

(No Model.)

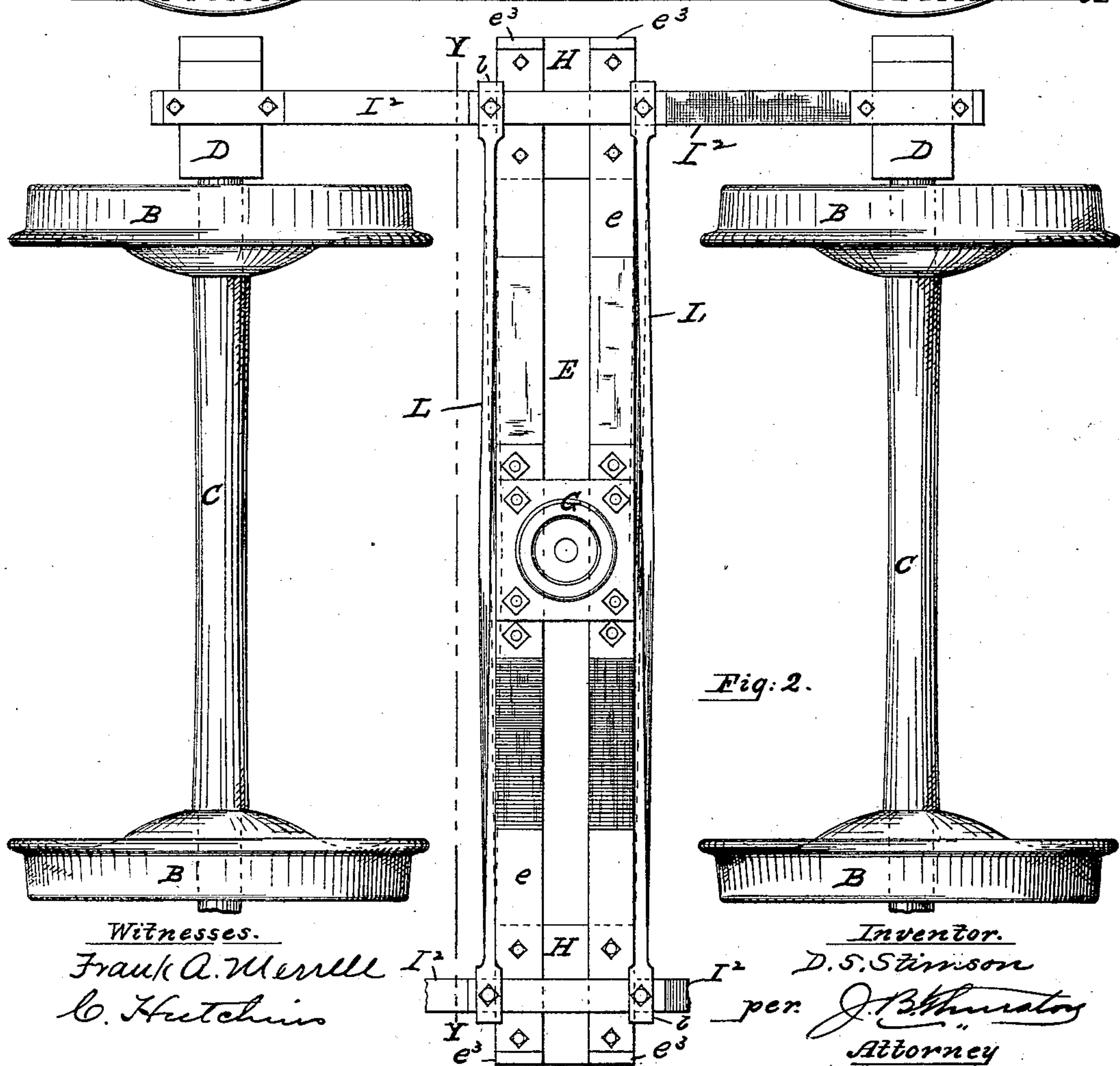
