M. L. JENKINS.

RAILWAY TRACK CAR.

APPLICATION FILED SEPT. 29, 1909.

963,576. Patented July 5, 1910.

5 SHEETS—SHEET 1.

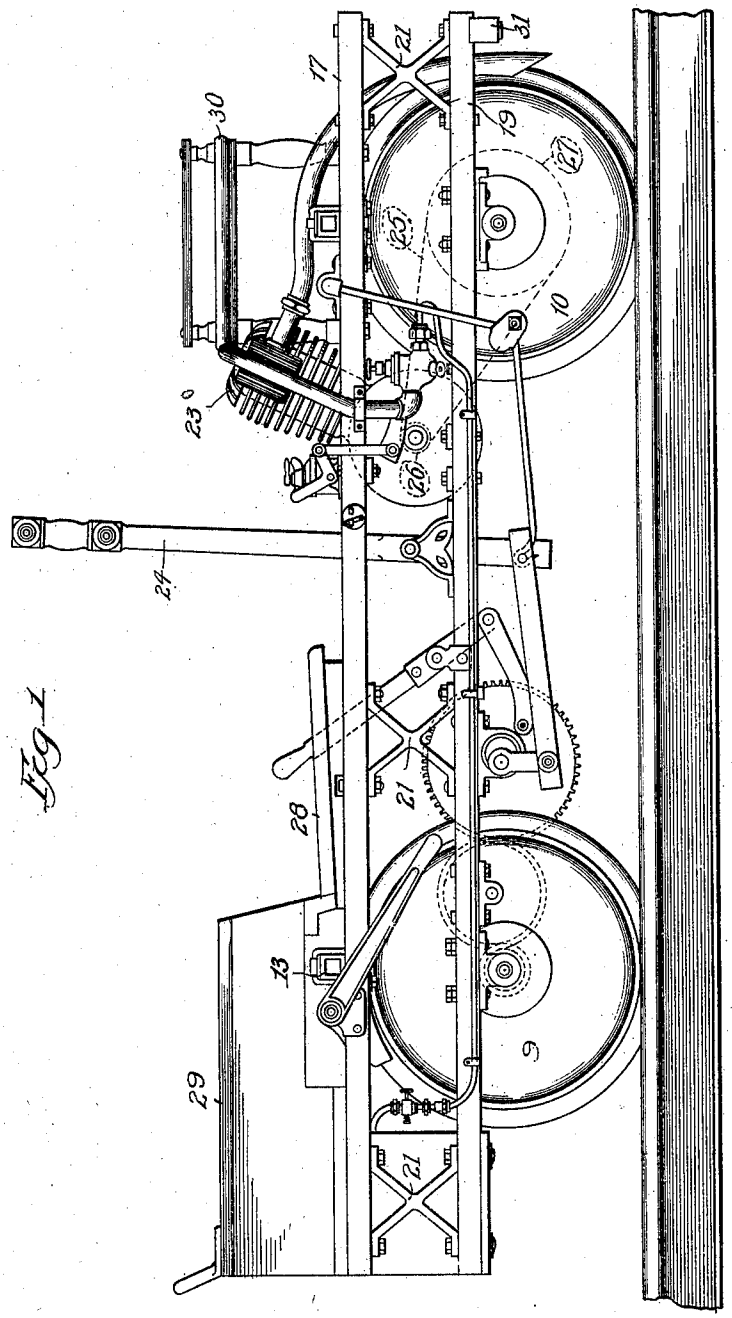

Fig. 1.

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5 SHEETS—SHEET 2.

