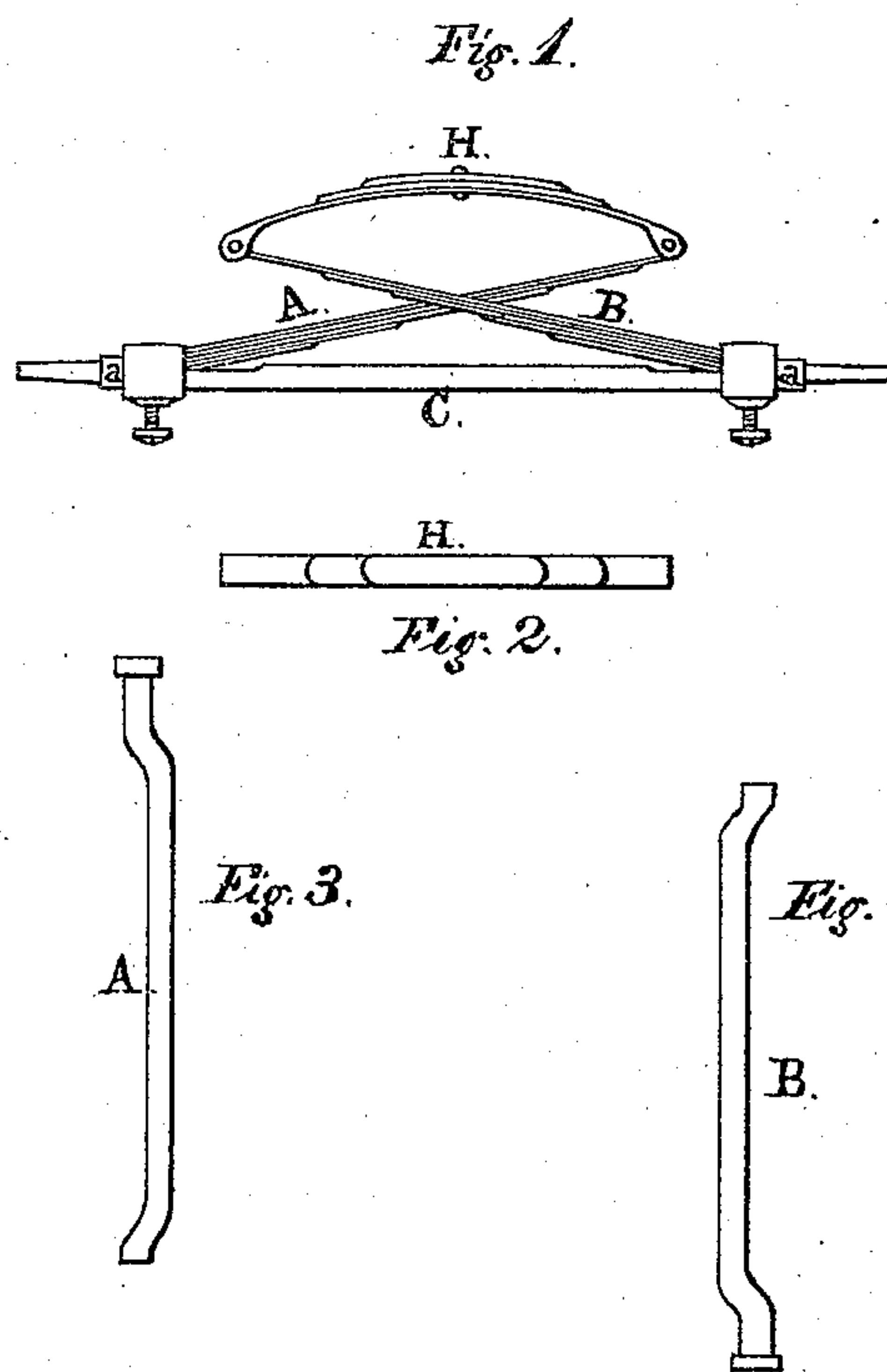


S. STEWARD.
Carriage Spring.

No. 108,649.

Patented Oct. 25, 1870.



Witnesses.
J. S. Russell Jr.
James. C. Taylor. Jr.

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Sidney Steward

United States Patent Office.

SIDNEY STEWARD, OF TRENTON, NEW JERSEY.

Letters Patent No. 108,649, dated October 25, 1870.

IMPROVEMENT IN CARRIAGE-SPRINGS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, SIDNEY STEWARD, of Trenton, in the county of Mercer and State of New Jersey, have invented a certain Improvement in Carriage-Springs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 is an elevation of my improved carriage-spring, showing its attachment to the axle.

Figures 2, 3, and 4 are plan views of the different parts constituting such spring.

The same letters are used in all the figures in the designation of identical parts.

This invention relates to springs for carriages and other vehicles; and

My improvement consists in attaching the ends of a semi-elliptic spring, upon the convex side of one or more of which the body of the vehicle is to be supported to the axle, by means of two diagonal spring-braces, the latter passing from the points of attachment to such semi-elliptic spring diagonally past each other to points near the journals of the axle, there to be secured, whereby the weight of the load will be transferred to the strongest points of such axle.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the annexed drawing—

H represents the semi-elliptic spring, composed, as usual, of plates of steel, the lower and longest one of which is hook-fashioned at its ends, and provided with perforated ears, to receive bolts, by which the spring-braces A and B are jointed to it.

Each spring-brace, which may also be composed of laminae of steel, as shown, extends from the point of attachment to the semi-elliptic spring diagonally beyond the opposite end of the latter, and is secured to the axle C, near its journal, by means of a sleeve and set-screw, as shown, or in some other suitable manner, abutting endwise against the collar *c* on said axle.

In order that said spring-braces may pass each other, they are bent at the ends, as clearly indicated in figs. 3 and 4.

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

The carriage-spring herein described, composed of the semi-elliptic spring H and diagonal spring-braces A and B, substantially as set forth.

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

SIDNEY STEWARD.

Witnesses:

JOHN H. WHITAKER,

WOODBURY D. HOLT.