(No Model.) 2 Sheets—Sheet 1.

J. J. GILBERT.

VEHICLE.

No. 456,112. Patented July 14, 1891.

Fig. 1.

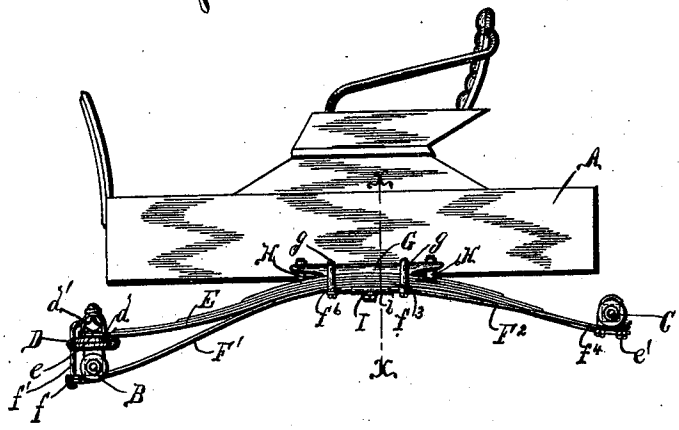
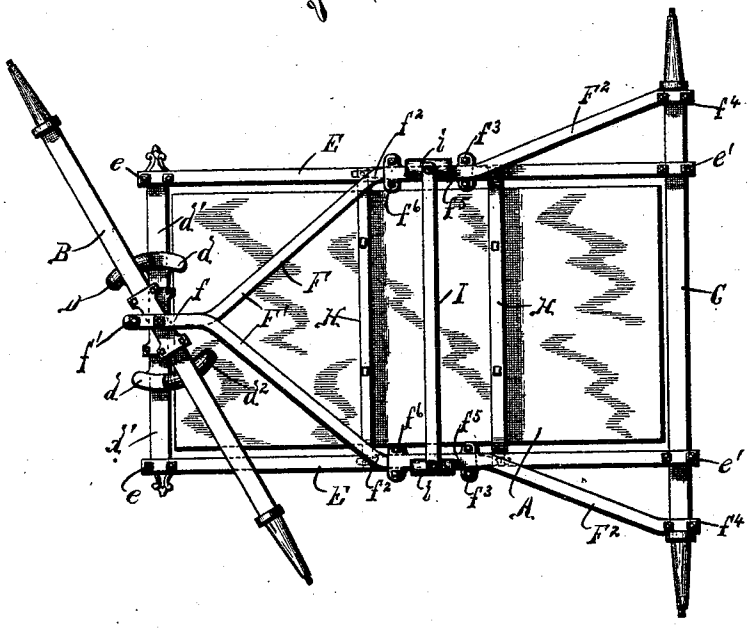


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

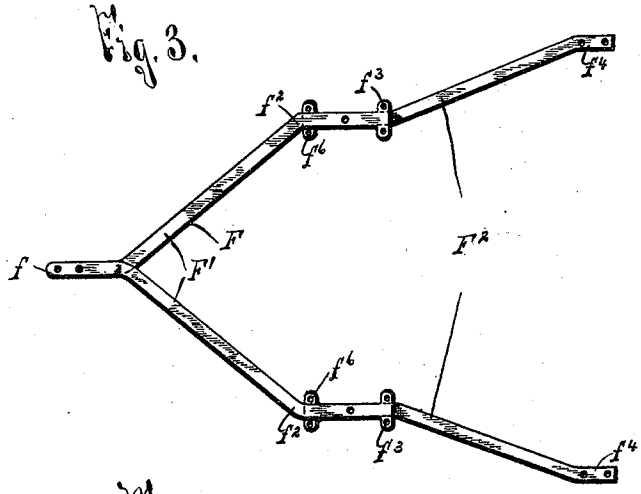


Fig. 4.

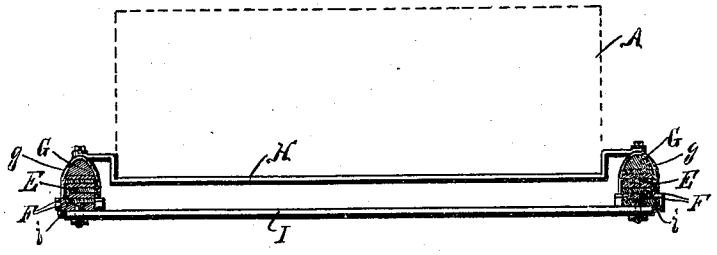


Fig. 5.

