

(No Model.)

W. COLE.
Vehicle Spring.

No. 234,964.

Patented Nov. 30, 1880.

Fig. 1

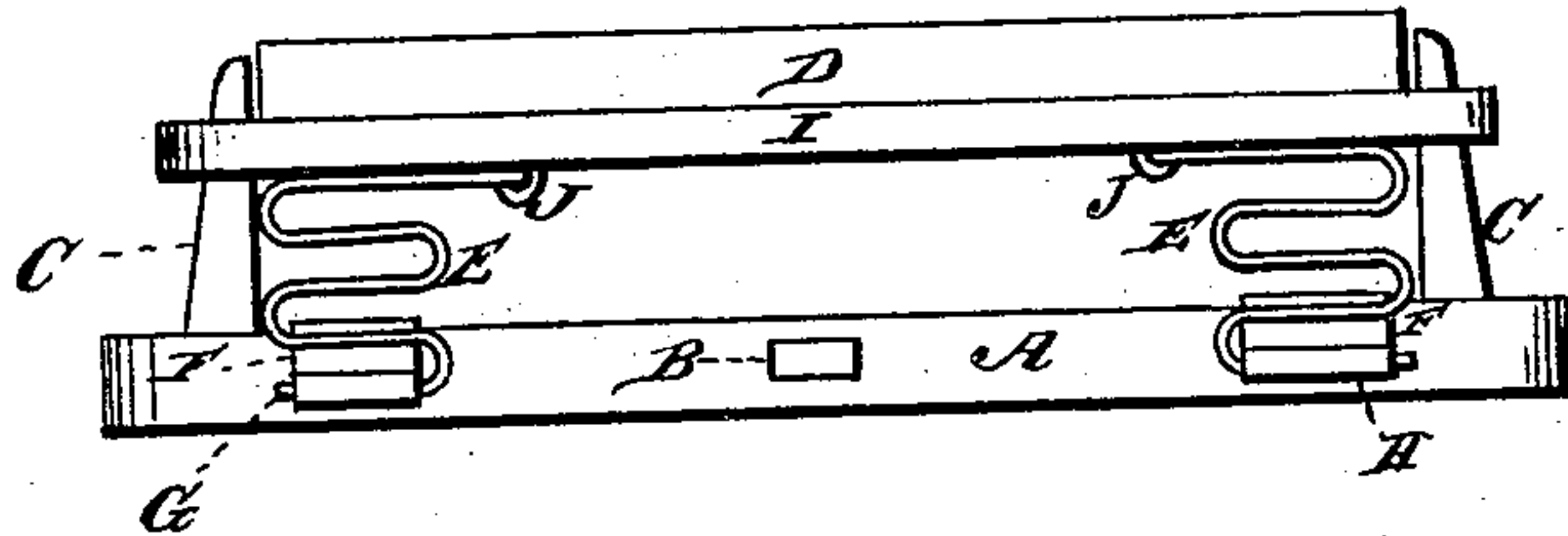


Fig. 2.