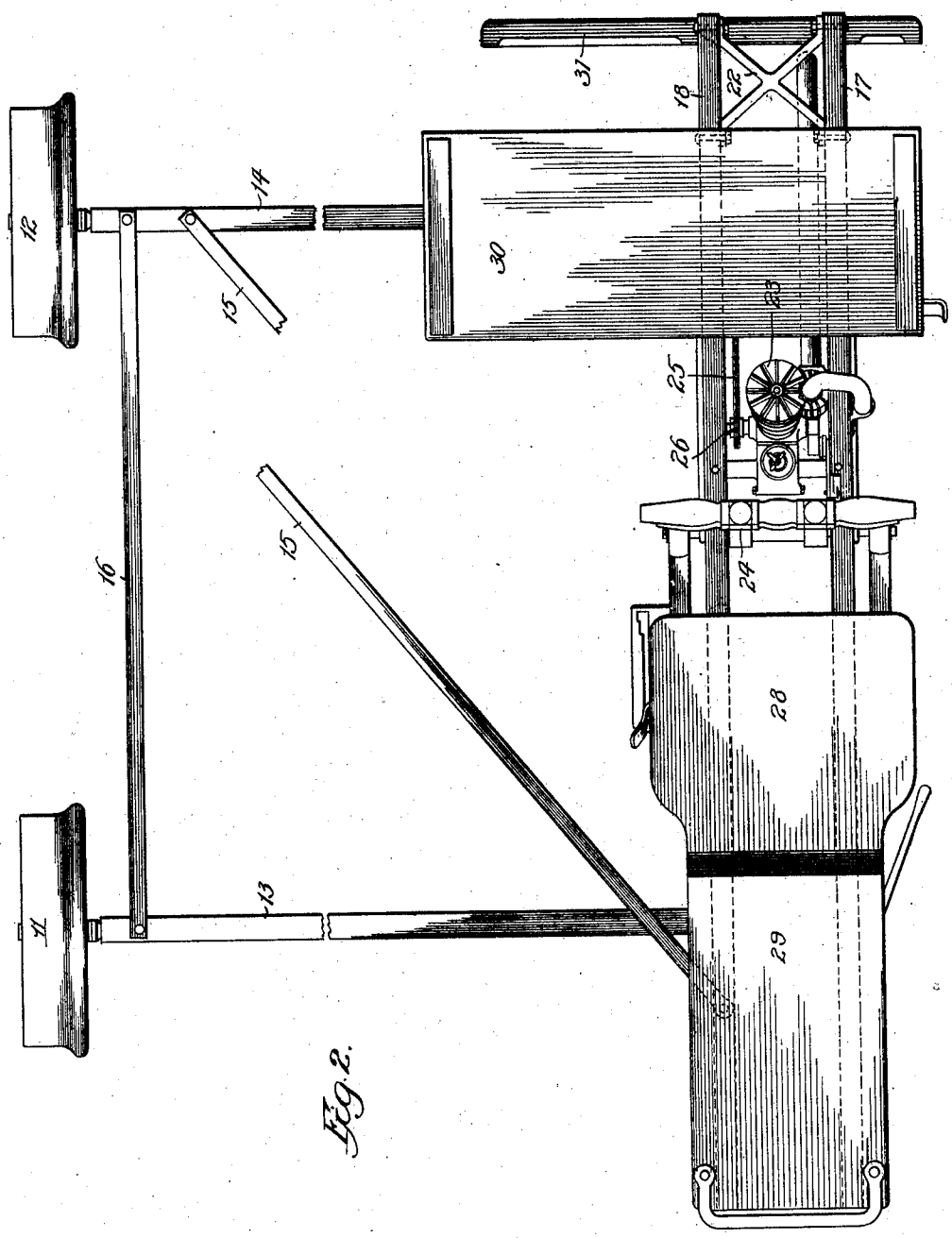

Fig. 2.