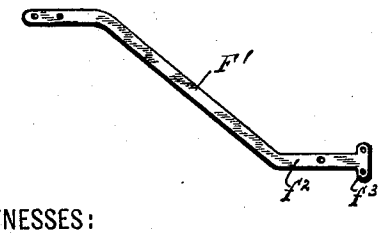
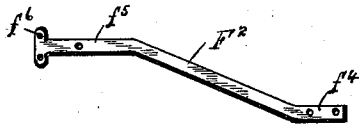


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSHUA J. GILBERT, OF SYRACUSE, NEW YORK, ASSIGNOR TO O. H. SHORT & COMPANY, OF SAME PLACE.

VEHICLE.

SPECIFICATION forming part of Letters Patent No. 456,112, dated July 14, 1891.

Application filed November 12, 1890. Serial No. 371,162. (No model.)

To all whom it may concern:

Be it known that I, JOSHUA J. GILBERT, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Vehicles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to an improved spring vehicle, and has for its object the production of a simple and effective construction, which is economical, easy, and safe in use, and extremely durable; and to this end it consists, essentially, in the side springs, running-gear, and vehicle-body, a pair of diagonally-extending spring-reaches rigidly secured to the side springs, a pair of head-blocks supported by the side springs and reaches, and body-supporting bars between the head-blocks.

The invention also consists in reach-bars composed of opposite halves or sections having their adjacent extremities lapped together, with the opposite extremities of the forward sections pivotally supported on the front axle and the opposite extremity of the rear sections rigidly secured to the rear axle at points outside of a perpendicular to the vehicle-body, a tie-bar beneath the reaches for holding them the desired distance apart, and projecting extremities upon said tie-bar for forming rub-irons.

The invention furthermore consists in the detail construction and arrangement of the parts, all as hereinafter more particularly described, and pointed out in the claims.

In describing this invention, reference is had to the accompanying drawings, forming a part of this specification, in which like letters indicate corresponding parts in all the views.

Figure 1 represents an elevation of my improved vehicle with the wheels shown as removed in order to better illustrate the construction and arrangement of my invention. Fig. 2 is an inverted plan view of the parts as illustrated in Fig. 1. Fig. 3 is a top plan view of the detached spring-reaches. Fig. 4 is a sectional view taken on line $x\,x$, Fig. 1; and Figs. 5 and 6 represent detached plan views of the forward and rearward extremities of the reach-bar.

In spring-vehicles of the particular class in which the body is mounted upon side springs and diagonally-extending spring reach-bars, there has been great liability of undue straining and wear upon the means for securing the body to said support, since the entire body rises and lowers with the movement of the side springs and spring-reaches.

My invention is designed to possess all of the advantages of this type of vehicle with none of its disadvantages, and this desirable result I effect by the rigid connection of the side springs to the spring-reaches, the use of a head-block rigidly secured to the springs, and body-supporting bars mounted upon the opposite extremities of the head-block, whereby the vibration of the springs and reaches is not transmitted directly to the body, and the body is mounted upon a wider support than has heretofore been used.

A represents the vehicle-body, which may be of desirable form, size, and construction suitable for the particular type of vehicle or use of the rider. The forward and rearward axles B and C are also of desirable form and construction, and are provided with any suitable construction of wheels. (Not illustrated.)

D represents the fifth-wheel having one division d, secured to a suitable head-block d', and the other division d^2 secured to the forward axle for permitting cramping of the vehicle.

E represents side springs having their extremities clipped at e to the head-block d', and their rear extremities clipped at e' to the rear axle C.

F represents the reach-bars, which preferably consist of the forward and rearward sections F′ and F². The forward extremities f of the forward sections F′ are rigidly secured together lapped one upon the other, and pivoted to the bolt f' depending from the fifth-wheel. The rearward extremity f^2 of the front sections F′ is formed into an arm beneath and substantially parallel to the central portion of the side springs. Provided upon this arm are lugs f^3. The rear extremities f^4 of the rear sections F² of the reaches are rigidly secured to the axle at points outside of the vehicle-body, and the forward extremities f^5 are formed into an arm lapped with and preferably beneath the arm f^2.