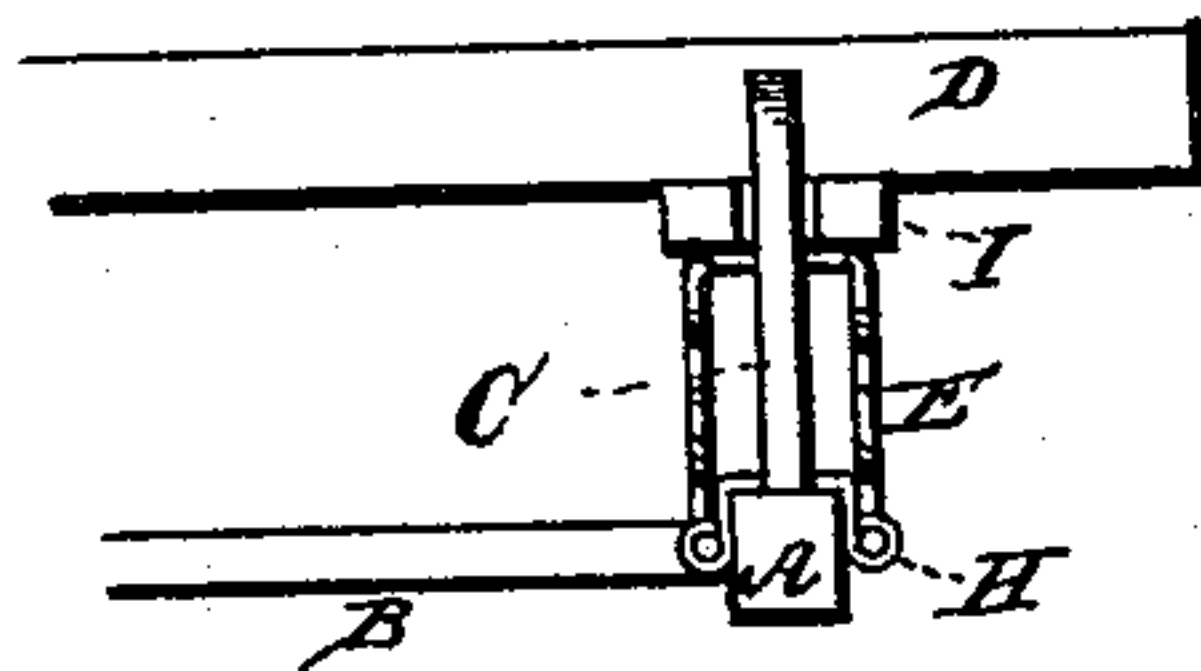


Fig. 3.

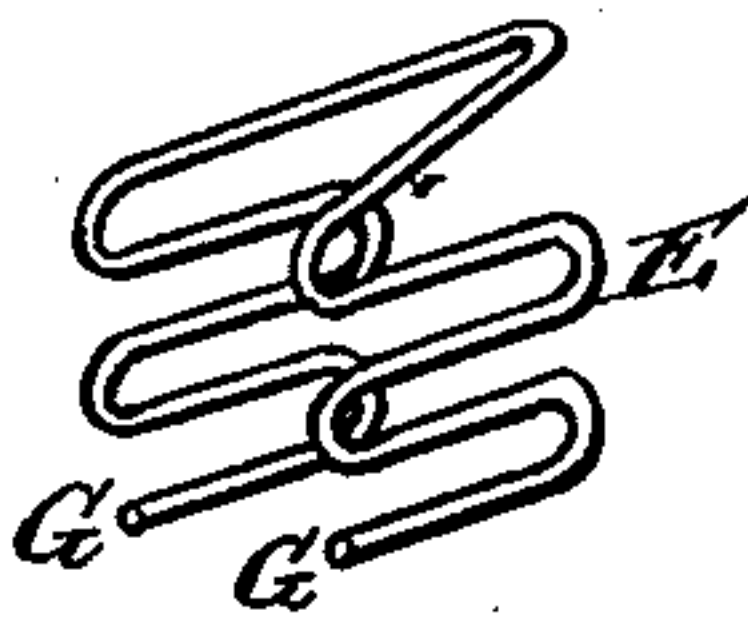


Fig. 4.

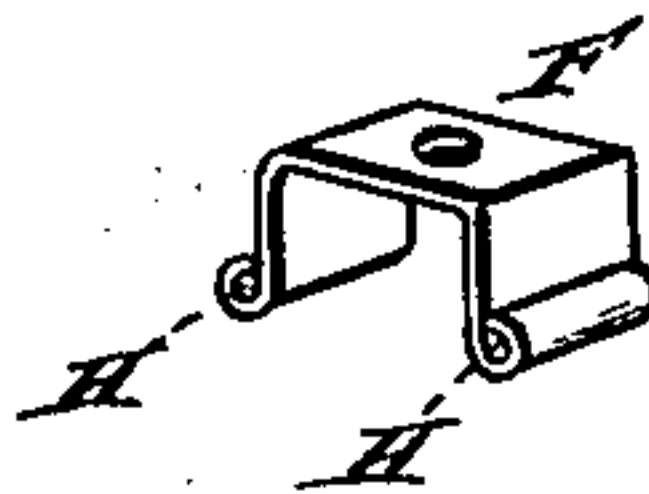


Fig. 5.

