

(No Model.)

2 Sheets—Sheet 1.

J. S. HARDIE.  
METALLIC CAR TRUCK.

No. 569,044.

Patented Oct. 6, 1896.

Fig. 1

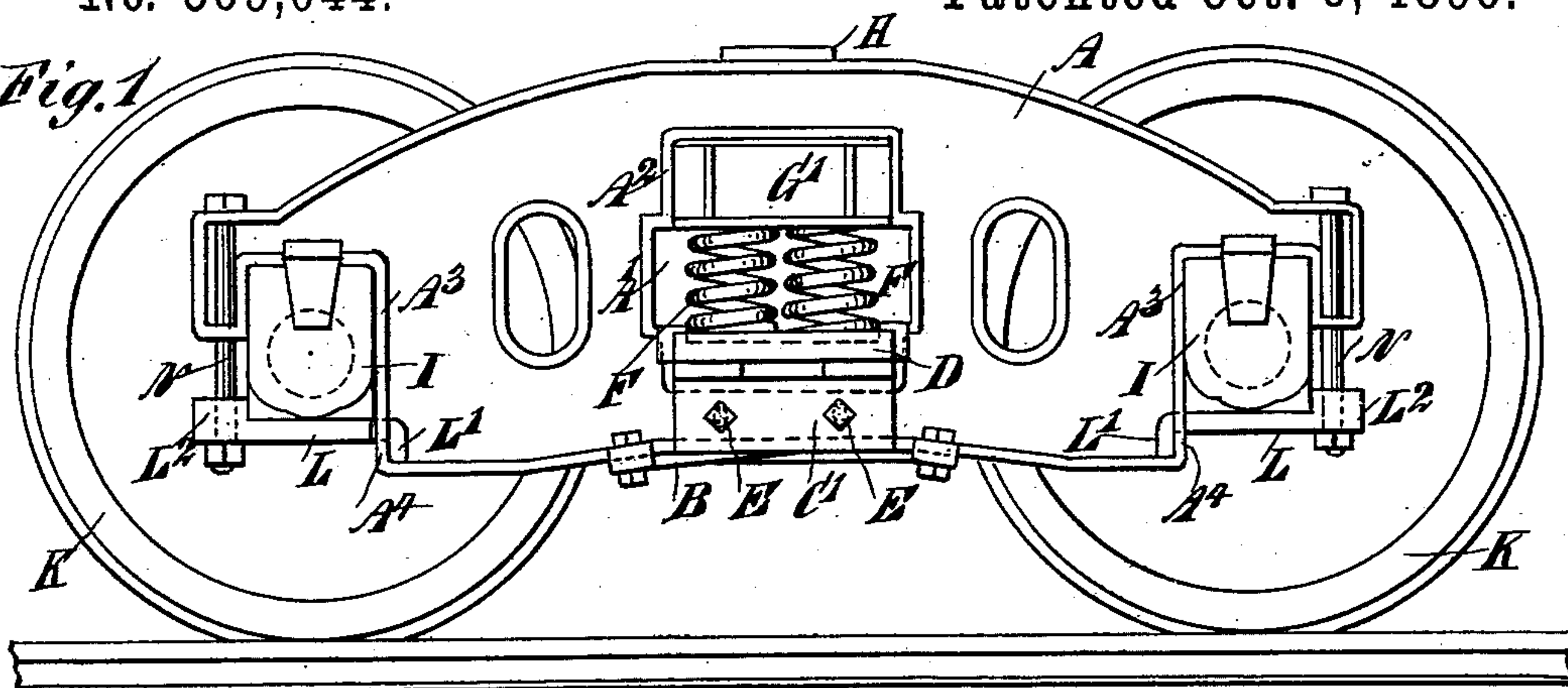
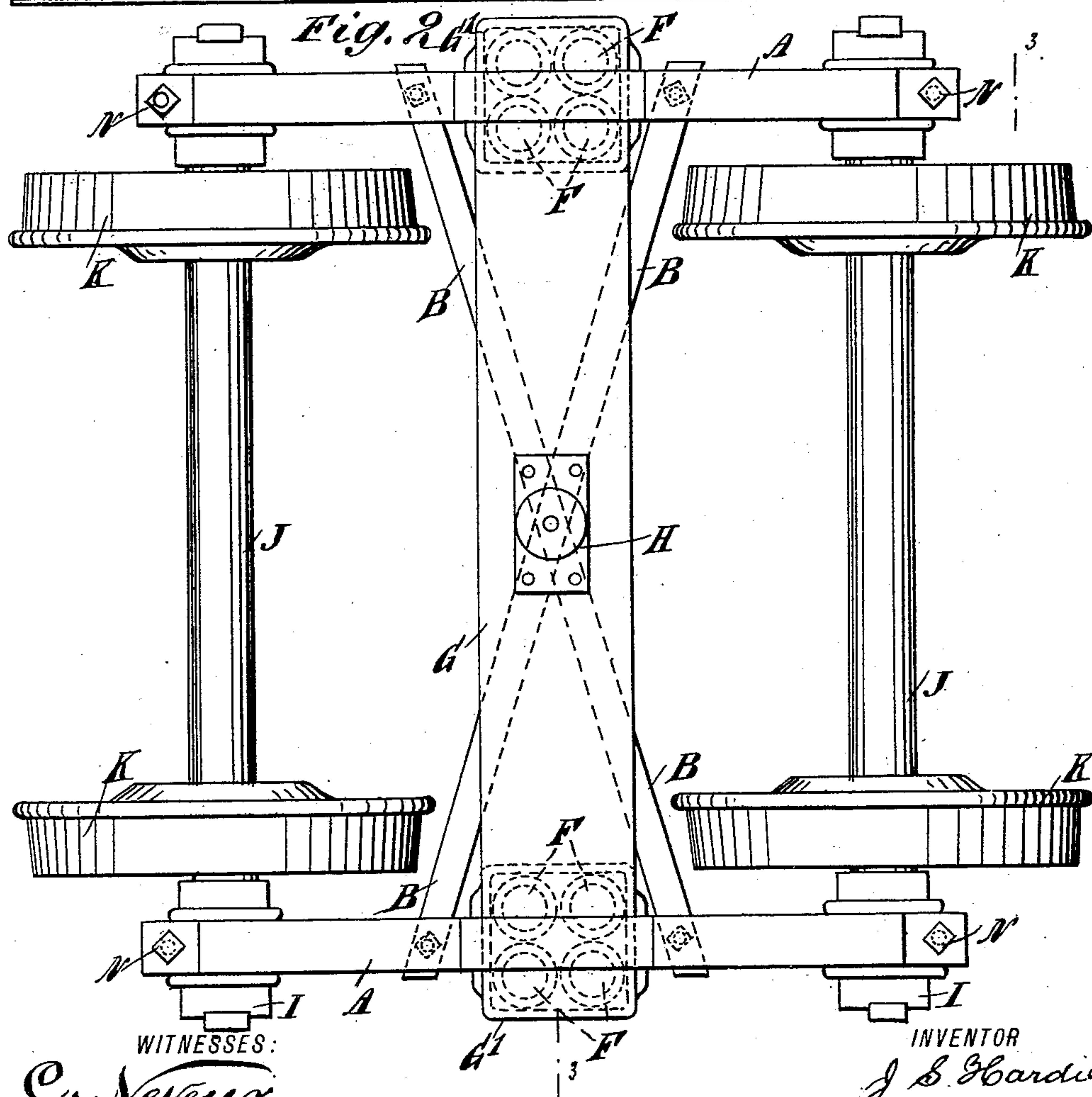


