C. B. WOOD.

Carriage-Spring.

No. { 1,323. / 32,327. }

Patented May 14, 1861.

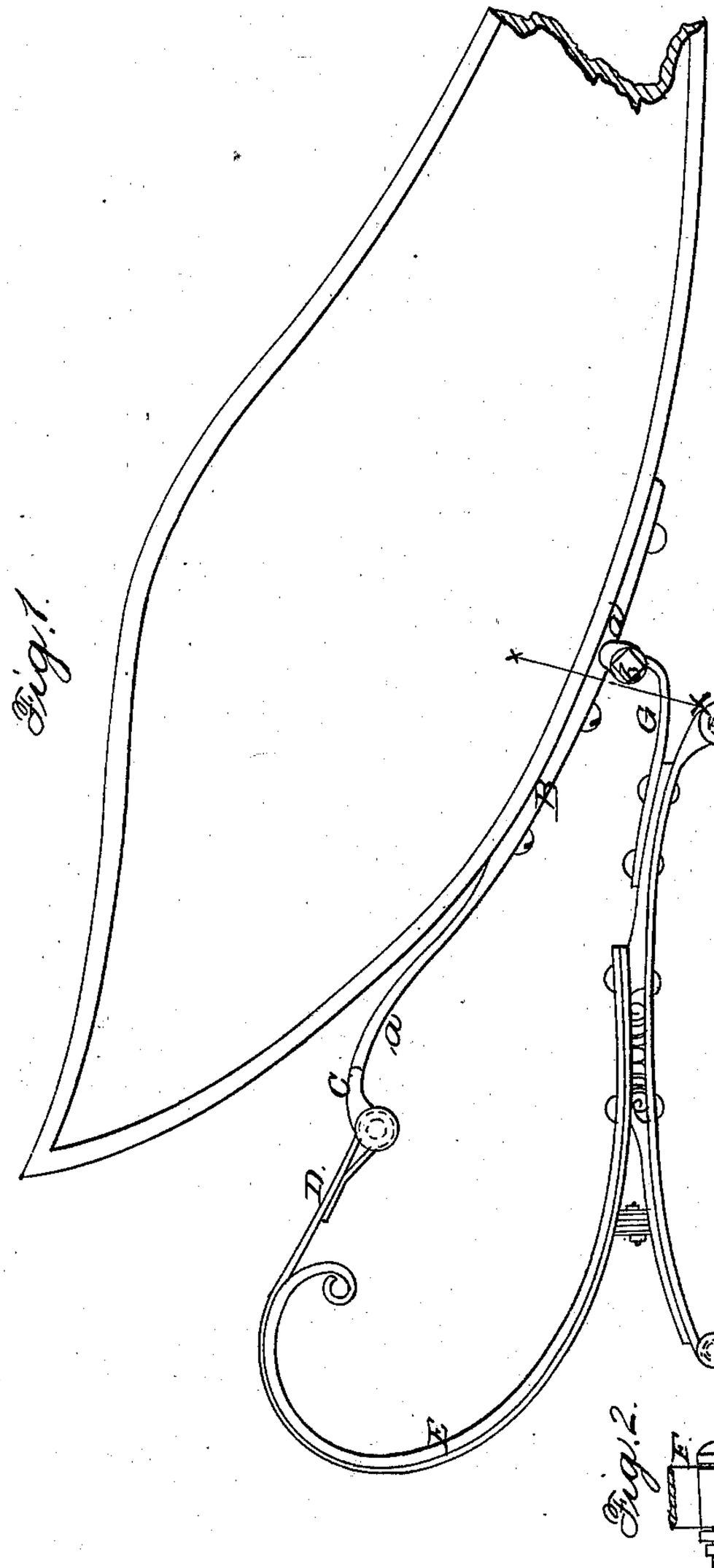

Fig. 1.

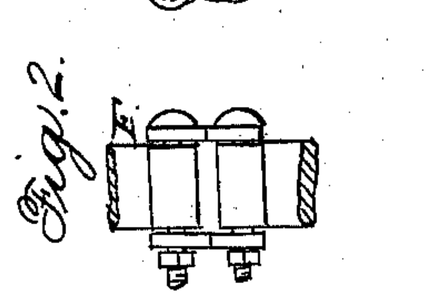

Fig. 2.

