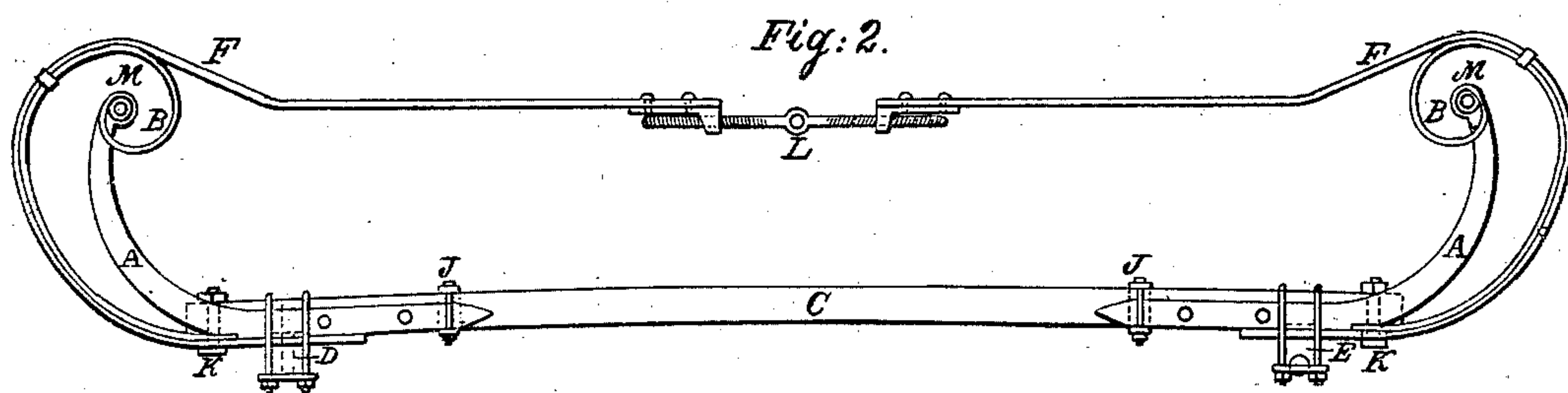
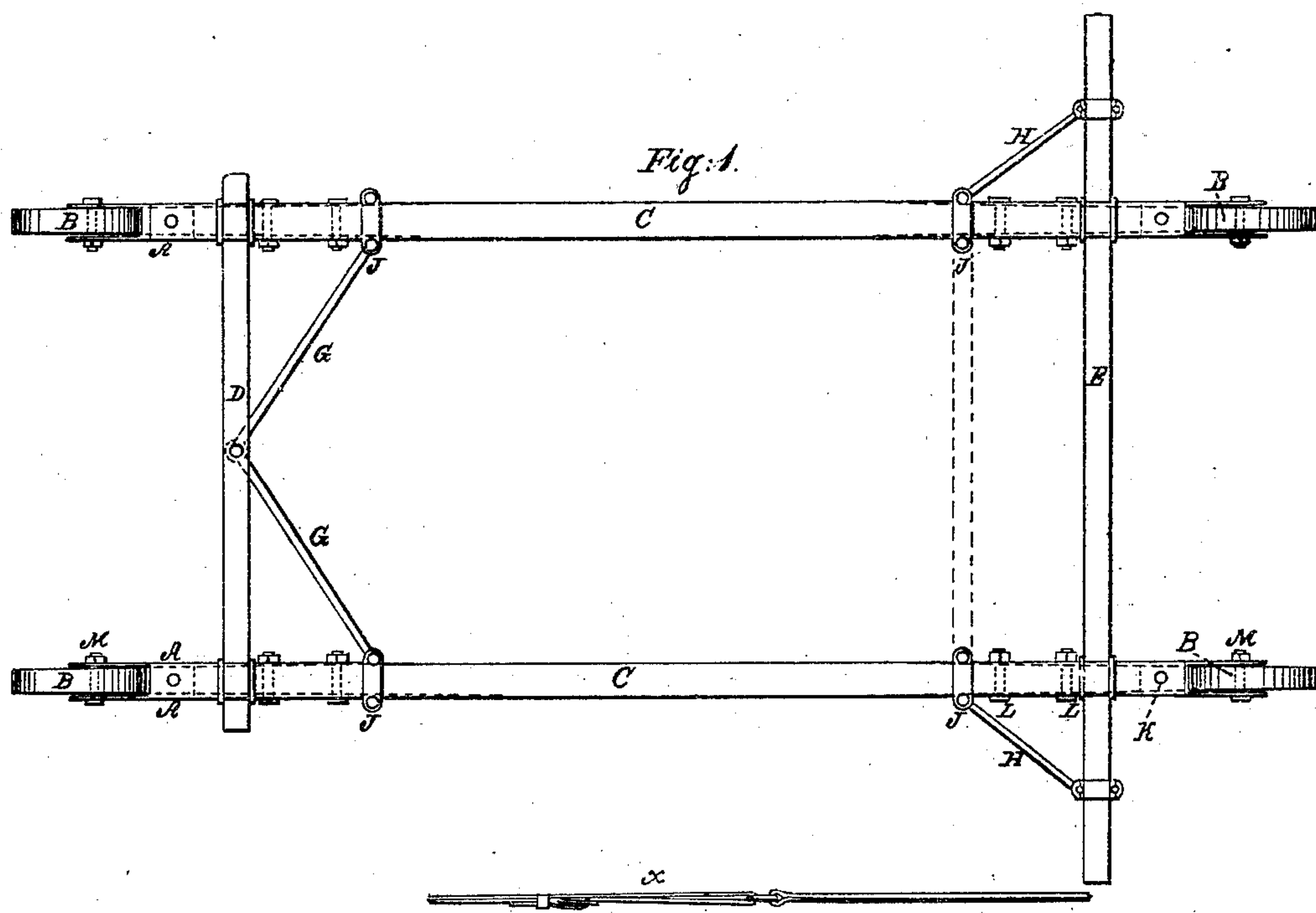


