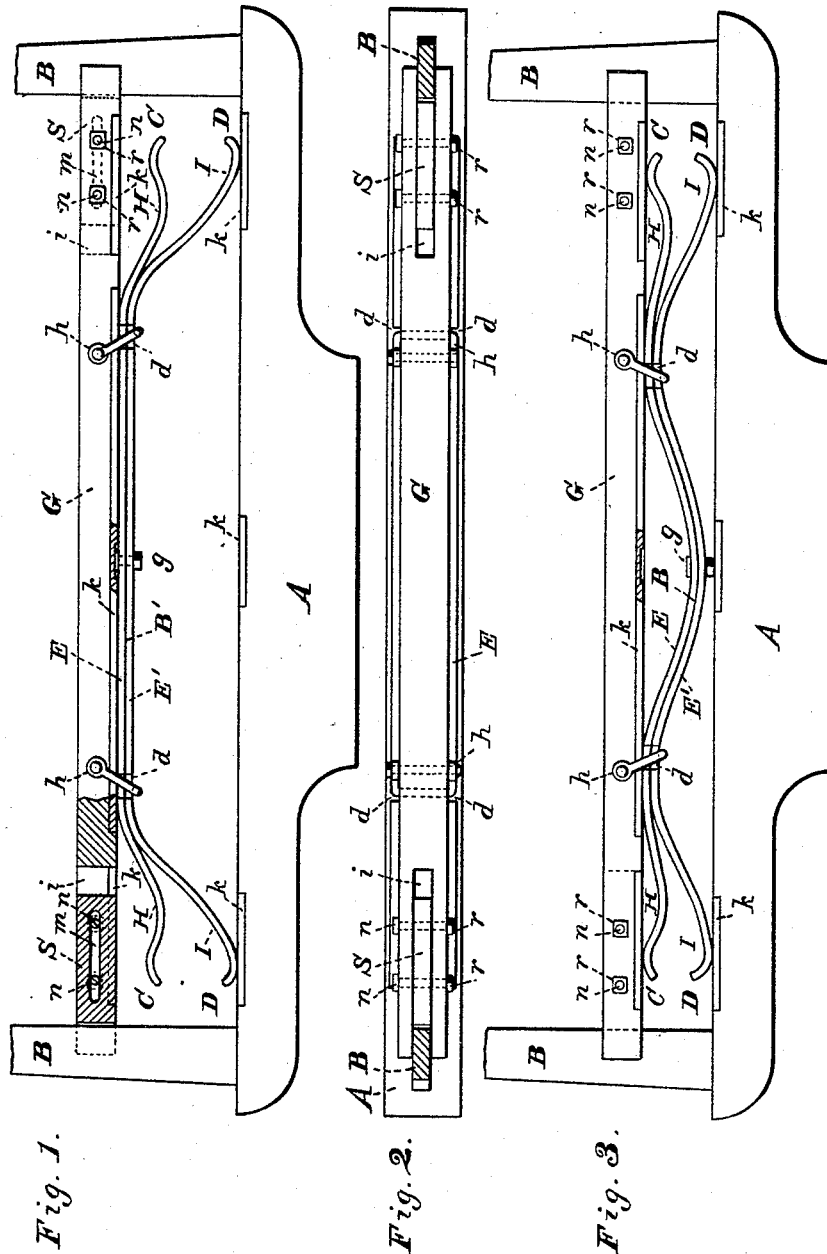


(No Model.)

E. M. VAN VALKENBURG.
VEHICLE SPRING.

No. 418,092.

Patented Dec. 24, 1889.



Witnesses

Villette Anderson,
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Inventor.

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UNITED STATES PATENT OFFICE.

ELLIS M. VAN VALKENBURG, OF UNION GROVE, WISCONSIN.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 418,092, dated December 24, 1889.

Application filed September 16, 1889. Serial No. 324,046. (No model.)

To all whom it may concern:

Be it known that I, ELLIS M. VAN VALKENBURG, a citizen of the United States, and a resident of Union Grove, in the county of Racine and State of Wisconsin, 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 of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of this invention, and is an elevation of a bolster and false bolster with the springs. Fig. 2 is a top view of the same. Fig. 3 is the same as Fig. 1, and shows the position of the springs when depressed by a load.

This invention relates to vehicle-springs; and it consists in the novel construction and combination of parts, as hereinafter described, and pointed out in the claims.

This spring is constructed of steel; and it consists of the leaves E E', comprising a double spring having the central straight parallel upper bearings B' and the curved end bearings C and D. The leaves comprising the spring are depressed one above other, and are centrally bolted together at g. Notches or recesses d are formed on the lateral edges of the double spring at each end of the central bearings to receive, respectively, the loop of a clevis or shackle h, pivoted to the side of a false bolster or spring-bar G, whereby the latter is secured to the spring and supported thereby. The ends H of the upper leaf are curved downward and upward from the clevis attachments to form short springs, upon which the ends of spring-bar rest, respectively, when the spring is under pressure of a load, the central part being depressed at the same time in the form of a bow, whose concavity rests upon the bolster A, as shown in Fig. 3. The ends I of the lower leaf E' are curved downward and outward from the clevis attachments in the opposite direction to the ends of the upper

leaf, and rest constantly upon the bolster A, as shown.

In its normal position, when not subject to pressure, the central parts B' of the spring are parallel with and bear evenly against the under surface of the spring-bar or false bolster, while the curved ends H of the upper leaf remain free from contact with the spring-bar, the latter being supported upon the bolster by the central bearings B' and the curved ends I of the lower leaf. The ends of the spring-bar are slotted vertically at i to receive the adjacent edges, respectively, of a stake or upright B at each end of the bolster, whereby the said bar is rendered vertically adjustable. A plate S, having an elongated lateral slot m, is vertically and longitudinally adjusted in the slot i at each end of the spring-bar by means of transverse bolts n, introduced through the bar and the slots of the adjustable plates. The ends of the bolts are threaded to engage a nut or burr r, whereby the plates S may be horizontally adjusted against the adjacent edge of the stakes to provide for the varying space between the same on different vehicles. This adjustment is readily effected by loosening the burr of the bolts to adjust the plates backward or forward, as occasion may require, and tightening the burrs to secure the parts in position.

Metallic plates k are provided at those points of the bolster and spring-bar which come in contact with the spring to take the wear of the latter.

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

1. An elastic spring consisting of upper and lower leaves centrally bolted together and to the lower main bolster at the downward-bowed portion of said spring, and movably secured at each end to an adjustable false bolster by means of clips or clevises engaging notches in the edges of the spring, the free end of the upper leaf curving upward and the ends of the lower leaf curving downward against the bolster, substantially as shown, and for the purpose described.

2. The combination, with a double-elastic

spring having its ends curved in opposite directions of the bolster, and a vertically-movable spring-bar supported by the said spring and rendered laterally adjustable by plates
5 adjustably secured in the slotted end of said spring-bar, substantially as shown, and for the purpose described.

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

ELLIS M. VAN VALKENBURG.

Witnesses:

D. WORRALL,
JENNIE WORRALL.