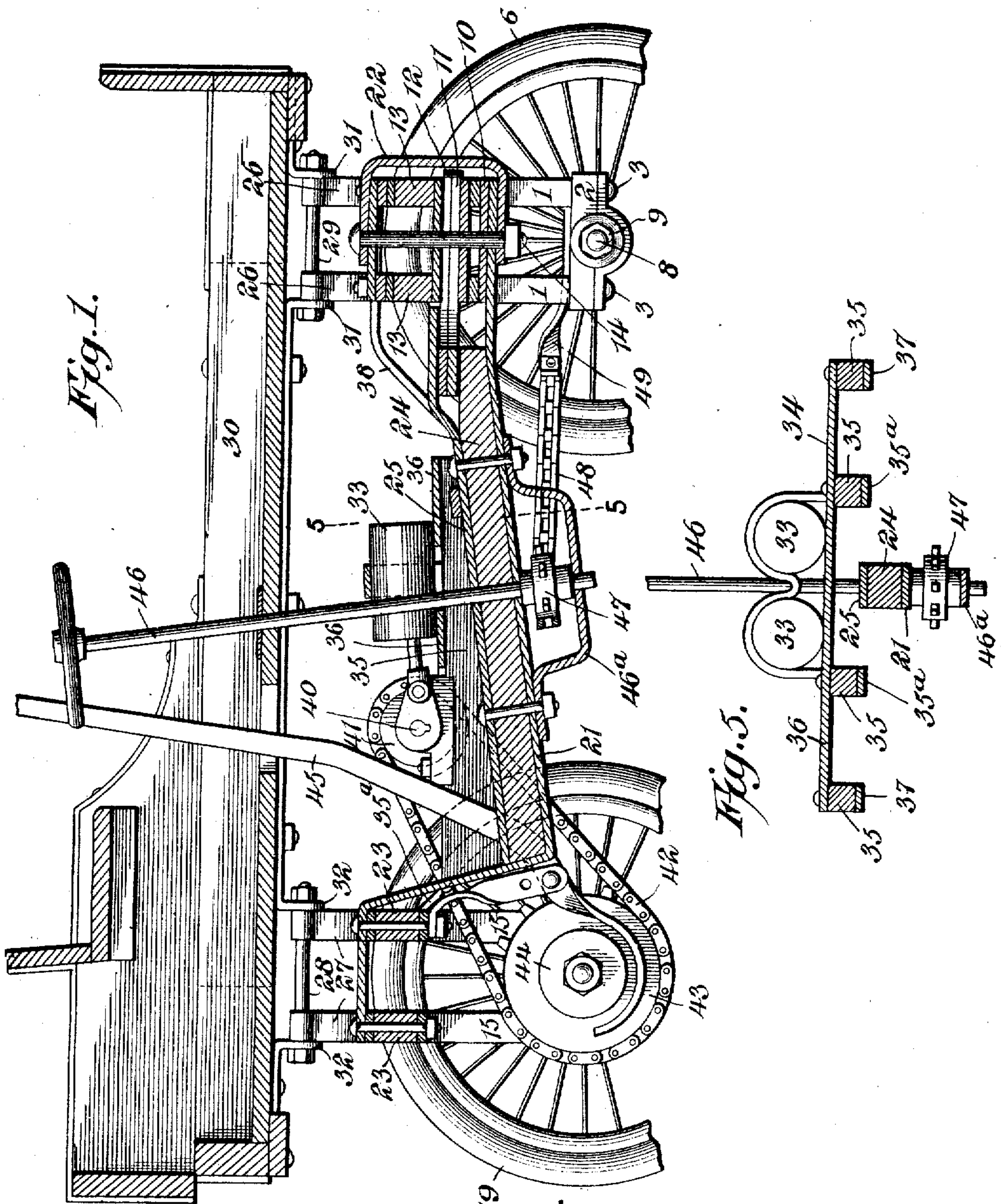


No. 844,375.

PATENTED FEB. 19, 1907.

W. D. LLOYD.
MOTOR VEHICLE.
APPLICATION FILED JAN. 2, 1906.

3 SHEETS—SHEET 1.



Witnesses
Howard D. Orr.
J. F. Riley.

