

No. 615,873.

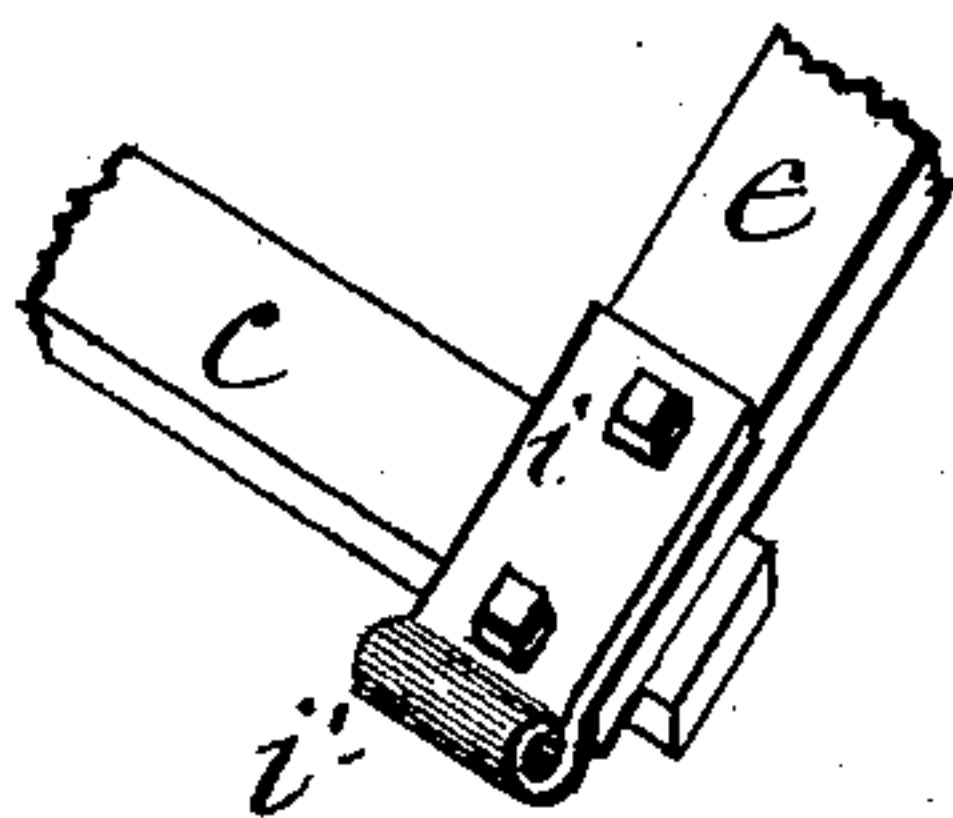
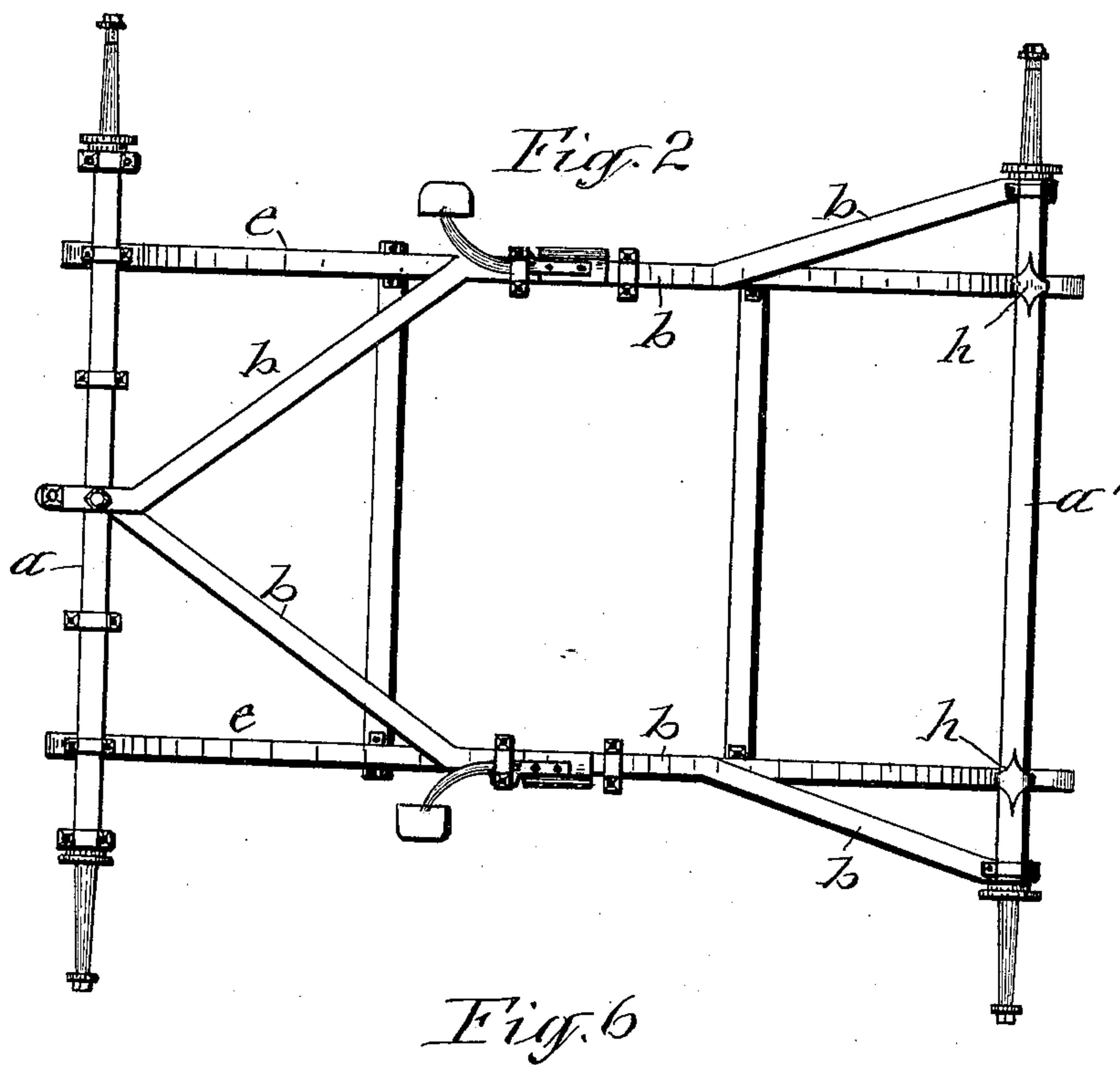