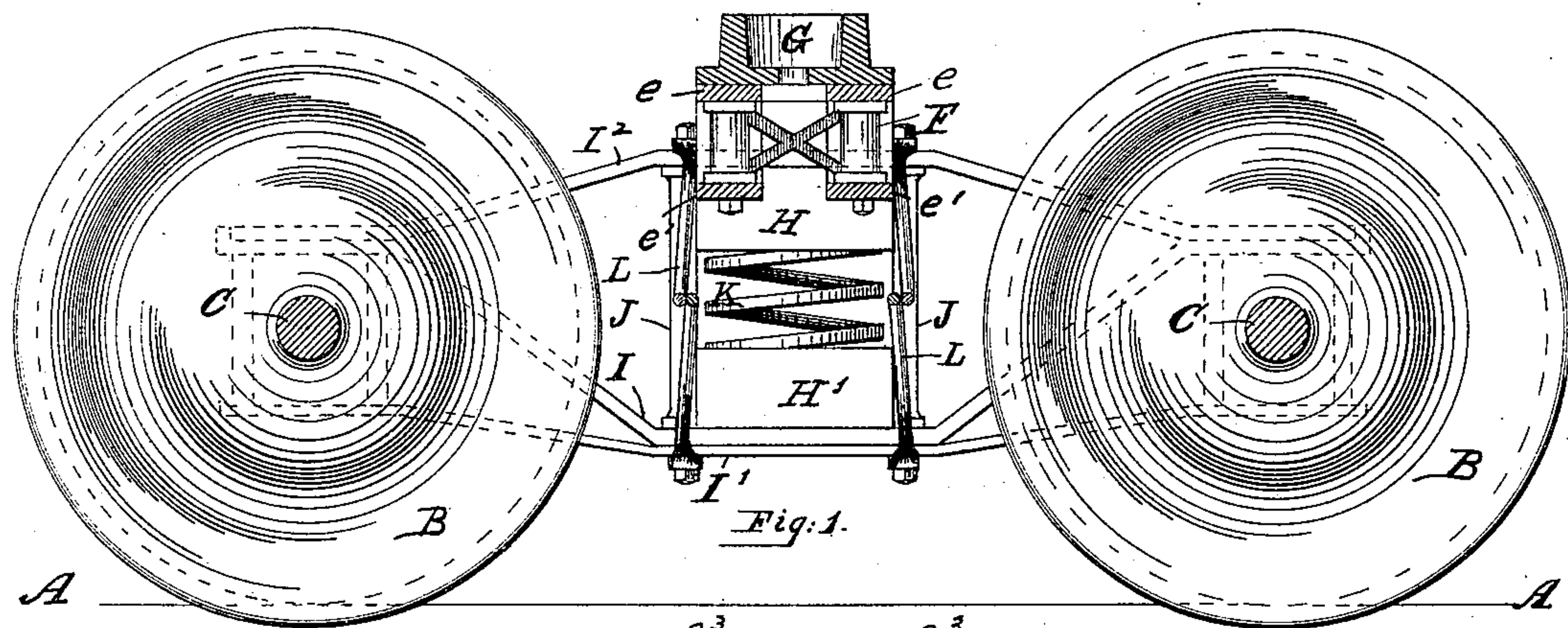
2 Sheets—Sheet 1.

