M. R. MAXSON.
Vehicle-Spring.

No. 219,964. Patented Sept. 23, 1879.

Fig. 1.

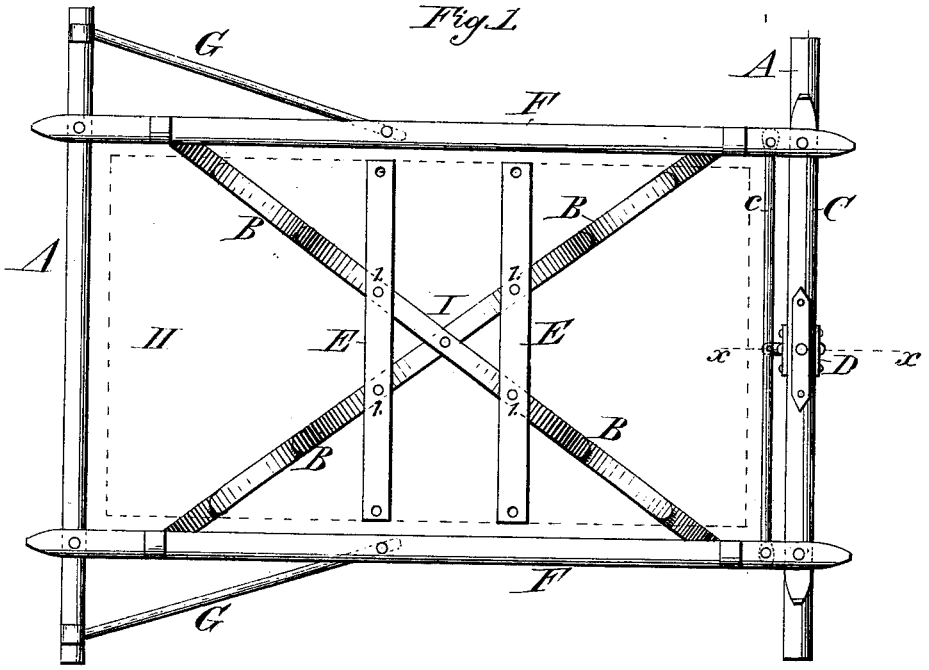


Fig. 2.

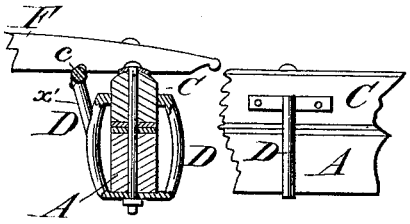
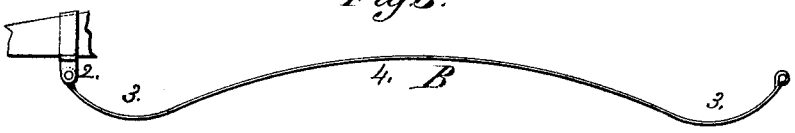


Fig. 3.



Attest:
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UNITED STATES PATENT OFFICE.

MILTON R. MAXSON, OF HORNELLSVILLE, NEW YORK.

IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **219,964**, dated September 23, 1879; application filed August 16, 1879.

To all whom it may concern:

Be it known that I, MILTON R. MAXSON, of Hornellsville, in the county of Steuben and State of New York, have invented certain new and useful Improvements in Carriage-Springs applied to Wagons and Vehicles; 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 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.

My invention relates to an improvement in running-gear for carriages; and consists in the peculiar construction of the springs and a fixed secondary bolster, said springs and secondary bolster being so arranged and combined with the other parts of the running-gear of the carriage that an unobstructed and increased vertical dip of the body is obtained with simplicity of construction and economy of cost.

To enable others skilled in the art with which my invention is most nearly connected to make and use it, I will proceed to describe its construction and operation.

In the accompanying drawings, which form part of my specification, Figure 1 is a top view or plan of my improvement in running-gear for carriages. Fig. 2 represents detailed sections. Fig. 3 is a side or edge view of my improvement in springs.

In the accompanying drawings, A A represent the axles. To the rear one and to the bolster C are rigidly attached side bars, F F. The rear axle and the side bars are held rigidly in relation to each other through the medium of braces G G.

C represents the main bolster, which rests upon the front axle A, and is held in position on it by a king-bolt.

The outlines of the body H are indicated by dotted lines, to the under side of which body are secured cross-bars E E, all of which parts are of ordinary construction and well known to the art.

In combination with the main bolster C and yoke D is used a secondary bolster, *c*, the ends of which are permanently and rigidly attached to the side bars, F F, with a brace, *x'*, extending from the center of said secondary bolster to the rear side of the yoke D. This secondary bolster and its brace *x'* are used, in combination with the yoke D, for the purpose of giving strength to the forward end of the running-gear, and for preventing the main bolster and front axle from turning or twisting with relation to the vertical axis of the king-bolt.

B B represent the carriage-springs having curvatures 3, 3, and 4. (Clearly shown in Fig. 3.) These springs are constructed of the usual material, and may consist of one or more leaves, according to the weight they are required to carry. The springs B B are attached to shackles 2, pivoted to the under side of the rigid side bars, F F, and run diagonally from one side bar to the other, as shown in Fig. 1, and are bolted together at the center, as indicated at I.

The springs are secured to the cross-bars E E on the under side of the body H through the medium of bolts 1, so that said cross-bars E E will rest on the curvature 4 of the springs.

It will be observed that the position and vertical dip of the body H of the carriage will depend upon the arc of the curvatures 3, 3, and 4 of the springs B B.

The essential and distinguishing feature of this part of my invention consists in the curvatures of the springs B B, arranged diagonally to the rigid side bars, F F, with their ends attached by means of shackles to said side bars.

By this peculiar construction of the springs B B, and their arrrangement with relation to and attachment to the side bars and to the cross-bars E E and the body H, a free, easy, smooth, and unobstructed movement of the carriage-body is secured, with great depth of vertical movement, without liability of tilting or side rocking of said body when the load is properly adjusted.

I am aware that springs have been arranged diagonal to the side bars, F F, and attached to the bolster and rear axle; but in my invention, in contradistinction to this arrangement, is the arranging diagonally my peculiarly-constructed springs to said side bars, rigidly attached to the rear axle without a reach or other bolster-springs, or other device to obstruct the vertical movement of the body H of

the carriage, with the advantage of securing a low position of the body in the running-gear when so desired.

Having thus described my improvement, what I claim as of my invention is—

In the running-gear for a carriage, the springs B B, having curvatures 3, 3, and 4, and arranged diagonally to and attached to the side bars, F F, and cross-bars E E, whereby the body of the carriage will have a free and unobstructed vertical movement in said running-gear, substantially as hereinbefore described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of August, 1879.

MILTON R. MAXSON.

Witnesses:

F. H. SCHOTT,

E. A. DICK.