

(No Model.)

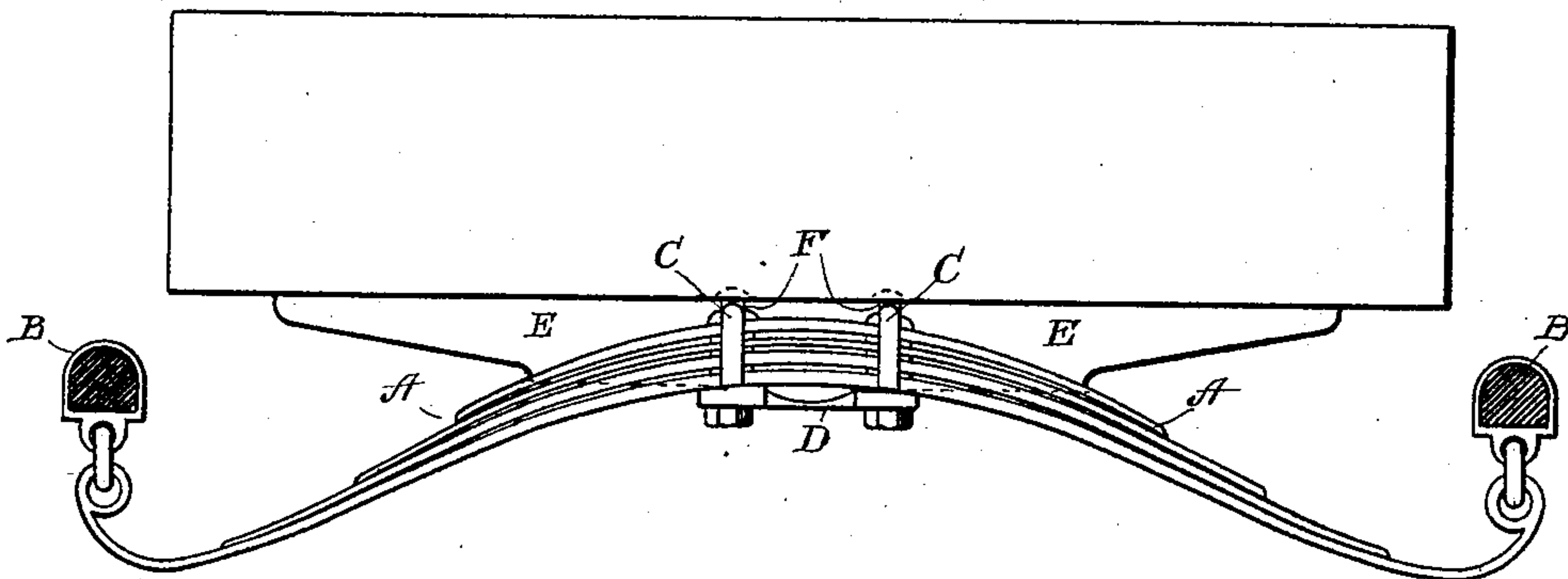
G. B. HAMLIN.

VEHICLE SPRING ATTACHMENT

No. 390,856.

Patented Oct. 9, 1888.