D. S. STIMSON.

CAR TRUCK.

No. 304,372.

Patented Sept. 2, 1884.



Witnesses.  
Frank A. Merrill  
C. Hutchins

Inventor.  
D. S. Stimson  
per J. B. Hutchinson  
Attorney

(No Model.)

2 Sheets—Sheet 2.

D. S. STIMSON.

CAR TRUCK.

No. 304,372.

Patented Sept. 2, 1884.

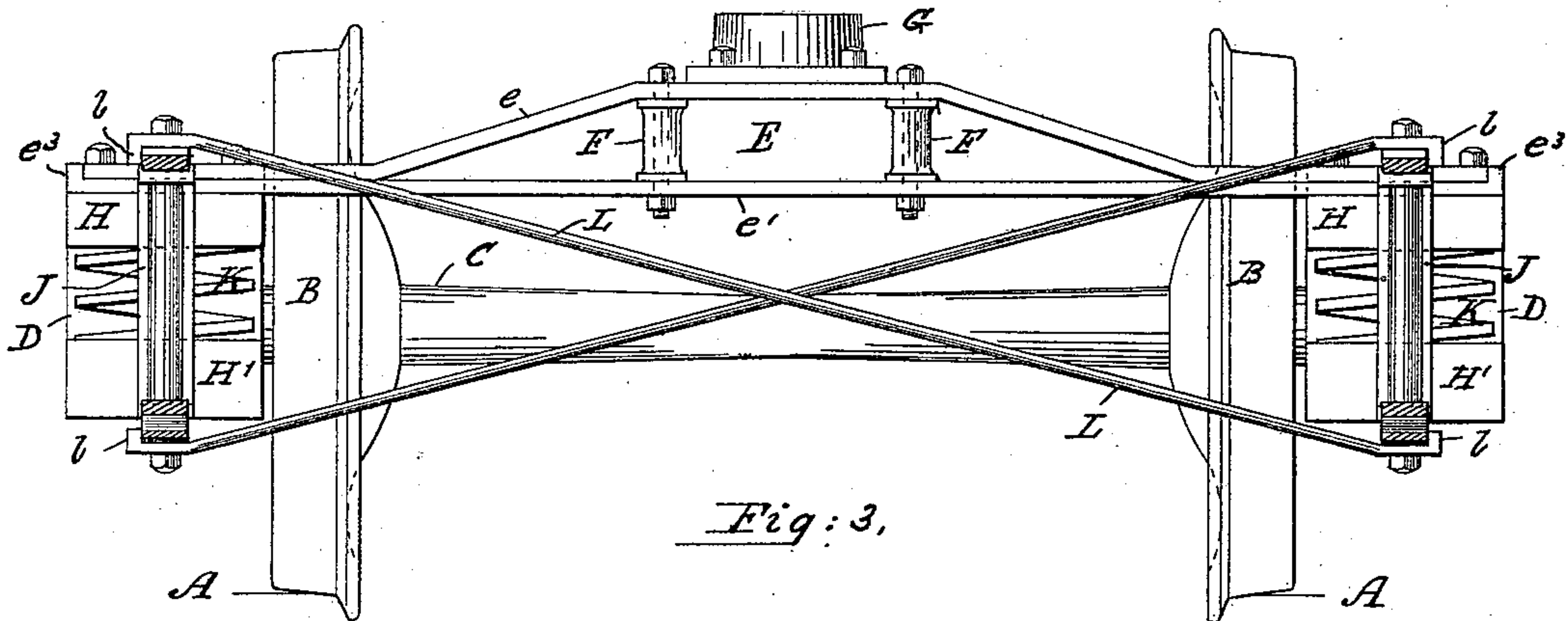


Fig: 3.

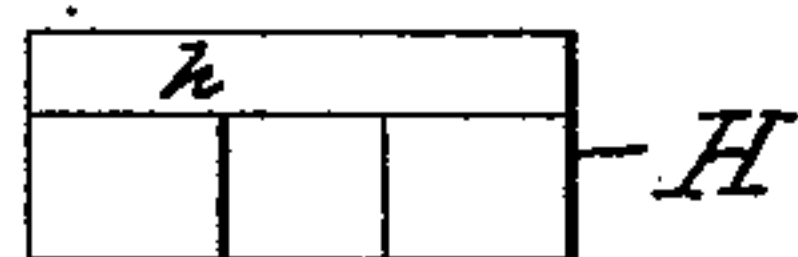


Fig: 4.

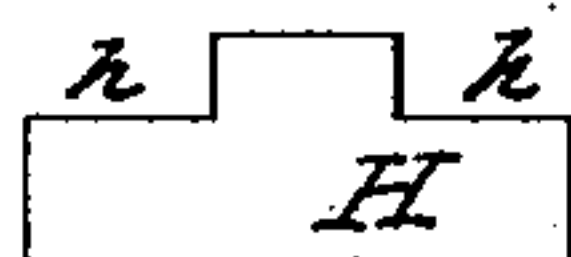


Fig: 5.