William D. Lloyd, Inventor,

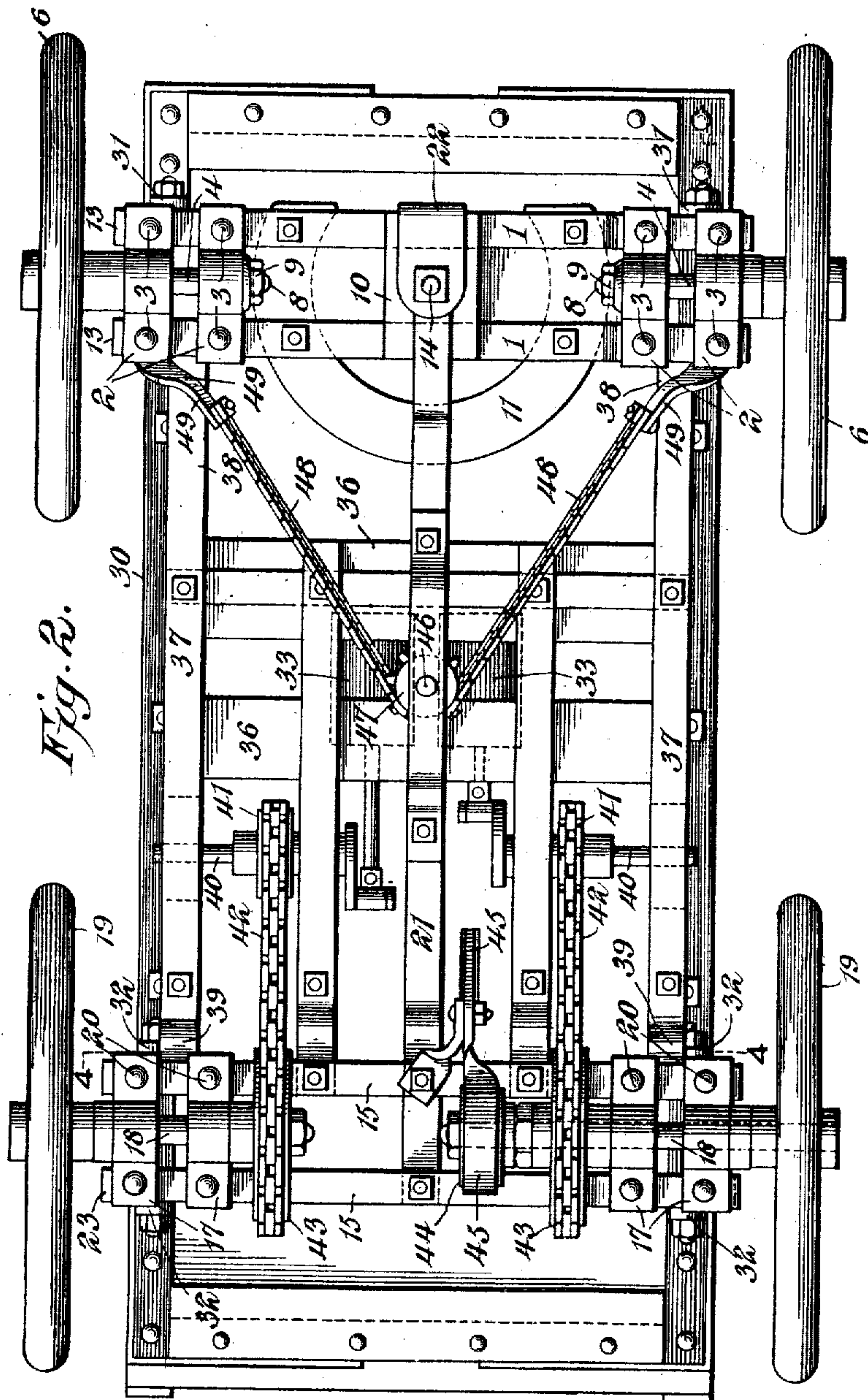
By
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