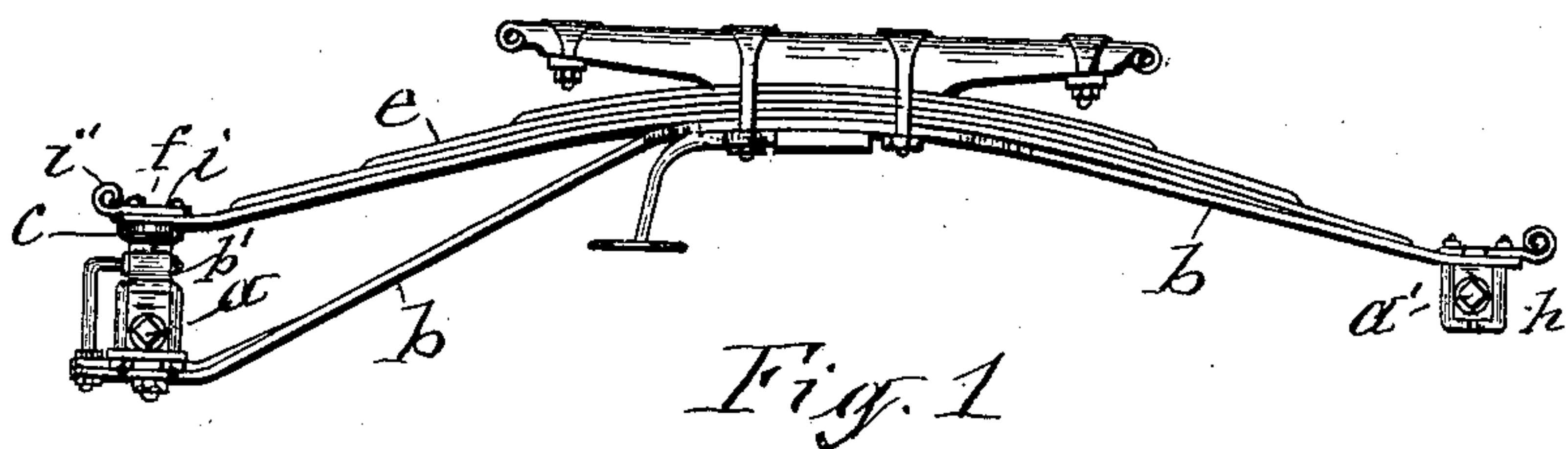
Patented Dec. 13, 1898.