Fig. 2



WITNESSES:

C. Neveu  
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INVENTOR

J. S. Hardie  
BY *[Signature]*

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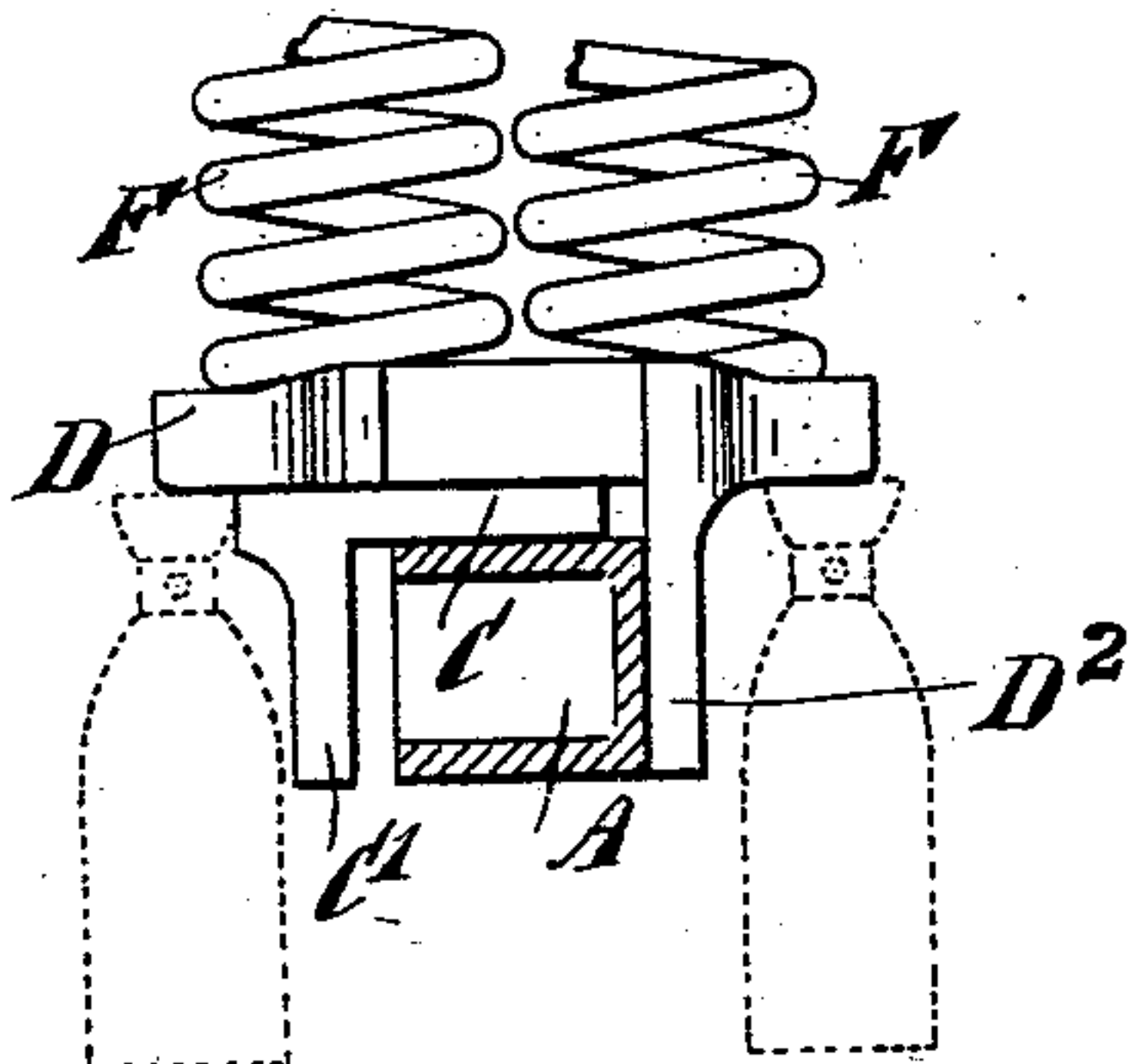
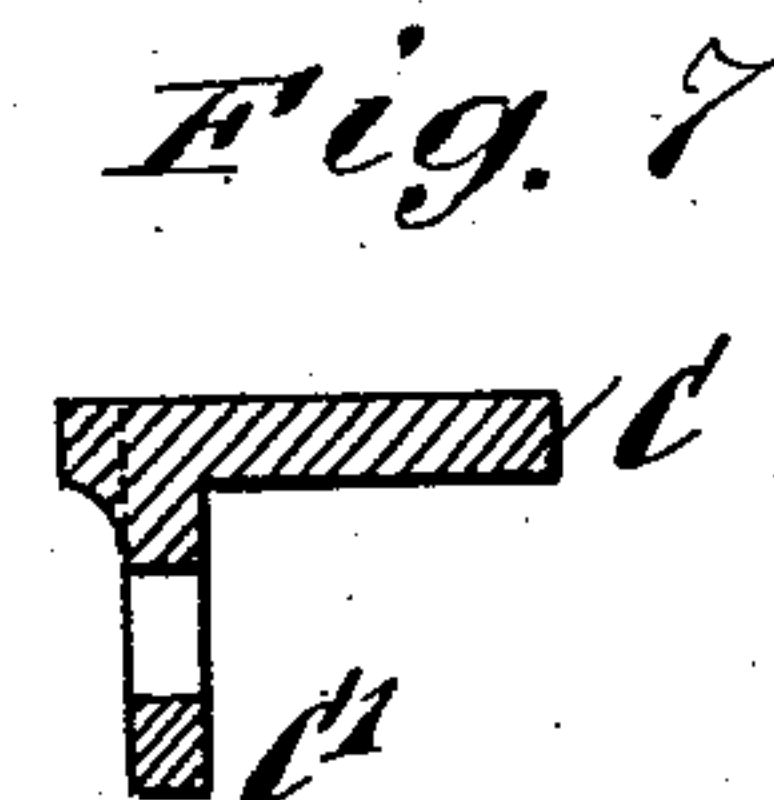
