

No. 756,152.

PATENTED MAR. 29, 1904.

H. S. BALDWIN.
MOTOR VEHICLE.

APPLICATION FILED DEC. 8, 1903.

NO MODEL.

Fig. 1.

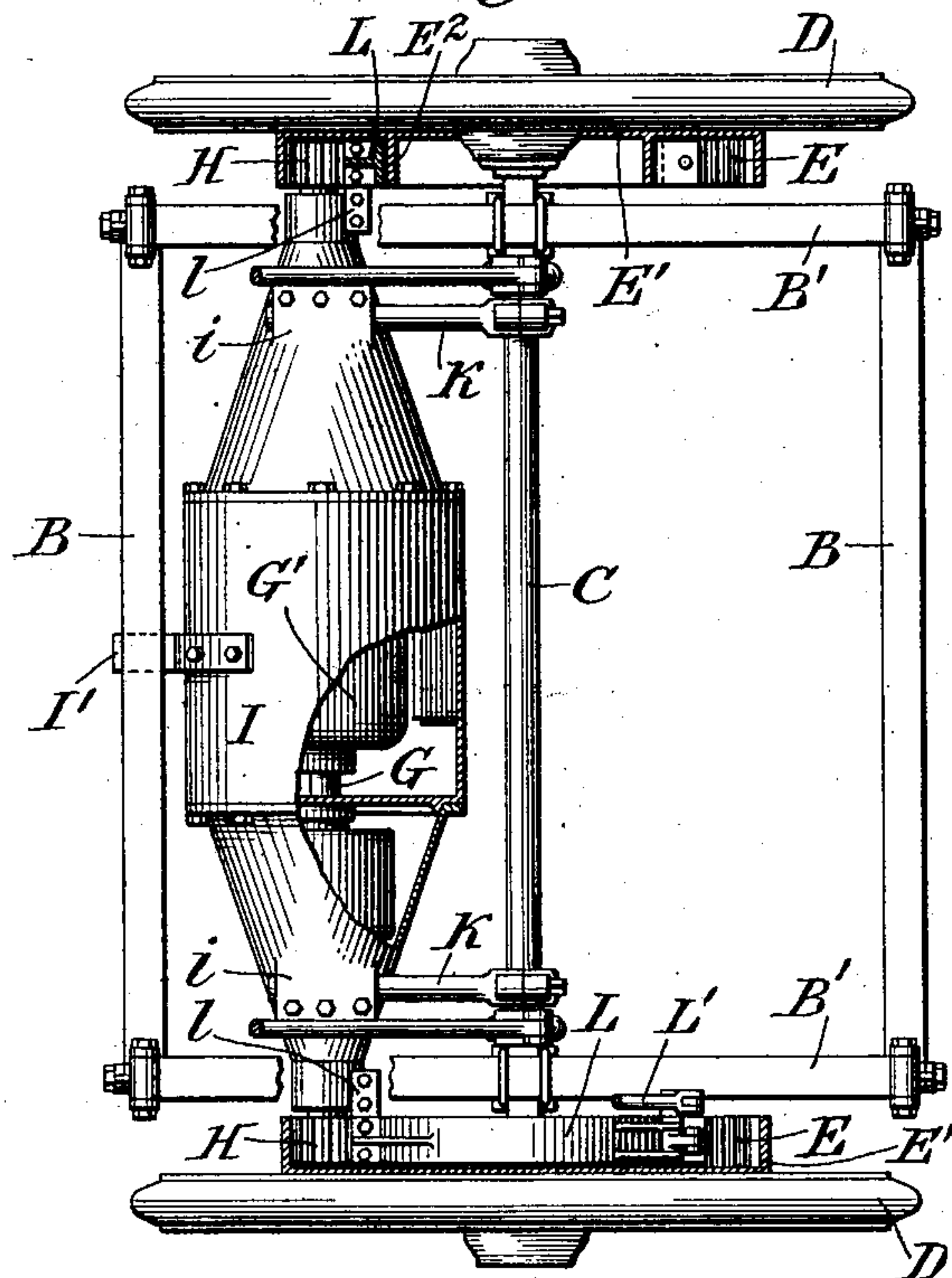
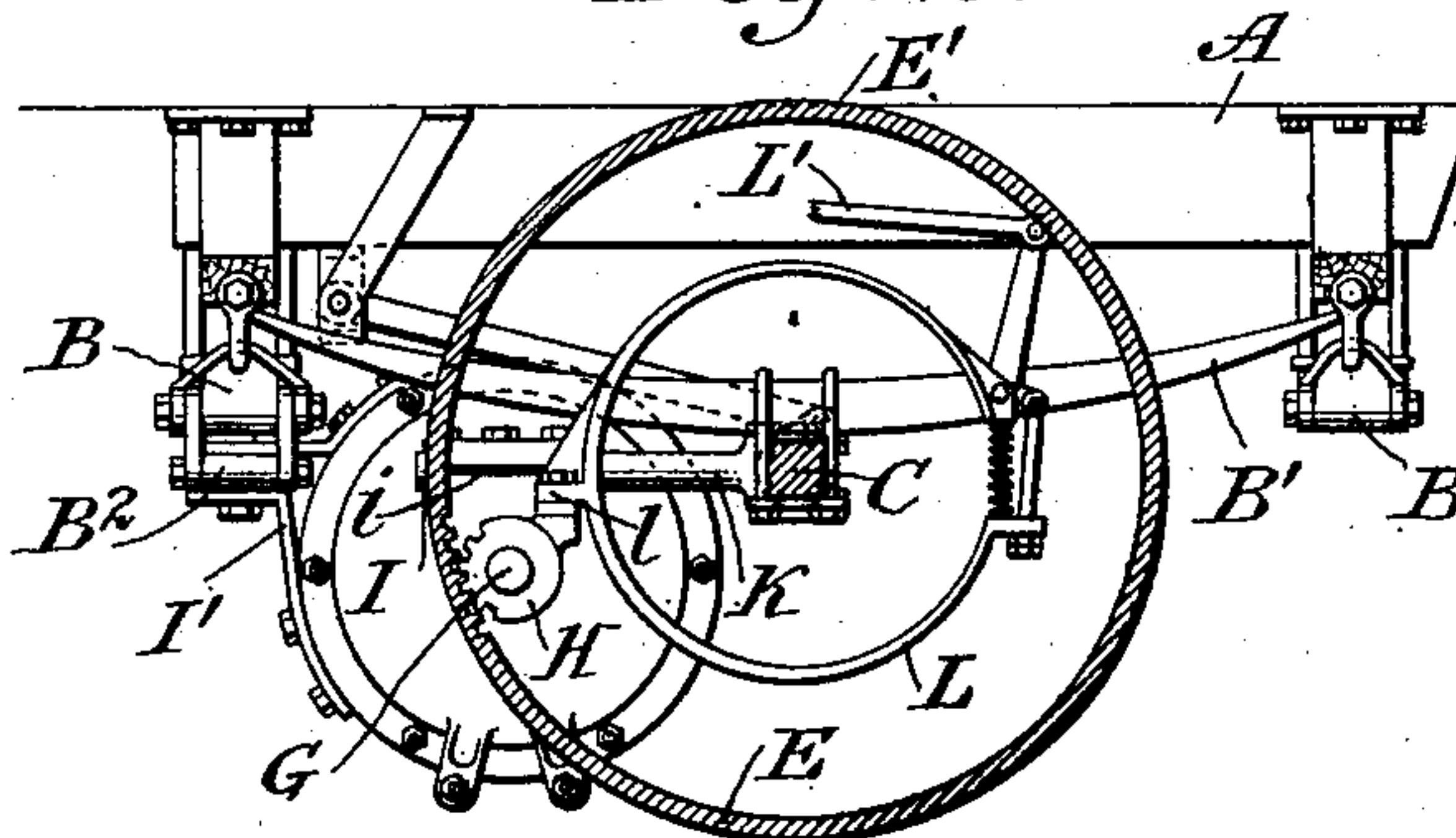