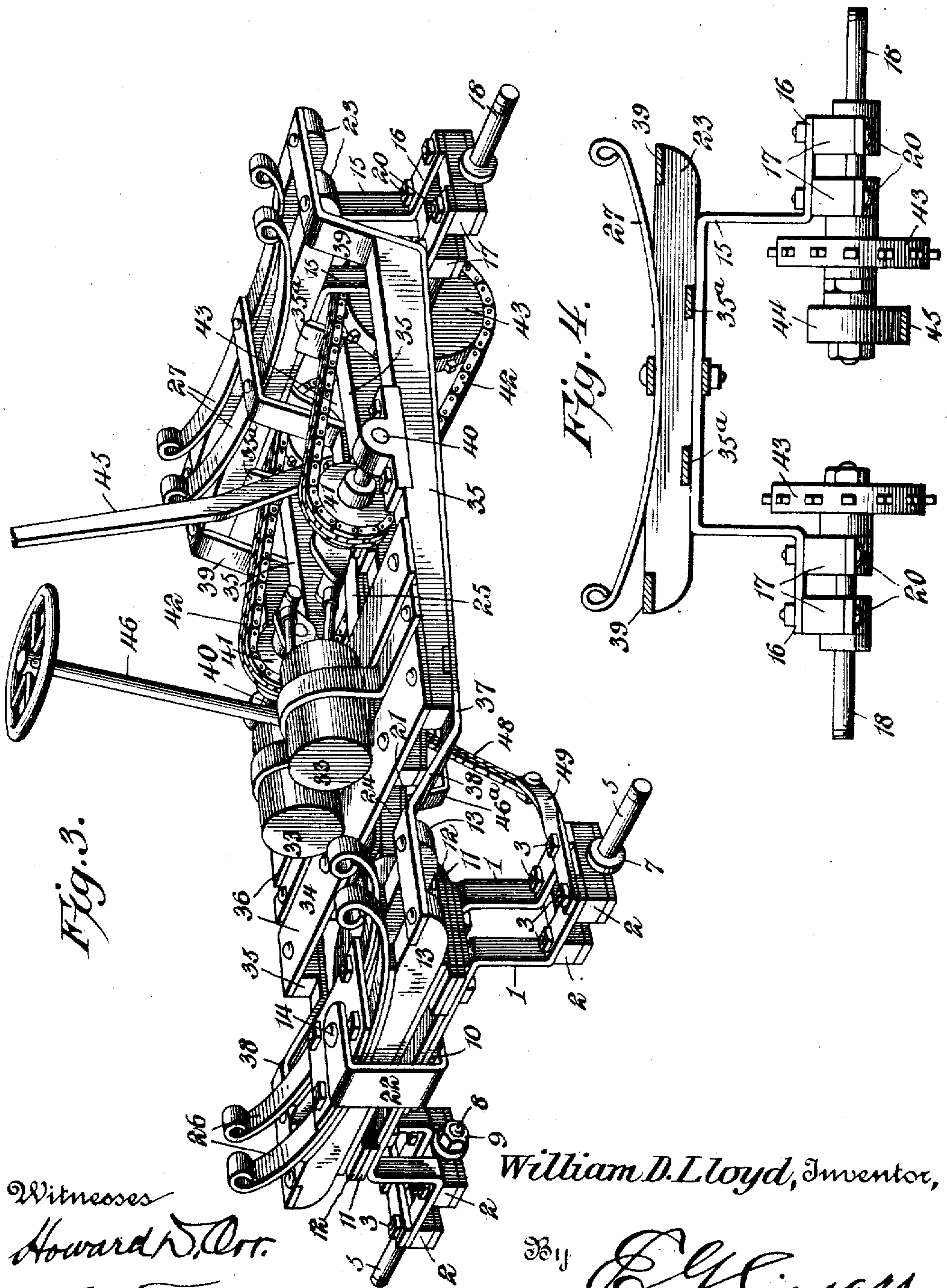
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3 SHEETS—SHEET 3.



