

W. BEERS.  
Vehicle-Spring.

No. 168,128.

Patented Sept. 28, 1875.

FIG. 1.

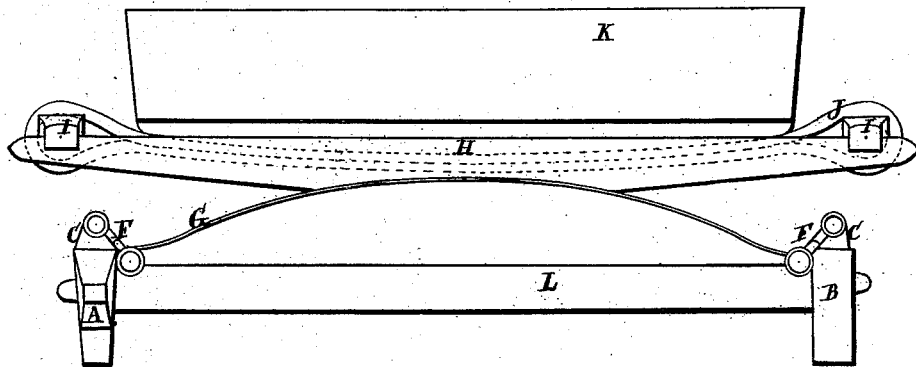


FIG. 2.

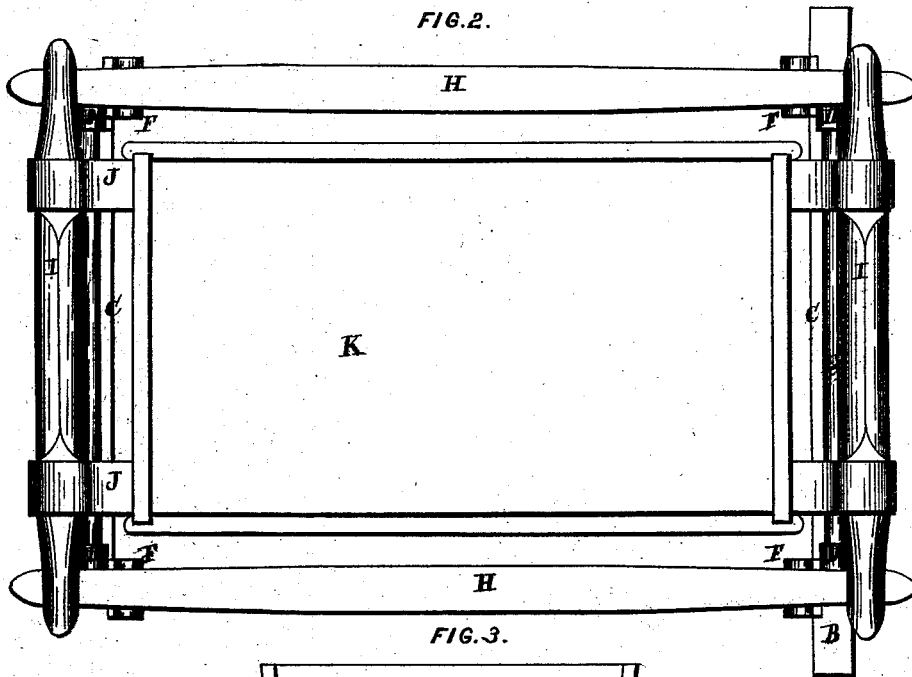
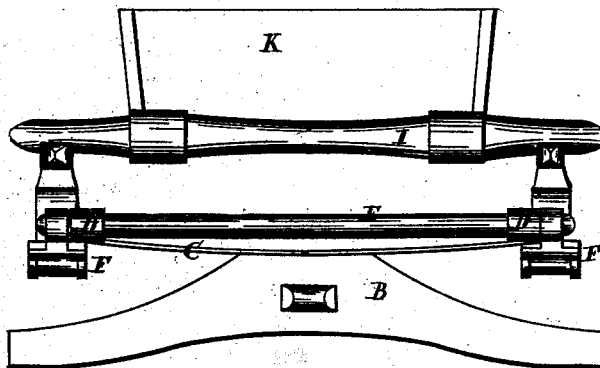


FIG. 3.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

WILLIAM BEERS, OF MILAN, OHIO.

## IMPROVEMENT IN VEHICLE-SPRINGS.

Specification forming part of Letters Patent No. **168,128**, dated September 28, 1875; application filed June 17, 1875.

*To all whom it may concern:*

Be it known that I, WM. BEERS, of Milan, in the county of Erie and State of Ohio, have invented certain new and useful Improvements in Carriages, of which the following is a description, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 is a side view of carriage-gear and body. Fig. 2 is a plan view. Fig. 3 is an end view.

Like letters of reference refer to like parts in the several views.

This invention is a combination, in a buggy-carriage, of a thorough-brace, side springs, and transverse springs, so arranged in respect to each other and to the gear of the vehicle and body thereof, that the special character of each acts and reacts upon the other, thereby making a very easy riding-carriage.

Of the construction and operation of the invention the following is a full and complete description:

In the drawings, A B represent the axle-tree beds or stocks, to which are secured the cross-springs C, wherein are loosely inserted the ends of the rods E. To each end of the rods is rigidly secured a shackle, F, to the lower end of which are attached the ends of the side springs G, as shown in Fig. 1. H are side bars secured to the side springs G. On the ends of the side bars are secured the cross-bars I, having attached thereto the thorough-braces J, whereon is supported the box K of the carriage, all of which is constructed and arranged substantially as herein described, and shown in the drawings.

It will be obvious that by this special arrangement and combination of the side springs G and cross-springs C, together with the thorough-braces, they will act conjointly and upon

each other, producing as a result a union of the special character of the three, thereby making a very easy carriage to ride in by the ease and readiness with which the combination of springs and thorough-braces yield and adjust themselves to uneven and rough roads, and to the weight of the persons riding. The thorough-braces take up the concussion or jar that would otherwise be transmitted by the springs to the body K, and their combination with the side bars makes the gearing more simple than the ordinary thorough-brace vehicle, which have the thorough-braces attached to C-springs, or by means of jacks, which are quite expensive.

The side bars sustain the strain of the thorough-braces endwise; hence, there can be no drawing toward each other of the front and hind axles, whereas the jacks and C-springs (usually employed for sustaining the thorough-braces) being supported by reaches or perches tend to draw the front and hind axles together, producing an unfavorable strain upon the running-gear of the carriage. In shackling the side springs to the end springs this tendency of the axles to turn and draw toward each other is lessened so much that one reach, L, only is needed to obtain the necessary strength to resist such tendency of the axles alluded to.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination of the thorough-brace J, cross-bar I, side spar H, side spring G, attached to the cross-spring C, substantially in the manner as herein described, and for the purpose set forth.

WILLIAM BEERS.

Witnesses:

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