates a vehicle-body having secured to its edges or sills the bearing-boxes B, adapted to hold and support the torsion-springs C, which are connected by link devices D to the front bolster E and to the rear axle or bolster.

The spring C is a rod torsion-spring having at one end the squared portion C, adapted to be seated neatly in the squared notches *b* of the box B. At its opposite end the rod-spring is provided with an arm C′, which forms a right angle with the transverse portion of the spring and extends obliquely downward and forward or downward and rearward, as the case may be. This arm C′ is not in the plane of the sides of the squared end portion *c*, but extends in diagonal relation thereto, as shown. The end of the arm C′ is eye form and receives the pivot-sleeve of the link-connection D.

The bearing-box is a longitudinal block of metal having a middle channel B′, and in the walls on each side of the channel the transverse squared seats *b* and the rounded bearings *b′*. Perforations are made from the middle channel through the floor of the box for the legs of the square clip F and the rounded clip G, which are designed, respectively, to confine the squared end of one spring C and the rounded turning portion of the fellow spring, which has its squared end secured in the square seat F of the opposite box. These parallel oppositely-extending springs are torsion-springs, and nevertheless have some direct elasticity in the arms C′. As the springs are secured to opposite edges of the body and extend entirely across the same in opposite direction, but parallel to each other, they act as equalizing-bars and prevent lateral movements of the vehicle.

The clips F and G have their threaded legs extending through the sills of the body, and are secured by nuts, thus serving to hold the boxes in position.

The parallel or cheek links D are provided with perforations *d*, around which are the circular rabbets or bearings *d′* inside, for the reception of the ends of the tubular bearings *g*, which support the eyes of the springs and through which pass the pivot-bolts *g′*. The links connect the ends of the springs to the bolster E, which is preferably made of T-form bar-steel, and is provided with the clamp-plates *k*, to which the lower pivots of the links are connected. A channeled head-block H engages the lower rib of the T-form bolster and supports the latter in position and the springs thereto connected.

What I claim, and desire to secure by Letters Patent, is—

1. The combination, with the parallel torsion-springs having the squared ends, and the rounded torsional portions provided with arms at right angles thereto, of the vehicle-sills, the boxes having longitudinal channels and the squared seats and rounded bearings, and the square bearings crossing said channels, and round clip-bolts in connection therewith, substantially as specified.

2. The combination, with the bearing-boxes having longitudinal channels and rounded bearings and squared seats crossing said channels, and their clip-bolts, of the parallel torsion-rod springs having squared fixed ends, and arms extending at right angles to their transverse portions and diagonally to the faces of the squared portion, the rabbeted link-connections, and the T-form bolster, substantially as specified.

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

JOSHUA G. GAY.

Witnesses:
J. C. BRIEL,
NICHOLAS DOWNEY.