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UNITED STATES PATENT OFFICE.

WILLIAM DANIEL LLOYD, OF AUSTIN, TEXAS, ASSIGNOR OF ONE-HALF TO
JOHN B. VINSON, OF AUSTIN, TEXAS.

MOTOR-VEHICLE.

No. 844,375.

Specification of Letters Patent.

Patented Feb. 19, 1907.

Application filed January 2, 1906. Serial No. 294,142.

To all whom it may concern:

Be it known that WILLIAM DANIEL LLOYD, a citizen of the United States, residing at Austin, in the county of Travis and State of Texas, has invented a new and useful Motor-Vehicle, of which the following is a specification.

The invention relates to improvements in motor-vehicles.

10 The object of the present invention is to simplify and improve the construction of motor-vehicles, more especially the running-gear thereof, and to provide a strong and durable construction adapted to afford a sufficient support for the motor and driving-gears at a point beneath the body of the vehicle and between the front and rear axles, where a load can be carried to the greatest advantage.

20 With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

35 In the drawings, Figure 1 is a longitudinal sectional view of a motor-vehicle constructed in accordance with this invention. Fig. 2 is a reverse plan view. Fig. 3 is a perspective view of the running-gear, the wheels and the body being removed. Fig. 4 is a transverse sectional view taken substantially on the line 4 4 of Fig. 2. Fig. 5 is a detail sectional view taken substantially on the line 5 5 of Fig. 1.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

45 The front and rear axles of the running-gear are arched and are constructed substantially the same. The body portion of the front axle is composed of two arched bars 1, spaced apart and connected at their ends by bearing-blocks 2, which are arranged in pairs and which are bolted or otherwise secured to the terminals of the arched bars 1. The arched bars consist of substantially vertical sides and connecting horizontal top

portions, and their terminals are bent outward at right angles and are pierced by the bolts 3, which secure the bearing-blocks to it. The bearing blocks or boxes, which may be of any preferred construction, receive shanks 4 of spindles 5, which are journaled in the said bearing blocks or boxes and which receive the front wheels 6. The spindles are provided at the inner ends of their outer bearing portions with collars 7, which fit against the inner ends of the hubs of the front wheels and which also are arranged contiguous to the outer bearing-boxes. The terminals 8 of the shanks are threaded for the reception of nuts 9, which retain the spindles in the bearings of the front axle; but any other suitable means may be employed for this purpose. The intermediate portions of the arched bars of the front axles are connected at their lower faces by a plate 10, and they also have secured to them at their upper faces the lower member 11 of a fifth-wheel, which has its upper member 12 secured to a pair of bolsters 13. The axle is pivotally connected with the front bolsters 13 by means of a king-bolt 14, which extends through the upper and lower members of the fifth-wheel and through the said plate 10, as clearly shown in Fig. 1 of the drawings.

85 The rear axle is composed of arched bars 15, spaced apart and connected at their outward ends 16 by bearing blocks or boxes 17, in which are journaled rear spindles 18, to the outer portions of which are secured the rear wheels 19 of the vehicle. The driving mechanism, as hereinafter explained, is connected with the inner portions of the rear spindles for driving the rear wheels. The front spindles are preferably fixed in the blocks or boxes of the front axle, and they may be clamped or otherwise secured to the same in any other desired manner. The rear bearing boxes or blocks 17 are secured to the arched bars by means of bolts 20, and both the front and rear blocks or boxes are preferably composed of sections, which are connected by the bolts 3 and 20.

100 The front and rear axles are connected by a central reach 21, and the front of the running-gear is preferably braced by a yoke 22, consisting of an upright front portion and upper and lower arms, which are perforated for the reception of the terminals of the king- 105

bolt. The front end of the reach is pivoted to the front axle by the king-bolt, and the rear portion of the reach is angularly bent and is bolted or otherwise rigidly connected with the rear axle at the upper faces of a pair of rear bolsters 23. The reach may be constructed in any preferred manner; but it preferably consists of a metal bar bent as shown and reinforced by a wooden stock or body 24, bolted upon the intermediate portion of the reach and also being crossed by a top metallic bar 25.

The front and rear bolsters have concave upper faces and receive semi-elliptical leaf-springs 26 and 27, having terminal eyes for the reception of bolts 28 and 29. The bolts 28 and 29, which secure the body 30 of the vehicle to the running-gear, pass through the terminal eyes of the springs and through depending ears or flanges 31 and 32 of the said body 30. The ears or flanges preferably consist of downturned ends of metal bars or strips, which are secured to the bottom of the body of the vehicle, as clearly shown in Fig. 1 of the drawings. The springs yieldably support the body of the vehicle and are not subjected to the weight of the motor and the gearing, which are rigidly connected with the running-gear independently of the body and the supporting-springs thereof, as hereinafter explained.

The motor, which preferably embraces a pair of cylinders 33, is mounted upon a platform or support 34, composed of a plurality of spaced longitudinal bars 35 and suitable connecting-bars 36, which are disposed transversely of the platform. The platform or support is provided with longitudinal metallic side bars 37, having angularly-bent terminal portions 38 and 39, which are extended to the front and rear bolsters, being bolted or otherwise secured to the same, as clearly shown in Fig. 3 of the drawings. The intermediate members of the spaced bars are connected with the arch of the rear axle by means of metallic bars or straps 35^a, secured to the lower faces of the said intermediate members and having angularly-bent rear portions, which are interposed between one of the arched bars of the rear axle and the contiguous bolster. The angularly-disposed portions of the bars 35^a and the side bars 37 form upwardly-extending hangers for connecting the motor-receiving platform or support with the arches of the front and rear axles. By this construction and arrangement the motor is rigidly mounted on the running-gear, and the springs for supporting the body of the vehicle are entirely relieved of the weight of the motor.