J. BALBACH.
Carriage Spring.

No. 86,348.

Patented Feb. 2, 1869.



Witnesses;
John L. Boone
Geo. H. Strong

Inventor;
Jno. Balbach
by his attys.
Dewey & Co.



JOHN BALBACH, OF SAN JOSÉ, CALIFORNIA.

Letters Patent No. 86,348, dated February 2, 1869.

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, JOHN BALBACH, of San José, county of Santa Clara, State of California, have invented an Improved Carriage-Spring; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvements without further invention or experiment.

My invention relates to an improvement in carriage-springs; and

It consists in a single leaf without any holes in it, so attached to the reaches, and supported by standards or braces, that in combination with the straps which support the carriage-body, it forms a perfectly-easy spring, and without any strain on the reaches.

To more fully illustrate my invention, reference is had to the accompanying drawings, and letters marked thereon, forming part of this specification, of which—

Figure 1 is a plan of my invention, showing the relative position of the springs.

Figure 2 is a side elevation of the same.

Similar letters of reference in each of the drawings indicate like parts.

A A are the iron standards, or braces, which may be curved, as shown, or constructed in any convenient form, one end of each being firmly fastened to the ends of the reaches C C, by bolts L L.

The curved steel springs B are connected to the standards A, at their upper ends, by means of the bolts M M.

The lower ends of the springs are fastened to the lower part of the standards A or to the reaches, by the bolts K K, which may also serve to fasten the ends of the bearing-straps F F, as shown.

These straps may be made tight at any time by a turn-buckle, a common buckle, or other convenient device.

The cross-bar D and the axle-bed E are fastened to opposite ends of the reaches by clips.

The braces G G are fastened to the reaches C by clips J, and run down to the lower part of the king-bolt in the centre.

The braces H H are also fastened to the reaches, and to the axle-bed E by clips.

The carriage-body being fastened to the supporting-straps, the whole is ready for use.

The advantages of this construction are evident.

As the springs B are attached to each end, and of a peculiar curve, any strain or weight is distributed in such a manner as to bend the spring evenly, and without any of the unpleasant jarring movements often felt.

By the use of the standards A A, all the strain is taken from the reaches and transferred to the springs B, while the whole arrangement forms a peculiarly light and ornamental device for a carriage-spring.

Having thus described my invention,

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

The adjustable thorough-brace F, right and left-hand screw-bolt L, spring B, and fixed standard A, combined and arranged substantially as described for the purpose set forth.

In witness whereof, I have hereunto set my hand and seal.

JOHN BALBACH. [L. S.]

Witnesses:

J. L. BOONE,

GEO. H. STRONG.