

G. B. HAMLIN.  
Vehicle-Springs.

No. 148,949.

Patented March 24, 1874.

Fig. 1.

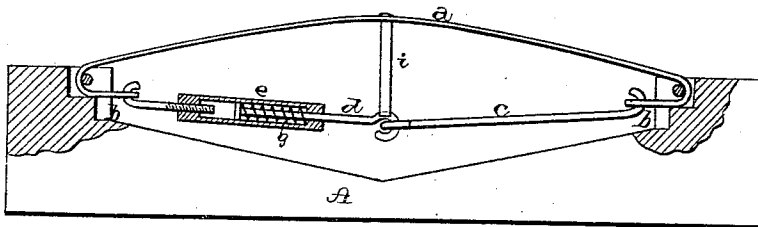
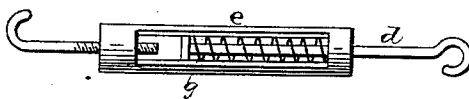


Fig. 2.



Witnesses.  
W. W. Murphy  
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Inventor:  
Geo. B. Hamlin  
per  
F. W. Lehmann, Atty.

# UNITED STATES PATENT OFFICE.

GEORGE B. HAMLIN, OF WILLIMANTIC, CONNECTICUT.

## IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. 148,949, dated March 24, 1874; application filed February 25, 1874.

*To all whom it may concern:*

Be it known that I, GEORGE B. HAMLIN, of Willimantic, in the county of Windham and State of Connecticut, have invented certain new and useful Improvements in Springs; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to an improvement in springs to be used with carriages, cars, and in similar relations; and it consists in a half-elliptical spring, to the curved or bent ends of which are attached two rods, which have their inner ends joined together; and a rod which projects downward from the center of the elliptical spring, and bears upon the top of the two rods, so as to support the spring in the center, one of the horizontal rods being provided with a spring, so as to allow the ends of the elliptical spring a free play.

The accompanying drawings represent my invention.

A represents a bed frame of any suitable shape and construction, having a portion of its upper surface removed to receive a part of the spring. In each of the vertical sides of the shoulders *b* is formed a recess of suitable width and depth to receive the ends of the half-elliptical spring *a*, the said ends being turned under to form hooks, through which bolts are passed, in order to retain the spring in position. One of these recesses is deeper than the other, and thus allows the end of the spring held therein a longitudinal movement, whenever the spring is compressed in any manner, so that the movement of the spring may be communicated to the other parts.

Instead of the ends of the springs being bent inward, as shown, any other equivalent device may be used.

Attached to the ends of the spring are two connecting-rods, *c d*, which have their inner ends hooked or loosely joined together, so as to allow them a vertical play at this point. The rod *d* is made in two parts, which are

joined together by the shell or casing *e*, in which is placed a rubber or coiled spring, *g*, the shell having a screw-thread formed in one end, so that the tension upon the spring *g* can be increased or diminished at will. Projecting downward from the center of the spring *a* is a rod, *i*, which bears upon the top of the two horizontal rods near their joint, and which supports the spring *a* at this point, and transmits the downward movement of the spring, when compressed, instantly to the rods, which also yield to the pressure. As the rods *c d* are bent or pressed downward, the divided rod *d* is drawn outward, which movement brings the spring *g* into play, and thus prevents, to the full amount of its power, the compression or elongation of the spring *a*. By increasing or decreasing the tension of the spring *g*, the spring *a* can be made as limber or as stiff as may be desired.

By the arrangement of parts here shown and described, the strain upon the spring *a* is greatly lessened, and a quick and elastic motion and an easy adjustability of the parts are obtained. Where the top piece is made crowning, it is not necessary to use the tie-rod *i*. The bottom part of the spring may be attached to two stationary bed-pieces, its upper ends working in slots in the same, and being connected together by the two rods *c d*.

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

1. The combination of the spring *a*, rods *c d*, spring *g*, and supporting-rod *i*, substantially as shown and described.

2. The combination of spring *a*, having hooked ends, retaining-bolts, and spring connecting-rods, one end of the spring being allowed a longitudinal movement, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand this 18th day of February, 1874.

GEORGE B. HAMLIN.

Witnesses:

ROBT. FENTON,  
HUBER CLARK.