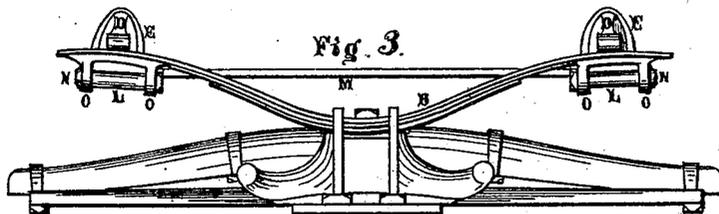
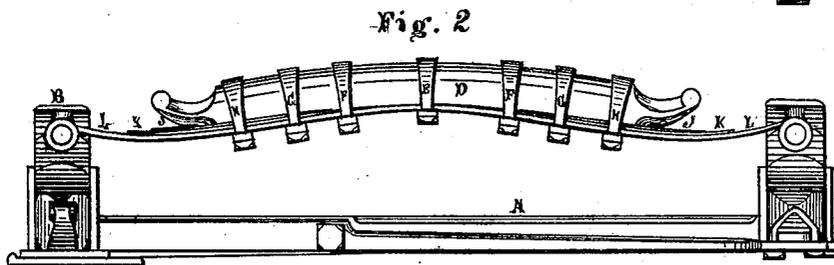
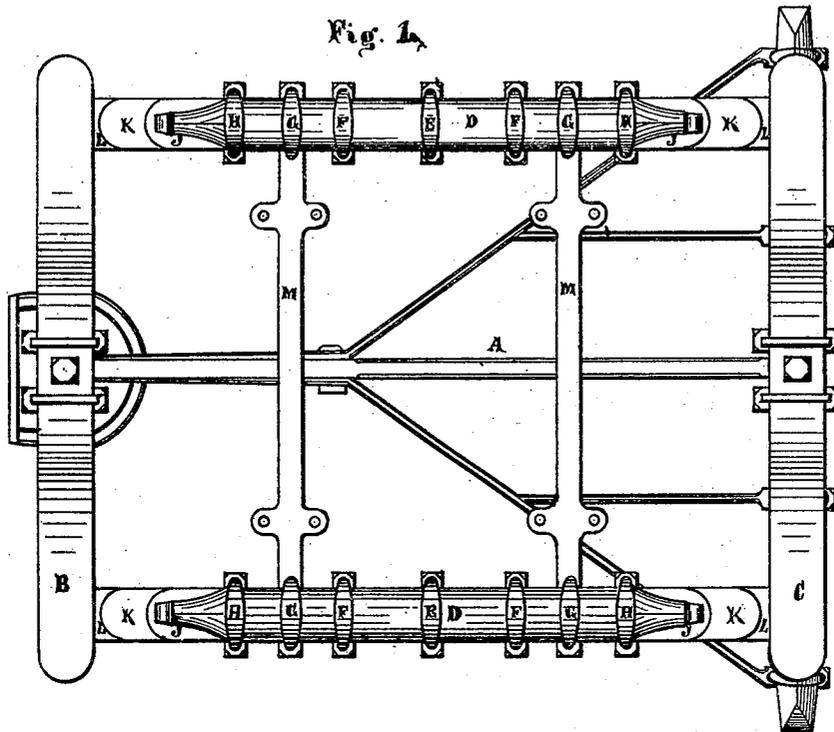


B. C. SHAW.  
Side-Spars for Vehicles.

No. 167,028.

Patented Aug. 24, 1875.



Witnesses;

*Irvin Robbins*  
*George Doremus*

Inventor.

*Benjamin C. Shaw*

# UNITED STATES PATENT OFFICE.

BENJAMIN C. SHAW, OF INDIANAPOLIS, INDIANA.

## IMPROVEMENT IN SIDE SPARS FOR VEHICLES.

Specification forming part of Letters Patent No. **167,028**, dated August 24, 1875; application filed December 5, 1874.

*To all whom it may concern:*

Be it known that I, BENJAMIN C. SHAW, of Indianapolis, county of Marion and State of Indiana, have invented an Improvement in Side-Bar Springs for Carriages, of which the following is a specification:

The invention consists in constructing side bars of wood with one long steel plate at the bottom of each bar, and one or more shorter plates of steel between the long plate and the wooden bars, the whole device being secured together by clips properly placed. Each end of the long strips of steel is secured to the ends of the front and back cross-springs by suitable hangers, for the purpose of giving an easier motion to the bed of the carriage, and equalizing the strain on the springs.

Figure 1 represents a plan of my improved springs and their attachment to the front and back cross-springs of a carriage. Fig. 2 is a side view of the same. Fig. 3 is a front view of the same.

A represents the coupling-pole with its proper braces. B and C are the front and back cross-springs of the carriage. D D represent the side bars, made of wood, secured over the spring-plates L K J by means of the clips F G H. M M represent the bars on which the bed is fastened, and are secured to the side bars by the clips G G. O O represent the bearings or hangers, attached to the under portion of the ends of the front and back cross-springs B C, that support the ends of the side bars and plates of steel L K J by means of

the bolts N. The plates or springs L L are secured to the ends of the spring B by the hangers O O and bolts N N, and extend from the front cross-spring to the back cross-spring C, and are secured thereto in the same manner. On the plates L L at each end are the short plates K K, and above these plates are the plates or springs J J. The bar of wood D is placed over all of the springs, and the center clip E binds the long plate or spring L. The clips F F bind one end of the plates K K, and the clips G G bind one end of the plates J J, and support the bars M M of the carriage-bed, and the clips H H bind all of the springs near the ends of the side bars D.

This arrangement of springs and side bars gives an easier motion to the carriage-bed, and equalizes the strain on the springs.

What I claim as new, and wish to secure by Letters Patent, is—

The side spring for carriages herein described, consisting of long steel spring or plate L and shorter plates J and K superposed upon the long springs between the center and either end thereof and the wooden bar D, all secured together by clips, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN C. SHAW.

Witnesses:

IRVIN ROBBINS,  
GEORGE DOREMUS.