

(No Model.)

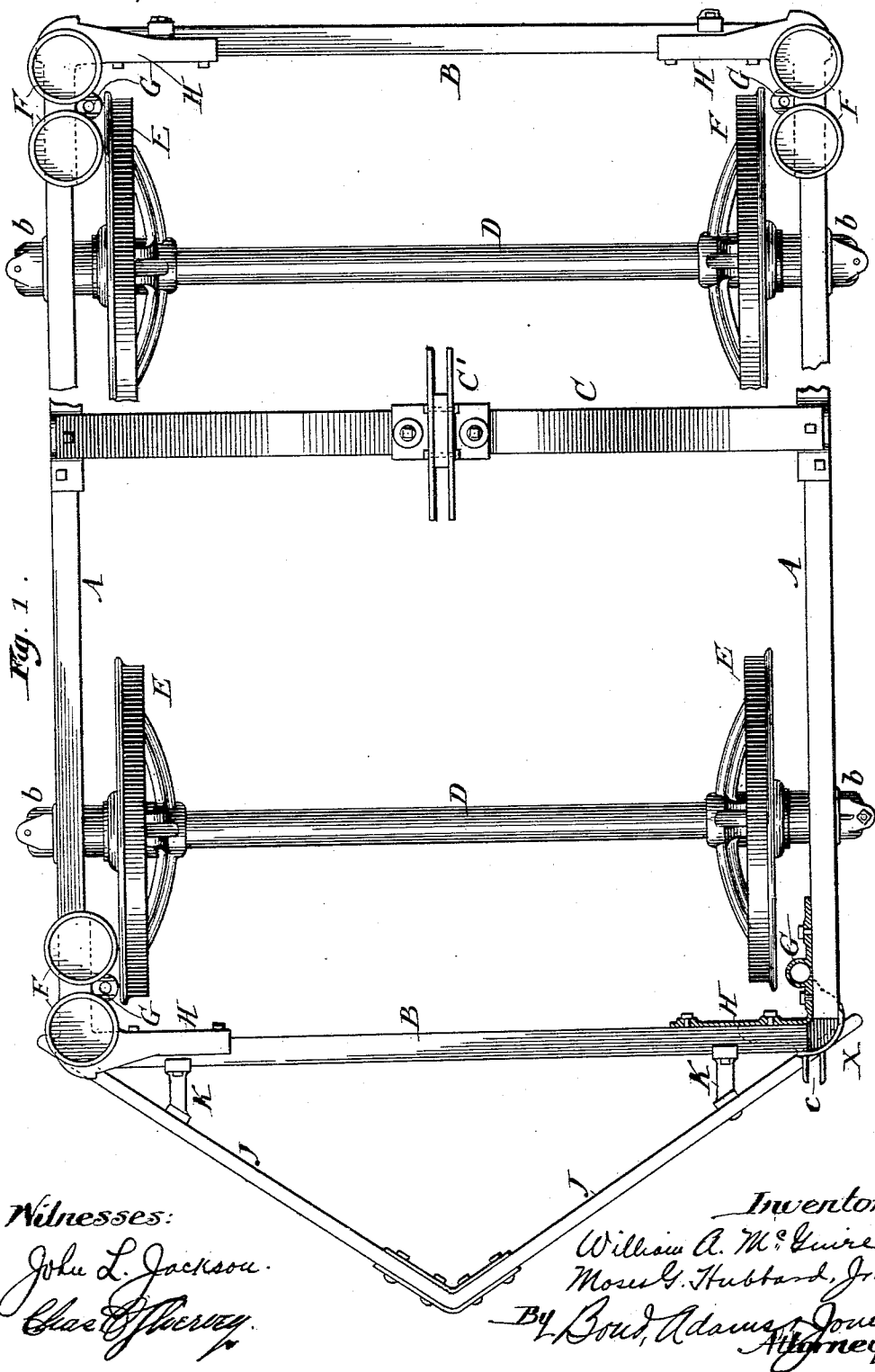
3 Sheets—Sheet 1.

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

MOTOR TRUCK FOR CARS.

No. 476,480.

Patented June 7, 1892.



(No Model.)