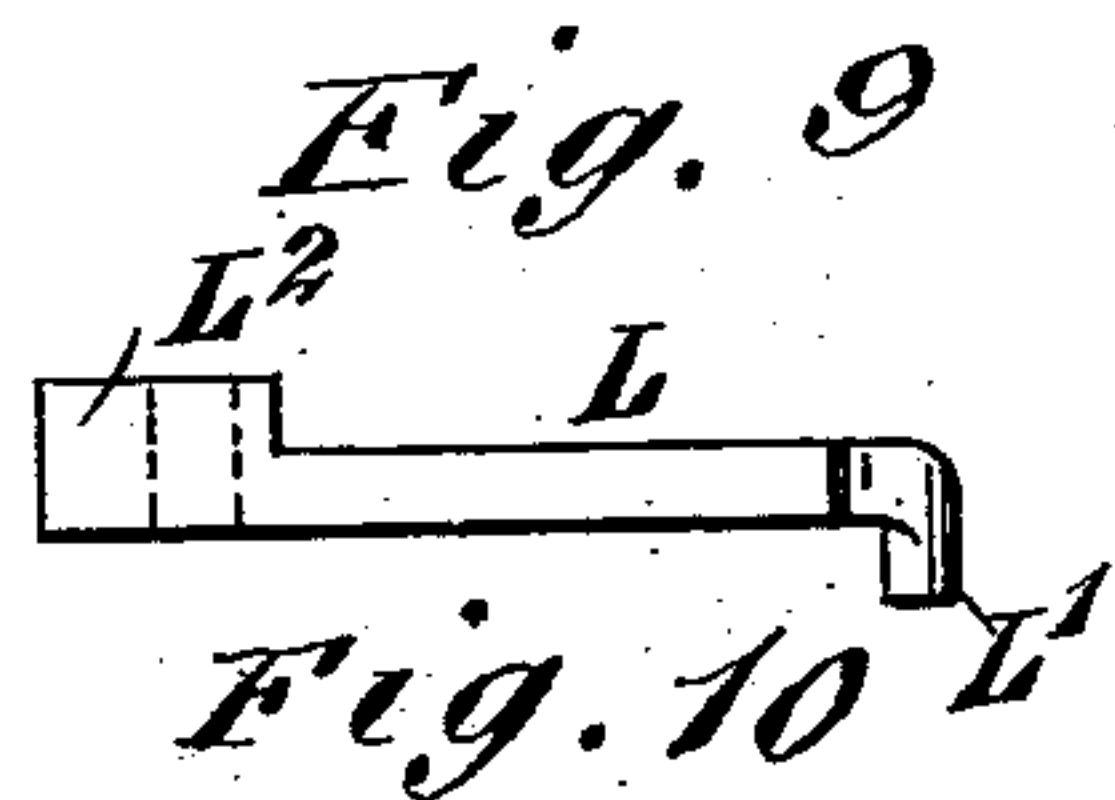
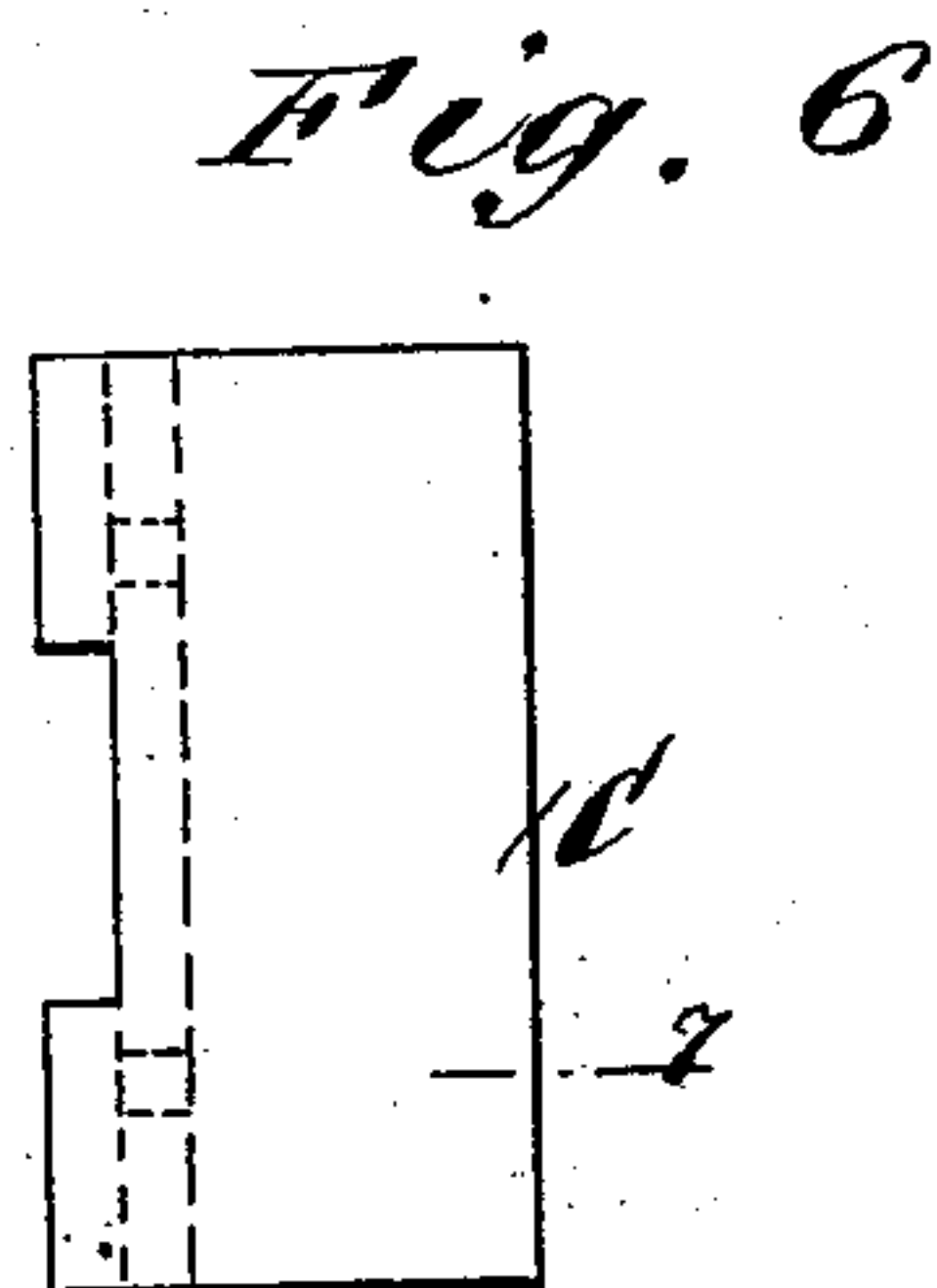
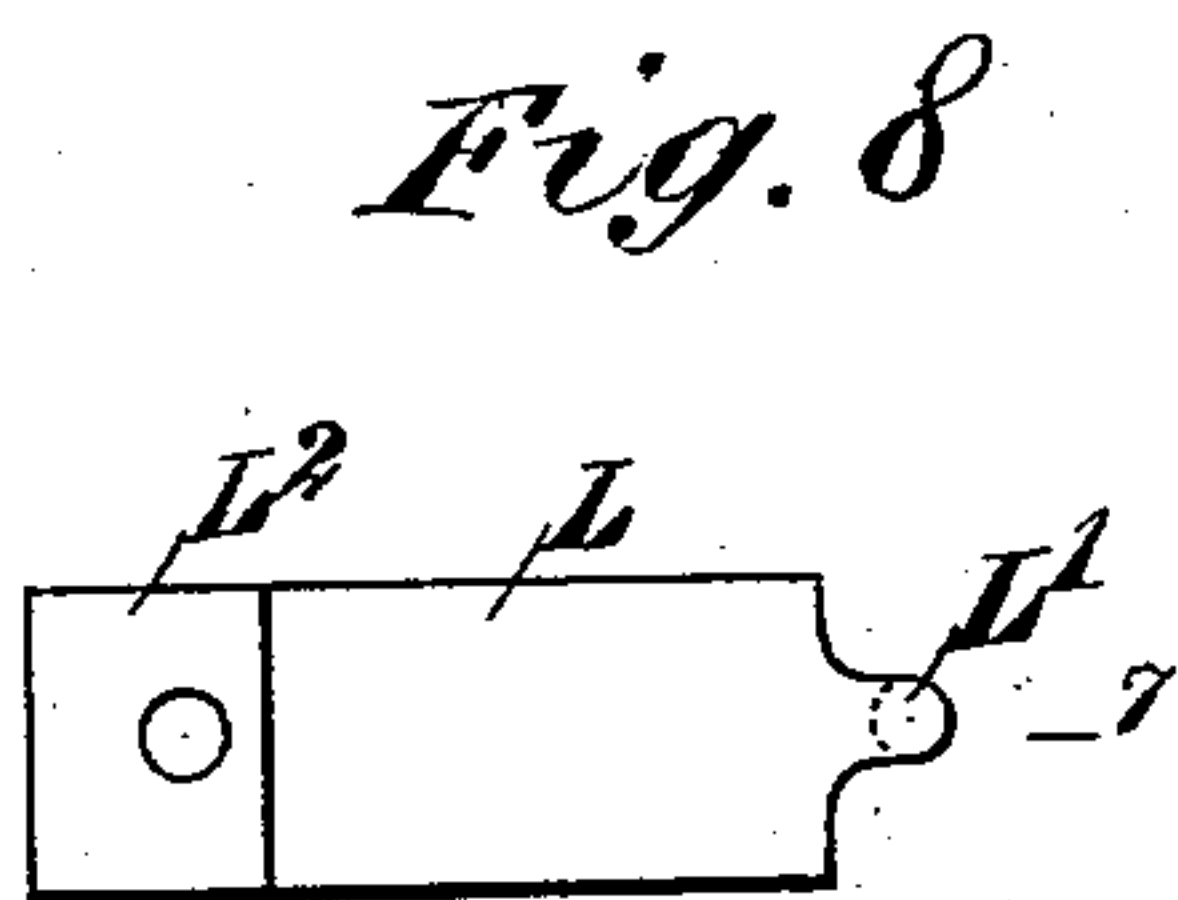