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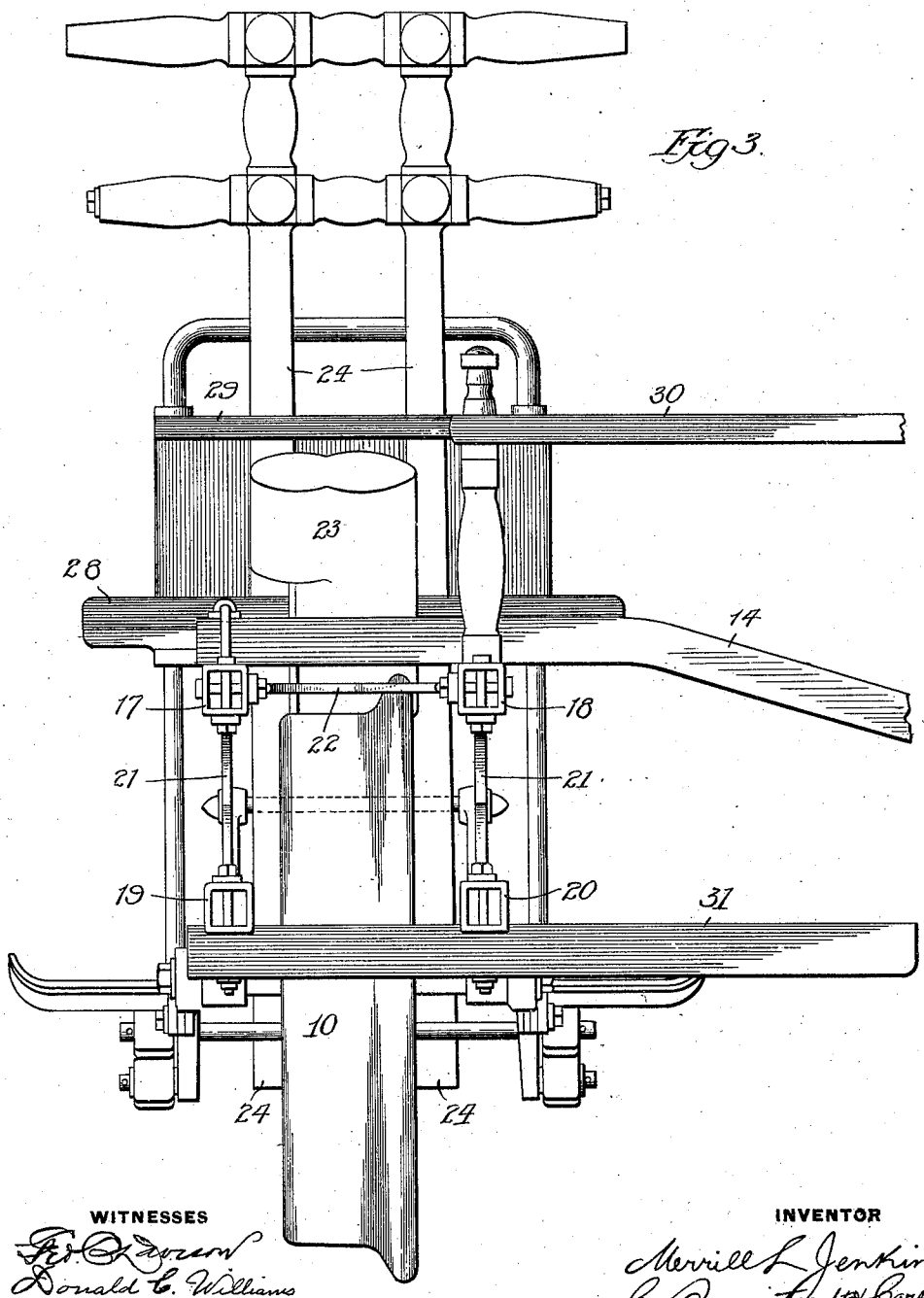
5 SHEETS—SHEET 3.

Fig 3.



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5 SHEETS—SHEET 4.

Fig. 5

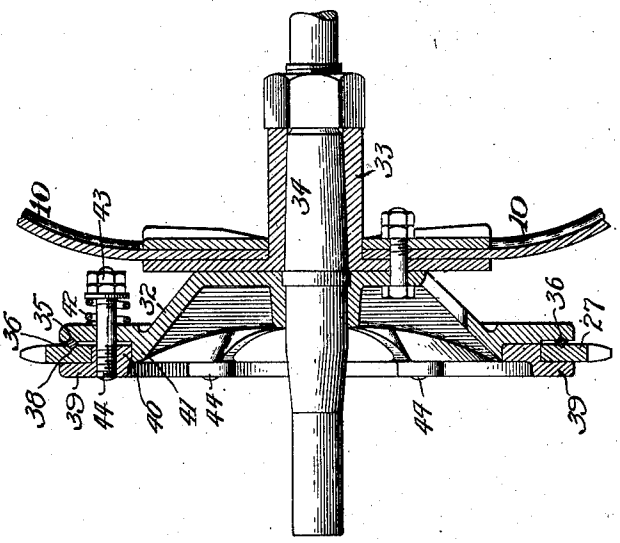
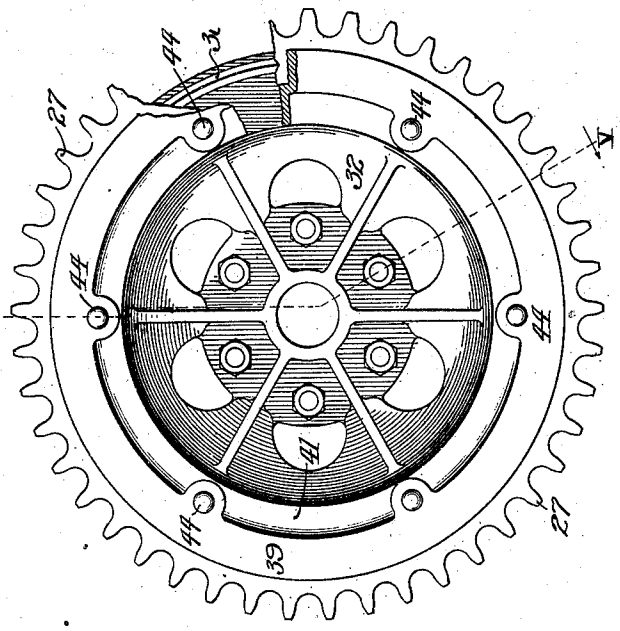