Fig. 2.



Attest:
A. N. Jesbera.
L. E. Varney.

Inventor:
Henry S. Baldwin
by Redding Kiddle Greeley
Attys.

UNITED STATES PATENT OFFICE.

HENRY S. BALDWIN, OF LYNN, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MORTON TRUST COMPANY, TRUSTEE, A CORPORATION OF NEW YORK.

MOTOR-VEHICLE.

SPECIFICATION forming part of Letters Patent No. 756,152, dated March 29, 1904.

Original application filed June 22, 1899, Serial No. 721,504. Divided and this application filed December 8, 1903. Serial No. 184,254. (No model.)

To all whom it may concern:

Be it known that I, HENRY S. BALDWIN, a citizen of the United States, residing in Lynn, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Motor-Vehicles, of which the following is a specification, reference being had to the accompanying drawings, forming a part hereof, this application being a division of an application filed June 22, 1899, and serially numbered 721,504.

This invention relates to the driving-trucks of motor-vehicles—that is to say, those portions of the running-gear of motor-vehicles which include or embody the driving mechanism and support the driving-wheels, the invention being more particularly concerned with the brake in its relation to the other parts of the driving-gear.

The object in view is to provide for the support of the brake with reference to the driving-gear, so as to diminish the shock when the brake is first applied and also to facilitate manufacture and simplify construction.

The invention will be more fully described hereinafter with reference to the accompanying drawings, in which for purposes of explanation it is illustrated as embodied in a convenient and practical structure.

In the drawings, Figure 1 is a plan view of a driving-truck which embodies the invention, the side springs being partly broken out to show the parts beneath and the brake-drum, brake-band, and driving-gear on one of the wheels being shown in section, while the driving-gear alone on the other wheel is shown in section with the brake-band in plan view; and Fig. 2 is a view in side elevation of some of the parts shown in Fig. 1 with the vehicle-wheels omitted and one of the driving-gears partly shown in section.