*Fig. 1.*



*Fig. 2.*

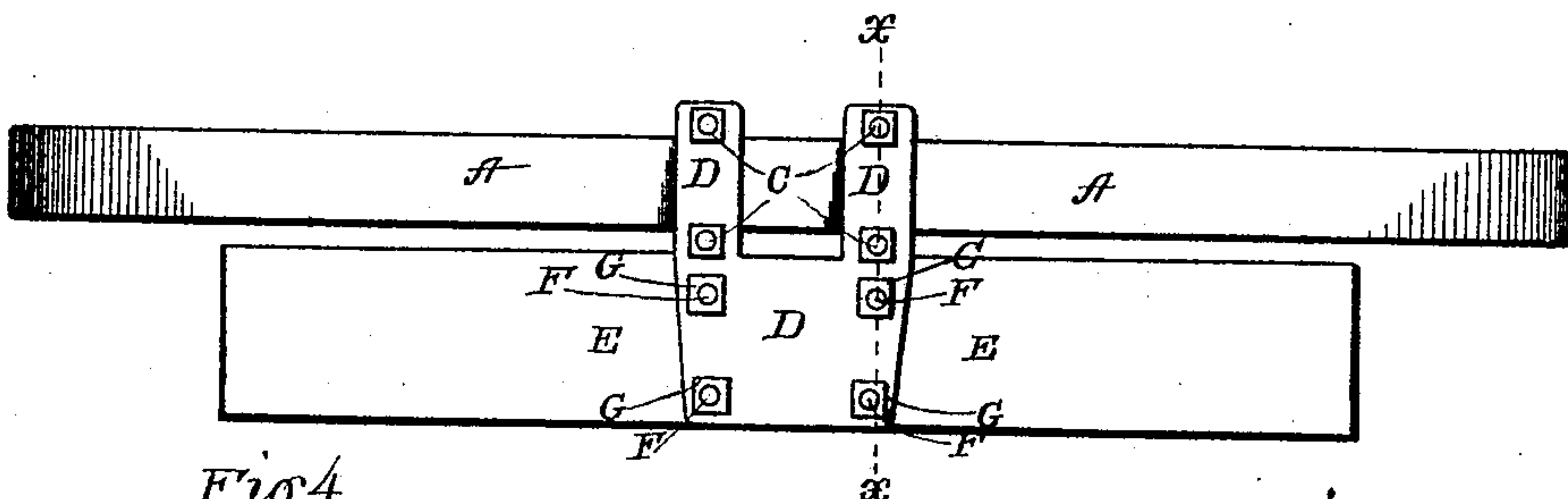
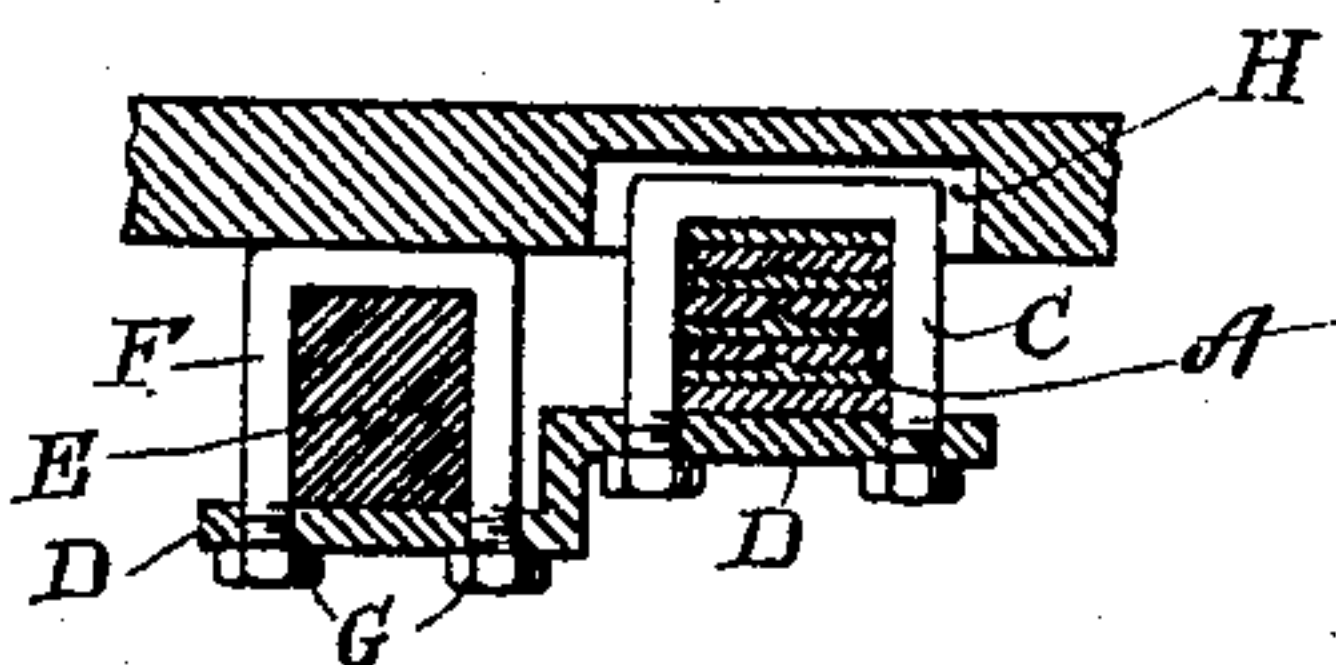
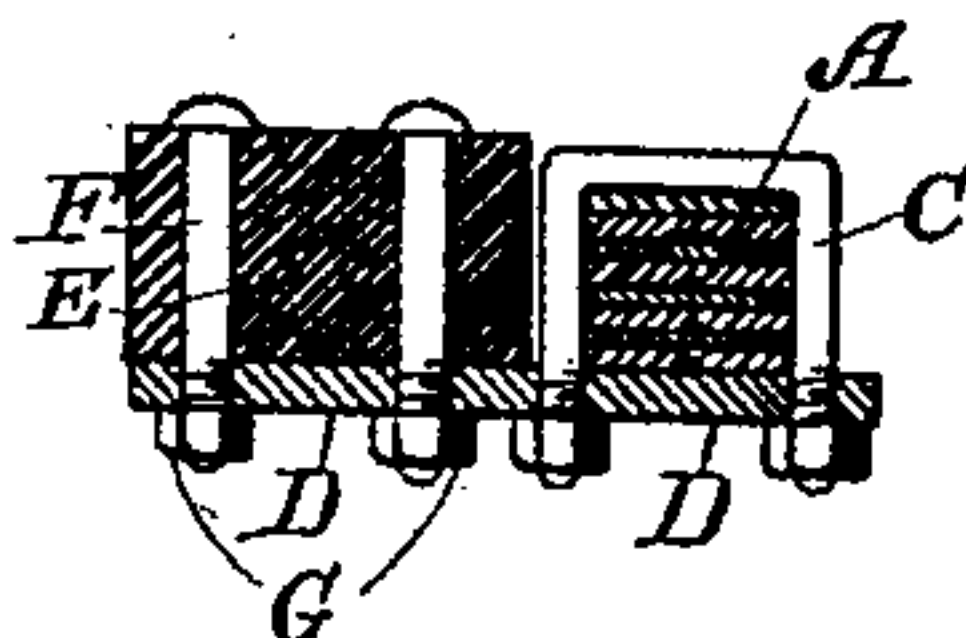