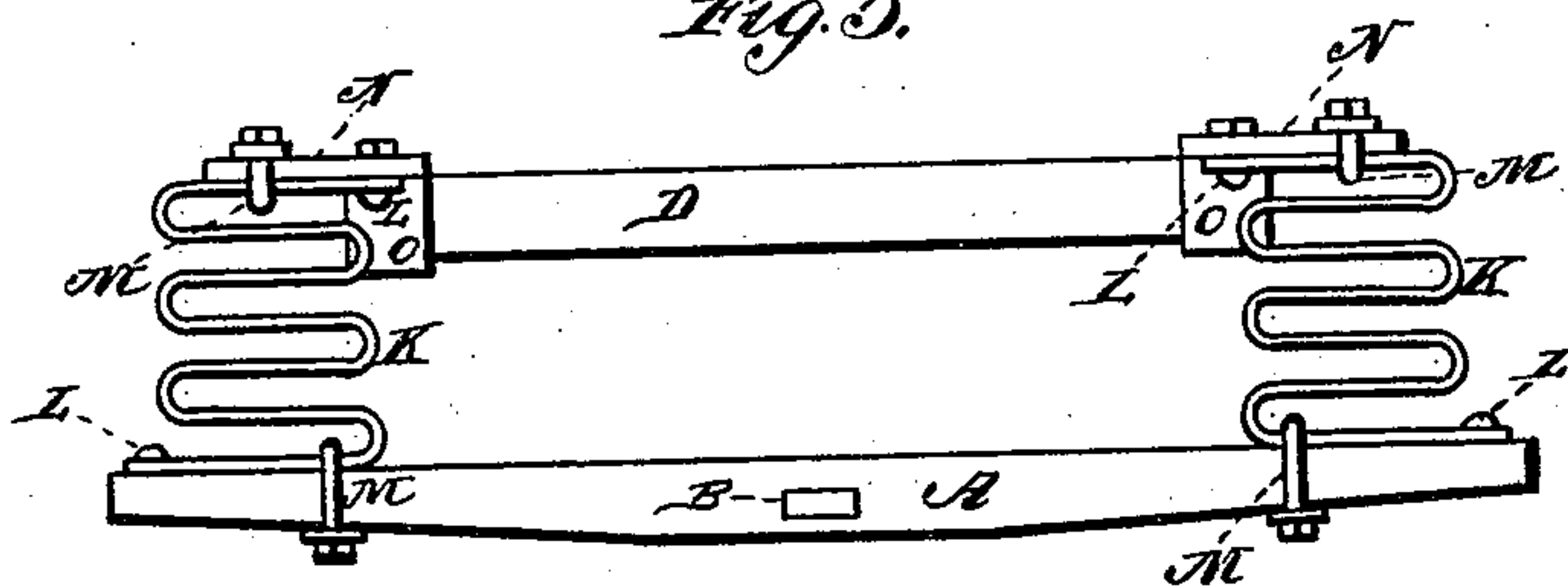


Fig. 6.