H. A. MOYER.
SPRING VEHICLE.

(Application filed Nov. 17, 1897.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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M. H. Leyden.

INVENTOR

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his ATTORNEY

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2 Sheets—Sheet 2.

Fig. 4

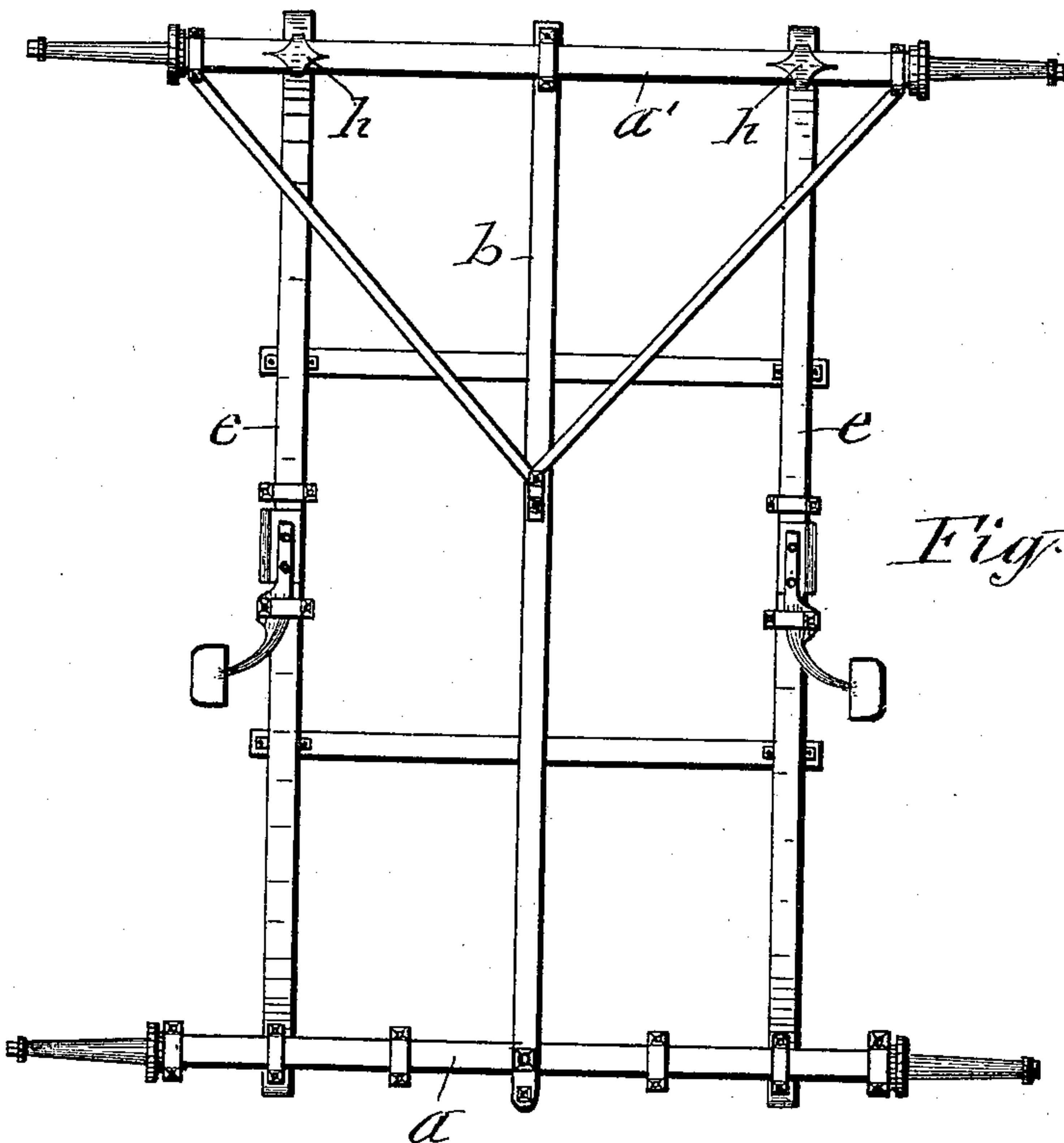
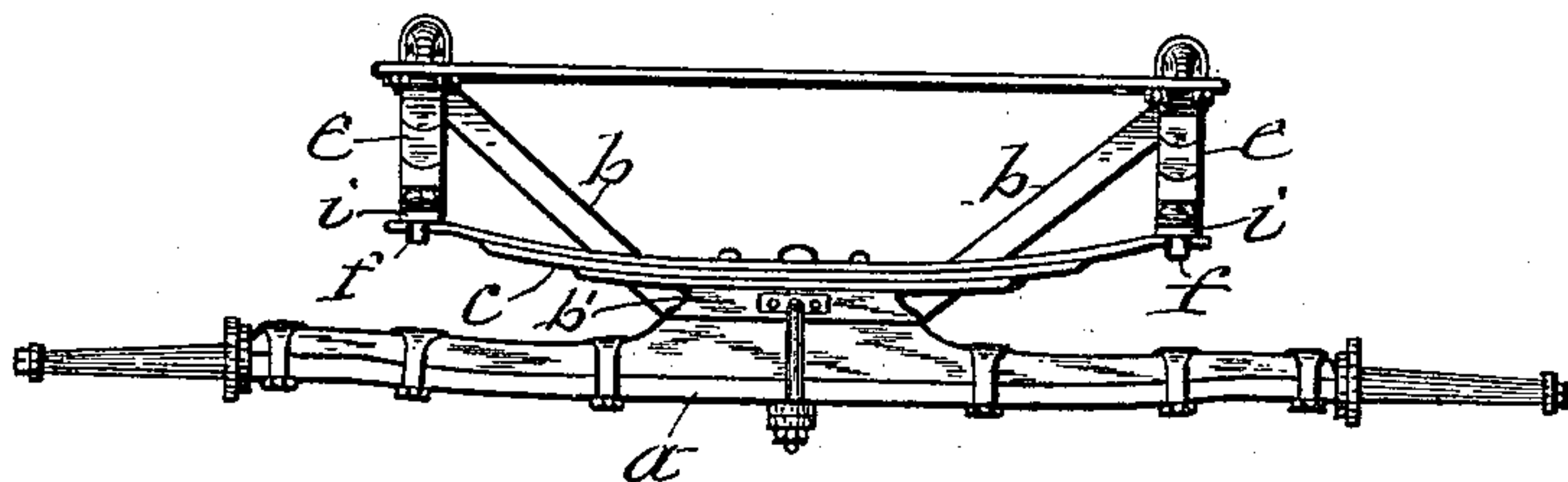