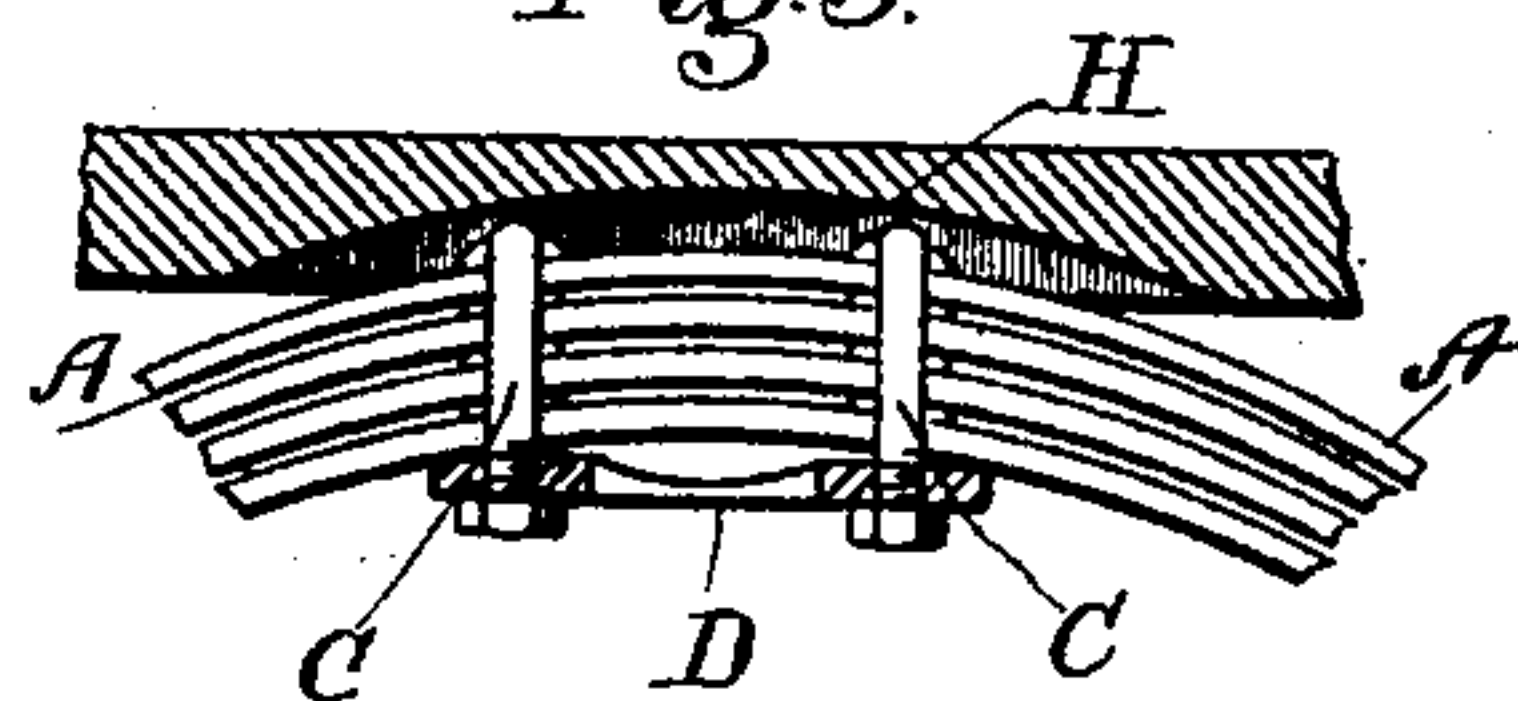
Fig. 4.



