

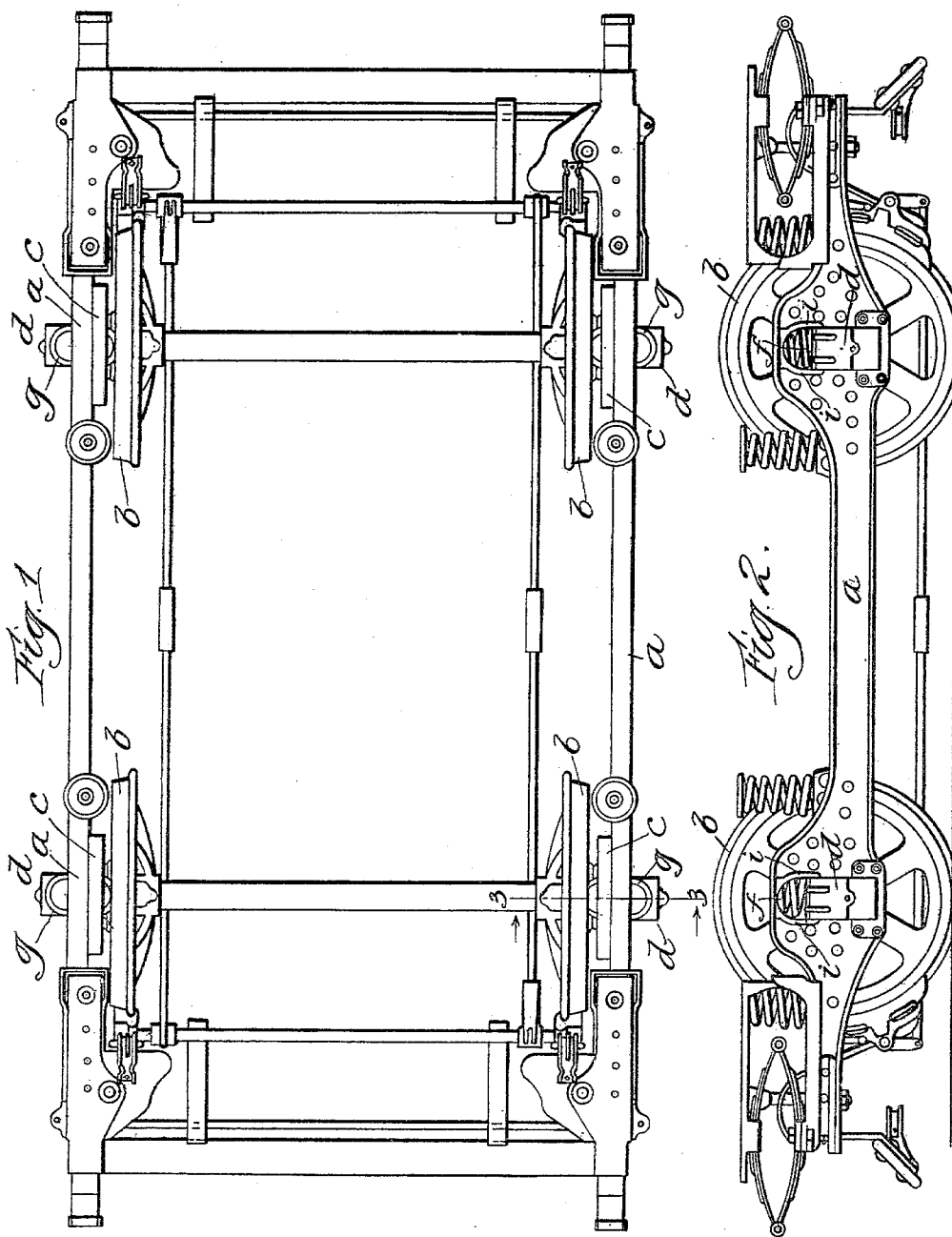
(No Model.)

2 Sheets—Sheet 1.

W. A. McGUIRE & M. G. HUBBARD, Jr.
CAR TRUCK.

No. 566,526.

Patented Aug. 25, 1896.



Witnesses.

Wm. M. Rheem
Wm. F. Hemming

Inventors
William A. McGuire
Moses G. Hubbard, Jr.
by Bond, Adams, Ripard & Johnson

Their Attys.