Fig. 3

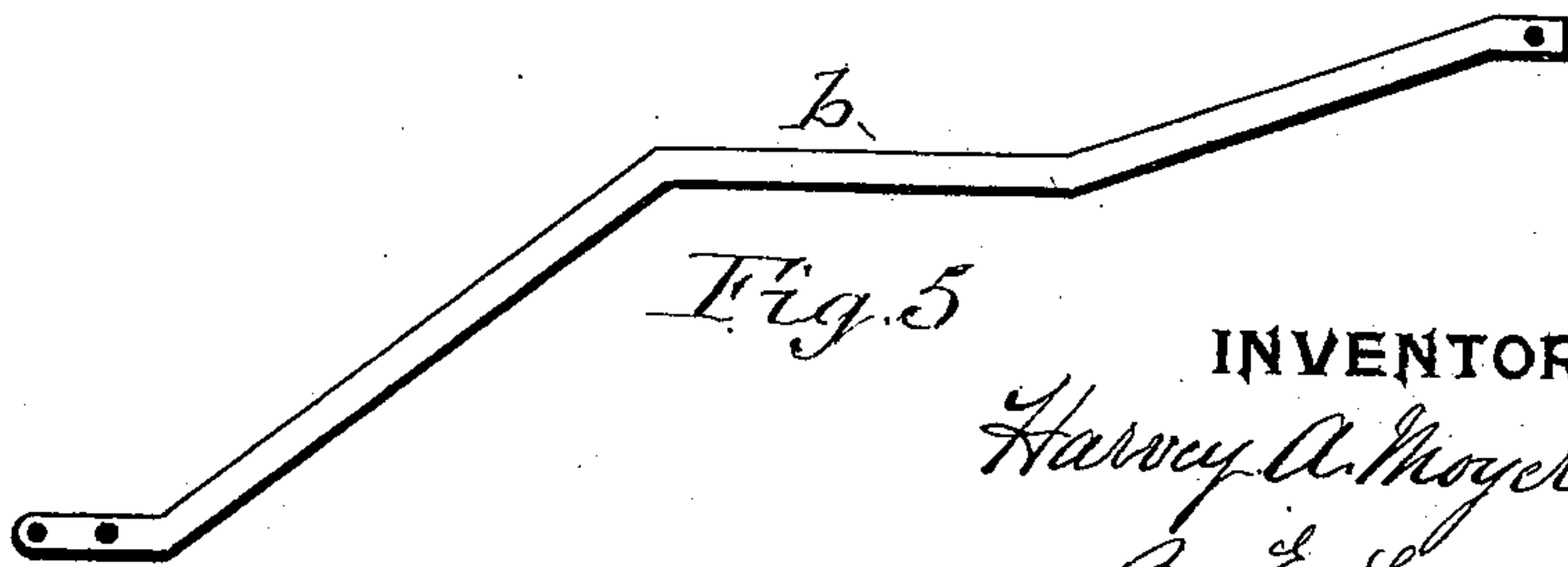


Fig. 5

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UNITED STATES PATENT OFFICE.

HARVEY A. MOYER, OF SYRACUSE, NEW YORK.

SPRING-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 615,873, dated December 13, 1898.

Application filed November 17, 1897. Serial No. 658,801. (No model.)

To all whom it may concern:

Be it known that I, HARVEY A. MOYER, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Spring-Vehicles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the spring-vehicle shown in my Letters Patent No. 396,223, dated January 15, 1889, and to analogous vehicles in which the body is supported upon the central portions of side springs.

