(No Model.)

T. C. OAKMAN.

MOTOR CAR.

No. 466,009. Patented Dec. 29, 1891.

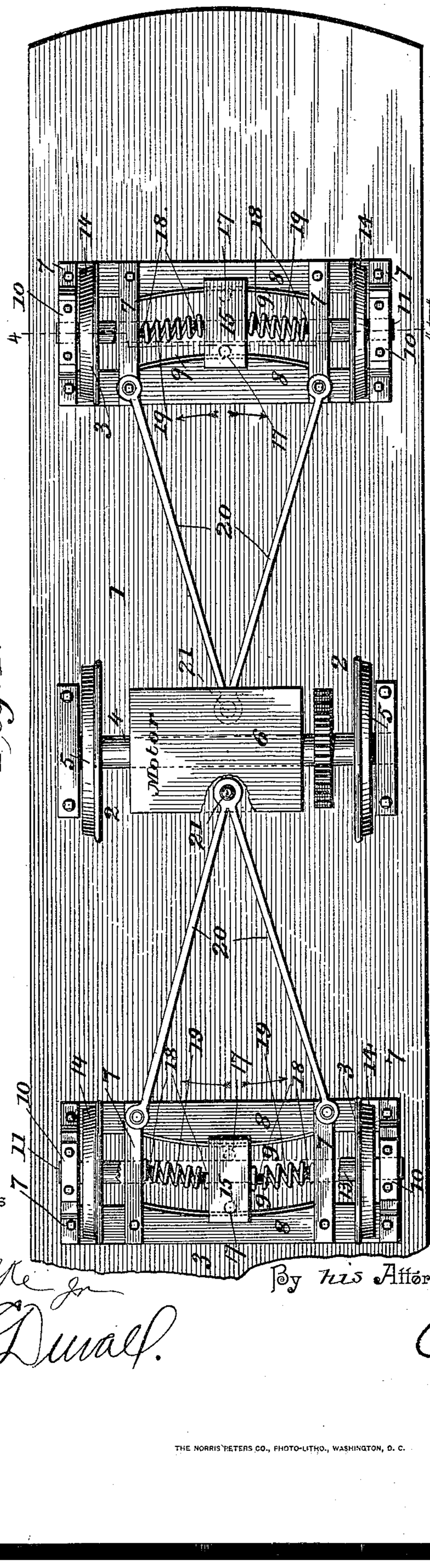

Fig. 1.

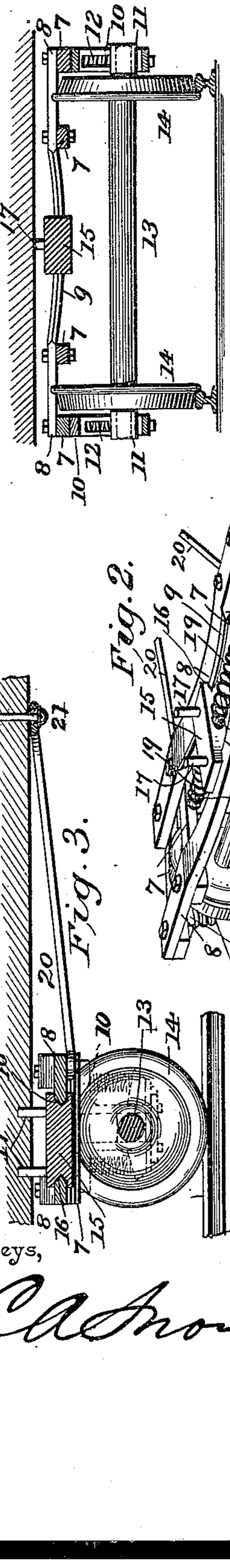

Fig. 4.

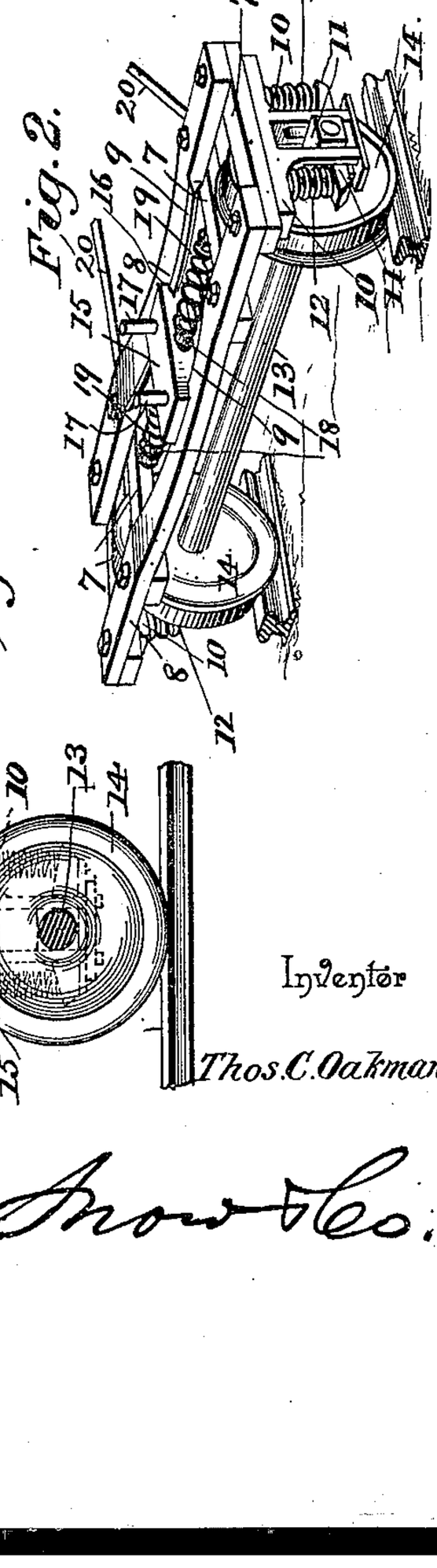

Fig. 2.