3 Sheets—Sheet 2.

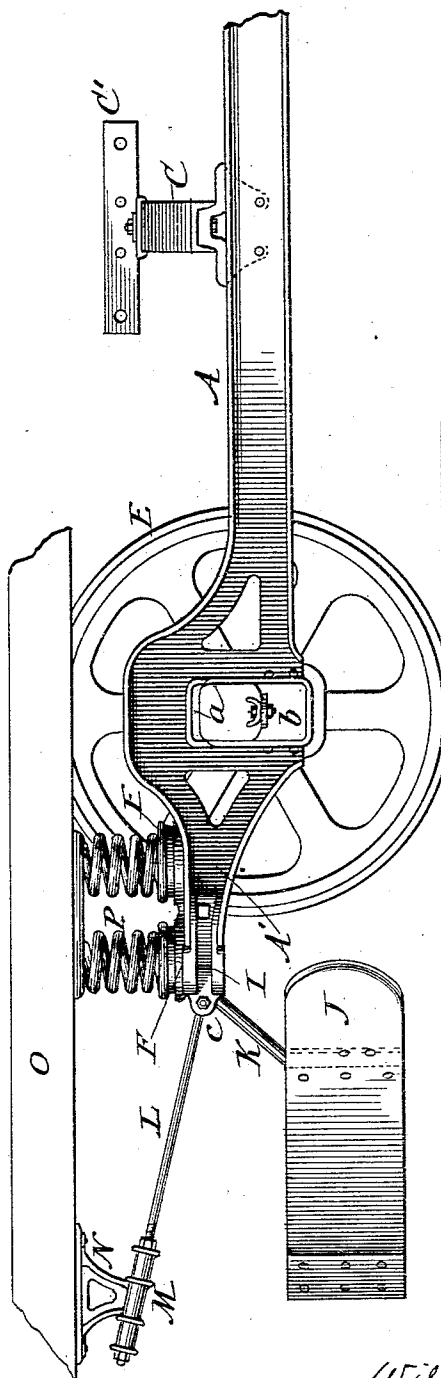
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Fig. 2.



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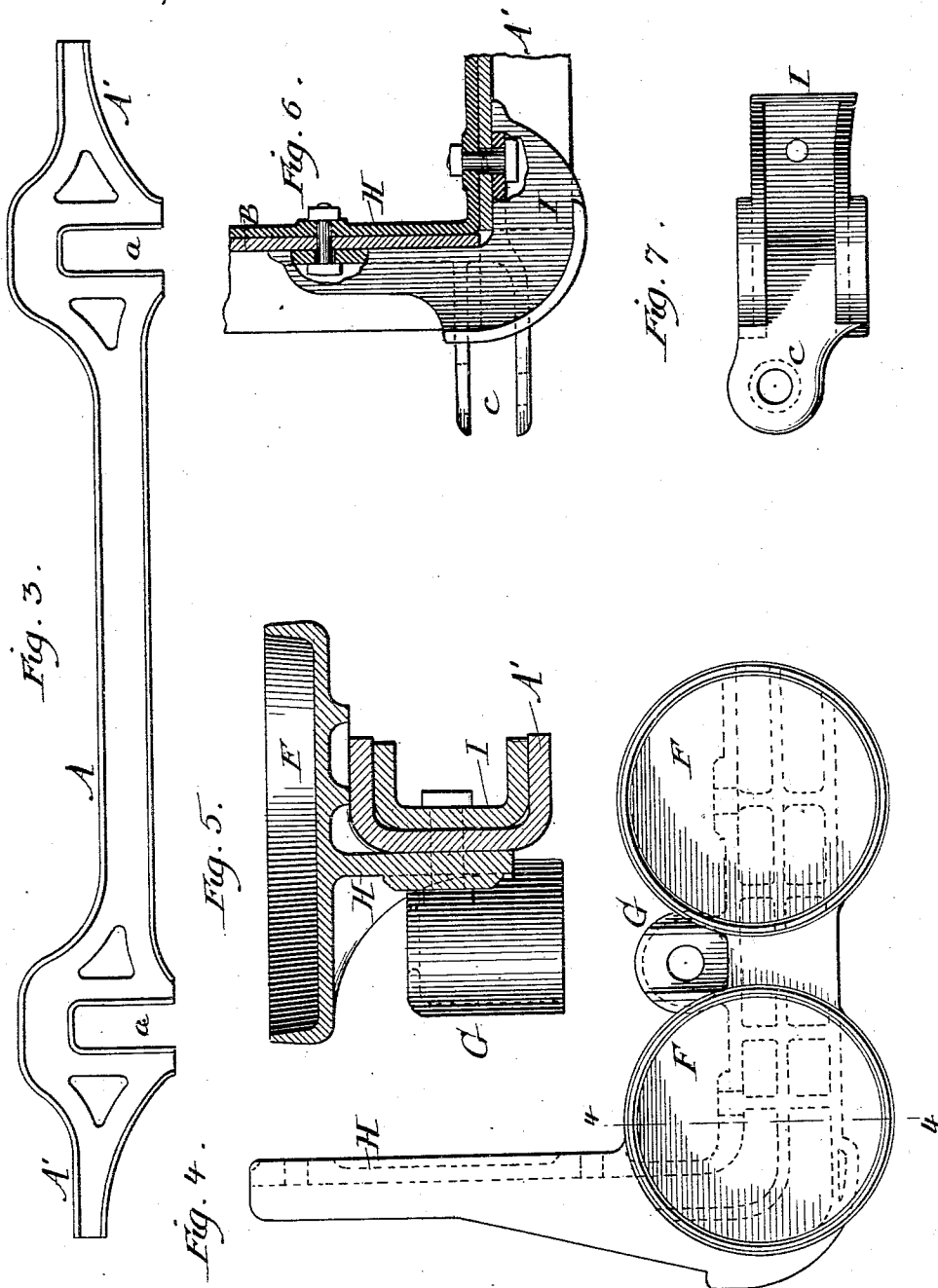
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3 Sheets—Sheet 3.