In the structure chosen for illustration in the drawings the body A of the vehicle has secured thereto the transverse springs B, to the free ends of which are connected in the usual manner the side springs B'. The axle C—in this instance a fixed or non-revoluble axle—is secured to the side springs B' and has

the driving-wheels D of the vehicle mounted to rotate thereon. The driven gears E may be secured directly to the respective driving-wheels and are conveniently formed as gear-rims on a gear-plate E', although it will be obvious that sprockets may be employed instead of the gear-rims upon the gear-plate E'. For the proper action of the brake it is desirable that the brake-drum should be concentric with the wheel or other part to which it is applied, and to attain this result in a convenient manner it is formed as a rim E², within and in the same plane as the rim E and integral with the gear-plate E', the latter thus carrying a relatively large driving-gear and a relatively small brake-drum. This construction insures the concentricity of the brake-drum and the gear and permits these two parts to be secured together and by the same means to the driving-wheel of the vehicle, so that concentricity of one insures the concentricity of the other.

The motor G', the driving-pinions H, which mesh with the driving-gears E, but which in case sprockets are employed instead of the gear-rims will be connected to the gears E by chains, the shafting G, which carries the pinions H, and other parts of the driving mechanism are supported by a casing or truss-frame I. The latter is supported at or near its ends by arms K, which are rigidly secured at one end to the axle C and whose other ends enter sockets i in the casing. In this way the driving-gear pinions H are always held in absolute alinement and imperfect meshing or twisting of the pinions with respect to the driving-gear E is prevented. Furthermore, with this construction the motor and other parts of the driving mechanism are rotarily supported about the axis of the driving-wheel as a center, thus preventing shocks upon the intermeshing gears such as ordinarily occur in the starting of vehicles.

A transverse bar B² is connected at its ends to the side springs B', and an arm I', secured to the casing I, substantially at its middle point, is attached to this suspender-bar B², whereby the torque of the driving-wheels is transmitted

to the suspender-bar, from the suspender-bar to the transverse spring B, and from the latter to the body of the vehicle. It will thus be seen that the truss-frame is thus inter-
5 connected with the spring system, and any weight or jar upon this frame is absorbed by the spring system.

The brake-band L, which embraces the brake-drum E² and is operated by any suitable means, as by the lever and link represented at L', is anchored to a rotarily-yielding part. In this instance it is shown as anchored at l to the casing or truss-frame I, which, as already described, is free to yield
15 rotarily to a limited extent about the axis of the driving-gears, and therefore of the brake-drums, as a center and which practically forms a part of the yielding framework of the truck. If the brake-band of a vehicle of
20 this description is anchored to a rigid and unyielding support, the shock produced when the brake is applied suddenly is considerable, and it is well to avoid it. In the present construction it will be obvious that shocks to the
25 driving mechanism, both at the starting and stopping of the vehicle, are avoided, and the driving mechanism is in this way preserved from considerable strain and distortion.

I claim as my invention—

30 1. In a motor-vehicle, the combination with a driving-wheel, an axle, a motor, means interconnected with the spring system to support the motor in a rotarily-yielding manner about the axle and a driving-pinion connected
35 with the motor, of a driving-gear and brake-drum applied to said wheel in the same plane, and a brake embracing said drum, substantially as shown and described.

40 2. In a motor-vehicle, the combination with the driving-wheel of a gear-plate secured to said wheel and having integral therewith a driven gear and a brake-drum, said brake-drum being within and in the same plane with said driven gear, substantially as shown and
45 described.

3. In a motor-vehicle, the combination with

the driving-wheel, of a gear-plate secured to said wheel and having integral therewith a relatively large driven gear and a relatively small brake-drum, substantially as shown and
50 described.

4. In a motor-vehicle, the combination with the driving-wheels, axle and the frame of the truck, said frame being interconnected with the spring system and rotarily yielding about
55 the axis of the wheels as a center, of a brake-drum applied to one of the wheels, and a brake embracing said drum, substantially as shown and described.

5. In a motor-vehicle, the combination with
60 the driving-wheels, axle and the frame of the truck, said frame being interconnected with the spring system and rotarily yielding about the axis of the wheels as a center, of a brake-drum applied to one of the wheels, and a
65 brake embracing said drum and anchored at one side of the axle, substantially as shown and described.

6. In a motor-vehicle, the combination with the driving-wheel of a gear-plate secured to
70 said wheel and having integral therewith an internal driven gear and a brake-drum within and in the same plane with said internal driven gear, and an external brake-band for said brake-drum, substantially as shown and de-
75 scribed.

7. In a motor-vehicle, the combination with the driving-wheels, axle and the frame of the truck, said frame being interconnected with the spring system and rotarily yielding about
80 the axis of the wheels as a center, of a brake-drum applied to one of the wheels, and a brake embracing said drum and anchored to the rotarily-yielding frame, substantially as shown
85 and described.

This specification signed and witnessed this 3d day of December, A. D. 1903.

HENRY S. BALDWIN.

In presence of—

DUGALD McK. McKILLOP,
JOHN J. WALKER.