(No Model.)

J. E. SIMMONS.

CARRIAGE SPRING.

No. 341,953. Patented May 18, 1886.

Fig. 1.

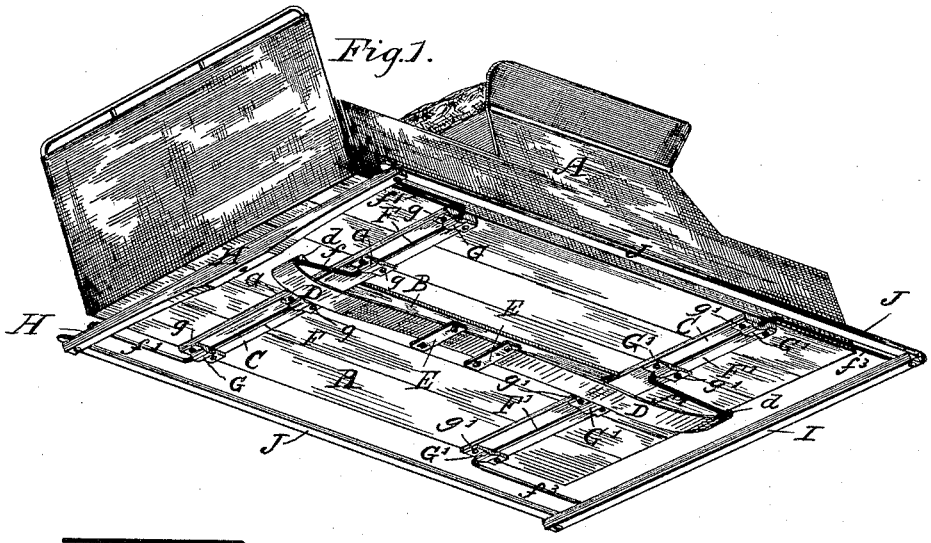


Fig. 2.

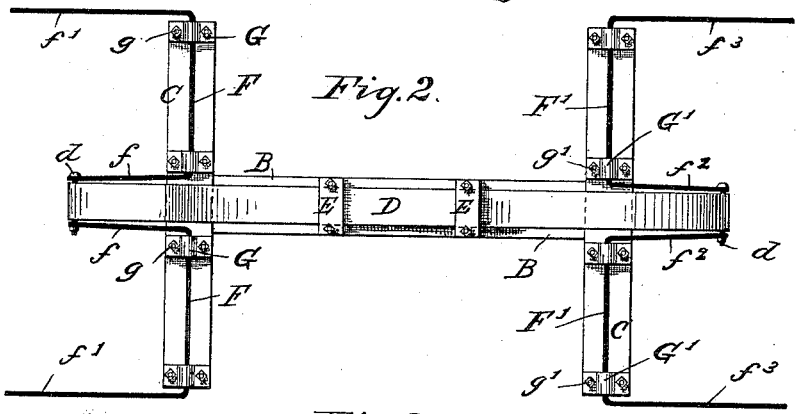
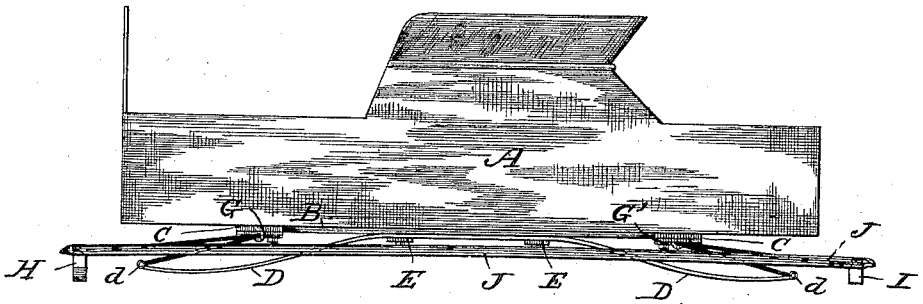


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN E. SIMMONS, OF CONCORD, N. H., ASSIGNOR TO RUFUS M. MORGAN, J. R. FOSTER, AND B. FRANK BROWN, ALL OF SAME PLACE.

