

(No Model.)

M. OHLSON.
RAILWAY CAR.

No. 441,629.

Patented Nov. 25, 1890.

FIG. 1.

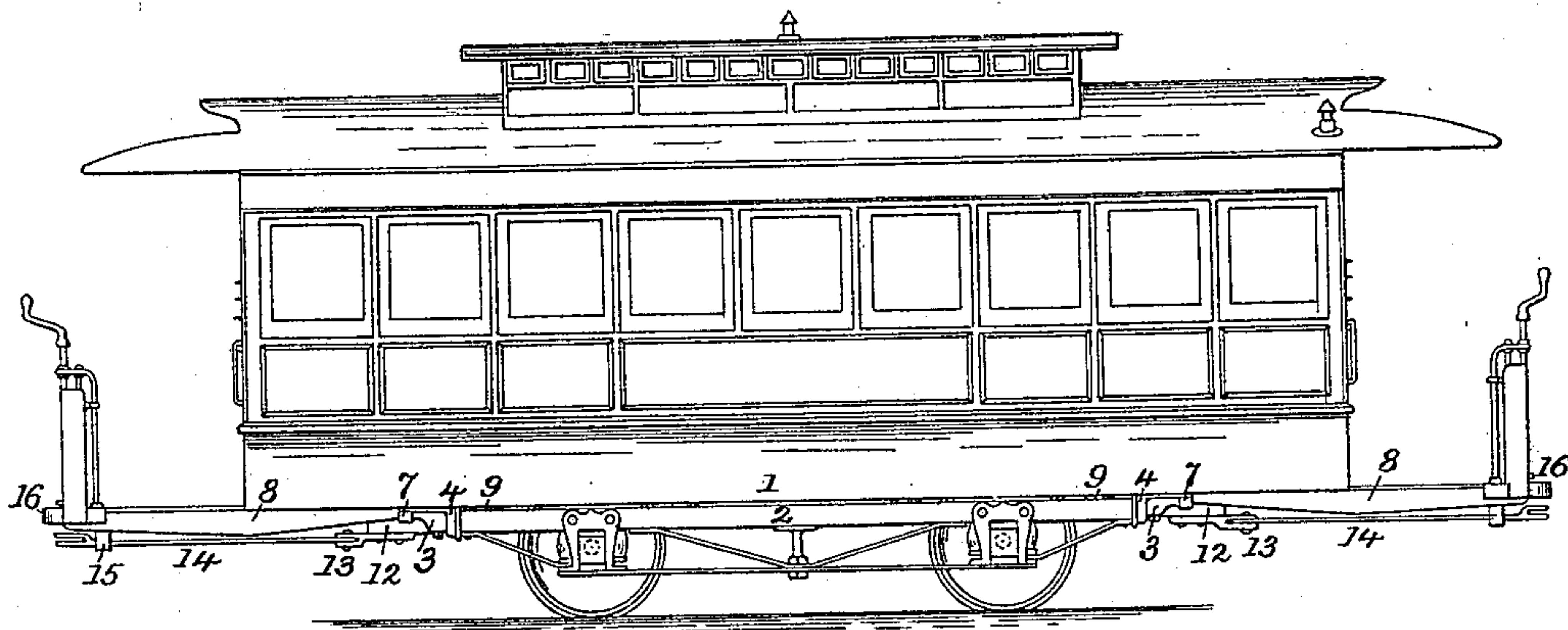


FIG. 2.

