

## PATENT SPECIFICATION

392,776



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## COMPLETE SPECIFICATION.

### Improvements in or relating to Rail Motor Vehicles or Tractors Provided with Endless Tracks.

I, ADOLPHE KEGRESSE, a French Citizen, of 156, Rue Armand Silvestre, Courbevoie, France, do hereby declare the nature of this invention and in what

5 manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to rail motor devices propelled by frictional contact

10 with the rails.

It is known that the adhesive weight of vehicles which are required to run on rails, whether they are tractors, rail motor cars or merely carrying vehicles,

15 must be greater, in proportion to the rapidity of their starting and braking effects.

The ideal would be, therefore, to have all the axles driving axles.

20 Although it is a relatively easy matter to obtain sufficient adhesion with a small number of axles in the case of metal wheels, which carry a considerable load, it is not the same with rubber tyred

25 wheels. Actually, the rubber which constitutes the tyres of the latter does not adapt itself well to the small width of the rail, whence the absolute necessity of increasing the number of driving axles for vehicles of a certain tonnage.

It is evident that this increase in the number of the axles reduces the efficiency very appreciably, each driving axle necessitating an appropriate transmission.

35 The arrangement according to the invention is provided for the purpose of obtaining high speeds and its main object is to enable a driving adhesion to be obtained with only one driving axle, corresponding to that obtained with several driving axles having ordinary wheels.

45 For this purpose, the invention comprises the use of an endless flexible track propelling system engaging the rails and having resilient connection with the frame or body of the vehicle and a system of guide wheels likewise connected by springs to the frame or body, so as to impart considerable flexibility to the whole, thus permitting it to attain high speeds.

[Price 1/-]

A construction of the device according to the invention is represented by way of example in the accompanying drawings, wherein:

Figure 1 is an elevation of the device.

Figure 2 is a plan of the underframe.

Figure 3 is a section on a larger scale taken along the line AB in Figure 1.

Figure 4 shows diagrammatically an aggregate of two sets of endless tracks.

It will be appreciated at once that such a device enables a single driving axle to be utilised for several rollers performing the duty of carrying axles. It therefore renders it possible for a single driving axle to combine the adhesion of several carrying axles.

Several endless tracks may be used for rail motor cars of considerable weight, or for tractors.

As will be seen in the Figures, the construction comprises an underframe 1 (Figures 2 and 3) carrying at each of its ends bogies 2, at least one of the wheels 3 of the bogies being provided with a guiding flange. All the wheels are idle, that is to say, they are not driving wheels, and are carried by suitable springs. It is evident that the number of wheels may vary. In the case of Figure 4, which represents a machine with two propelling endless tracks, the guide wheels are placed at the end of two sets of endless tracks. The wheels may be fitted with brakes.

Each set of endless tracks, which are situated between the bogies 2, comprises resiliently supported sets of rollers, for supporting load, the number of which sets may vary, a driving axle and an axle with idle pulleys thereon.

In the device shown in Figure 1, the load is transmitted to two carrying sets of rollers 4 by springs 5. The driving axle 6 is rotated by any desired motor or engine 7. This axle and the axle 8 for the idle pulleys are represented here as being rigidly fixed to the underframe. It is obvious that they may be mounted differently as is done on ordinary endless track vehicles, for example.

In the device shown in Figure 4, there are two driving axles, each axle driving a set of endless tracks. It is obviously also

possible, for rail motor vehicles of larger dimensions, to provide a greater number of sets of endless tracks, each set comprising a driving axle.

5 In the construction shown, the endless track comprises a belt 9 (Figure 3), of rubbered fabric for example, carrying externally metal plates 10 so arranged as to touch one another.

10 Rubber blocks 11 likewise touching one another, are mounted on the exterior of the plates 10 (Figure 3). The said blocks occupy the entire width of the plates in order to respond to lateral displacements.

15 On the other face of the belt are guiding and driving blocks 12.

It is obvious that the construction of the propelling system will have to be designed for the purpose in order to fulfil the conditions imposed by the regulations concerning railway stock, principally in regard to running through points, the height of the members above the ballast, the width of the tyres, etc.

25 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 rail motor device, characterised 30  
by a flexible endless track propelling system for engaging the rails and ensuring traction, and a system of wheels ensuring guiding, the two systems being 35  
connected to the frame or the body of the vehicle by resilient connecting means.