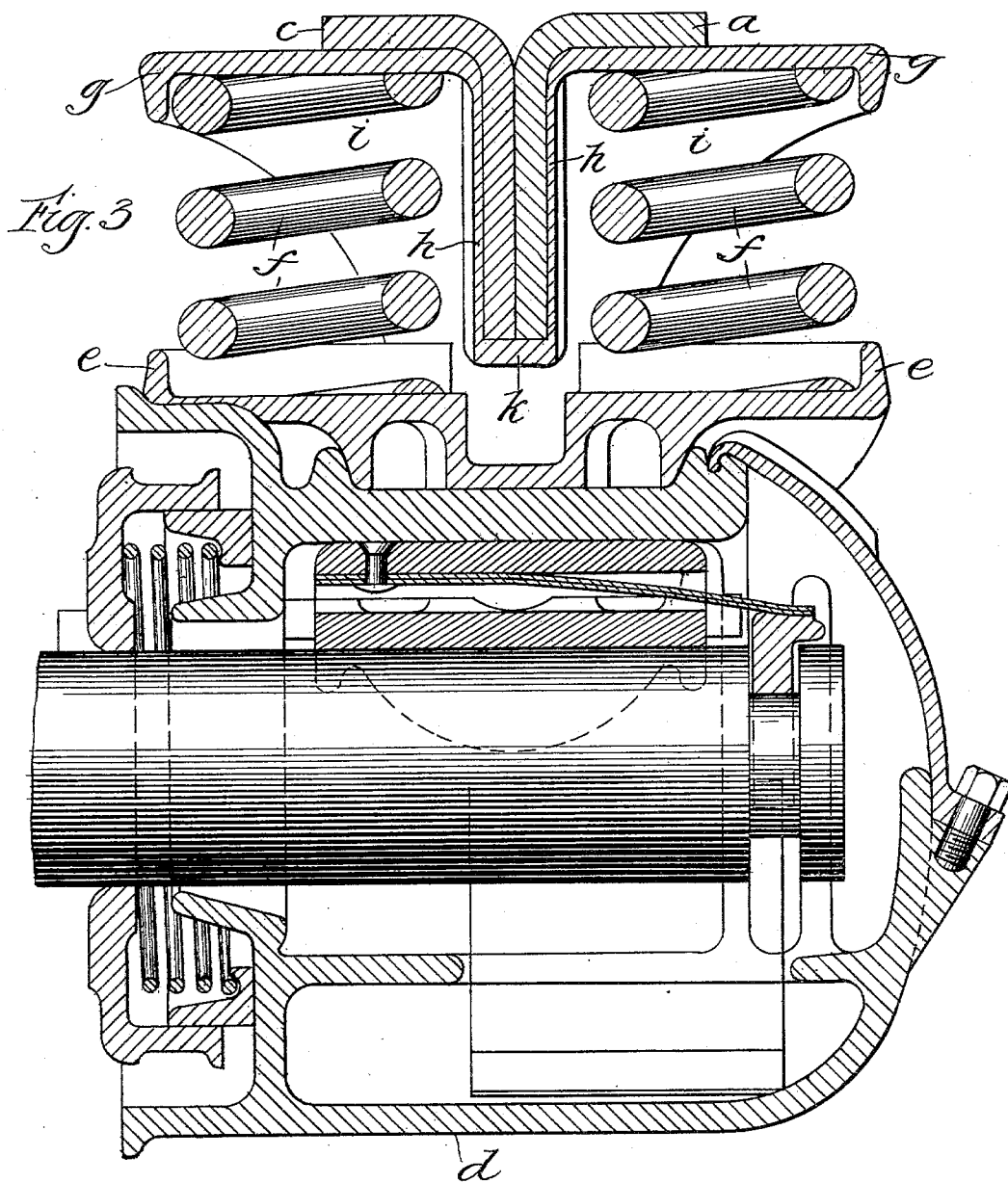
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Wm. M. Rhem.

Wm. L. Hanning

Inventors:

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their Attys.

UNITED STATES PATENT OFFICE.

WILLIAM A. MCGUIRE AND MOSES G. HUBBARD, JR., OF CHICAGO, ILLINOIS,
ASSIGNORS TO THE MCGUIRE MANUFACTURING COMPANY, OF SAME
PLACE.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 566,526, dated August 25, 1896.

Application filed June 6, 1895. Serial No. 551,838. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM A. MCGUIRE and MOSES G. HUBBARD, Jr., citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a top or plan view. Fig. 2 is a side elevation; and Fig. 3 is an enlarged detail, being a section on line 3 3 of Fig. 1.

Our invention relates to trucks primarily designed for use in connection with city street-cars, more especially motor-cars, and relates particularly to the arrangement of springs interposed between the truck-body and the journal-boxes, the object of such construction and arrangement being to properly and effectively cushion the truck-frame under all conditions of use to which the car is subjected and at the same time to permit the mounting of a car-body on said truck in such manner as not to raise it to an objectionable height from the ground.