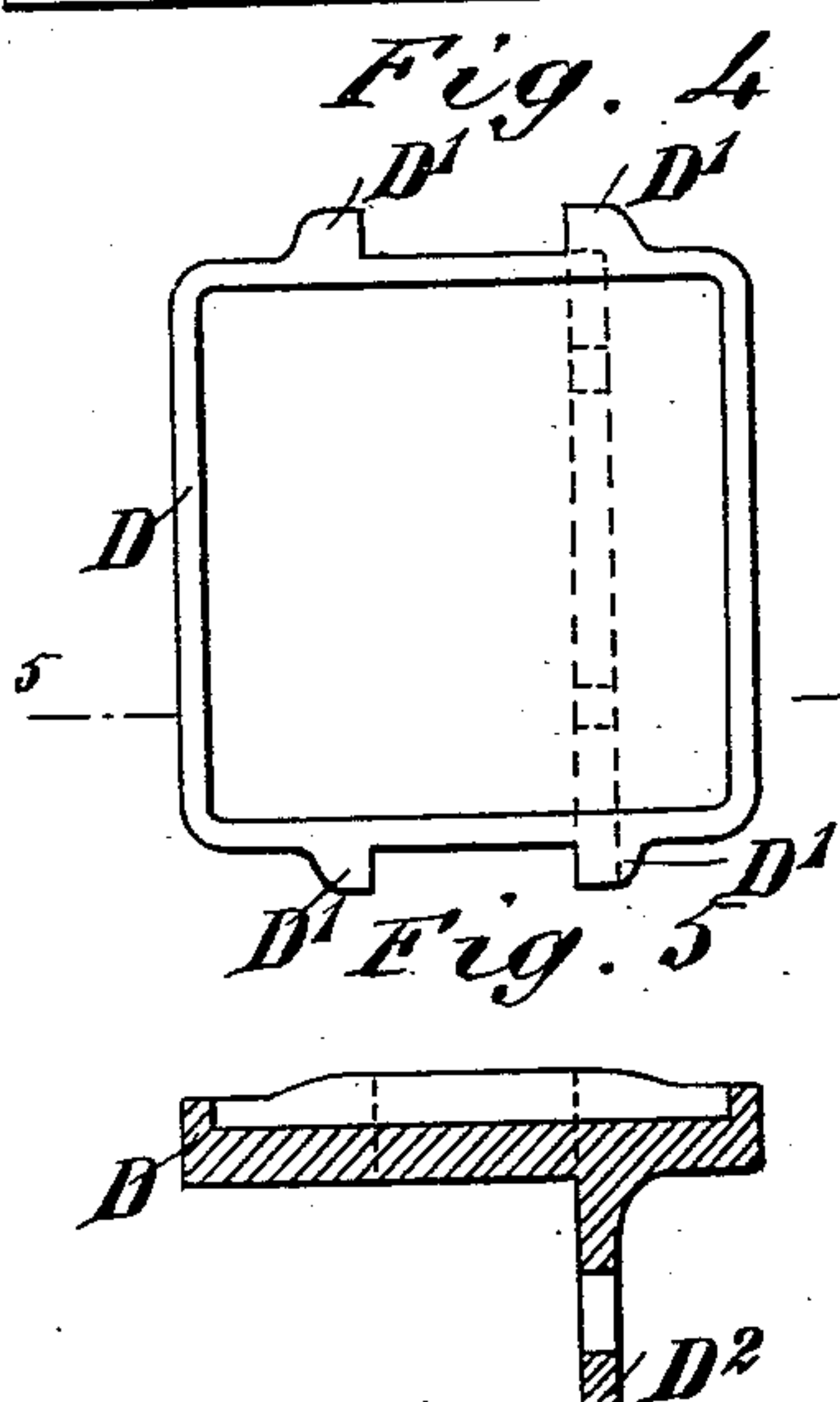
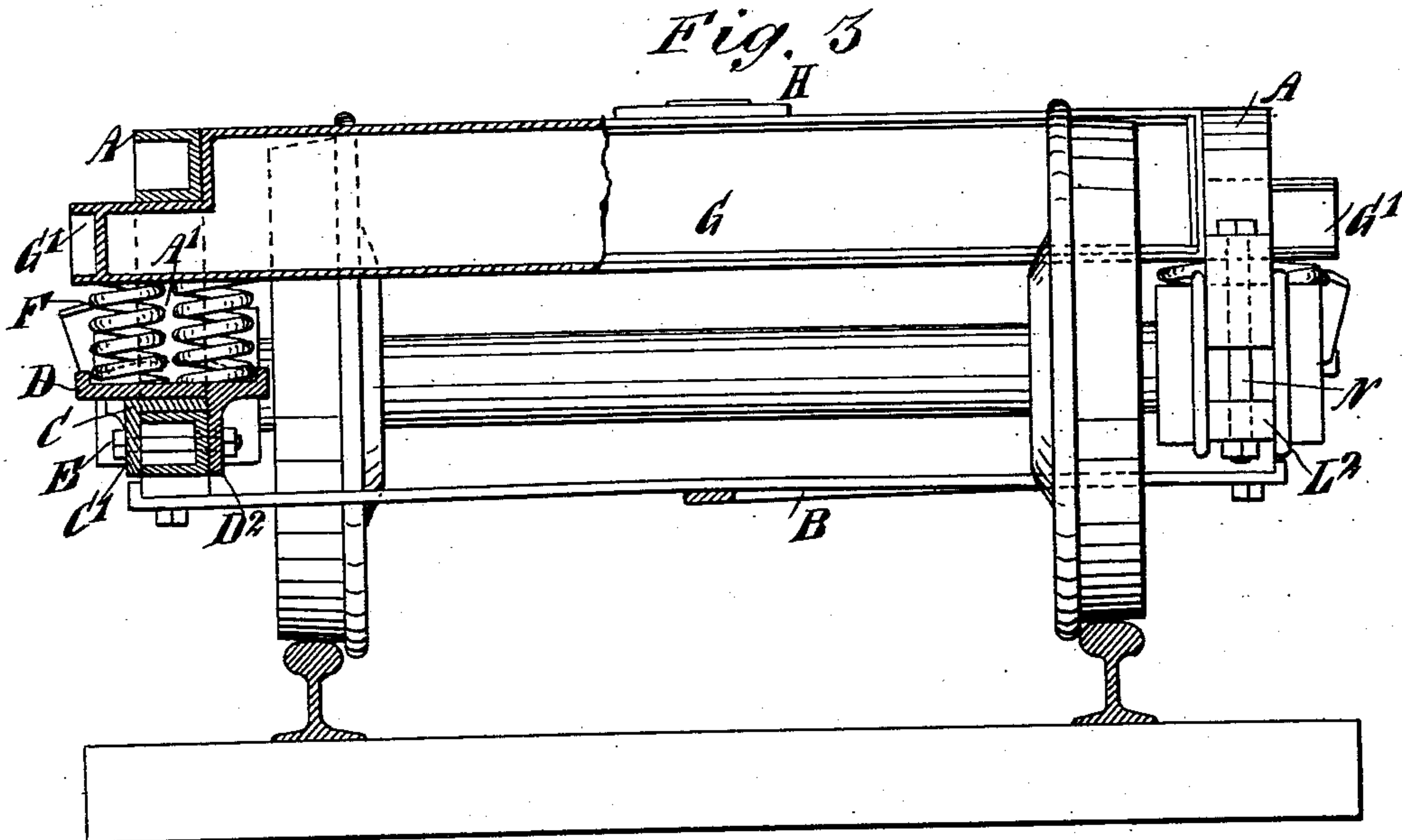
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C. Neveu  
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# UNITED STATES PATENT OFFICE.

