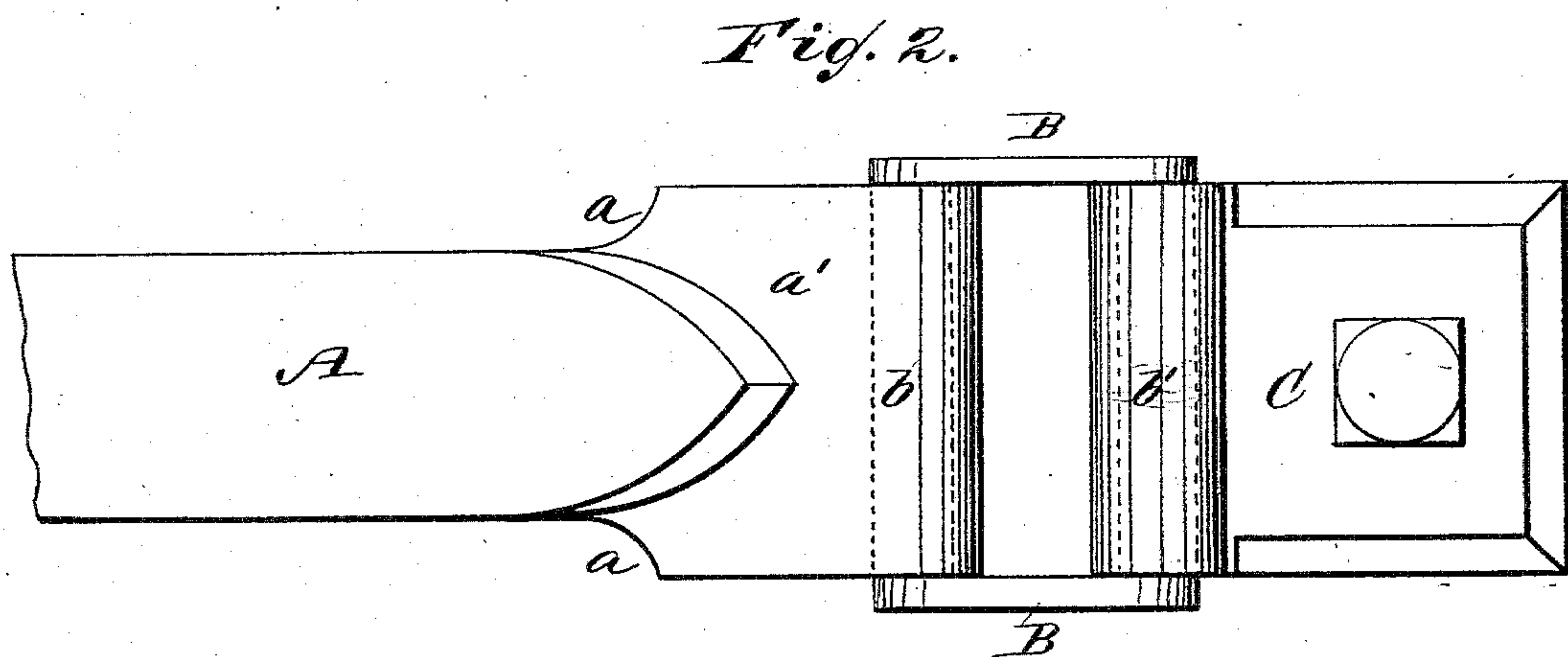
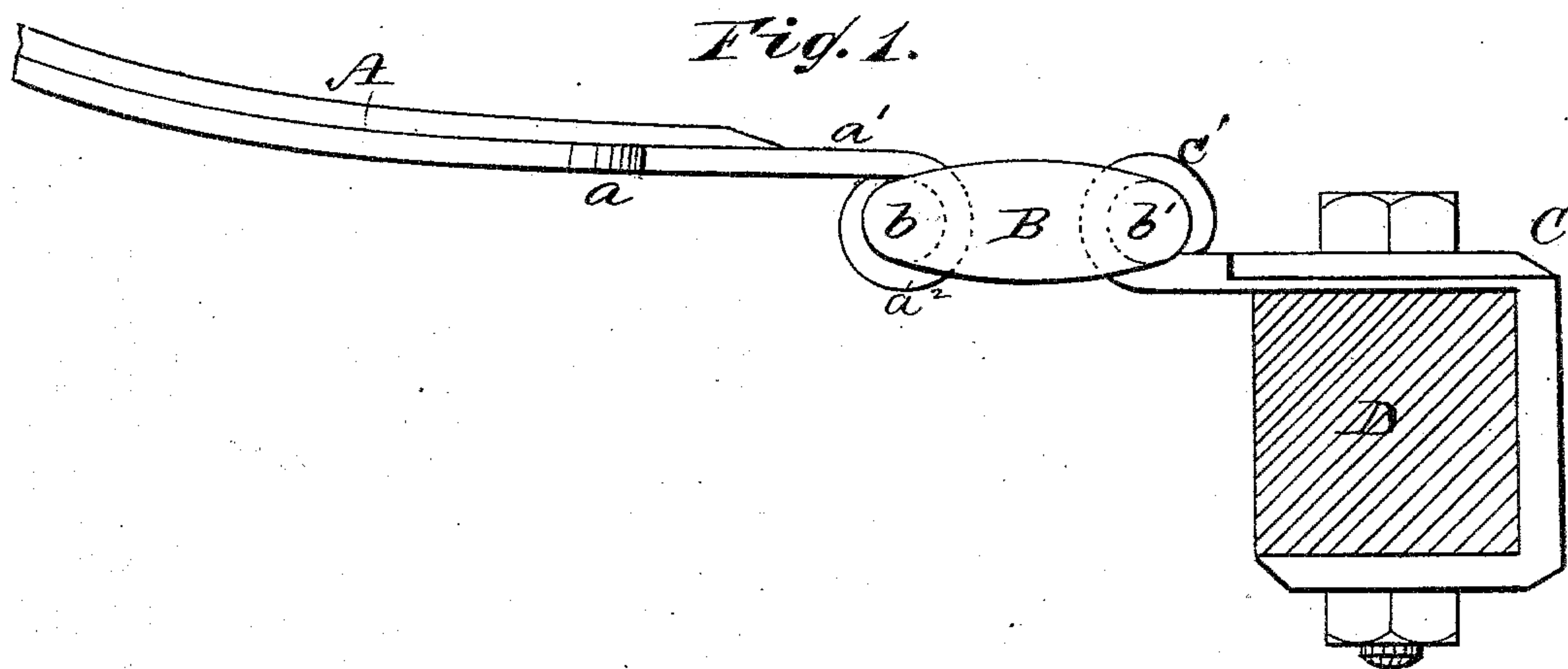


