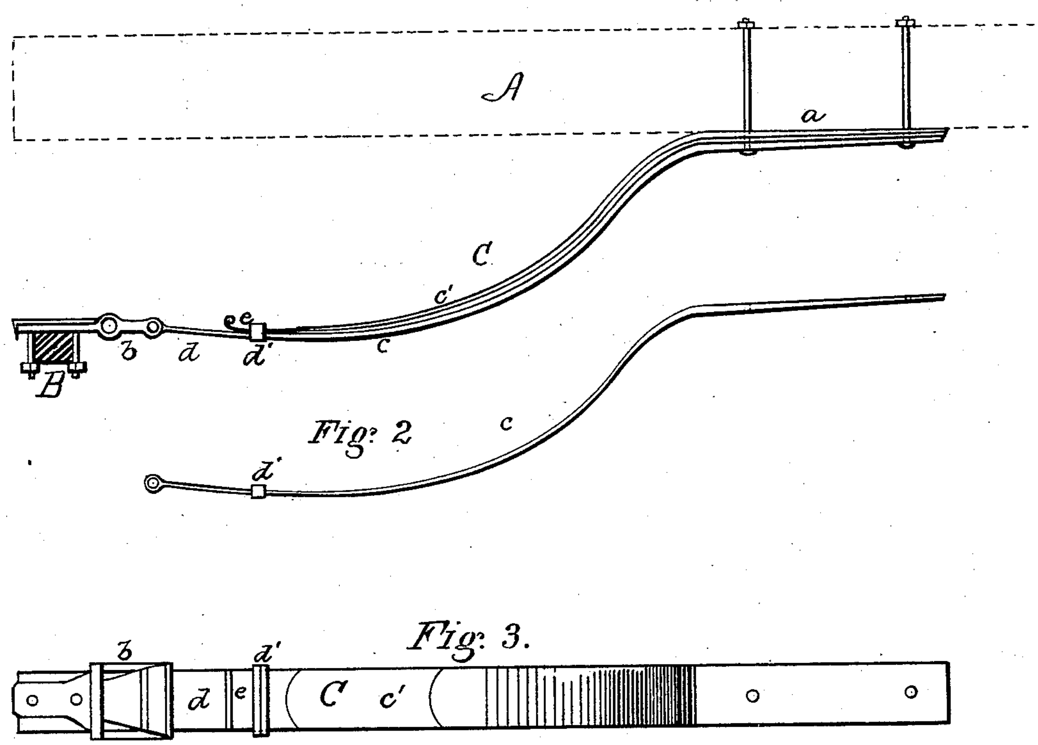
(No Model.)

J. M. BROMLEY.

VEHICLE SPRING.

No. 304,606. Patented Sept. 2, 1884.

Fig: 1.



Witnesses

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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. 304,606, dated September 2, 1884.

Application filed June 11, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. BROMLEY, a citizen of the United States, residing at Plattsburg, in the county of Clinton and State of New York, have invented certain new and useful Improvements in Vehicle-Springs, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a side view of the spring in position; Fig. 2, a side view of the untempered plate or leaf; Fig. 3, a top view of the spring.

This invention relates to improvements in vehicle-springs; and it consists in the construction hereinafter set forth.

In the annexed drawings, the letter A represents a wagon-body, and B an axle, in connection with which the use of my invention is displayed. With a vehicle, four of these springs are to be used, two on each side, connected to the body and axles. In the drawings only one spring is shown. The spring C consists of a plate, leaf, or strip, *c*, of untempered ductile iron or steel, and one or more superimposed leaves, *c'*, of tempered or elastic metal. The strip *c* is provided near its axle end *d* with a guide-loop or check, *d'*. Through this loop passes loosely the free end *e* of the spring-leaves *c'*. The other ends of the strip *c* and leaves *c'* are secured together rigidly. The spring thus constructed is put in place by rigidly securing the inner or body ends of the strips to the body, as at *a*, and the outer or axle ends of the strip *c* to the axle by the ordinary shackle, *b*, as shown in the drawings. The strip *c* of untempered metal forms the connection between the body and axle and moves on its shackle *b*. The tempered leaves *c'* take up the motion of the body and give an elasticity to the yield. A spring thus constructed possesses important features. The untempered strip takes the place of the thorough-brace—such as is shown in reissued United States Patent No. 9,827—giving more rigidity to the spring, preventing any twist, roll, or side swing, and allowing a perfectly-free recoil or upward motion within the limit of the check-loop.

Having described my invention, what I claim is—

1. A vehicle-spring consisting of a strip of untempered and a strip of tempered metal, as set forth.

2. A spring in which the upper leaf or leaves are of tempered metal resting on a lower leaf of untempered metal, as set forth.

3. A spring the lower half of which is untempered and ductile, as set forth.

4. A spring in which the lower or main leaf acts merely as a support to the spring proper, at the same time allowing a perfectly free recoil or upward motion within the limits of a check-loop, as set forth.

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

JAMES M. BROMLEY.

Witnesses:
E. L. NICHOLS,
THOS. E. BRADY.