

N<sup>o</sup> 5015



A.D. 1913

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COMPLETE SPECIFICATION.

**Improvements in Motor Cars Combined with Sledge Runners.**

I, ADOLPHE KÉGRESSE, of Tsarskoïe Selo, in the Government District of St. Petersburg, Russia, Engineer, 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:—

5 The invention relates to motor cars combined with sledge runners, and has for its object to provide an improved arrangement of parts at the rear axle.

The combination of a motor car with sledge runners according to the present invention allows an unobstructed movement in all directions, as it is possible to support the vehicle in a sledge, and the arrangement is such that the driving belts  
10 are accurately pressed against the ground not only when travelling on streets with an even surface, but also on streets which are inclined in both a longitudinal and a transverse direction.

In the well known motor sledges the belt device is rigidly connected with the body of the vehicle, whereas in the present invention the belt driven device  
15 is flexibly connected with the body of the vehicle.

The present invention consists in that the front and rear belt pulleys of the driving device are each connected with rollers by rigid members, these said members each being connected by pivots at an intermediate point to links whose other extremities are also pivoted to the extremities of the vehicle springs.

20 In the accompanying drawings is shown a construction according to the invention.

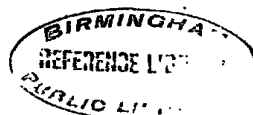
Upon the ends of the front axle, 1, there are attached in any suitable way two very wide runners, 2, which are provided with openings which allow a part of the front wheels to pass therethrough. The means for supporting the runners  
25 are only indicated diagrammatically and as shown comprise two diverging suspension members outside the wheels carried by a non-revolving axle cap and two similar suspension members arranged inside the wheels carried on the hub. The runners are so arranged that when the vehicle is travelling over ordinary ground and hard snow the load on the front wheels will be carried thereby, and  
30 a space will be left between the ground and the runners; while when travelling over a layer of soft snow the wheels sink down so that the load will now be carried by means of the said runners. When the vehicle again passes on to a surface free from snow the load will again be carried by the wheels and the runners will be out of contact with the ground.

35 The driving device consists of two endless belts, 3, one arranged on each side of the car. The belts pass around the pulleys, 4, which are mounted at the extremities of a rigid member, 11; pivotally mounted levers, 5, also connected to the ends of the member 11 carrying guide rollers, 9, which bear upon the endless belts, 3.

40 The rollers, 9, are connected with the springs, 7, by means of the links, 6, which springs are mounted on the rear axle, 8, of the motor car by means of a sleeve coupling which is movable in a vertical and horizontal direction.

The purpose of the guide rollers, 9, is to keep the lower half of the belt taut, in order to obtain a maximum amount of elasticity of the system.

• [Price 8d.]



*Kégresse's Improvements in Motor Cars Combined with Sledge Runners.*

The rear pulley, 4, is driven by a transmission chain, 10, which engages with the rear axle, 8, of the motor car, upon which is fixed a chain driving wheel. The belts, 3, are thus continually in motion which is imparted to them by the motor of the car.

The driving device is so arranged that it can travel on hard ground as well 5 as on snow-layers of different thickness, whereby the belts are moving closely on the ground according to the resiliency of the spring connection with the body of the vehicle.

By causing the belts to move in the required direction the said belts propel the sledge either forwards or backwards and keep the motor-sledge at the same 10 time on the surface of the ground.

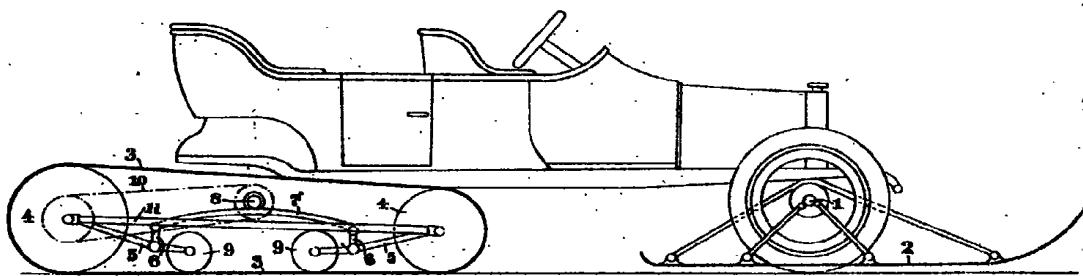
Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. A combined motor car and sledge runner comprising a belt device and 15 guide rollers arranged in connection with the rear axle and steering runner arranged on the front axle, wherein the body of the vehicle is flexibly connected with the guide rollers by means of hinge-joints, and that the belt pulleys embraced by the belt are connected with the guide rollers by means of a hinge-joint, wherein the front and rear belt pulleys of the driving device are each con- 20 nected with rollers by rigid members, these said members being connected by hinges at an intermediate point to links whose other extremities are also hinged to the extremities of the vehicle springs.

2. A driving device for a motor car with sledge runners constructed and operating substantially as hereinbefore described and illustrated in and by the 25 accompanying drawings.

Dated this 26th day of February, 1913.

MARKS & CLERK.



[This Drawing is a reproduction of the Original on a reduced scale.]