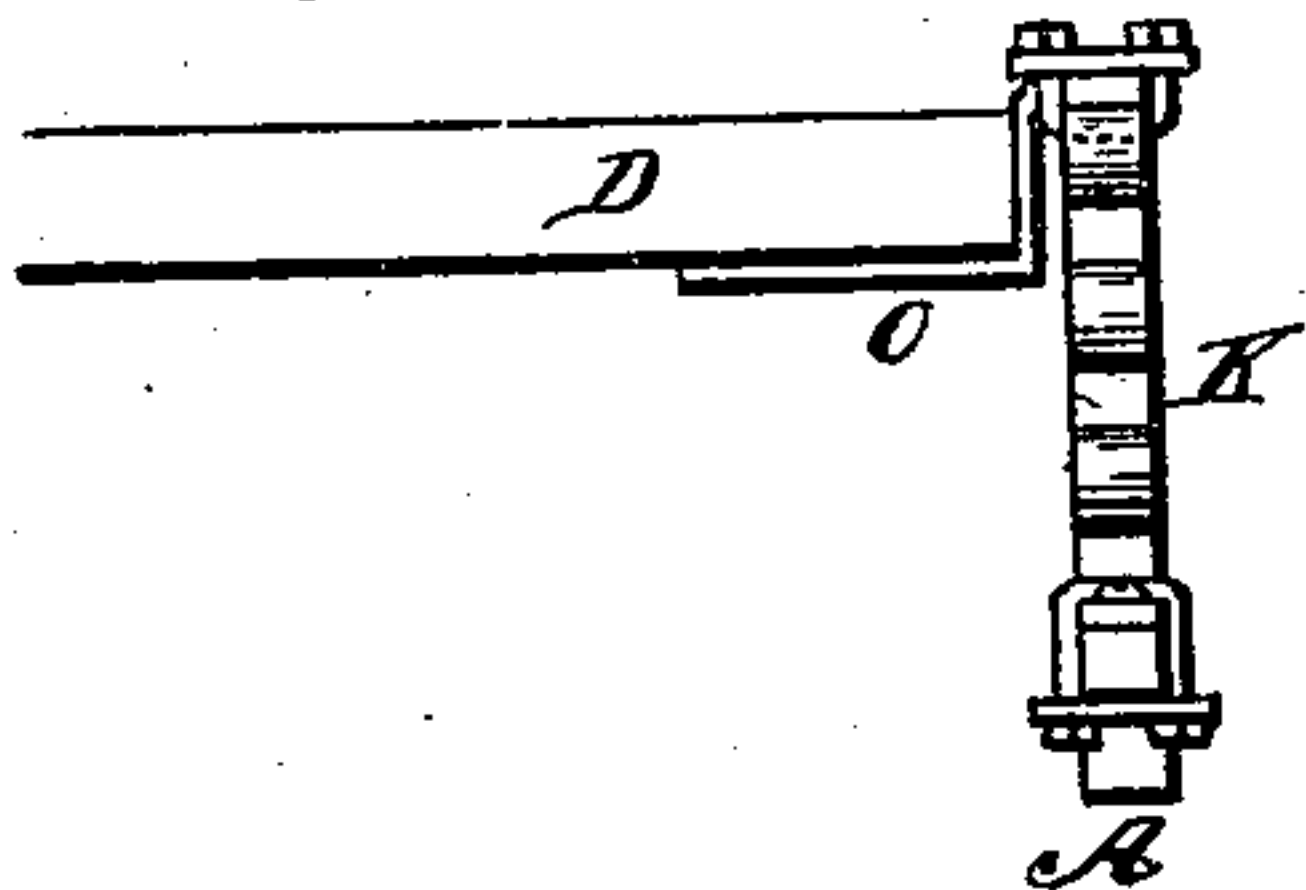


Fig. 7.

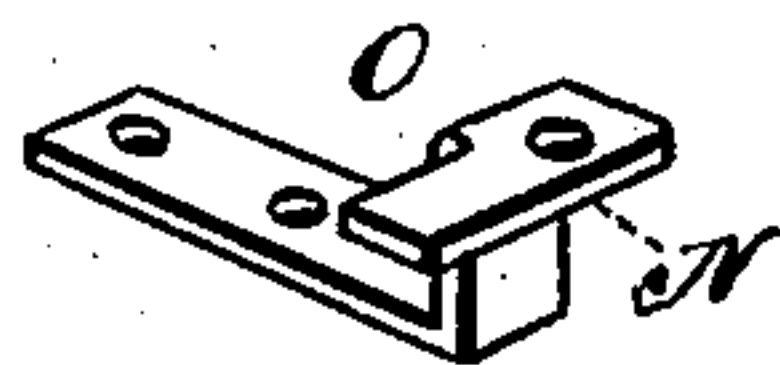


Fig. 8.



