No. 830,809. PATENTED SEPT. 11, 1906.

C. L. THOMAS.

VEHICLE SPRING.

APPLICATION FILED NOV. 11, 1905.

Fig. 1.

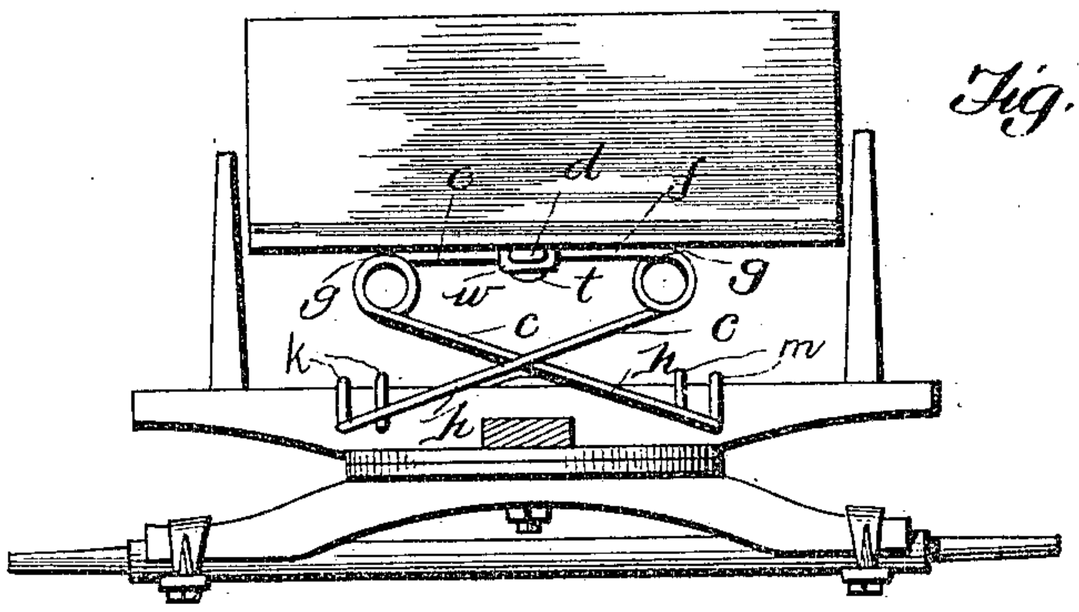


Fig. 2.

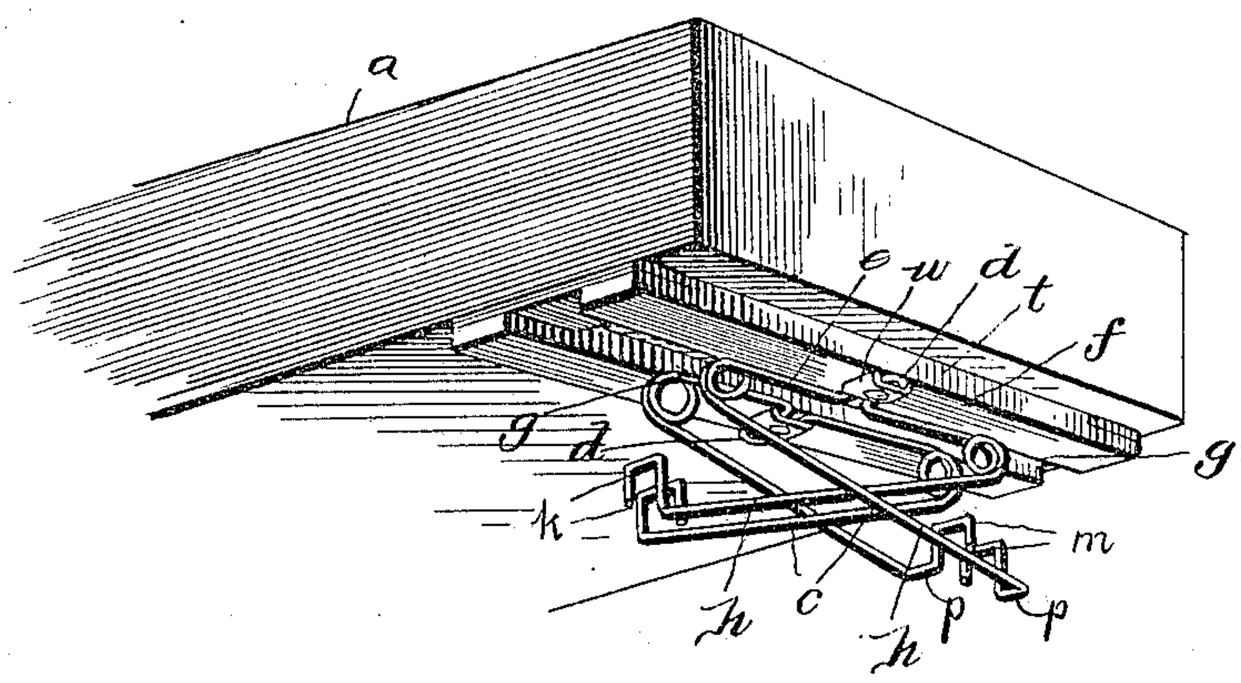
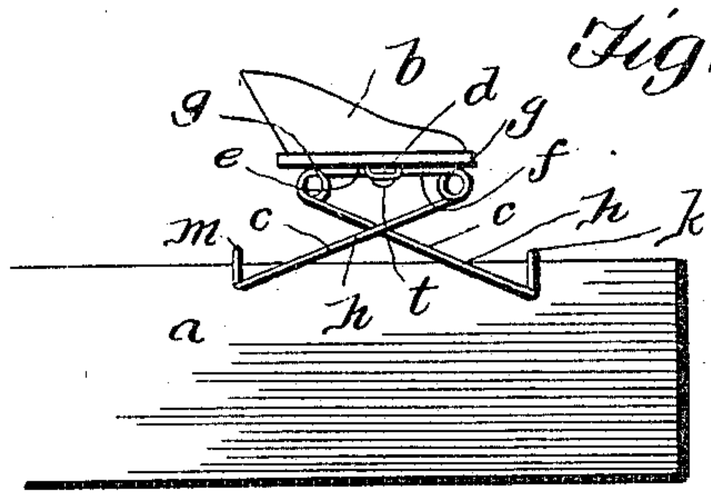