2. In a device according to claim 1, the provision of a driving axle driving a flexible endless track, on the lower side of which bear a number of rollers carrying a part of the weight of the vehicle. 40

3. A device according to claim 1, in combination with one or more carrying axles, having wheels provided with brakes and absorbing a part of the weight of the vehicle. 45

4. A device according to claim 1, comprising several endless track systems.

5. The rail motor device substantially as described or substantially as shown in the accompanying drawings. 50

Dated this 29th day of July, 1932.

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Fig. 1

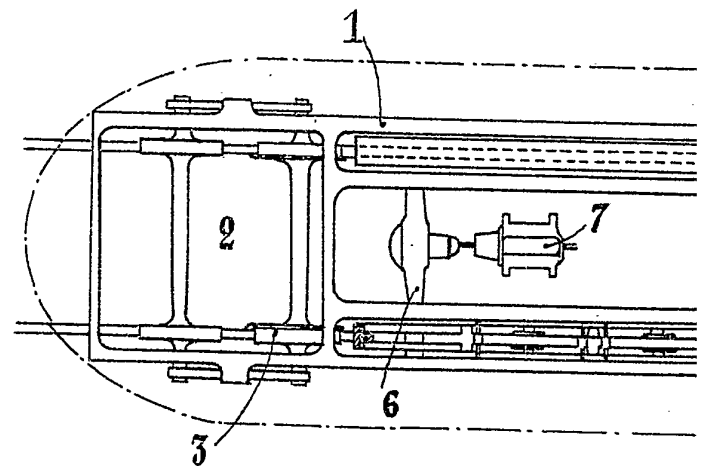
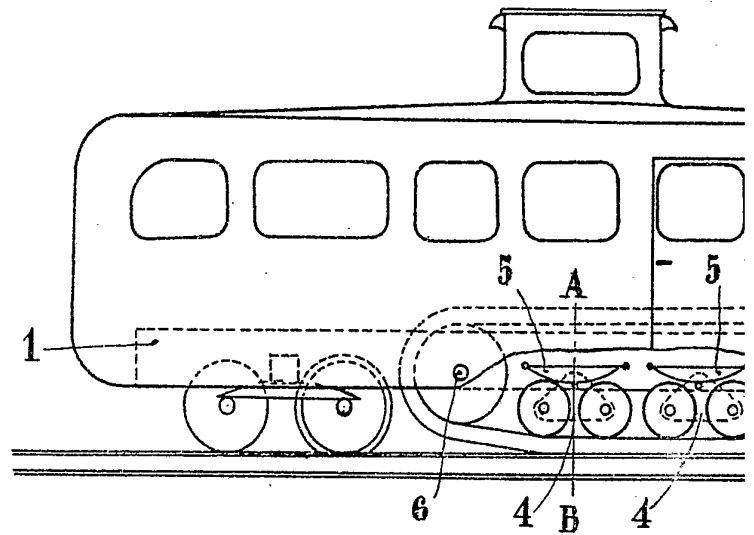
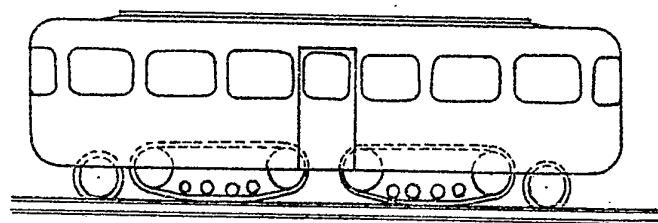


Fig. 4



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

Fig. 1

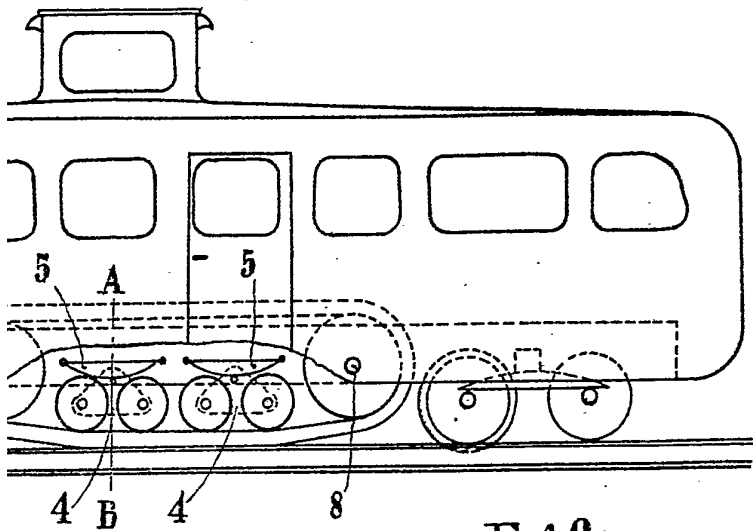


Fig. 2.