*Fig. 3.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

GEORGE B. HAMLIN, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR OF ONE-HALF TO W. J. INNIS AND W. O. INNIS, OF OIL CITY, PENNSYLVANIA.

## VEHICLE-SPRING ATTACHMENT.

SPECIFICATION forming part of Letters Patent No. 390,856, dated October 9, 1888.

Application filed January 20, 1888. Serial No. 261,351. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE B. HAMLIN, a citizen of the United States, residing at Providence, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Securing Vehicle-Springs to Carriage-Bodies; 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.

My invention relates to springs for vehicles, but has especial reference to semi-elliptical springs designed for use in connection with side-bar vehicles.

The object of the invention is to so attach the spring that the wagon or carriage body may be set to a minimum height above the axle; and with these ends in view my invention consists in certain details of construction and combination of elements, as will be hereinafter fully set forth, and then specifically designated by the claims.

In order that those skilled in the art to which my improvement appertains may understand the same fully, I will proceed to describe its construction and application in detail, referring by letter to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an elevation showing a spring secured to a carriage spring bar after the manner of my invention; Fig. 2, a bottom view of the same; Fig. 3, a section at the line *xx* of Fig. 2; Fig. 4, a view similar to Fig. 3, but showing a modification of my improvement; and Fig. 5, a broken elevation showing the wagon-body gouged to accommodate this modified construction.

Similar letters denote like parts in the several figures of the drawings.

This invention is designed as an improvement on the construction shown and described in certain Letters Patent, Nos. 219,087 and 319,243, issued to me respectively under dates September 2, 1879, and June 2, 1885. It will be observed that in these patents the leaves of the spring are clipped directly underneath and against the spring-bar; and hence it will be obvious that the assemblage of said

leaves and the interposed yokes must be accomplished in connection with the spring-bar as a part and parcel, and that the several parts must be secured in proper relative position by means of clips; also, it will be observed in this connection that it is impossible to lower the carriage-body to any great degree, owing to the fact that the spring-bar being directly over and upon the spring, the latter cannot be lowered without lowering the side bars and interfering with the running-gear, while at the same time it must be borne in mind that if it were possible to locate the springs below the running-gear the application of the weight of the carriage-body and the load carried therein at a point below the axle of the carriage would subvert the purposes and advantages of a side-bar vehicle. It is necessary, therefore, to leave the position of the spring undisturbed with reference to the axles or running-gear, and, bearing this in mind, I have accomplished the lowering of the carriage-body as follows:

A is the spring, and B the side bars, constructed and connected as shown and described in my patent aforesaid, No. 319,243. The leaves of the spring are secured together by clips C, which are bolted to a bottom plate, D. This plate extends laterally, as shown in Figs. 2 and 3, and is secured to the bottom of the spring-bar E by means of independent bolts F and nuts G. Thus it will be seen that the spring and spring-bar are in juxtaposition, and that the spring-bar, and consequently the carriage-body, have been lowered a distance equal to the vertical height or diameter of the spring at its center.

The carriage-body may be set still lower by forming a step in the bottom plate, D, and gouging the body, as seen at H, so that the spring and clips thereof may extend within said body, which will be readily understood by reference to Figs. 4 and 5. It will thus be seen that by my improved construction the carriage-body may be lowered without setting the spring-bar up within the said body.

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

1. In combination with a semi-elliptical spring, a bottom plate secured to and extend-



ing from the under side of said spring at its central portion, the carriage-spring bar, to the bottom of which said plate is bolted, and the side bars connected to the extremities of said spring, substantially as shown and described.

5 2. The combination, with the carriage-spring bar and semi-elliptical spring, of a plate clipped or bolted by independent clips or bolts to the bottom of the said spring and bar, re-

spectively, whereby said bar and spring are secured together side by side, substantially as set forth.

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

GEORGE B. HAMLIN.

Witnesses:

WARREN R. PERCE,  
DANIEL W. FINK.