JAMES SEYMOUR HARDIE, OF EL DORADO, KANSAS.

## METALLIC CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 569,044, dated October 6, 1896.

Application filed January 25, 1896. Serial No. 576,870. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES SEYMOUR HARDIE, of El Dorado, in the county of Butler and State of Kansas, have invented a new and Improved Metallic Car-Truck, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved metallic car-truck which is simple and durable in construction, not liable to get out of order, readily set up without the aid of skilled labor, and arranged for convenient inspection and repairs whenever necessary.

The invention consists principally of truck-arches carrying the journal-bearings and formed with transverse openings for the reception of spring-seats and springs, and a truck-bolster fitted to slide in said openings and rest on said springs.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

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

Figure 1 is a side elevation of the improvement. Fig. 2 is a plan view of the same. Fig. 3 is an end elevation of the same with parts in section. Fig. 4 is a plan view of the spring-seat. Fig. 5 is a sectional elevation of the same on the line 5 5 of Fig. 4. Fig. 6 is a plan view of the compression-wedge. Fig. 7 is a sectional elevation of the same, on the line 7 7 of Fig. 6. Fig. 8 is a plan view of the oil-box lock. Fig. 9 is a side elevation of the same; and Fig. 10 is an enlarged cross-section of the truck-arch with the compression-wedge, spring-seat, and springs in place.

The improved metallic car-truck is provided with two truck-arches A, made of metal and approximately U-shaped in cross-section—that is, with the top and bottom flanges extending outwardly from a longitudinal web, as will be readily understood by reference to Figs. 1 and 3. The bottom flanges of the two arches A are connected with each other by cross-braces B, extending at or near the middle of the truck, as plainly indicated in Figs. 1 and 2.

In each of the arches A and near the middle

of the web is formed a transverse opening A', the side, top, and bottom of which is formed with a transverse flange A<sup>2</sup>, on the bottom portion of which rests a compression-wedge C, provided with a longitudinally and downwardly extending flange C', abutting against the outer edges of the bottom portion of the flange A<sup>2</sup> and the bottom flange of the arch A. (see Fig. 3.) On the top of this compression-wedge C is set a tray-like spring-seat D, provided on its sides with lugs D', spanning the sides of the flange A<sup>2</sup>, to securely hold the spring-seat in place in the opening A'. On the under side of the spring-seat D and near the rear end thereof is formed a downwardly-extending flange D<sup>2</sup>, resting against the inner face of the web of the arch A, (see Fig. 3,) and this flange C' of the compression-wedge is secured to the arch by transverse bolts E, held in the web of the arch.

