

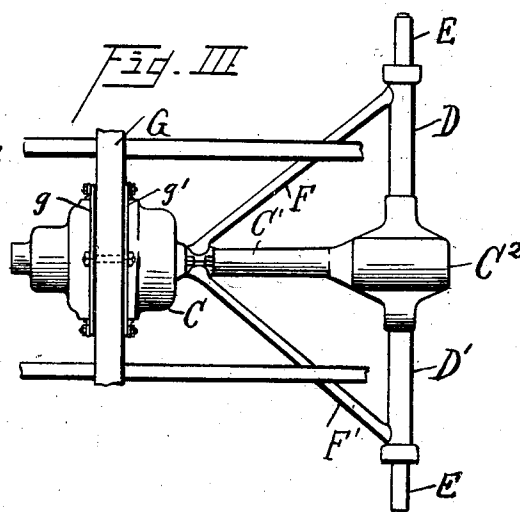
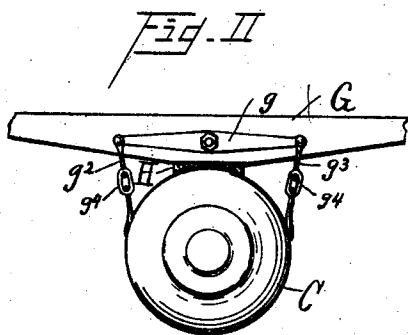
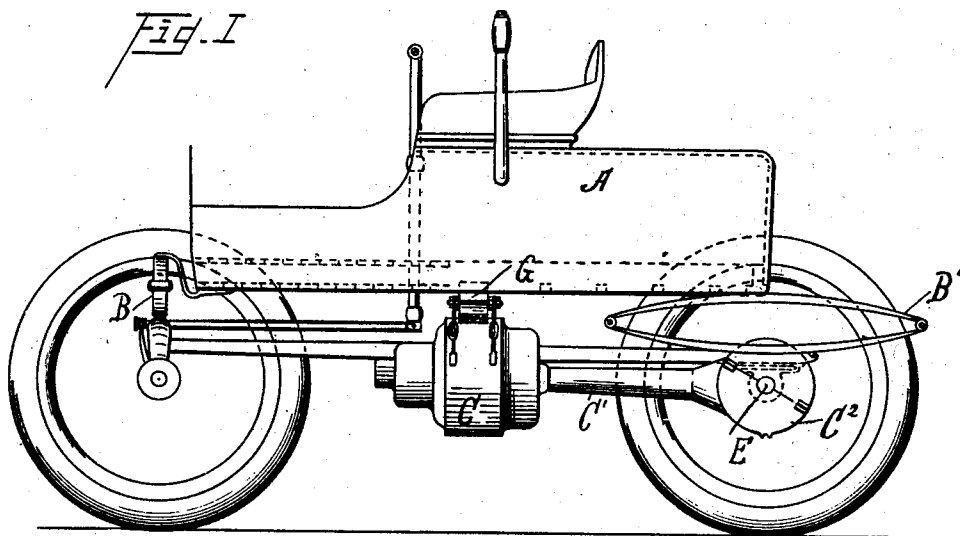
No. 709,859.

Patented Sept. 30, 1902.

W. C. BAKER.
MOTOR VEHICLE.

(Application filed Feb. 14, 1902.)

(No Model.)



Witnesses:

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UNITED STATES PATENT OFFICE.

WALTER C. BAKER, OF CLEVELAND, OHIO.

MOTOR-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 709,859, dated September 30, 1902.

Application filed February 14, 1902. Serial No. 94,021. (No model.)

To all whom it may concern:

Be it known that I, WALTER C. BAKER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Motor-Vehicles; 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 pertains to make and use the same.

My invention relates to motor-vehicles, and more especially to the manner in which the motor is mounted and connected to the vehicle.

My invention consists in supporting the motor and bracing the same directly from and mainly through the rear axle by means of a casing which forms the journals for the rear axle and the casing for the transmitting-gearing, the whole being braced in such a manner as to prevent any lateral movement of the motor and its connecting mechanism in relation to the said rear axle, thus keeping all the parts in alinement and at the same time allowing the free vertical movement of the motor without disaligning or cramping the parts, the motor-casing, the casing for the transmitting-gearing, including that for the rear axle, with a proper bracing, forming a rigid framework and support for the parts which will oscillate at right angles in relation to the rear axle and traction-wheels.

My invention also consists in connecting the motor to the vehicle-body in such a manner that the motion of said body in relation to the running-gear of the vehicle is free and unrestrained, thus allowing the vehicle-body free movement in all directions without being cramped by or cramping the motive mechanism.

My invention further consists in other features and in details of construction, which will be hereinafter fully set forth and claimed.

In the drawings, Figure I is a view in side elevation of a motor-vehicle embodying my invention. Fig. II illustrates in detail the hanger or supporting mechanism and its connection with the motor-vehicle as viewed looking toward the vehicle from the front or rear. Fig. III is a plan view of such portions of the device as will illustrate the lateral bracing of the motor in relation to the rear axle. This

view also illustrates in plan the suspending mechanism for supporting the motor in relation to the body of the vehicle.

A represents the body of the vehicle, which is supported upon spring B at the forward end and springs B' at the rear end, the same being of any desirable construction and number and mounted upon the running-gear in such a manner as to support the body A so that the said body will sway and give to inequalities during the transit and will also give to any sudden stopping or starting motion.