The object of the invention is to firmly, safely, and neatly secure the front ends of the side springs to the ends of a spring head-block, the elasticity of which partly relieves the side springs from strain and longitudinal distension when subjected to a load, the essential feature residing in the special means for securing the side springs to the spring head-block; and to that end the invention consists in the combination, with the front and rear axles and vehicle-body, of a spring-metal head-block, two side springs connected at their ends to the rear axle and ends of the head-block, two spring-metal reaches secured at their rear ends to the end portions of the rear axle and extending therefrom, with their central portion parallel to said side springs and secured to the under sides thereof and having their front ends terminated at the center of the front axle, and the king-bolt passing through said head-block, latter axle, and reaches.

In the accompanying drawings, Figure 1 is a side view of my invention. Figs. 2 and 3 are inverted plan views showing my invention in connection with spring-reaches of different forms. Fig. 4 is a front view of my invention. Fig. 5 is a detached plan view of one of said reaches, and Fig. 6 is an enlarged detached perspective view of the front end portion of one of the side springs mounted on the end of the spring head-block.

Similar letters of reference indicate corresponding parts.

a and *a'* denote, respectively, the front and rear axles, which are connected by spring-metal reaches *b*. These reaches may be of any suitable shape to afford a longitudinally-

yielding connection between the front and rear running-gear.

Fig. 2 shows the employment of two reaches, shaped as more clearly shown in Fig. 5 of the drawings and similar to those shown in my prior Letters Patent, No. 396,223, dated January 15, 1889, and Fig. 3 shows the running-gears connected by a single reach *b*.

c represents a spring head-block, which is of the form of a centrally-depressed cross-spring, secured at its central portion to a wooden bolster *b'*, mounted on the front axle and connected thereto by the king-bolt.

e e are the side springs, which are mounted at their ends directly upon the ends of the aforesaid spring head-block and upon the rear axle and are rigidly attached to said parts by means of clips *f*, placed across the under side of the head-block and having their shanks gripping the edges of said head-block and passing up through the overlying end portions of the side springs, and by clips *h*, embracing the rear axle and passing with their shanks through the overlying ends of the side springs, each of said clips being provided on the upper ends of its shanks with nuts by which the embraced parts are firmly clamped together. By employing the aforesaid clips I obviate perforating and weakening the parts united by the clips. In order to stiffen the end portions of said side springs and to enable the clips to more firmly clamp said parts of the springs to their seats, so as to effectually prevent rattling of the same, I place directly upon the end portions of the springs reinforcing-plates *i*, of stiff metal, which receive the shanks of the clips through them and form the bearings for the nuts of said clips. Said plates extend sufficiently in front and rear of the head-block and front and rear of the rear axle to thoroughly brace the end portions of the spring and form firm bearings for the nuts of the clips, which nuts are thus less liable to work loose. The plates *i* project at the ends of the spring and are formed with scrolls *i'* or other suitable ornamental heads on their front ends to impart a finished appearance to the said ends of the springs.

When the reaches are of the shape shown in Fig. 5 of the drawings, I attach them at the central portion of their length to the under

sides of the side springs, as shown in Fig. 2 of the drawings and in my Letters Patent hereinbefore referred to.

What I claim as my invention is—

5 1. The combination with the spring head-block and side spring mounted on said head-block, of a reinforcing-plate placed lengthwise directly upon the end portion of the side spring and extending beyond the front and
10 rear edges of the head-block and a clip disposed astride the under side of the head-block and having its shanks gripping the edges of the head-block and passing through the side spring and superposed plate and nuts on the
15 protruding ends of said shanks and clamping the side spring between the head-block and aforesaid plate as set forth.

2. The combination with the rear axle and spring head-block, of side springs mounted directly upon the tops of said axle and head- 20 block, clips placed astride the under sides of the head-block and axle and reinforcing-plates mounted directly upon the end portions of the side springs and receiving through them the shanks of the clips and nuts on said shanks 25 clamping the parts together as set forth and shown.

In testimony whereof I have hereunto signed my name this 10th day November, 1897.

HARVEY A. MOYER. [L. S.]

Witnesses:

J. J. LAASS,

H. B. SMITH.