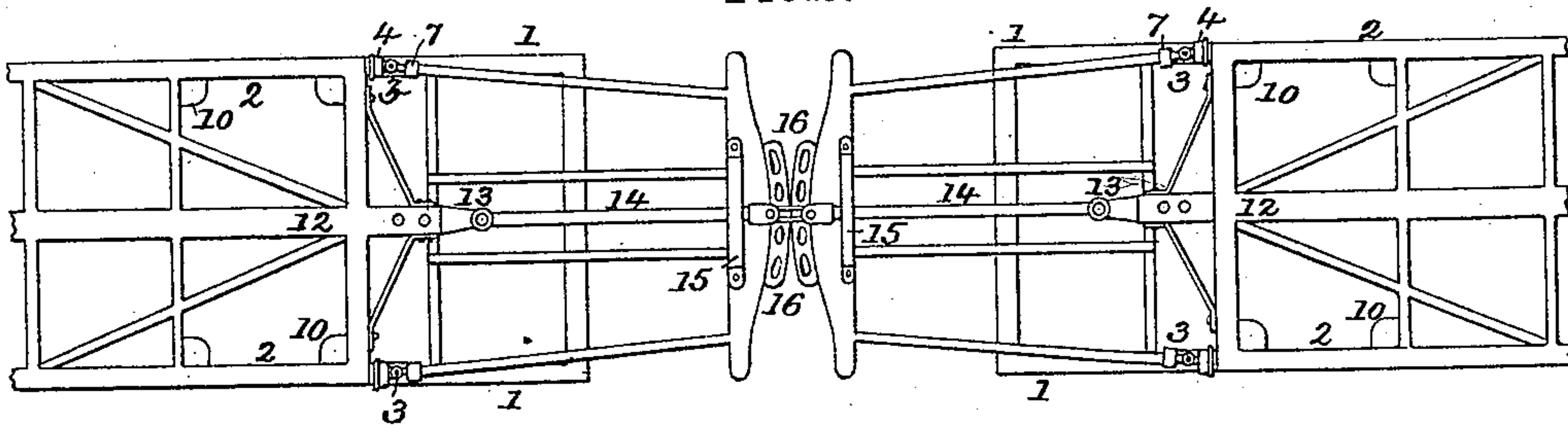


FIG. 3.