This latter arm f^5 is provided with lugs f^6 of similar construction to the lugs f^3.

G G are head-blocks supported upon the side springs and reaches, and preferably secured thereto by clips *g*, the opposite extremities of which pass through the lugs f^3 and f^6, thus rigidly securing together the head-blocks, side springs, and spring-reaches.

H H represent body-supporting bars having their extremities mounted upon the opposite extremities of the head-block G with their central portion depressed below the plane of their opposite extremities for receiving and supporting the body, which is thus hung lower than would be the case were said bars straight.

In order to prevent lateral movement or swaying of the side springs and reaches, I secure to their central portion a tie-bar I, (best seen in Figs. 1, 2, and 4,) the opposite extremities of which are rigidly secured thereto for accomplishing the desired object. The opposite extremities of this tie-bar are extended beyond the side springs at *i i* and form rub-irons for the forward wheels.

The operation of my invention will be readily understood from the foregoing description and upon reference to the drawings, and it will be noted that the vibration of the springs and spring-reach bars can occasion no wear upon the body-supporting bars and the bolts for securing the body thereto, owing to the rigid connection to said side springs and reaches of the head-blocks and the use of body-supporting irons between said head-blocks.

I am aware that in the Patent No. 63,668 of April 9, 1867, to H. K. Stone, there is shown a vehicle-gear having head-blocks supported on side springs and reach-bars extending continuously to the rear from the front axle, and that in Patent No. 396,223 of January 15, 1889, to H. A. Moyer, there is shown a spring reach-bar extending continuously from the front to the rear axle, and it is stated in the specification that the opposite end portions of the reaches "may be formed separately and each with a central portion by which they may be lapped one over the other;" but I do not herein seek to claim either of said constructions. It will be understood, however, that I do not limit my invention to any particular construction of head-block, nor to the exact detail construction and arrangement of its parts, since the same may be somewhat varied without departing from the spirit of my invention.

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

1. The combination, with the running-gear and vehicle-body, of side springs, diagonally-extending reach-bars having their forward extremities approximated and pivotally supported upon the forward axle and their rear extremities provided with an arm beneath and substantially parallel to the side springs, lugs on said arm projecting beyond the side springs, rear reach-bars having one extremity rigidly secured to the rear axle at points outside of the vehicle-body and the other provided with an arm lapped with the arm on the forward reach-bar, lugs on said arm projecting beyond the side springs, and clips passing through said lugs and over the side springs for securing together the reach-bars and side springs, substantially as and for the purpose set forth.

2. The combination, with the running-gear and vehicle-body, of side springs, diagonally-extending reach-bars having their forward extremities approximated and pivotally supported upon the forward axle and their rear extremities provided with an arm beneath and substantially parallel to the side springs, lugs on said arm projecting beyond the side springs, rear reach-bars having one extremity rigidly secured to the rear axle at points outside of the vehicle-body and the other provided with an arm lapped with the arm on the forward reach-bar, lugs on said arm projecting beyond the side springs, clips passing through said lugs and over the side springs for securing together the reach-bars and side springs, head-blocks supported by said reach-bars and side springs, and body-supporting bars between said head-blocks, substantially as and for the purpose set forth.

3. The combination, with the running-gear and vehicle-body, of side springs, diagonally-extending spring reach-bars secured to the side springs, head-blocks supported by said reach-bars and side springs, a body-supporting bar between said head-blocks, and a tie-bar beneath and secured to said reach-bars for holding them apart, substantially as and for the purpose specified.

4. The combination, with the running-gear and vehicle-body, of side springs, diagonally-extending spring reach-bars secured to the side springs, head-blocks supported by said reach-bars and side springs, a body-supporting bar between said head-blocks, and a tie-bar beneath and secured to said reach-bars for holding them apart, said tie-bar extending beyond the side springs for forming rub-irons, substantially as and for the purpose set forth.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Syracuse, in the county of Onondaga, in the State of New York, this 10th day of November, 1890.

JOSHUA J. GILBERT.

Witnesses:
CLARK H. NORTON,
L. M. BAXTER.