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MOTOR TRUCK FOR CARS.

No. 476,480.

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Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM A. MCGUIRE AND MOSES G. HUBBARD, JR., OF CHICAGO, ILLINOIS.

MOTOR-TRUCK FOR CARS.

SPECIFICATION forming part of Letters Patent No. 476,480, dated June 7, 1892.

Application filed December 30, 1890. Serial No. 376,308. (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 in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Motor Trucks or Supports for Cable and Electric Cars, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to certain improvements in motor trucks or supports for cable and electric cars, also to an improved construction of truck-frames for four-wheeled motor-cars.

In the drawings, Figure 1 is a plan view with the car-body removed. Fig. 2 is a side elevation of one end. Fig. 3 is a detached view of my improved wheel-piece or side of the truck-frame. Fig. 4 is an enlarged plan view of a frame-corner. Fig. 5 is a vertical section on line 4 4 of Fig. 4. Fig. 6 is an enlarged portion of the corner-section shown at X in Fig. 1, and Fig. 7 is an elevation of a corner-iron.

The object of this invention is to improve the construction and increase the durability of motor-truck frames by diminishing the number of pieces without increasing the height of the car, and it is especially intended to improve the construction of that style of motor-trucks which have an extended spring-base.

The service which street-car motor-trucks are required to perform is unusually severe, and they therefore require special construction. The long car-body on the short truck causes excessive longitudinal rocking, which strains the joints of the truck-frame to such an extent as to require constant attention. To remedy the rocking of the car-body, what we call our "extended spring base-truck" was devised, which, while it carries the car-body more steadily, increases the strains on the joints of the truck-frame, and our invention is especially intended to remedy this defect in this otherwise superior style of truck, as well as in ordinary street-car motor-trucks, by removing every joint possible, and so locating and constructing the few necessary ones that they will not receive severe strains. To accomplish this, we construct the sides A of the