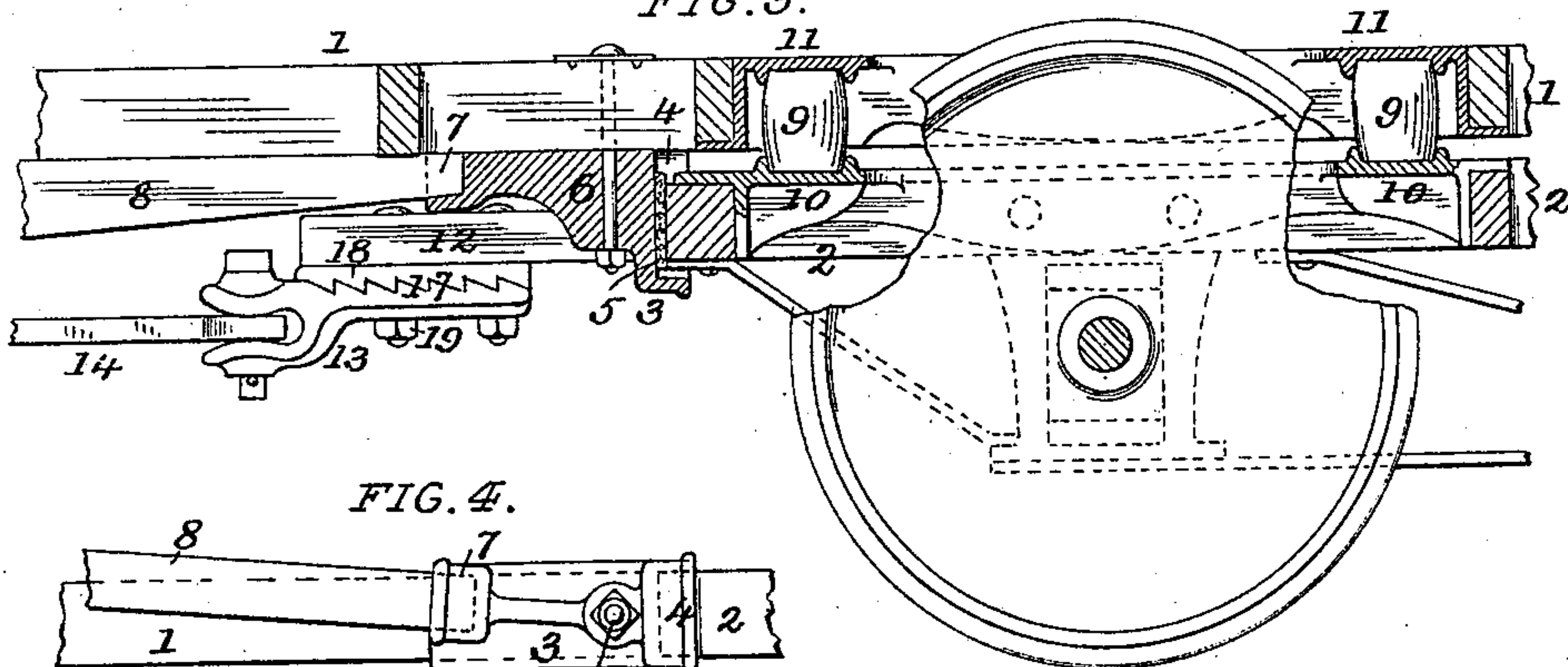


FIG. 4.

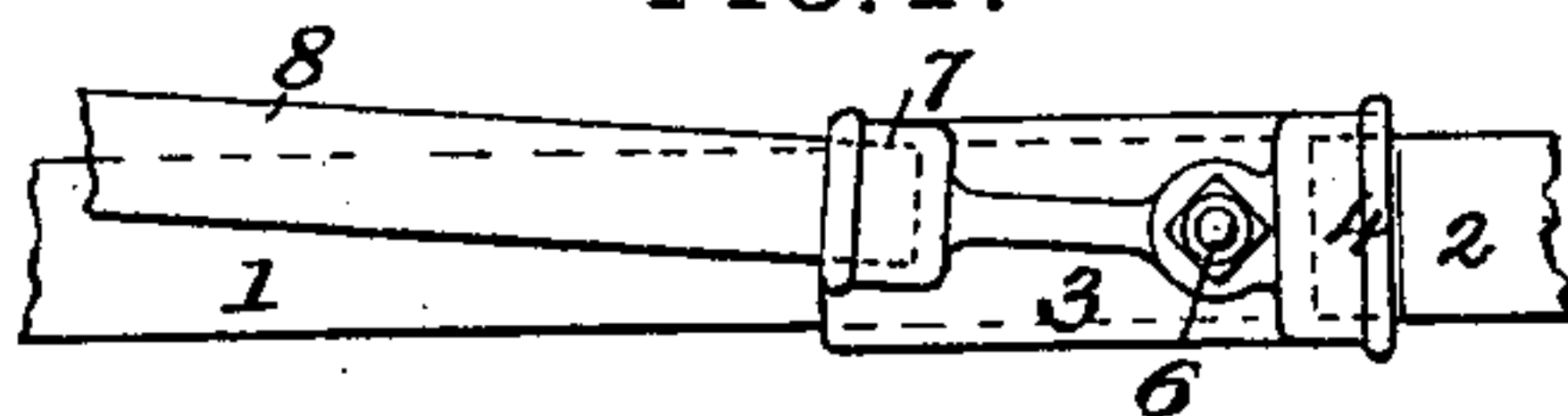


FIG. 5.