In each tray D are set a number of springs F in the opening A' and engaged at their upper ends by the reduced outer ends G' of a bolster G, likewise made of metal and extending transversely from one arch to the other and abutting against the inner faces thereof, as indicated in Fig. 3. The ends G' of the bolster G are free to move vertically and are guided in the upper portions of the openings A' of the two arches A, it being understood that the bolster yields according to the weight of the car resting on the bolster. On the top of the latter and at the middle thereof is arranged the usual king-bolt plate H for connection with the car.

The ends of each arch A are formed with recesses A<sup>3</sup>, into which fit the oil or journal boxes I, engaged by the journals of the axles J, carrying the wheels K. The bottom of each journal-box I is engaged by or rests on a locking-bar L, formed at its inner end with a downwardly-extending pin L', adapted to be passed through an opening in the vertical portion A<sup>4</sup> of the arch-flange, and the outer enlarged end L<sup>2</sup> of each bar L forms a shoulder for the box and is engaged by the lower end of a bolt N, held in the flange of the truck-arch A'.

Now it will be seen that by the arrangement described the truck is very strongly built, its parts are few and can be readily assembled without requiring skilled labor, and



any of the parts can be readily removed whenever desired for repairs or other purposes. For instance, if it is desired to remove the compression-block C or the boxes I, I employ  
 5 jacks under the front and rear ends of the seat D, as indicated in dotted lines in Fig. 10, to lift the seat, with the springs and load, for removal of the compression-wedge C and the boxes I.

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

1. A metallic car-truck, provided with truck-arches rigidly connected with each  
 15 other at or near the middle and formed with transverse openings, compression-wedges set in the bottoms of said openings, spring-seats resting on the top of said compression-wedges and extending into said openings, means for  
 20 fastening said compression-wedges and seats in place on the truck-arches, springs held in said seats, and a truck-bolster fitted between said truck-arches and having reduced ends extending into said openings and resting on  
 25 the top of said springs, substantially as shown and described.

2. A car-truck, comprising two truck-arches rigidly connected with each other, each truck-arch having a transverse opening, the upper  
 30 portion of which is contracted, a truck-bolster fitted in the upper portion of said openings, and springs seated in the openings and below the truck-bolster and respectively bearing against the truck-bolster, substantially  
 35 as described.

3. A truck having two truck-arches, each formed with an opening, the upper portion of which is contracted, a truck-bolster having its ends respectively fitted within the upper por-  
 40 tions of said openings, and means within the openings and below the truck-bolster by which the truck-bolster is held in place, substantially as described.

4. A truck comprising a truck-arch having  
 45 an opening therein, a bolster fitting within said opening, a compression-wedge rested on the bottom of the said opening, a spring-seat rested on the wedge, and a spring carried by the seat and engaging the bolster, substan-  
 50 tially as described.

5. A truck comprising a truck-arch having an opening therein, a compression-wedge consisting of an angular plate, one arm of which is capable of lying within the opening and the other arm engaging the side of the arch, a  
 55 spring-seat having a main portion rested on the compression-wedge and within the opening and having a leg extending alongside of the arch and oppositely to the arch-side-engaging arm of the compression-wedge, a spring  
 60 carried by the spring-seat, and a bolster engaged by the spring, substantially as described.

6. A truck having a truck-arch formed with an opening, the central portion of which is  
 65 enlarged over the terminals, a spring-seat fitted within the contracted lower portion of the opening, springs rested on the spring-seat, and a truck-bolster fitted within the upper  
 70 contracted portion of the opening and engaged by the springs, substantially as described.

7. A truck, comprising a truck-arch formed with an opening, the central portion of which is enlarged over the size of the ends, a bolster  
 75 fitted within the contracted upper portion, a spring-seat having vertical guides receiving the sides of the contracted lower portion, and a spring carried by the spring-seat and pressing the bolster, substantially as described.

8. A truck having a truck-arch formed with  
 80 an opening, a compression-wedge having a part lying against the side of the arch, a spring-seat rested on the compression-wedge and having a part lying against the opposite side of the arch, a bolt passing through the arch  
 85 and holding said parts to the arch, a bolster fitted within the opening, and a spring carried by the spring-seat and engaging the bolster, substantially as described.

9. A truck having a truck-arch formed with  
 90 a recess capable of receiving a journal-box, a bar having a pin engaging the truck-arch and extending beneath the recess, and a bolt connected to the outer end of the bar and to the truck-arch above the bar, substantially as de-  
 95 scribed.

JAMES SEYMOUR HARDIE.

Witnesses:

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 R. E. GLASS.