Fig. 4



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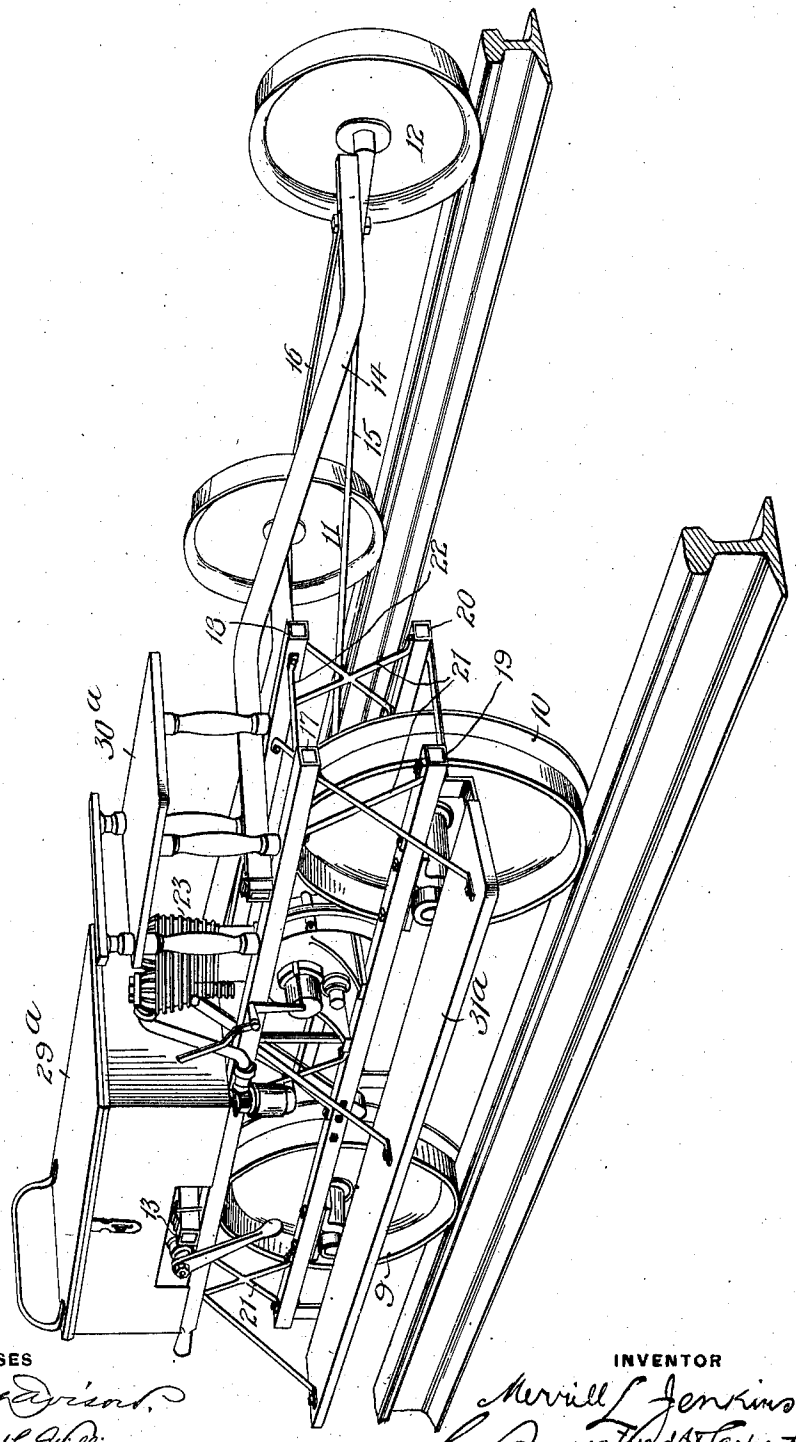
5 SHEETS—SHEET 5.