Fig. 3.

Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS C. OAKMAN, OF AURORA, ILLINOIS.

MOTOR-CAR.

SPECIFICATION forming part of Letters Patent No. 466,009, dated December 29, 1891.

Application filed August 19, 1891. Serial No. 403,098. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. OAKMAN, a citizen of the United States, residing at Aurora, in the county of Kane and State of Illinois, have invented a new and useful Motor-Car, of which the following is a specification.

This invention relates to improvements in motor-cars, and principally of that class employed in surface-railroad street systems.

The objects of my invention are to provide a car which by reason of its construction is adapted to round curves with facility and ease, and which employs but one drive-axle that mainly supports the weight of the car, whereby I avoid the necessity, by reason of the location of the axle, of the usual two axles, or the necessity of gearing running from the motor to two axles.

With these objects in view the invention consists in certain features of construction hereinafter specified, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a bottom plan view of a car constructed in accordance with my invention. Fig. 2 is a detail in perspective of one of the pilots or end trucks. Fig. 3 is a longitudinal section. Fig. 4 is a transverse section thereof.

Like numerals of reference indicate like parts in all the figures of the drawings.

In the drawings, 1 designates the car-body, 2 the central drive-axle supporting-truck, and 3 the opposite end trucks or pilots. In the central truck is journaled the drive-axle 4, carrying the drive-wheels 5, and above the axle any suitable motor 6 is located and connected. Any style of truck or pilot may be employed at the ends of the car, it simply being necessary that they be pivoted or yieldingly connected in some manner with the car-body. In the present instance I have illustrated one form of truck, which by experience I have found to be well adapted for this use, though, as hereinbefore stated, other forms may be substituted.

In operation the drive-axle located at the center of the car supports nearly the entire load, the pilot-trucks carrying only sufficient of the load to maintain their wheels in engagement with the track. The pilots, being pivotally and yieldingly connected with the car, readily yield to the curves of the track. By thus locating the drive-axle at the center of the car the construction is simplified in that but one drive-axle is employed, and I avoid the necessity of running two sets of gears from the motor to two separate drive-axles. I am also enabled to employ trucks or pilots of a construction better adapting them to follow the curvature of the tracks, and to act as front and rear axles, than is the case where the motors are connected with the front and rear axles. Each pilot consists of a frame composed of end bars 7, arranged in pairs, and transverse connecting-bars 8, bolted to said end bars, and at their centers slightly depressed or dished, while their inner edges are curved, as indicated at 9. From the end bars depend slotted hangers 10, in which are mounted the journal-boxes 11, between which and the frame of the truck coiled springs 12 are located, so that said journal-boxes are yieldingly held at the lower ends of the slots of the hangers. The axles 13, journaled in the boxes, are provided with the usual wheels 14.

15 designates a plate, the opposite edges of which are recessed, as at 16, to embrace the curved beveled edges 9 of the bars 8, so that this plate is adapted to move on the arc of a circle between the bars, which arc of a circle is about coincident with the center of the car-body. Pins 17 extend upwardly from the face of the plate and connect the plate with the body. Trunnions 18 extend from the opposite edges of the plate and from the inner bars 7, and between the pairs of trunnions of the bars and plate are interposed coiled springs 19, which serve to yieldingly maintain the plate at the center of the frame.

20 designates a V-shaped bail, the terminals of which are connected to the inner edge of the frame of the truck, and the inner end of which is pivoted, as at 21, to the car-body, near the center of the same. When the pilots are on curves, the springs 19 yield enough to let the trucks follow the curve naturally, the plate 15 moving between the curved edges and giving the proper angle to the axles of the car. After the curve has been passed the springs return the plates to their normal positions at the center of the truck.

Having described my invention, what I claim is—

1. The combination, with a car-body and

opposite yielding pilot-trucks, of a central stationary axle, a motor for driving the same, and loose connections between the driving and pilot trucks, substantially as specified.

2. The combination, with a car-body and a centrally located and driven axle, of the opposite pilots located at the ends of the car and each consisting of the rectangular frame having side and end bars, the former having their inner edges curved, the plate mounted between the edges and grooved to receive the same and bolted to the collar, the coiled springs interposed between the plate and end bars, the slotted hangers depending from the frame, the axles journaled in boxes mounted in the slots and spring-pressed into the bottoms of the slots, substantially as specified.

3. The combination, with a car-body and a centrally located and driven axle, of the opposite pilots located at the ends of the car, each of said pilots consisting of the front and rear bars 8, having their inner edges curved and beveled, the pairs of connecting-bars 7, the inner ones of which are provided with trunnions, the plate 15, grooved at its edges and mounted between the curved edges of the bars 8 and provided at opposite sides with trunnions, said plate being bolted to the car, the coiled springs interposed between the trunnions of the plate and bars, the V-shaped bail 20, pivoted, as at 21, to the car-body near its center and having its ends connected with the inner bar 8, the slotted hangers 10, depending from the bars 7, the boxes 11, mounted in the slots, the journals mounted in the boxes, the wheels on the journals, and the springs 12, interposed between the boxes and bars 7, substantially as specified.

4. In a motor-car, the two end pilot-trucks adapted to move on the arc of a circle concentric with the center of the car, and the central stationary motor-truck having the motive power connected solely thereto, springs which yield enough to permit the trucks to follow the curve and normally maintain the pilot and drive trucks in alignment of the road, substantially as specified.

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

THOMAS C. OAKMAN.

Witnesses:
W. C. ETLA,
C. E. SEAVEY.