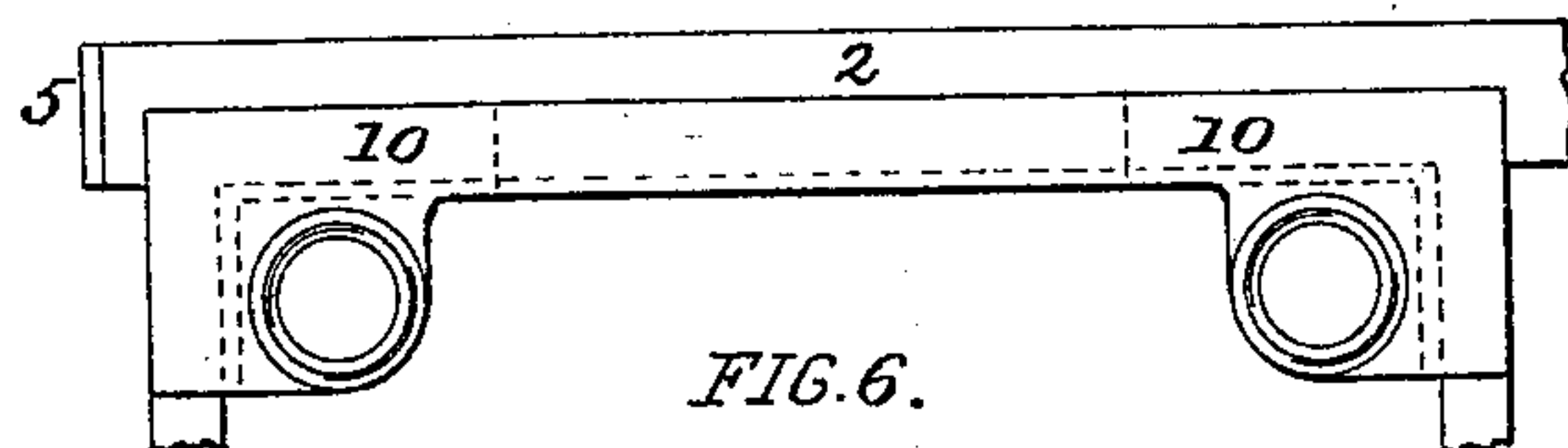
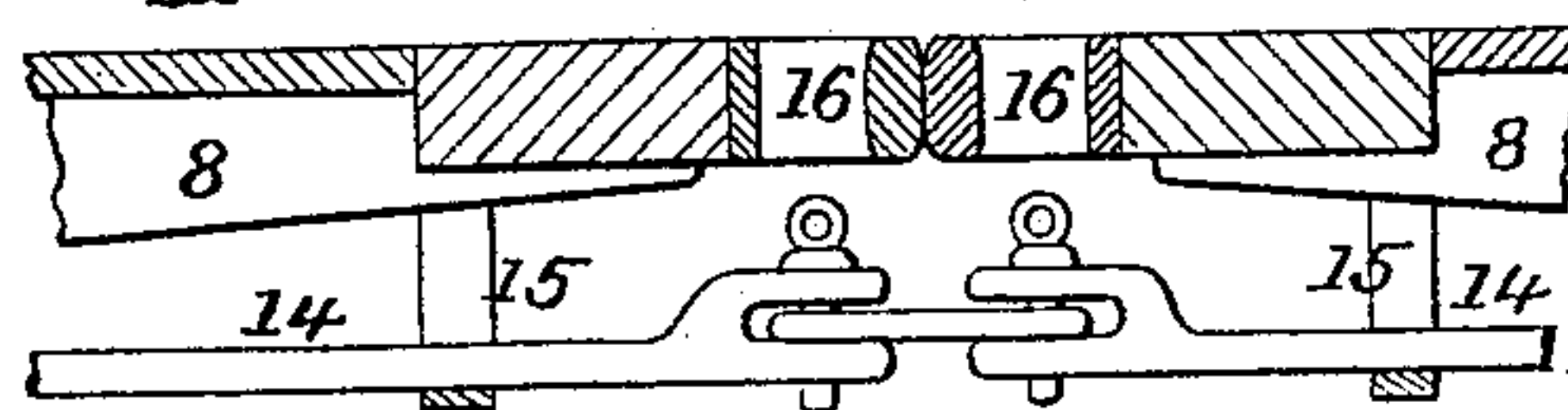


FIG. 6.



ATTEST:
Geo. H. Arthur
W. H. Holmes

INVENTOR:
Magnus Ohlson,
by *Robert Burns*
Attorney.

UNITED STATES PATENT OFFICE

MAGNUS OHLSON, OF CHICAGO, ILLINOIS.

RAILWAY-CAR.

SPECIFICATION forming part of Letters Patent No. 441,629, dated November 25, 1890.

Application filed June 26, 1890. Serial No. 356,871. (No model.)