Fig 6



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UNITED STATES PATENT OFFICE.

MERRILL L. JENKINS, OF HARVEY, ILLINOIS, ASSIGNOR TO BUDA FOUNDRY & MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

RAILWAY-TRACK CAR.

963,576. Specification of Letters Patent. **Patented July 5, 1910.**

Application filed September 29, 1909. Serial No. 520,070.

To all whom it may concern:

Be it known that I, MERRILL L. JENKINS, a citizen of the United States, residing at Harvey, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Track Cars, of which the following is a specification.

My present invention relates primarily to railway motor velocipedes, and has special reference to velocipedes driven by explosive engines.

The principal objects of my invention are the provision of an improved form of construction of vehicles of the character referred to, and one which will be stronger and less likely to fail or get out of order in service than others known to me; to provide improved frame work for such cars, by the use of which I can attain a very much greater degree of strength without appreciable, if any, increase in weight.

A further object of my invention is the provision of an improved form of driving connection between the motor and the driving wheel, embodying a positive driving connection between the motor shaft and the large driving gear or sprocket and a yieldingly resistant connection interposed between said sprocket and the driving wheel, whereby strain or shock, such as occurs at the instant explosion takes place in the motor, or as might be incident in the event of accident, or jarring in passing over frogs or switches and all other shocks which impose great tension upon the driving chain, may be compensated for.

Still another object of my invention is the provision of an improved arrangement of seats and controlling levers whereby three or more people may be carried on the car and whereby the car may be more conveniently used and manipulated.

In the attainment of the foregoing objects, I have provided the construction illustrated in the accompanying drawings wherein—

Figure 1 is a side elevation of a car embodying my improvements;

Figure 2 is a plan view of the car illustrated in Figure 1;

Figure 3 is an end view of a portion of said car;

Figure 4 is an elevation partly in section of an improved form of sprocket driving mechanism used on the driving wheel;

Figure 5 is a sectional view taken on the line V—V of Figure 4;

Figure 6 is a perspective view, illustrative of another form of car embodying my inventions.

Referring now more particularly to Figures 1, 2 and 3, it will be noted that in carrying out my invention, I provide a rear driving wheel 9, and a forward driving wheel 10, running upon one rail, with a third wheel 11 and a fourth wheel 12 running upon the other rail, said wheels 11 and 12 being mounted on the ends of connecting bars 13 and 14 which are held in position by means of the diagonal brace 15 and distance rod 16, and secured as shown to the main frame.

The main frame of the car consists primarily of upper and lower longitudinal members 17, 18 and 19, 20 respectively.

As is most clearly to be seen in Figures 1 and 3, the frame members 17, 18, 19 and 20 are formed of metallic tubing, preferably square in cross section to better resist the stresses and shocks of service and to afford a more convenient seat for anchorage of the X-form struts and spacing members 21 (Figure 1) and 22 (Figure 3) respectively, whereby the several members 17, 18, 19 and 20 are respectively maintained in proper juxtaposition relatively to each other.

Between the longitudinal members 17, 19 and 18, 20 are mounted the driving wheels and the driving motor 23 secured as shown between the hand lever 24 and the forward driving wheel, and having a chain 25 running from a pinion 26 on the motor shaft to a large sprocket ring 27 supported from the axle of the forward driving wheel in a manner to be below described.

At the rear of the hand lever 20 is arranged the operator's seat 28, and back of this an extension 29 within which may be located the oil supply reservoir, battery cells, tools and other incidental devices useful in the operation of the car.

To provide means whereby two or more additional passengers may be carried at the forward end of the car, I arrange forwardly of the engine and transversely of the framing an extended seat 30 with a suitable foot-

rest 31 by which the passengers are enabled to face forwardly as is useful in track inspection tours and for other purposes known to railway maintenance of way and signal men.

The rear driving wheel 9 is arranged to be manually driven in a manner in all substantial respects the same as that described in Letters Patent of the United States No. 914,845 granted to me upon the ninth day of March A. D., 1909.