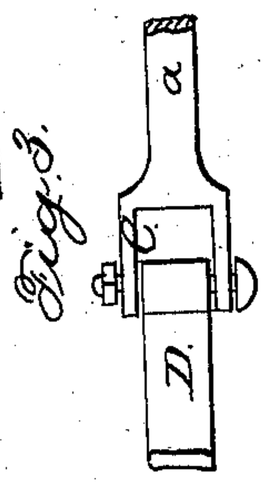

Fig. 3.

Fig. 5.

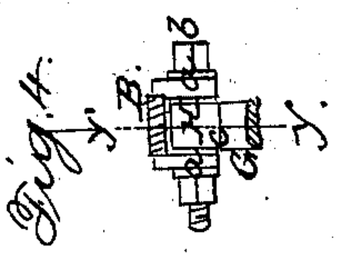

Fig. 4.

WITNESSES:

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UNITED STATES PATENT OFFICE.

CHARLES B. WOOD, OF NEW YORK, N. Y.

CARRIAGE.

Specification of Letters Patent No. 32,327, dated May 14, 1861.

To all whom it may concern:

Be it known that I, CHARLES B. WOOD, of the city, county, and State of New York, have invented a new and useful Improvement in Carriages; 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, in which—

Figure 1 is a side view of my invention; Fig. 2 an outer end view of the lower opening of the same; Fig. 3, a plan or top view of a portion of the upper spring and thorough brace. Fig. 4 a section taken in the line *x*, *x*. Fig. 5 a section of Fig. 4, taken in the line *y*, *y*.

Similar letters of reference indicate corresponding parts in the several figures.

In the construction of carriages style, ease in riding and lightness combined with strength are the essential desiderata to be attained. The two latter requisites for city carriages are not very readily obtained as the stone pavement is the source of concussions and great wear and tear even with moderate driving. By my invention it is believed that the above named requisites are fully obtained and by a very simple and convenient arrangement.

To enable those skilled in the art to fully understand and construct my invention I will proceed to describe it.

A. represents a portion of the body of a carriage, the back part, which may be of the usual or any proper form with a metal strap B. bolted to each side. These straps are of steel and their outer parts *a*, are slightly curved downward and made sufficiently thin to form a spring; or to possess a certain degree of elasticity. At the outer ends of the straps B. there are formed eyes C. one to each strap, said eyes receiving the ends of thorough braces D. of C-springs E.

The C-springs E. are of the usual form and construction and they are secured at their lower ends to the upper parts of elliptic springs F. as shown clearly in Fig. 1, the springs F. being attached to the back axle in the ordinary manner.

To the inner end of each elliptic spring F. there is attached a bar G. These bars curve slightly upward and each has an eye H. formed at its end. The eyes H. are fitted between lugs *a*, attached to the straps B. B. and a bolt *b*, passes through the lugs and the eye H. of each bar G. By this arrangement it will be seen that the springs F. as well as the springs E. are attached to the straps B.

Within the eye H. of each bar G. there is placed an elastic tube *c*, which may be of india rubber or other suitable elastic material. These elastic tubes isolate the metal connection between the straps B. and bars G.

From the above description it will be seen that the elasticity and strength of two springs are combined, and owing to the peculiar arrangement or mode of applying the C-springs E. the carriage is prevented from surging or swinging laterally a contingency of usual occurrence where the springs are used separately on account of the difficulty of applying side stays or guides to prevent it. In my invention this difficulty is obviated by the connection formed by the bars G. between the straps B. and the elliptic springs F. The thorough braces D., which are designed to be of leather as usual, isolate the C-springs E. from the straps B. and the tubes *c*, isolate the bars G. from the straps B. and prevent jars and concussions being transmitted by metal connections to the body of the carriage.

Another advantage of my improvement is that the long reaches usually employed to connect the front and rear springs are dispensed with and an important saving in weight and cost is thus gained. The weight of these reaches with their irons is sometimes equal to the entire remaining portions of the vehicle.

I do not claim separately any of the parts herein described; but

I do claim as new and desire to secure by Letters Patent—

The arrangement in the manner herein shown and described of the bar G and springs E. with the springs F and carriage body A, all as set forth.

CHAS. B. WOOD.

Witnesses:

JAMES LAIRD,

M. M. LIVINGSTON.