Fig. 3.



Witnesses

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VEHICLE-SPRING.

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Application filed November 11, 1905. Serial No. 286,849.

To all whom it may concern:

Be it known that I, CHARLES LEE THOMAS, a citizen of the United States, and a resident of Canisteo, in the county of Steuben and State of New York, have made a certain new and useful Invention in Vehicle-Springs; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the invention, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is an end view of my vehicle-spring as applied to a wagon-body. Fig. 2 is a perspective of the springs connected to a wagon-body. Fig. 3 is a side view showing the spring supporting the seat.

The invention relates to wagon-springs particularly designed for heavy wagons to support the seat or the wagon-body; and it consists in the novel construction and combination of parts, as hereinafter set forth.

In the accompanying drawings, illustrating the invention, the letter *a* designates the side of a wagon-body, and *b* the seat, which is supported on the sides of the body by the springs *c*. Each spring *c* is made integral of a rod or bar of spring-steel, which is bent at its middle to provide a bracing loop-arm *d*, which extends horizontally and at right angles to the general plane of the free arms *e* and *f* of the spring. The branches of the loop-arm are at their end portions extended horizontally in opposite directions to form with said loop-arm a bearing for the seat, these extensions *g* being at their ends bent in coil form vertically downward and inward or toward each other, as shown. From the lower ends of the coils the oblique arms *h* are extended downward and past each other at a low angle with relation to the horizontal extensions *g* in parallel vertical planes and are provided at their lower ends with transverse open hoop slide-bearings *k* and *m* in the same vertical plane to engage the top of the wagon-box side in a sliding manner. For this purpose the slide-bearing *m* of the outer oblique arm is provided with a longer connection with said arm, as indicated at *p*. These slide-bearings are usually turned in the same direction as the loop-arm *d* in order that they shall bear the weight which rests on the loop-arm and springs in a direct vertical manner, thereby avoiding an oblique strain on the wagon side wall. These springs will also serve to support the wagon-box from the bolster, two springs being, however, employed to each bolster, one on each end or side thereof, and having laterally opposite end coils, opposite extending horizontal attachment-loops at the top, and oppositely-extending slide-bearing terminations engaging the bolster. Each spring is secured to the seat or wagon-box by two bolts *t*, which pass through the seat or box between the branches of the loop-arm, being secured thereto by clutch-washers *w*, which hold the two branches of the loop-arm securely in position. Each oblique arm *h* of the spring engages and rides in a sliding manner on the top of the wagon-box side wall, and when pressure is put upon the seat, even if it be at an end or corner of the seat, the spring-arm will yield easily and evenly, so that the seat will not tip, but will adjust itself to conditions which make for bodily comfort and ease. When the springs are located one on each end or side of the bolster to support the wagon-box, they will be in line with each other end to end or parallel with each other, and their length is so adjusted that they will not interfere with each other.

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

1. A vehicle-spring made in one piece, having a middle horizontal loop-arm terminating in horizontal bearing portions at right angles to said loop-arm having vertical spring-coil extensions turned downward and toward each other, and having oblique crossing extension-arms provided at their lower ends with transverse slide-bearings, substantially as specified.

2. A vehicle-spring made in one piece, having a middle horizontal loop-arm terminating in horizontal bearing portions at right angles to said loop-arm and having vertical spring-coil extensions turned downward and toward each other and having oblique crossing extension-arms provided at their lower ends with transverse slide-bearings of different length, substantially as specified.

3. A vehicle-spring having vertical coils at the ends, a middle horizontal attachment-loop at the top and lower crossing extensions extending outward at least as far as the coils and having a slide-bearing termination, substantially as specified.

4. A vehicle-spring having a horizontal upper portion provided with a horizontal right-angle bracing-arm, vertical coils at its ends

and lower crossing extensions extending outward and downward at least as far as the coils at a low angle with relation to the horizontal upper portion, and having a slide-bearing termination.

5. A vehicle-spring consisting of opposite members having each a horizontal upper portion provided with a horizontal right-angle bracing-arm laterally opposite end coils and laterally opposite lower crossing extensions extending outward and downward at least as far as the coils, and two of which extend in one direction, and two in the other direction, said extensions having oppositely-extending slide-bearing terminations, substantially as specified.

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

CHARLES LEE THOMAS.

Witnesses:

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A. L. PRATT.