Minor improvements have also been made, as will appear from the detailed description hereinafter.

Those things which we believe to be of our invention will be set forth in the claims.

One of the requisites of a successful and practical car-truck for the purposes above referred to is a simple, durable, and efficient cushioning device interposed between the truck-frame and each of the axle journal-boxes, and numerous attempts have been made to provide devices so located, but without any great success. Single springs, and one spring within another, have been interposed between the truck-frame and the axle journal-box; but such constructions are open to serious objections in practice. Where a single spring has been so used it has not been practicable to so form it as to stand the strain put upon it; and in the other construction referred to, where one spring is placed within another, too great rigidity is the result, in addition to such construction having usually compelled the raising of the truck, and consequently the car-body, to an objectionable

height from the rail. By our construction these objections are overcome entirely.

Referring now to the accompanying drawings, *a* indicates a car-truck frame, and *b* the four wheels thereof. As the construction of this truck and many of the parts secured thereto is in general old and well known, particular reference will here be made only to such parts as are necessary to a clear description of our improvements.

c indicates short pieces of steel, each bent into the form of an angle-bar and rigidly secured to the truck-frame *a*, one over each axle-box, and forming in effect a part of the truck-frame. As seen in Fig. 3, the vertical portion of each piece *c* rests against the vertical portion of the side bar of the frame, and these two vertical portions taken together are to be understood as being meant when the "vertical portion" of the frame is referred to.

d indicates axle-boxes of any ordinary construction.

e indicates two seats placed on top of each axle-box and substantially in line with and over the axle. In each seat rests a spring *f*, which, as shown, are coiled springs, but which may be of any other suitable form adapted for the purpose. As shown, the springs of each pair are located far enough apart to permit the vertical portion of the framework to lie between them.

As seen by reference to Fig. 3, a vertical section through one side bar of the main frame *a* and the piece *c*, which, as has been stated, may be considered as forming in effect a part of the main frame, shows the frame to be substantially T-shaped over each axle journal-box.

g indicates caps, against which the upper ends of the springs *f* bear. These caps each have a vertical wall portion which lies against the vertical portion of the truck-frame, and they are united by a bottom piece *h*, preferably formed with the side walls *h*, thus forming a deep channel in which the vertical portion of the truck-frame rests. The caps proper, being pressed up by the springs *f f*, are forced firmly against the horizontal portion of the frame, and thus support it in position. The construction of caps, as shown and de-

scribed, permits of their ready removal for repairs or replacement by new caps. Formed with or suitably secured to the caps, on the side edges of the caps proper and their vertical walls, are plates *z*, which project down along and against the sides of the axle journal-boxes and form rub-plates to receive the wear caused by the vertical movement of the truck-frame as a whole.

10 By the construction shown and described we provide a simple and effective cushioning device for the truck-frame over each journal-box and avoid all the objections incident to the use of former devices that have been attempted to be used in like locations. As very
15 frequently a great portion of the load put upon and carried by the truck is upon that portion of the frame extending beyond the axle journal-boxes, it is evident that the
20 frame must not be weakened at the point over a journal-box; and by our construction the full strength of the frame at this point is retained, while at the same time all of the requirements for a perfect cushioning device at
25 such point are permitted to be had.

That which we claim as our invention, and desire to secure by Letters Patent, is—

1. In combination with a truck-frame, having a longitudinal vertical section over each
30 axle journal-box, a spring on each side of the

said vertical section of the frame, the said springs being arranged over and in line with the car-axle a journal-box, seats on said journal-box for the lower ends of the springs, and caps supported by the truck-frame, against which the upper ends of the said springs bear, substantially as specified.

2. A truck-frame in combination with two springs mounted upon the axle journal-box over and in line with the car-axle, the longitudinal vertical portion of said truck-frame over the said journal-box lying between said springs, and caps or seats for the upper ends of said springs to bear against, said caps or seats being secured to said vertical portion of said truck-frame, substantially as specified.

3. In combination with a truck-frame having a vertical portion over each axle journal-box, journal-boxes provided with seats, springs mounted in said seats, and removable caps for the upper ends of said springs, said caps each having a vertical and horizontal portion which rest respectively against the vertical and horizontal portions of the truck-frame, substantially as specified.

WILLIAM A. MCGUIRE.

MOSES G. HUBBARD, JR.

Witnesses:

JOHN L. JACKSON,

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