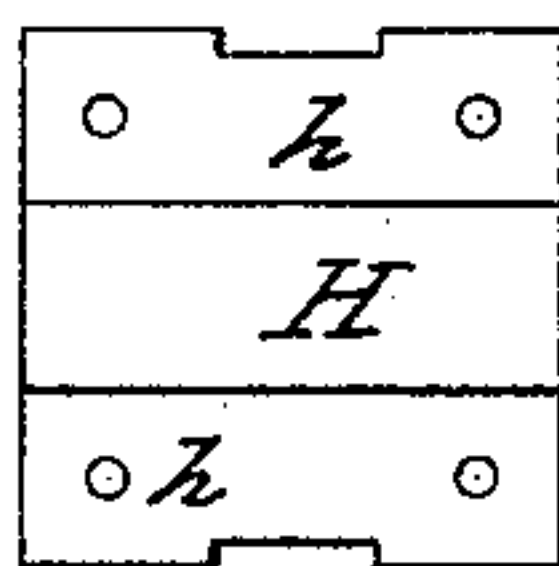


Fig: 6.

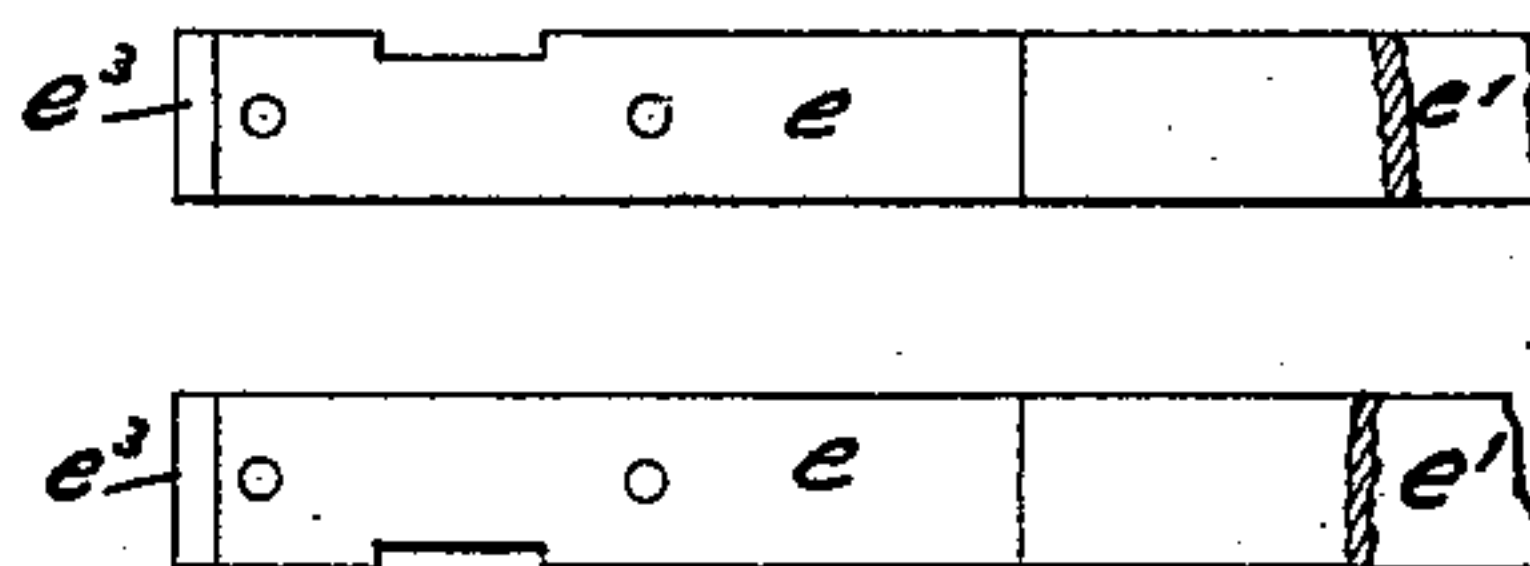


Fig: 7.

