(No Model.)

J. M. BROMLEY.

VEHICLE SPRING.

No. 259,663. Patented June 20, 1882.

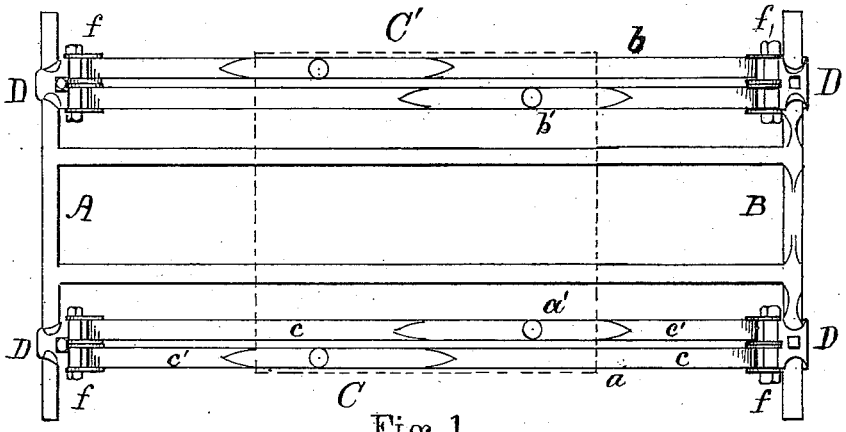

Fig. 1

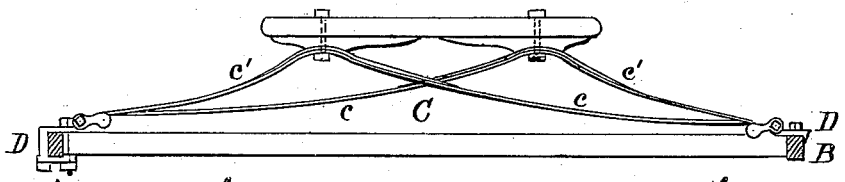

Fig. 2.

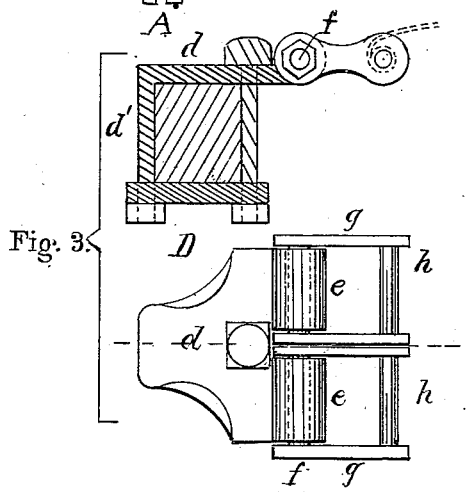

Fig. 3.

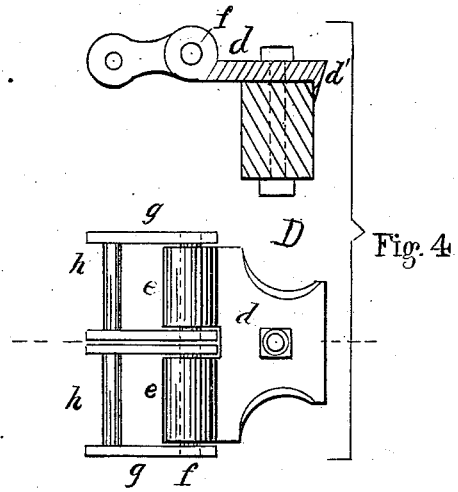

Fig. 4.

Attest

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UNITED STATES PATENT OFFICE.

JAMES M. BROMLEY, OF PLATTSBURG, NEW YORK, ASSIGNOR TO WILLIAM E. SMITH, OF SAME PLACE.

VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 259,663, dated June 20, 1882.

Application filed March 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. BROMLEY, of Plattsburg, in the county of Clinton and State of New York, have invented certain new and useful Improvements in Vehicle-Springs; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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 represents a top view of the springs in place and secured to their shackles. Fig. 2 represents a side view thereof. Fig. 3 represents a sectional and top view of the shackle and one method of applying it. Fig. 4 represents similar views of another method or form.

This invention relates to improvements in vehicle-springs, more particularly those which run from the head-block to the rear axle, and are generally known as "side springs."

The object of the invention is the production of a device which will be sensitive yet afford a firm and steady bearing for the load.

The invention consists in the construction and arrangement hereinafter set forth.

In the annexed drawings, the letter A represents the head-block, and B the rear axle of an ordinary vehicle. Running from one to the other of these are the two pairs of side springs, C C′, consisting of the individual springs *a a′ b b′*, arranged side by side, the inner ones of the pairs and the outer ones corresponding in relation and arrangement, as shown. The inner springs, *a′ b′*, are secured in rear of the transverse middle of the body and the outer springs, *a b*, in front thereof, but the location may be reversed. This gives each spring a long and a short arm, *c c′*, those of each pair extending in opposite directions, and those of the inner and outer springs extending, pair for pair, in the same direction. In this way the body is secured to the springs at four points and on opposite sides of its transverse middle, so that the easy and quick action of the long arm of one spring is checked by the slow action of the short arm of its twin, and hence, while the springs act readily and are sensitive, they have a steady movement and form a firm bearing. By this arrangement of the springs the body is supported by a spring-platform, as it were, at each side, the two springs being alongside of each other. This forms a bearing for the body in four vertical planes and prevents side-tipping in getting in and out.

These springs are secured at their ends by the double shackles D. These are held in place by bolts or clips, as may be preferred. The stock *d* of the shackle is provided with a lip, *d′*, for better security, and for sustaining the pull of the springs. Extending inward from this stock *d* are the two rigid eyes *e e*, which are horizontally aligned, as shown. Through these passes a bolt, *f*, which also engages the side pieces, *g*, of the spring-holders or stirrups *h*. This forms a simple and efficient shackle for the ends of each pair of springs, holding the ends together in the same horizontal plane, and the springs in parallel vertical planes, as shown. The shackle D, holding the two ends of the springs together, preserves their parallelism, and while the latter have full play, vertically independent, being connected to the loose supports or stirrups *h*, they cannot become separated laterally. At the same time the shackle is kept rigidly in place, for the tendency of one spring to twist one way is counteracted by that of the other the other way, and hence the equilibrium is preserved.

Having described my invention, what I claim is—

1. The side springs arranged in pairs, as described, one spring of a pair being attached to one side of the transverse middle of the body and the other spring to the other side, as set forth.

2. The pair of springs *a a′*, each having a long and a short arm, the long arm of one coming by the short arm of the other, as and for the purpose set forth.

3. The shackle D, having the lip *d′* and the two rigid aligned eyes *e* extending from the stock *d* horizontally, in combination with the loose supporters or stirrups *h*, one secured to each eye, as set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

JAMES MEAD BROMLEY.

Witnesses:

J. B. COOLEY,

GEORGE E. BERTRAND.