C represents a motor-casing of any suitable construction or type. The casing C extends rearward, preferably, forming a housing or covering C' for a transmitting-shaft. (Not shown.) The extension C' communicates with a casing C², which incloses the receiving-gearing (preferably bevel-gears) for transmitting motion to the rear axle. The casing C² is in turn connected to or it may form part of the inner portion of the rear-axle bearings and is provided at either side with axle casings and journals D D', respectively, the same forming the outer journals for the axle E. Extending from a point at or near the outer ends of the casings or journals D D' and converging toward the motor-casing C are two braces F F'.

It will be seen from the above that the casing C, extension C', casing C², axle casings and journals D D', and braces F F' form a rigid structure or framework which supports the motor and the transmitting-gearing and also forms the journals for the rear axle and its receiving-gearings. This rigid structure or framework, constituted of the several parts just above enumerated, is so mounted in relation to the rear axle E that it, as it were, is hinged to said rear axle E, thus allowing the said structure to oscillate in a vertical direction at a right angle to said axle E, which allows of a free vertical movement of the motor in relation to the running-gear of the vehicle.

The above features necessitate a vertical support for the motor-casing C, which I have preferably designed as follows:

G represents a stanchion-bar which is securely fastened to the body A of the vehicle. This stanchion-bar G has secured to it at both

sides rocking bars $g g'$, the said bars being pivotally secured at their central portions to the stanchion-bar G, and hence adapted to rock in relation to said stanchion-bar and the vehicle-body. At the ends of the rocking bars $g g'$ are pivotally secured hangers $g^2 g^3$, which are in turn secured pivotally to the motor-casing C, thus allowing the said motor-casing to be supported in its vertical position in relation to the rear axle and traction mechanism without being affected by the motion of the body of the vehicle.

Interposed between the body of the vehicle A or, more properly speaking, between the stanchion G and the motor-casing C is a compressible substance H, the purpose of which is to cushion or insulate pounding or jerking between motor C and the body A.

In order to retain the motor-casing C tightly or snugly in relation to the hanging mechanism from the body A, I prefer that the hangers $g^2 g^3$ should be supplied with turnbuckles $g^4 g^5$, whereby the hangers $g^2 g^3$ may be shortened, and thus take up any lost motion or wear between the parts.

Instead of supporting the motor-casing as just above set forth in its relation with the body of the vehicle I may employ any suitable mechanism which will allow of the free movement of the body in relation to the motive mechanism, or vice versa, the main object of this connection being a vertical support for the motor, holding it in proper relation to the vehicle without in any manner restricting the freedom of movement of either the body or the motor in their relation one with the other.

By my invention I have obviated the necessity of a rigid support for the motor in its relation to the body of the vehicle and have attained a motive mechanism dependent entirely for its purchase upon its connection with or through the rear axle, thus leaving the body free to oscillate or give and preventing cramping of the motive mechanism incident to the movement of the parts.

In setting forth my invention I have illustrated and described certain details of construction and assemblages of parts which I consider well adapted for the purpose; but I do not wish to be limited to said structural features or assemblages of parts, inasmuch as any one skilled in the art may devise different constructions and features without departing from my invention.

What I claim is—

1. The combination in a motor-vehicle, of the body, the running-gear including the rear

axle; and a motor, said motor being supported mainly from the rear axle and means for attaching the motor to the body of the vehicle, said means comprising a rocking bar pivotally secured to the under side of the vehicle-body, and hangers pivotally secured to the opposite ends of the said rocking bar and pivotally connected to the motor, substantially as set forth.

2. In a motor-vehicle, the combination with the rear axle, of a casing, surrounding said rear axle, a receiving-gear casing fixed to the said axle-casing, a transmitting-shaft casing communicating with the receiving-gear casing, and the motor, braces connected to said axle-casing, at or near its outer ends, said braces converging toward and connected to the transmitting-shaft casing, whereby the motor is braced laterally in relation to the rear axle, and allowed free vertical movement at right angles to said axle, substantially as and for the purpose set forth.

3. In a motor-vehicle, a motor and its casing, transversely-arranged rock-shafts pivotally secured to the vehicle-body, hangers pivotally secured to the opposite ends of said rock-shafts and having their opposite ends in pivotal engagement with the motor-casing, whereby a forward as well as lateral movement of the motor is permitted independent of the vehicle-body, and means for supporting and bracing said motor in relation to the rear axle of the vehicle.

4. In a motor-vehicle, the combination with the rear axle, of an axle-casing loosely mounted on said axle, a receiving-gear casing fixed to the said axle-casing, a motor-casing rigidly secured to said receiving-gear casing, and hangers in pivotal engagement with the vehicle-body and the motor-casing, whereby the motor will be permitted to move laterally and longitudinally of the vehicle-body, substantially as described.

5. In a motor-vehicle, the combination with the rear axle, of a motor in fixed relation thereto, and means for permitting the motor to move laterally as one end of the axle is raised or lowered, the said motor pivotally secured to the vehicle-body, and capable of movement independent thereof.

Signed at Cleveland, in the county of Cuyahoga and State of Ohio, this 17th day of December, 1901.

WALTER C. BAKER.

Witnesses:

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