WITNESSES

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VEHICLE-SPRING.

SPECIFICATION forming part of Letters Patent No. 234,964, dated November 30, 1880.

Application filed August 12, 1880. (No model.)

To all whom it may concern:

Be it known that I, WESLEY COLE, a citizen of the United States, resident at Rochester, in the county of Olmsted and State of Minnesota, have invented certain new and useful Improvements in Vehicle-Springs; 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 or figures of reference marked thereon, which form a part of this specification.

15 This invention has relation to vehicle-springs; and it consists in the improved features of construction and combination herein-after fully described, and particularly pointed out in the claims.

20 Figure 1 is an end elevation of a portion of a vehicle having my improved spring applied. Fig. 2 is a sectional side elevation of the same. Fig. 3 is a perspective view of one of the springs detached. Fig. 4 is a perspective of
25 one of the eye-clips for securing the lower end of the spring to the bolster. Fig. 5 is an end elevation of a portion of a vehicle, showing a modification of my spring. Fig. 6 is a sectional side elevation of the same. Fig. 7 is a
30 perspective view of the angle-plate for securing the upper end of the modified spring, and Fig. 8 is a plan view of one of the modified springs.

Referring by letter to the drawings, A designates the bolster, B the reach, C the stakes, and D the lower frame or portion of the box of a vehicle.

35 E designates one of my improved springs, formed of round steel wire of appropriate size, bent first at the middle of the piece of which the spring is formed, back nearly upon itself, and the arms thus formed bent to form corresponding U-shaped bends, as clearly shown in Fig. 3 of the drawings. Two of these springs
40 are employed upon each bolster, and are secured to the bolster by eye-clips F, bolted to the bolster near the stakes, as shown. The points G of the springs E enter the eyes H of the eye-clips.

The upper ends of the springs E are secured 50 to the under faces of the cross-pieces I by staples J, driven at the angular or V-shaped bend in the springs. The cross-pieces I are notched in each end to receive the stakes C, and play up and down upon the stakes when the springs 55 are actuated by a load.

The modification of the invention shown in Figs. 5, 6, 7, and 8 is explained as follows: The springs K are of flat metal, notched in each end to receive the bolts L, and bent in U-formed 60 folds or bends, as plainly shown in the drawings. Their lower ends are secured to the upper faces of the bolsters by clip-bolts M and the bolts L. Their upper ends are secured to the under faces of flanges N upon angle-plates 65 O, secured to the under face of the box D at its ends. Clip-bolts M and bolts L are used to secure the upper ends of the springs K to the flanges N, as shown.

The stakes guide the springs so that they 70 have neither lateral nor horizontal play, but have a vertically-yielding motion only. The staple-connection at the top receives no great strain, as the weight comes upon the spring itself, and the staple is only necessary to prevent the cross-piece from leaving the spring 75 in the event of a violent jolt.

The construction is cheap and simple, and the springs are durable.

Having thus fully described my invention, 80 what I claim as new, and desire to secure by Letters Patent, is—

1. The combination of the bolster A, having the stakes C, the notched cross-piece I, and the springs E, eye-clips F, and staples J, constructed and operating substantially as and 85 for the purposes set forth.

2. As an improvement in vehicle-springs, the spring E, of round wire, having the V-shaped and U-shaped bends, secured to the 90 vehicle by the eye-clip F and the staple J, substantially as and for the purposes set forth.

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

WESLEY COLE.

Witnesses:

A. C. SMITH,
J. W. VARS.