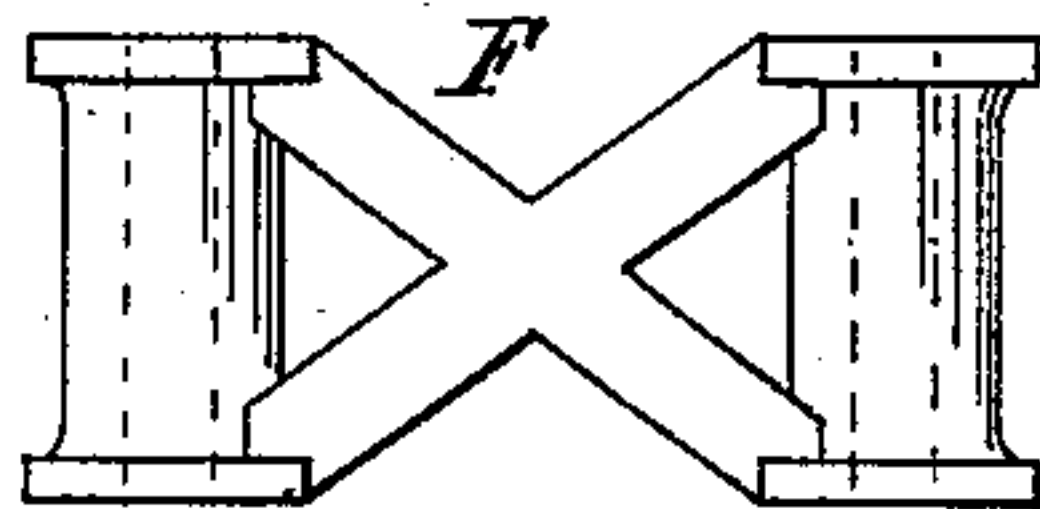


Fig: 8.

Witnesses

J. A. Merrill  
C. Hutchins.

Inventor

D. S. Stimson

per J. B. Thurston  
Attorney.



# UNITED STATES PATENT OFFICE.

DAVID S. STIMSON, OF CONCORD, NEW HAMPSHIRE.

## CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 304,372, dated September 2, 1884.

Application filed May 1, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID S. STIMSON, a citizen of the United States, residing at Concord, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Car-Trucks, of which the following is a clear and exact description.

My improvements apply to what is known as the "Diamond Truck," and relate particularly to the spring-bolster and certain devices for preventing the same from twisting.

The nature of said improvements is clearly shown in the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures, of which—

Figure 1 is a sectional elevation of a truck complete. Fig. 2 is a sectional plan view of the same, Fig. 3 being a cross-section at Y Y of Fig. 2. Fig. 4 represents an end view of one of the upper spring-blocks. Fig. 5 is a side view of the same; Fig. 6, a plan of the same. Fig. 7 is a sectional plan view showing the ends of the four truss-rods separated as required when in position upon the spring-blocks. Fig. 8 is a side view of one of the braces which support the upper truss-rods upon the lower.

A represents the rail, upon which are placed the wheels B, mounted upon axles C, and provided with ordinary journal-boxes, D.

In place of the wooden center beam or bolster commonly used in this style of truck, I substitute a wrought-iron truss, E, composed of the arch-bars *e* and the straight bars *e'*, which are placed one above the other, as shown in Fig. 3, to wit: the arch-bars *e* are placed side by side and separated one from the other about four inches (more or less) and above the straight bars *e'*, and supported by suitable braces, F, formed of cast-iron, and each secured to and between the arch-bars *e* and straight bars *e'* at either side of the center plate, G, (which is bolted to the bars *e*, as shown in Fig. 3,) by bolts passing through the bars *e e'* and said braces F. The ends of the bars *e'* are turned or bent up at right angles, as seen at *e''*, for the purpose of forming stops against which the ends of the arch-bars *e* may bear, and both said bars are then united and secured by suitable bolts to the top of the spring-blocks H,