truck-frame without any transverse joints and of one piece of metal by forming in the wheel-piece the jaw *a* to receive the journal-box *b*, and by extending the ends *A'* of the wheel-piece out beyond the wheels to form the corner of the truck-frame, and by depressing these extended portions, on which the car-body is intended to be carried, we eliminate all transverse joints between the points of support for the load and provide for an extended spring-base without increasing the height of the car, as former efforts in this direction have done. To gain strength and elasticity with the least practicable weight and use the fewest possible pieces, we form this combined pedestal and extended wheel-piece out of one piece of sheet or plate metal and form a flange on the top and bottom thereof, which gives the necessary vertical and lateral strength with the least weight. We form the spring-seats *F* of cast or forged metal and attach them to this side piece and to the end sills. The end sills *B* are preferably of flanged metal and are united to the side pieces *A* by angle-flanged fish-plates, hereinafter described, in such manner as to entirely cover the joint and form a neat round corner. Between the wheels we place one or more cross-sills *C* for carrying the motors or grip, as at *C'*, which cross-bars are bolted or otherwise suitably attached to the side pieces *A* and may be upwardly curved, as shown, but have no connection with the car-body. The importance of this construction, particularly for motor-trucks with an extended spring-base, will be seen when it is understood that all or a large part of the weight of the car and load is carried on the extended portions *A'* of the side pieces, and consequently, if there were joints in the side pieces, they would be subjected to a succession of sudden strains, amounting practically to a series of blows, and soon work loose, and they would require constant watching and attention. To join the side pieces to the end sills, we construct a pair of angled fish-plates *H* and *I*, so formed that they will box in and completely cover the joint inside and outside and make a neat and very strong corner. For convenience we form the spring seats or boxes *F* for each corner of the truck on the inner fish-plates *H*. The springs *P* may be

of the form shown, volute, suitably-incased rubber, or of other well-known form adapted to the situation and to support the body O. Scrapers or pilots J may also be attached to the truck-frame by arms K—one or more. Brace-rods L are attached at one or both ends of the truck by the ears c on the frame or corner-plate I and to the car-body O by the bracket N and tubular box M to prevent or counteract excessive endwise rocking of the body O. A stiff spring may be inclosed in the box or tube M, so as to permit of a short endwise movement on the brace L; but it is not essential, and we do not limit the use of our other improvements to a braced truck, as they are effective without these braces.

To limit the action of the springs P and prevent the car-body from excessive spring action, bolts are passed through the openings or ears G, so as to play therein, and these bolts are to be firmly attached to the car-body O or upper truck-frame, as the structure or truck herein shown and described is intended to be attached to and move with the car-body and not swivel or pivot thereupon.

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

1. In a car-truck having a short wheel-base and a long spring-base, a one-piece side sill having yoke-pedestals formed therein, and depressed extensions beyond the yoke-pedestals, upon which the springs are seated.

2. In a car-truck having a short wheel-base and a long spring-base, one-piece side sills having yoke-pedestals formed therein, depressed extensions beyond the yoke-pedestals upon which the springs are seated, and central cross and end sills connecting the side sills.

3. A side frame for trucks formed of one piece of metal provided with journal-box openings and guides and extended beyond the journal-box openings for carrying all or part of the load, in combination with end sills joined to said extended portions of the side frame by means of two fish-plates covering both the outside and inside of the joint.

4. A car-truck having each of its sides formed of one piece of metal and extended beyond the journal-boxes at each end, said extended portions being depressed to lower the height of the car and having one or more spring-seats thereon, in combination with the springs on

which the car is mounted, substantially as and for the purposes set forth.

5. A car-truck frame having each of its sides formed of one piece of pressed sheet metal and its ends extended beyond the journal-boxes and depressed, as described, in combination with one or more spring-seats located on said extended and depressed portions for receiving all or part of the springs on which the car is mounted, substantially as and for the purposes described.

6. A motor-truck frame having each of its sides formed of one piece and continuously without joints between the ends thereof and extended beyond the journal-boxes at each end, said extended portions being depressed to lower the height of the car, in combination with the upwardly-curved support C and one or more spring-seats located on said extended and depressed portions for receiving all or part of the springs on which the car is mounted, substantially as and for the purposes specified.

7. The side of a truck-frame formed of one piece of sheet-metal provided with journal-box openings and guides and extended portions beyond the journal-boxes for carrying all or part of the load, in combination with the ends of said extended portions joined to the end sills by angle flanged fish-plates constructed to cover the outside and inside of the joint and form the corner of the truck, substantially as and for the purposes specified.

8. A car-truck having each of its sides formed of one piece of material, in combination with fish-plates for joining said sides to the end sills and one or more spring-seats on said fish-plates for receiving all or part of the springs, substantially as and for the purposes described.

9. A truck-frame having each of its side pieces formed of one piece of flanged metal, in combination with angle flanged fish-plates, the outer fish-plate of each corner constructed to fit into the section of the sides, and end sills extending over the edges of the flanges, so as to cover the joint and make a curved corner to the frame, substantially as and for the purposes specified.

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