To all whom it may concern:

Be it known that I, MAGNUS OHLSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Cars; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to that type of street-railway cars in which the car-body is supported by interposed springs upon an independent rigid truck-frame that carries and wholly supports the running-gear, brake mechanism, and other attachments, in order that the truck-frame may have with relation to the car body or frame a limited independent movement, so that the lateral or swaying motion of said truck, due to irregularities in the gage of the track, &c., may take place without being transmitted to the car-body.

The main objects of the present improvement are, first, to provide an improved arrangement of such truck-frame, car-frame, and interposed springs, so that the car-frame may retain its usual and convenient height from the ground-line, and thus avoid a serious objection that existed in former constructions; second, to provide a specially-formed bracket-guide for connecting the independent truck to the car-body at its four corners in such a manner as to allow for a limited independent vertical or swaying motion of the truck, and yet prevent any independent movement of the truck in a longitudinal direction with relation to the car frame or body, said bracket-guides also forming an efficient and convenient socket for receiving the rear ends of the outer platform-stringers to secure the same to the car-frame; and, third, to provide an improved arrangement of draw-bars and coupling for two or more cars in a cable or other train, by means of which the strain and draft are thrown solely upon and between the independent rigid truck-frames and entirely independent of the car frame or body, the purpose being to avoid in a very perfect manner the straining, buckling, or springing of the car body and frame and the attending discomfort to the passengers that has heretofore occurred in "braking" the train where the

draw-bars and couplings were connected directly to the sills or frame of the car-body. I attain such objects by the construction and arrangement of parts illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a street-railway car, showing the arrangement of my present improvements; Fig. 2, an inverted plan view illustrating the arrangement of the draw-bars and coupling for attaching the adjacent ends of two cars together, and also illustrating the general arrangement of the other parts of my present improvements; Fig. 3, an enlarged detail longitudinal section of one end of the independent truck-frame and its connected parts; Fig. 4, a detail inverted plan of the shoe for connecting the independent truck-frame to the car-frame and for attaching the rear ends of the platform-stringers to the car-frame; Fig. 5, a plan view of the bolster-plate on the independent truck-frame for supporting the interposed springs; and Fig. 6, a detail elevation, partly sectionized, illustrating the arrangement of the coupling parts between two cars.

Similar numerals of reference indicate like parts in the several views.

Referring to the drawings, the car-frame consists of the usual longitudinal and transverse sills, as shown, and the independent truck-frame 2, of similar longitudinal and transverse sills properly framed together.

3 are bracket-pieces secured to the under side of the longitudinal sills of the car-frame and immediately in the front and rear of the truck-frame, the ends of the longitudinal members of the truck projecting into vertical guide-sockets 4 at the ends of the bracket-pieces, so as to be confined within the same to a vertical or nearly vertical movement, elastic facing 5, of leather or other analogous material, being interposed to render the connection non-resonant and prevent the transmission of noise or jar to the car-body proper. The bottom of each guide-socket 4 is closed, as shown, so as to limit the vertical movement of the truck ends within the same.

In use each guide-bracket will be attached in place on the longitudinal car-sills by means of one or more bolts 6, passing through the bracket-piece and through the sill, as shown, and these constitute the only attaching means

used to connect the truck-frame 2 to the car frame or body 1. As thus arranged, an easy and convenient attachment or detachment of the truck-frame and its parts can be effected when required. At their ends opposite to the guide-sockets 4 the bracket-pieces 3 are formed with socket 7 to receive and house the inner ends of the outer platform-stringers 8 and constitute a firm and substantial attachment of such stringers to the car-frame 1. The interposed springs 9 between the independent truck-frame 2 and the car frame or body 1 may be of any usual form or material, being supported on bolster-plates 10 on the truck-frame 2 and extending up to support the car-frame 1 by means of the upper bolster-plates 11.

In the present invention the bolster-plates will have sockets for the springs arranged equidistantly each side of the axis of the wheels, as shown, and such bolster-plates may extend in one longitudinal piece from spring to spring, as shown, or they may be made in the form of individual corner-pieces, if desired, without departing from the spirit of this part of my invention.