The cylinders, which may be strapped or otherwise secured upon the platform or support, have their pistons suitably connected by crank mechanism or eccentrics with a pair of driving-shafts 40, which have sprocket-

wheels 41 keyed or otherwise secured to them. The sprockets 41 receive driving-chains 42, which are arranged on and mesh with sprocket-wheels 43, which are mounted on the inner ends of the shanks or bearing portions of the rear spindles or stub-axes, whereby the vehicle will be propelled when the motor is started. Any other preferred form of motor may be employed, and one of the spindles or stub-axes carries a brake-wheel 44, arranged to be engaged by the lower arm of an upright brake-lever 45, fulcrumed at an intermediate point on the running-gear and extending upward through a slot or opening of the bottom of the vehicle-body and arranged within easy reach of the operator. The lower arm of the brake-lever is curved to conform to the configuration of the brake-wheel; but any other preferred form of brake may be provided.

The motor-vehicle is guided by a steering-shaft 46, journaled in suitable bearings of the running-gear and having its lower end depending from the reach at a central portion thereof. The depending portion of the steering-shaft is supported by a brace 46^a and is provided with a sprocket-wheel 47, which meshes with the intermediate portion of a sprocket-chain 48, that extends from the steering-shaft to the front axle at opposite sides of the arch. The terminals of the sprocket-chain 48 are connected to short metal bars or pieces 49, which are secured to the front axle by the fastening devices for the attachment of the outer bearing blocks or boxes. The steering-shaft is provided at its upper end with a steering-wheel or other suitable means for enabling it to be rotated, and by rotating the steering-shaft the front axle may be turned on the king-bolt in the usual manner.

It will be seen that by mounting the motor and the gearing solidly upon the running-gear and independently of the springs for supporting the body of the vehicle a motor of considerable weight and power may be employed without changing the character of the springs for supporting the body of the vehicle.

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

1. In a motor-vehicle, the combination of a running-gear embodying front and rear axles and bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, and a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the said springs.

2. In a motor-vehicle, the combination of a running-gear embodying front and rear arched axles and body-supporting springs, and a motor support or platform located between the axles and provided with side bars

having angular extensions connected with the running-gear at the arches of the axle independently of the said springs.

3. In a motor-vehicle, the combination of front and rear axles consisting of arched bars, blocks or pieces connecting the terminals of the arched bars, and stub-axles mounted on the said blocks or pieces, bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, and a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the said springs.

4. In a motor-vehicle, the combination of front and rear axles consisting of arched bars having extended terminals, bearings connecting the terminals, and stub-axles mounted in the bearings, bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the springs, and gearing located within the arch of the rear axle and connected with the stub-axles thereof.

5. In a motor-vehicle, the combination of front and rear axles consisting of arched bars, and stub-axles mounted on the ends of the arched bars, the stub-axles of the rear axle being independently rotatable, bolsters mounted on the front and rear axles, a body, springs mounted on the bolsters and supporting the body, a motor-receiving platform connected with the bolsters and mounted independently of the springs, and gearing located within the arch of the rear axle and connected with the stub-axles thereof.

6. In a motor-vehicle, the combination of a running-gear having an arched rear axle provided with spindles journaled at the ends of the arch of the axle, drive-shafts, sprocket-gearing connecting the drive-shafts with the spindles, and a motor having independent cylinders for operating the said drive-shafts.

7. In a motor-vehicle, the combination of front and rear axles, each comprising spaced arched bars, spindles connected with the ends of the arched bars, bolsters supported by the axles, body-supporting springs mount-

ed on the bolsters, and a motor support or platform rigidly connected with the bolsters and mounted independently of the said springs.

8. In a motor-vehicle, the combination of spaced front and rear arched bars, blocks or pieces connecting the ends of the bars, spindles mounted on the blocks or pieces, bolsters supported by the arched bars, body-supporting springs also mounted on the bolsters, and a platform or support arranged to receive a motor and composed of spaced bars and connecting-pieces, said platform or support being provided at the front and back with angular hangers secured to the bolsters independently of the said springs.

9. In a motor-vehicle, the combination of front and rear arched axles, the rear axle being provided with independently-rotatable spindles, bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the said springs, driving-shafts mounted on the platform or support at opposite sides thereof, and means for communicating motion from the driving-shafts to the said spindles.

10. In a motor-vehicle, the combination of front and rear arched axles, the rear axle being provided with independently-rotatable spindles, bolsters supported by the axles, a body, springs mounted on the bolsters and supporting the body, a motor-receiving platform or support rigidly connected with the bolsters and mounted independently of the said springs, driving-shafts mounted on the platform or support at opposite sides thereof, and sprocket-gearing connecting the driving-shafts with the inner ends of the said spindles.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM DANIEL LLOYD.

Witnesses:

C. O. WELLER,
R. J. GRANT.