PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements in or relating to Endless Track Vehicles.

I, ADOLPHE KEGRESSE, a French citizen, of 54, Quai Michelet, Levallois Perret (Seine), France, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

In fast running vehicles propelled on endless tracks and steered by wheels, an essential requirement is that the suspension of these vehicles fulfils certain conditions without which speed is not possible.

The steering axle of such vehicles being mounted on wheels may be connected to the chassis by suspension means usual in motor-vehicle construction.

As regards the driving part, constituted by flexible track-belts, the problem is more intricate, for, as persons skilled in the art are aware, a self-laying track assemblage comprises driving pulleys coupled with the engine of the vehicle through the transmission gear, loose pulleys and a train of carrier wheels.

Attempts must therefore be made to contrive with these various parts a resilient suspension for the carrier portion so that the oscillations produced by the said suspension do not interfere with a correct guiding of the endless band over the pulleys or under the train of carrier wheels.

The present invention provides a vehicle answering these requirements and comprising driving pulleys mounted on a live axle having bearings rigidly secured to the chassis, the said driving pulleys (arranged at the foremost part of the track-belt) being combined with a train of carrier wheels, the supports for these wheels having a single axle and being connected to the chassis by resilient means.

The drawing appended hereto is a general view, in elevation, illustrating a vehicle of the kind referred to.

A driving pulley 1 is mounted directly on the live axle of the vehicle, the said axle having bearings rigidly secured to the chassis. The vehicle moreover comprises an idle pulley 2, a supporting axle 3 and suspension springs 4 connecting the supporting axle to the chassis 5. A similar arrangement is of course provided on the other side of the vehicle.

In this kind of vehicle the endless track-belt runs in the direction of the arrow on the drawing. In other words, the driving side of the track-belt 6 is uppermost, while the slack run 7 thereof is lowermost.

As will be seen from the drawing, when one of the two springs 4 yields owing to uneven ground, the driving pulley does not remain parallel to a vertical plane of the carrier train. The endless track-belt is thus given a twist which is of no consequence in the arrangement of the invention since the run gripped by the driving pulley 1 is the upper run 6, which alone is taut. This run is free before reaching the said pulley, as it passes only over the loose guiding pulley 2 which is remote from the driving pulley. The lower run 7 is slack and therefore flexible, so that it can adapt itself without detrimental consequences to a lack of parallelism between the vertical plane of the driving pulley and that of the train of carrier wheels.

The loose pulley 2 is connected to and articulated on the supporting axle in the known manner, so that the vertical plane of the pulley always remains parallel to the vertical plane of the train of carrier wheels. The band is thus perfectly guided in all positions.

No satisfactory results would be obtained if the driving pulley were mounted at the rear because parallelism between the vertical plane of the driving pulley and that of the train of carrier wheels would be altered owing to spring oscillations, since the said pulley is rigidly secured to the chassis and the train of carrier wheels is connected thereto by springs.

With the driving pulley at the rear, the lower run of the track-belt becomes the driving run while the upper run would be slack. The distance between the last wheel of the carrier train and the driving pulley being then very short, the taut run of the belt would be twisted and the wheels would leave the track, with the

[*Price* 1/-]

additional disadvantage of abnormal wear on the guiding flanges of the belt.

It will be seen that in a vehicle fitted with a flexible track-belt the various mechanical elements must be suitably disposed to achieve satisfactory operation.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A motor-vehicle propelled on endless track-belts and steered by wheels characterised by driving pulleys mounted on a live axle having bearings rigidly secured to the chassis, the said driving pulleys (arranged at the foremost part of the track-belt) being combined with a train of carrier wheels, the supports for these wheels having a single axle and being connected to the chassis by resilient means.

2. The motor-vehicle substantially as described or substantially as illustrated in the accompanying drawing.

Dated this 14th day of October, 1927.

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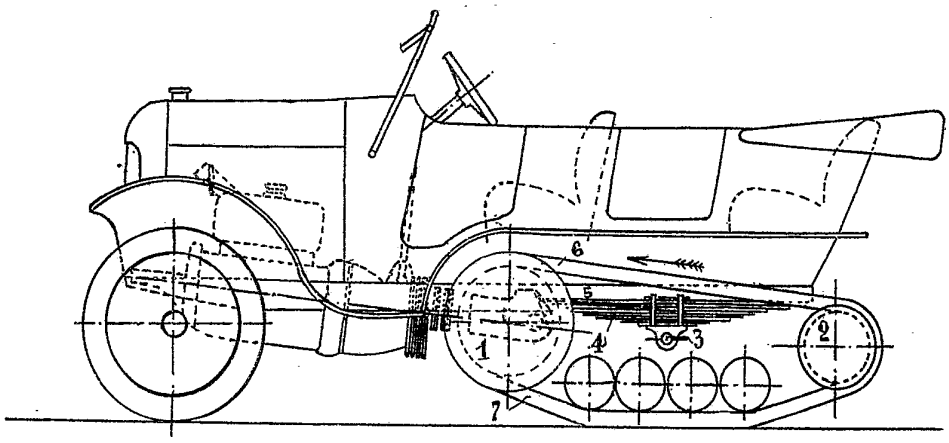

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