having groove *h* at either end, of sufficient width and depth, as seen at Figs. 4, 5, and 6, to sink said bars *e e'* flush with the top of said blocks H. The lower spring-blocks, H', rest upon the arch-bars I I', to which they are properly secured. The spring-blocks H H' are each provided with suitable slots or grooves, *h''*, at their ends, as seen in Figs. 4 and 6, running vertically, for the reception of the guide-bars J, which are placed, in the usual manner, between the arch-bars I I', and by which said spring-blocks H are guided in their vertical movement upon the intermediate springs, K, placed between said spring-blocks H H'. The bars composing the truss E are also grooved at the proper point for the reception of said guide-bars J, as seen best in Fig. 7, corresponding with the grooves *h''* in the spring-blocks, by which construction the sliding friction created by the load carried by the truss E, acting upon the springs K, will be distributed between the truss E and the guide-bars J—iron vs. iron. The arch-bars I<sup>2</sup> pass directly over the spring-blocks H and the ends of the truss E fastened thereto, and therefore limit the expansive action of the springs K upon the spring-blocks H when a car is not loaded. The journal-boxes D are carried, in the usual manner, by arch-bars I I' I<sup>2</sup>. In order to brace said arch-bars and hold them at all times as nearly as possible square or at right angles with the truss E, stay-rods L are used, of which there are four in number, two of which pass from the arch-bars I I' at one side of the truck (one on either side of the truss E) to the arch-bar I<sup>2</sup> at the other side, and the other two stay-rods L pass from the arch-bar I<sup>2</sup> on the side of the truck first above mentioned to the arch-bars I I' on the opposite side. Thus said stay-rods L cross each other, as seen in Figs. 2 and 3. These rods L may be formed of round iron, the ends being spread or flattened sufficiently to receive the bolt which unites said rods L with the arch-bars I I' I<sup>2</sup> and the guide-bars J, and the extreme ends will be bent over at right angles, as seen at *l*, similar to those formed on the ends of the bars *e*, forming part of truss E, thus lapping over the arch-bars I' I', and adding materially to their strength, as well as aiding in the accomplishment of the purpose for which said rods L are provided.



I am aware of United States Patents No. 150,908, dated May 12, 1874, and No. 291,382, dated January 1, 1884, the former relating to devices for bracing car-trucks, such braces, however, being confined exclusively to rigid trucks, such as are used on horse-cars, inasmuch as said braces are attached to and connect either side of the truck with the sill of the car on the opposite side thereto.

10 The next patent above referred to relates to an iron bolster substituted for the wooden bolster in common use, and with the said iron bolster the ordinary spring-plank is still an essential feature.

15 It is obvious that by using the stay-rods L L, hereinbefore described, in connection with the iron truss, I am enabled to dispense with both the wooden bolster and spring-plank. Therefore,

20 Having described my invention, and in view of the previous state of the art as disclosed in the above-named patents, what I claim is—

1. The stay-rods L L, extending crosswise of a truck, upon either side of the spring-bolster or center truss thereof, substantially in

the manner shown, and connecting the arch-bars in the manner shown and described, and secured to said bars by bolts passing through the guide-bars J, operating as and for the purpose specified.

2. In a car-truck constructed of the parts substantially as described, the combination, with the arch-bars I I' I<sup>2</sup> and the guide-bars J, of the stay-rods L and means for connecting them together, substantially as described, and for the purpose set forth.

3. In a car-truck, the combination, substantially as set forth, of the all-metal center truss, composed of the bars e e', and braces F, and the spring-blocks H, united together substantially as described, and fitted to slide vertically between the guide-bars J, the spring-blocks H, intermediate springs, K, arch-bars I I' I<sup>2</sup>, boxes D, bolts for connecting them, and the axles and wheels, as and for the purpose specified.

DAVID S. STIMSON.

Witnesses:

J. B. THURSTON,  
NATHANIEL E. MARTIN.