(No Model.)

A. P. MARSHALL.
SIDE SPRING CARRIAGE.

No. 303,024.

Patented Aug. 5, 1884.



WITNESSES:

Thos. G. Hoar
L. Sedgwick

INVENTOR:

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UNITED STATES PATENT OFFICE.

ANTIPAS P. MARSHALL, OF LANCASTER, NEW HAMPSHIRE, ASSIGNOR TO
HIMSELF AND GEORGE R. EATON, OF SAME PLACE.

SIDE-SPRING CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 303,024, dated August 5, 1884.*

Application filed March 20, 1883. (No model.)

To all whom it may concern:

Be it known that I, ANTIPAS P. MARSHALL, of Lancaster, in the county of Coos and State of New Hampshire, have invented a new and useful Improvement in Side-Spring Carriages, of which the following is a full, clear, and exact description.

It is generally admitted that carriages the bodies of which are supported on side springs are much easier-riding vehicles than other carriages which have their bodies differently supported; nevertheless there has always been a great objection to side-spring carriages, owing to their liability to sway or swing sidewise, and much time, labor, and money have been expended, without success, to overcome this defect. Such imperfection has been mainly or wholly due to the insufficient bearings of the side springs at their ends, said springs, which should be of such weight and dimensions as will give the necessary flexibility with a due regard to strength, having heretofore been of the same width at their end as throughout their whole length or bodies; and said springs, by reason of the narrowness of their end bearings, have caused the body of the carriage to swing or sway laterally. My invention accomplishes the desired result without of necessity, materially or at all increasing the weight of the springs and without impairing their elasticity, while maintaining or adding to their strength and augmenting their durability. I support the body of the carriage on side springs which have their ends extended or spread out laterally relatively to the bodies or main portions of the springs, and combine such springs with links of correspondingly-increased width, and with shackles to conform, thereby giving bearings of increased width to the ends of the springs, substantially as hereinafter described.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

As my invention is intended to be applied in the usual manner to side-spring carriages of the ordinary construction, all the details of which are well known to persons skilled in

the art, I have not deemed it necessary to represent in the drawings a complete vehicle; but I have confined myself to showing only the portions of the carriage to which my invention is directly applied—namely, the spring ends and their attachments.

Figure 1 represents a side elevation, in part section, of a portion of a side-spring carriage, showing the end of one of the side springs with its attached link and carrying clip or shackle and cross-bar in accordance with my invention; and Fig. 2 is a plan of the same.

A in the drawings indicates the spring or lower leaf thereof, of the usual width and thickness throughout its length or body portion, but extended or spread out laterally, as at *a*, to give either end *a'* of the spring considerably greater width than the body thereof. The spring A is made up and attached to the body and other parts of the carriage in the usual manner.

B is the ordinary connecting-link, but of greater width than usual, to conform to the increased width of the end *a'* of the spring; and C is the usual shackle, by which the spring is carried at its end, of like increased width to correspond. Said spring, link, and shackle are jointed together, as at *b b'*, in the usual manner.

D is the ordinary cross-bar of the carriage to which the shackle C is attached. This construction gives such an increased bearing for the spring on the link and shackle (without increasing the weight, or at least perceptibly so) that side sway of the carriage is entirely overcome, and the end bearings for the spring, by reason of their increased width, are made much more durable, and a substantial and stylish appearance is obtained, while as a general result of my invention a much more desirable, more steady, and easier-riding vehicle is produced than any side-spring carriage heretofore made.

I am aware that it is not new, broadly, to make the ends of a spring wider than the middle portion; and I therefore lay no claim to such invention.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a side-spring vehicle, the combination, with the shackles C, bolted to the cross-bars D of the frame, and provided with eyes C', and link B, provided with cross-bars $b\ b'$, of
5 the lower leaf, A, of the side spring provided with the widened ends a' , of equal thickness throughout, and bent to form a single continuous eye, a^2 , at each end of the leaf, to receive
10 the cross-bars b of the links, the eye of the shackle being of the same width as the eye of

the leaf A, substantially as shown and described, whereby an increased bearing for the spring on the link and shackle is produced, and the sidewise swing of the body of the vehicle is prevented, as set forth.

ANTIPAS P. MARSHALL.

Witnesses:

F. D. HUTCHINS,

JERRIE H. PLAISTED.