The bolster-plates are formed with horizontal and vertical webs or flanges, as shown, so as to fit the sides and top of the longitudinal and cross sills of the truck and car frame to admit of a substantial attachment thereto and at the same time impart additional strength to the corners and other parts of such frames. The parts of such bolster-plates that carry the sockets for the springs 9 are arranged to overhang within the frame, as shown, the purpose being to locate the springs 9 within the frames 1 and 2, as shown, so that the car-frame 1 may overhang and surround said springs, as shown, and thus occupy its usual position and distance above the track. In this construction the springs extend up inside the frame 1 to rest under the overhanging socket portion of the bolster-plate 11, which is arranged on a level with the top surface of the car-frame 1.

The independent rigid truck-frame will carry the usual spring-pedestals for the car-wheels, as shown, as well as the brake mechanism and other usual parts, (not shown,) such as the track-brushes, fenders, the grip, or an electric motor.

The draft mechanism in the present invention consists in a central longitudinal draw-timber 12, attached to and forming a part of the independent truck-frame 2, with its ends projecting past the truck, so as to afford means for the attachment of pivot-heads 13 of the draw-links 14, that extend to near the ends of the car, and is forked, as shown, so as to receive one end of the usual coupling-link to form a connection with an adjoining car, 15 being the usual pendent stirrup-bar to support the outer or free end of the draw-link 14.

In the operation of my improved draft apparatus the links will swing on the heads 13 as a pivot as the train of cars is running

around a curve and at all times keep the bumper-irons 16 on the ends of the cars together, so as to avoid shocks and jars in the checking up, stopping, or starting of the train of cars. The faces of the bumpers 16 in the present invention are formed on a curve, the center of which is the pivot-axis in the pivot or draw-head 13 for the draw-link 14.

To insure proper contact between the bumpers 16 of the cars, regardless of the wear of the coupling-links, &c., shrinkage of the longitudinal car or truck timbers, I make the draw-heads 13 adjustable longitudinally on the central draw-timber 12 in the following manner: 17 is a ratchet formation on one face of such draw-heads 13, that engages in an adjustable manner with a similar ratchet formation on a sole-plate 18, attached to the timber 12, as shown, the parts being held to their desired adjustment by the usual bolt or bolts 19, as clearly shown in Fig. 3. With my improved arrangement of independent rigid truck-frame and draft appliances solely connected to the ends of the centrally-arranged draw-timber 12, that extends from end to end of the truck and forms a direct connection between the links 14 at either end of the car, I avoid in a very perfect manner the springing and buckling of the car-body that takes place where a car of the usual construction is quickly stopped by the sudden application of the brakes. By avoiding such objectionable features I not only add to the comfort of the passengers, but at the same time save the car from rapid wear and destruction. In addition thereto the general arrangement of the parts forms a non-resonant connection of the car-body to the truck, so that but little, if any, of the truck noises or sounds are conducted up into the car.

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

1. The combination of the car frame or body 1, the independent truck-frame 2, and connecting guide-brackets 3 with the interposed springs 9, extending up inside the car-frame and resting under the overhanging portions of the bolster-plates that are arranged in line with the top of the car-frame, essentially as set forth.

2. The combination of the car frame or body 1, the independent truck-frame 2, and connecting guide-brackets 3, secured to the car-frame and formed with vertical guide-sockets 4, the bottoms of which are closed to limit the movement between the parts, substantially as set forth.

3. The combination of the car frame or body 1, the independent truck-frame 2, and connecting guide-brackets 3, secured to the car-frame and formed with vertical guide-sockets 4, the bottoms of which are closed, and the interposed non-resonant facing 5, substantially as set forth.

4. The combination of the car frame or body 1, the independent truck-frame 2, and

connecting guide-brackets 3, secured to the car-frame and formed with vertical guide-sockets 4 and sockets 7 for the reception of the inner ends of the platform-stringers, substantially as set forth.

5. The combination of the car frame or body 1, and the independent truck-frame 2, having a central draft-timber 12, carrying the

draw-heads 13 and draw-links 14, and the coupling-links of the car, substantially as set forth. 10

In testimony whereof I affix my signature in presence of two witnesses.

MAGNUS OHLSON.

Witnesses:

ROBERT BURNS,
GEO. H. ARTHUR.