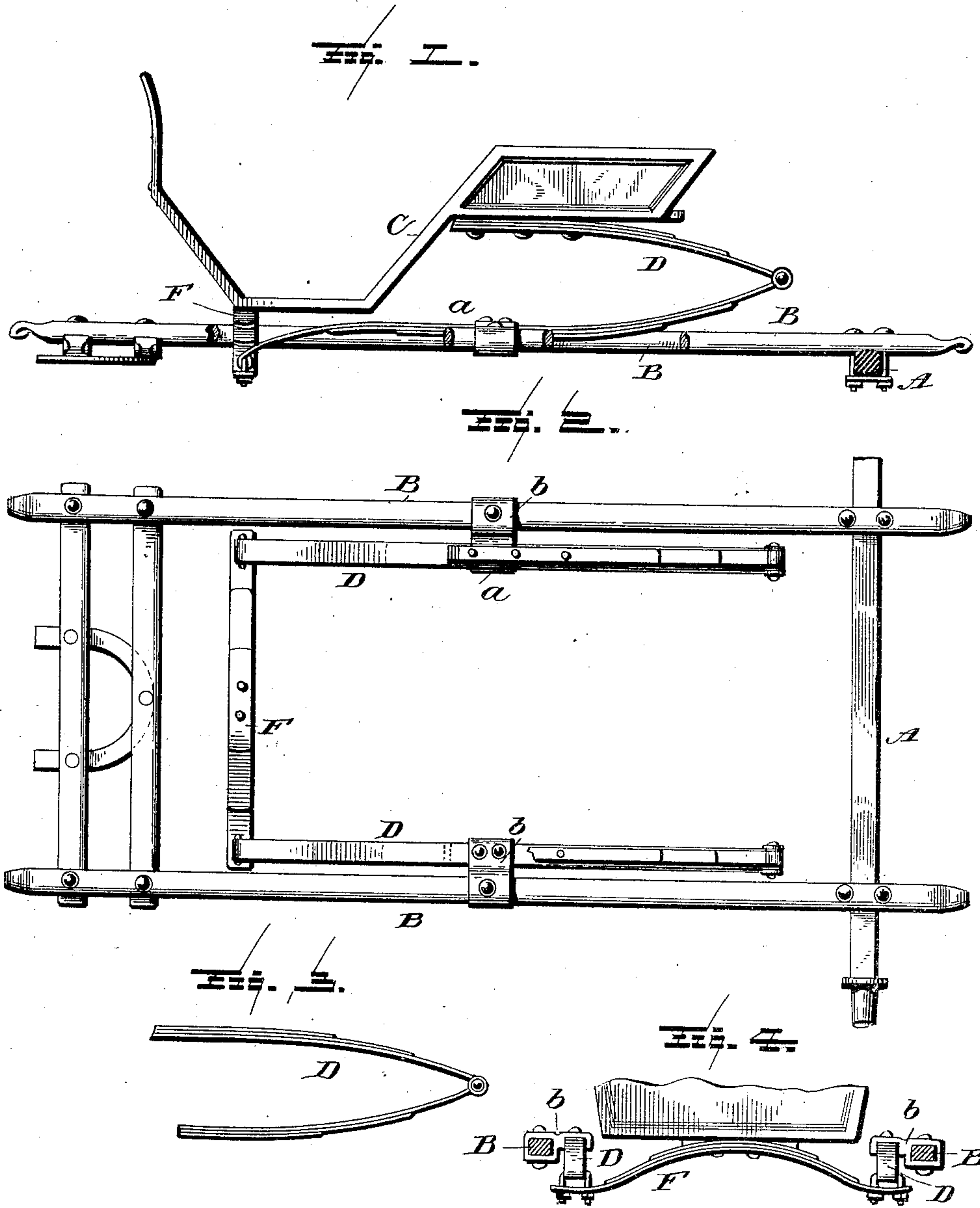


(No Model.)

C. C. HAYES.
RUNNING GEAR FOR VEHICLES.

No. 437,198.

Patented Sept. 30, 1890.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES C. HAYES, OF PENN YAN, NEW YORK.

RUNNING-GEAR FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 437,198, dated September 30, 1890.

Application filed June 10, 1890. Serial No. 354,871. (No model.)

To all whom it may concern:

Be it known that I, CHARLES C. HAYES, a citizen of the United States, residing at Penn Yan, in the county of Yates and State of New York, have invented certain new and useful Improvements in Running-Gears; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

This invention relates to certain new and useful improvements in running-gears for vehicles; and it has for its object among others to provide a simple, cheap, and easy-riding vehicle of few parts, which will not be liable to get out of order, the springs being arranged in pairs and thus less liable to be broken or to get out of order.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be specifically defined by the appended claims.

The novelty resides in the peculiarities of construction and the combination and arrangement of parts, all as more fully hereinafter described, shown in the drawings, and then pointed out in the claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a side elevation of a vehicle embodying my improvements with parts broken away. Fig. 2 is a top plan with the body removed. Fig. 3 is a side view of one of the springs detached. Fig. 4 is an end view looking from the front to the rear, with the body broken away and the side bars in section.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the rear axle, B the side bars, and C the body of known construction.

D are springs, the lower portions of which are connected to the side bars, as at *a*, in any suitable manner, preferably, however, by means of plates *b*, the form of which is shown best in Fig. 4. Each of these plates is formed with a socket to receive the side bar, to which it is secured by means of suitable bolts or

other fastenings and with a clamp or other analogous provisions for receiving and holding the spring. These springs are arranged between the side bars, and at their forward end are connected by means of suitable pivotal connections with a cross-spring F, as shown best in Figs. 2 and 4. This spring is an arched semi-elliptic spring or of other form, and has secured thereto the forward portion of the vehicle-body, as shown in Figs. 1 and 4.

The forward ends of the upper halves of the springs D are attached to the under side of the vehicle-body beneath the seat portion, as shown in Fig. 1.

Instead of the form of spring shown in Figs. 1 and 2, I may sometimes employ the form shown in Fig. 3, supporting the forward end of the body from the side bars in any suitable manner.

I have found from practice that a vehicle constructed as above described is very easy riding, not liable to breakage, and the so-called "horse motion" is entirely obviated.

What I claim as new is—

1. The combination, with the side bars, of the springs arranged parallel therewith and between the same and supported thereby, the cross-spring supported from the forward ends of the said springs, and the body secured to the cross-spring at its forward end and to the upper portion of the longitudinal springs at its rear end, substantially as specified.

2. The combination, with the side bars, of the plates secured thereto near their longitudinal center, the longitudinal springs arranged parallel with and between the side bars and secured near their centers to the plates with their upper portions free, the cross-spring connecting the forward ends of the side springs, and the body supported on the cross-spring and on the free ends of the upper portions of the side springs, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

CHARLES C. HAYES.

Witnesses:

STEVEN B. AYRES,
MORRIS F. SHEPPARD.