CARRIAGE-SPRING.

SPECIFICATION forming part of Letters Patent No. 341,953, dated May 18, 1886.

Application filed December 30, 1885. Serial No. 187,112. (No model.)

To all whom it may concern:

Be it known that I, JOHN E. SIMMONS, a citizen of the United States, residing at Concord, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Carriage-Springs, of which the following is a specification.

The object of my invention is to provide a spring mechanism for carriages and wagons which shall be so easy of action and well balanced that whether the load be placed in the center or at one corner of a carriage-body its elevation may be nearly equal at all points.

My invention consists in providing a central longitudinal spring, which may be composed of a single piece of flat steel or of several leaves, as in the case of ordinary elliptic springs, and attached to a portion of a carriage-body on its under side, and also in providing suitable steel rods, hung transversely underneath said body—one on either side of said spring, and near either end thereof, and having a portion of either end bent longitudinally with the said body, one of each of said ends being pivoted to either end of said spring, and the other to either the hind axle-bed or the rocker, as the case may be.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a carriage-body tipped up slightly, so as to show my improved spring mechanism, which is properly applied thereto. Fig. 2 is a detached view of this improved spring mechanism properly connected to the sills of the carriage-body, and Fig. 3 is a side elevation of those parts shown in Fig. 1.

Like reference-letters indicate corresponding parts throughout the various views.

The carriage-body A is provided underneath with a central longitudinal sill, B, placed between the transverse sills C, located near either end of said body. A spring, D, preferably of the form shown in the drawings, and nearly or quite as long as the carriage-body, is properly clamped at E to said longitudinal sill B, and its ends are curled over, so as to receive and contain a bolt, *d*.

To the transverse sills C are hung four spring-rods, F F′, in suitable bearings, G G′, secured by bolts *g g′* to the said sills. These are made somewhat in the form of a square staple and placed, as shown, two on each sill C, the rods F being hung by the bearings G to that sill C nearest the forward end of the body A, the short arms *f* being loosely connected by one of the bolts *d* to the forward end of the spring D, on either side thereof, and the long arms *f′* also loosely connected to the rocker H, which may be connected with the hind axle-bed, I, by the side bars, J J.

The spring-rods F′ are hung by the bearings G′ to that sill C nearest the rear end of the body A, their arms f^2 being connected by one of the bolts *d* to the rear end of the spring D, on either side thereof, their long arms f^3 being loosely connected to the hind axle-bed, I. Thus the long and short arms of each of the spring-rods F F′ are strained in opposite directions when the body A is loaded in such manner as to force the ends of the spring D upward.

Having described my invention, what I claim as new is—

1. As a vehicle-spring, the combination, with the ends of the longitudinal or reach spring, of the transverse spring-rods having angular arms, constructed and connected substantially as shown, as and for the purpose set forth.

2. A spring mechanism for vehicles, consisting of a central longitudinal spring, D, mounted substantially as shown, and the spring-rods F F′, mounted transversely to the end of spring D, the rods F, having short and long arms *f f′*, extending forward at an angle thereto, and connected, respectively, to the forward end of spring D and to the rocker H, and the rods F′, having short and long arms $f^2 f^3$, extending rearward at an angle thereto, and respectively connected to the rear end of spring D and to the hind axle-bed, I, as set forth.

3. In vehicle-springs, the combination, with the body A, having longitudinal and transverse sills B C, of a central longitudinal spring, D, mounted on sill B, the spring-rods F F′, mounted on sills C, and having arms *f* f^2, connecting with either end of springs D, and arms *f′* f^3, connecting, respectively, with rocker H and hind axle-bed, I, and side bars, J, connecting said rocker and hind axle-bed, as set forth.

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

JOHN E. SIMMONS.

Witnesses:
J. B. THURSTON,
NATHANIEL E. MARTIN.