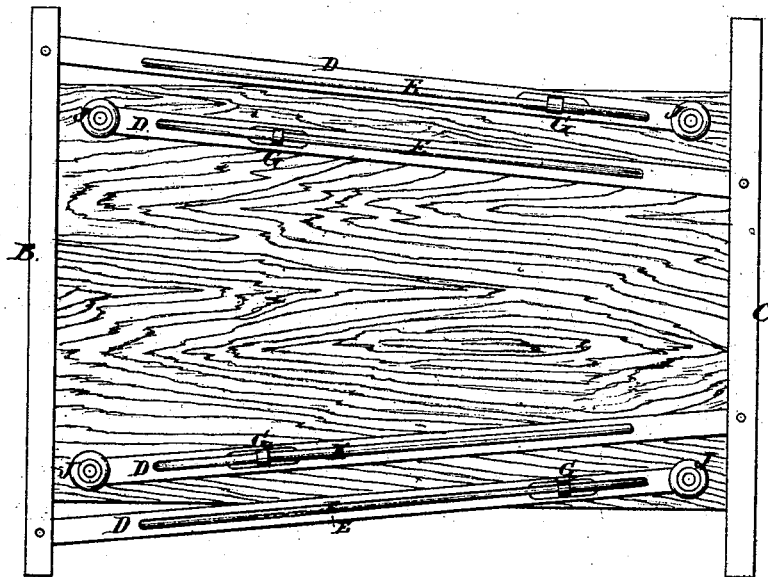
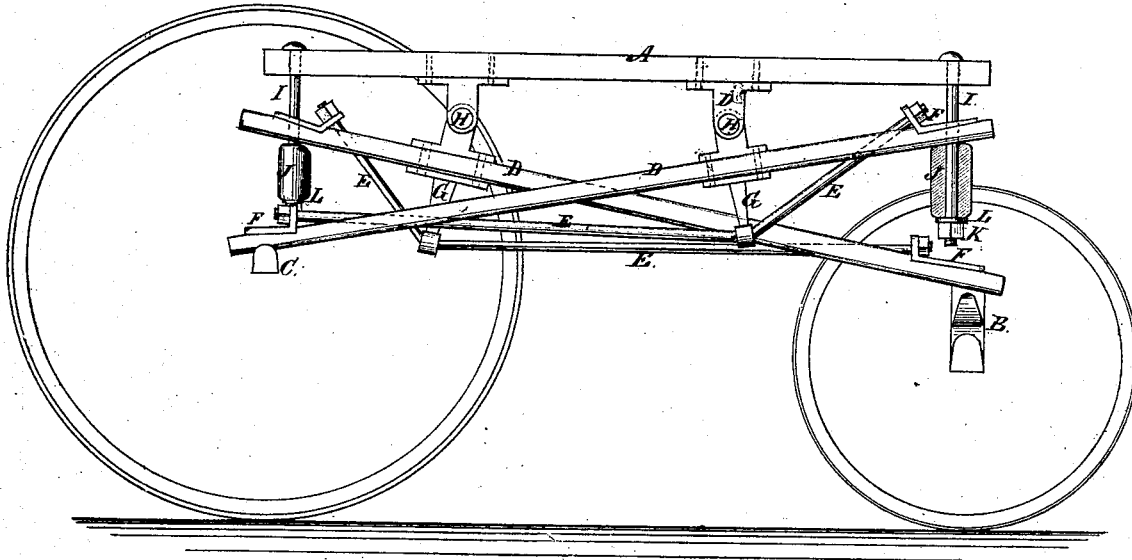


D. S. ABBOTT.
CARRIAGE SPRING.

No. 109,993.

Patented Dec. 13, 1870.



Witnesses:
Chas. Nida.
S. S. Mabel

Inventor:
D. S. Abbott
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Attorneys.

United States Patent Office.

DAVID S. ABBOTT, OF ISCHUA, NEW YORK.

Letters Patent No. 109,993, dated December 13, 1870.

IMPROVEMENT IN CARRIAGE-SPRINGS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, DAVID S. ABBOTT, of Ischua in the county of Cattaraugus and State of New York, have invented a new and useful Improvement in Springs for Carriages; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification.

This invention relates to a new and useful improvement in springs for carriages, wagons, sulkeys, and seats, and consists in a bar and spring so arranged that, while the bar receives the weight or power, it is made to compress or operate upon an elastic spring, by means of which the required degree of elasticity is imparted to the carriage or wagon-body or seat, as hereinafter more fully described.

In the accompanying drawing—

Figure 1 represents a longitudinal side view of a pair of my improved springs beneath the bed of a carriage.

Figure 2 is a view of the under side of the carriage-bed, showing the position of the bars and springs.

Similar letters of reference indicate corresponding parts.

A is the bed or bottom of a carriage or wagon-body.

B is the forward axle.

C is the rear axle.

The front and rear wheels are seen in outline.

D represents the bars which in a carriage or wagon are arranged in pairs, as seen in the drawing. These bars are hinged to the bed A by means of hangers D', and the pivots of the hinges are fulcrums in which the

bars work. These bars are stiffened by braces E E, which braces are attached to the ends of the bars by angular pieces of iron F F. They pass through the lever as indicated in dotted lines, the bracing-point being the end of the stud G, opposite the fulcrum.

H is the fulcrum pin.

One end of the bar is attached to the axle or bolster of the carriage. The other end slides up and down on the bolt I, which passes down from the bed A, with a nut upon its lower end.

J is an elastic spring of India rubber, (a spiral wire spring may be used,) which is supported on the bolt by the nut K, with an intervening washer L.

By this arrangement of the bars and springs the weight of the body of the carriage or wagon is conveyed to the bar and spring through the fulcrum-pin H. The four springs and bearing-points beneath the body furnish a good support, and allow of any desired degree of elasticity. These springs may be applied to sulkey-bodies, or to seats of wagons, in which cases the fulcrum may be at one end of the bar, and the weight applied to the opposite end, if such an arrangement is preferred.

Having thus described my invention,

I claim as new and desire to secure by Letters Patent—

In combination with a carriage or wagon-body, a sulkey, or seat, the bar D (either with or without the braces E) and the spring J, when the same are combined and arranged to operate substantially as and for the purposes herein shown and described.

DAVID S. ABBOTT.

Witnesses:

CHARLES J. CASWELL,
S. R. SHERLOCK.