Referring now more particularly to Figures 4 and 5, it will be observed that to provide improved means which will compensate for jars or shocks and save the chain from the breakage which I have found incidental to the use of positively connected explosive motors in railway velocipede cars and cars equipped with wheels having metallic traction surfaces or treads, I have devised a mechanism which here includes the spider 32 which is bolted directly to the hub 33 of the forward driving wheel 9 mounted on the axle 34. The spider 32 is provided with an angular, annular groove 35 wherein I mount a ring 36, preferably of phosphor bronze and substantially square cross section, providing the sprocket 27 with a similar angular annular groove 38 designed to receive the diagonally opposite portion of said ring 36. To hold the sprocket, ring and spider in proper juxtaposition, I provide a clamping ring 39, preferably of bronze and having an internal shoulder 40 adapted to fit closely as a collar a corresponding peripheral shoulder 41 formed upon the spider 32. To the end that the tension between the several members may be varied as the circumstances of service may require, and in order to allow for compensation for any wear, springs 42 are interposed between the spider and the nuts 43 screw-threaded upon the studs 44 by means of which the clamping ring 39 is drawn toward the spider 32.

From an inspection of the construction above described, it will be perceived that in carrying out my invention, I have provided a device which will permit a certain amount of yieldingly resisted slip to occur between the sprocket 27 and the wheel 9 at the instant the explosion takes place in the motor, whereby the chain is relieved of extraordinary shock, and, as I have found in practice, breakage of the chain is avoided.

Referring now more particularly to Figure 6, it will be observed that in the modified form of my invention here illustrated, the hand lever 24 and the parts actuated thereby for driving the rear wheel 9 are eliminated. This construction permits the removal of the seat 28 (Fig. 1), the use of a vertical engine, and thence the attainment of a machine of considerably shorter wheel base and one which is more compactly arranged and of stiffer frame. It also allows the seats 29^a and 30^a to be brought closely together and the use of a single running board 31^a arranged longitudinally of the car and available to both seats instead of transversely of the car and available only to seat 30^a.

It will be understood that as the terms "railway track car" and "velocipede" are used herein, they are used in their generic sense, and that certain features of construction are not limited to use in a vehicle employing foot or manual driving means or otherwise.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:

1. The combination with a railway motor car of a continuous yielding drive between the motor and one of the wheels of the car comprising a sprocket having frictional driving connection with the said wheel, adjustable spring means for maintaining such driving connection, and a chain drive between the motor and the said sprocket.

2. In combination in a railway track car, having a driving wheel, a motor, and driving connections between the motor and drive wheel; a frame comprising a pair of longitudinal metallic tubes of substantially square cross section, one of which is disposed on each side of the drive wheel, and substantially X shaped spacing members whereby said tubes may be maintained in position relatively to each other.

3. In combination in a railway track car, having a driving wheel, a motor, and driving connections between the motor and drive wheel; a frame comprising a pair of longitudinal metallic tubes, one of which is disposed to each side of the drive wheel, and substantially X shaped spacing members whereby said tubes may be maintained in position relatively to each other.

4. A railway motor car, comprising, in combination, a motor, a driving wheel, a gear, a positive connection for driving said gear from said motor, and a spring actuated resistance device between said gear and said driving wheel.

5. A railway motor car comprising, in combination, a motor, a driving wheel having a hub, a gear, a positive connection for driving said gear from said motor, and a spring actuated resistance device interposed between said hub and gear.

6. A railway motor car comprising, in combination, a motor, a driving wheel having a hub, a gear, a positive connection for driving said gear from said motor, a clamping ring and means for drawing said ring toward said hub, said gear being interposed between the ring and hub.

7. A railway motor car comprising in combination a motor, a driving wheel hav-

ing a hub, a gear, a positive connection for driving said gear from said motor, a clamping ring, and yieldingly resistant means for drawing said ring toward said hub, the gear being interposed between the ring and hub.

8. A railway motor car comprising, in combination, a motor, a driving wheel having a hub, a gear, a positive connection for driving said gear from said motor, a frictional device, a clamping ring and means for drawing said ring toward said hub, the gear and frictional device being interposed between the ring and hub.

9. A railway motor car comprising, in combination, a motor, a driving sprocket, a spider, a sprocket, a chain connection for driving said wheel from said motor, a clamping ring, and a frictional ring interposed between said sprocket and spider and carried in grooves formed therein, and means for drawing the clamping ring toward the spider.

10. A railway motor car comprising, in combination, a motor, a driving sprocket, a spider, a sprocket, a chain connection for driving said wheel from said motor, a clamping ring, and a frictional ring interposed between said sprocket and spider and carried in grooves formed therein, and yieldingly resistant means for drawing the clamping ring toward the spider.

In testimony whereof I have hereunto signed my name in the presence of the two subscribed witnesses.

MERRILL L. JENKINS.

Witnesses:

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CLYDE H. DE LANO.