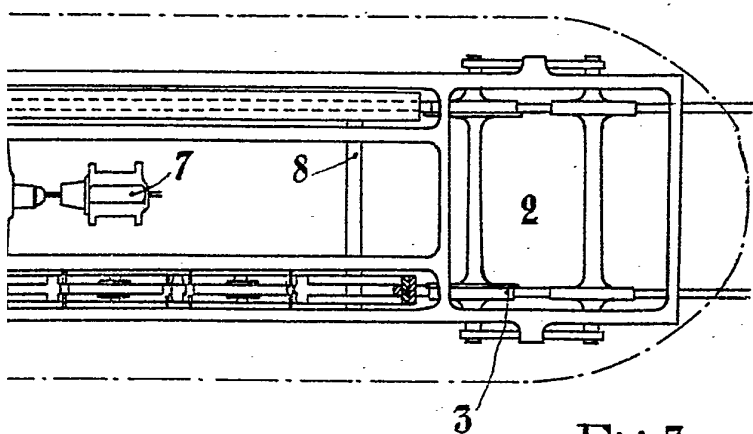


Fig. 3

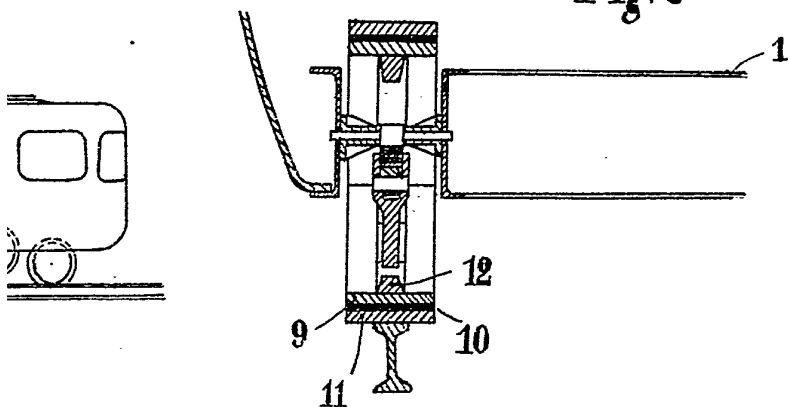


Fig. 1

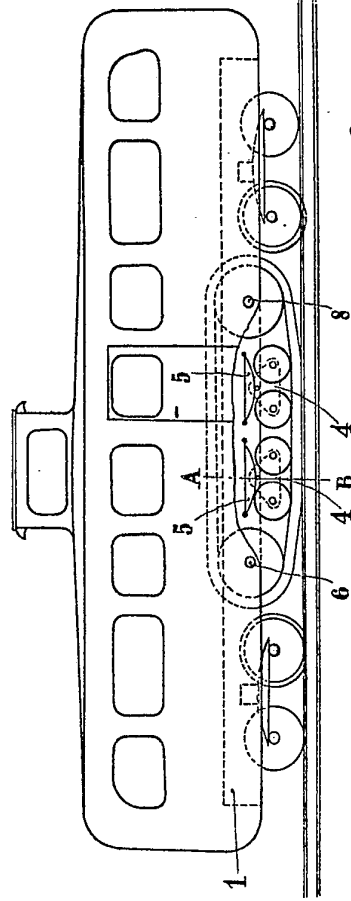


Fig. 2.

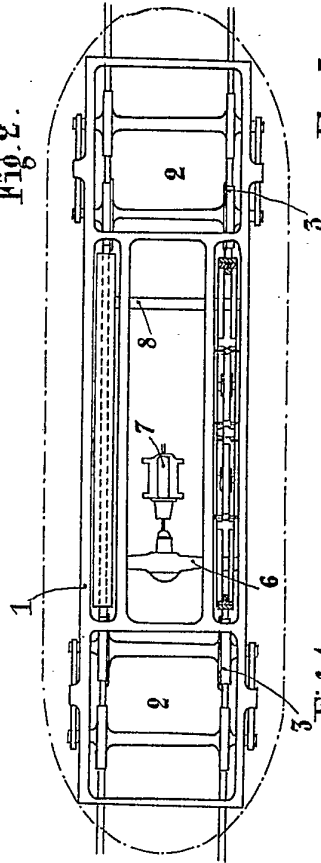
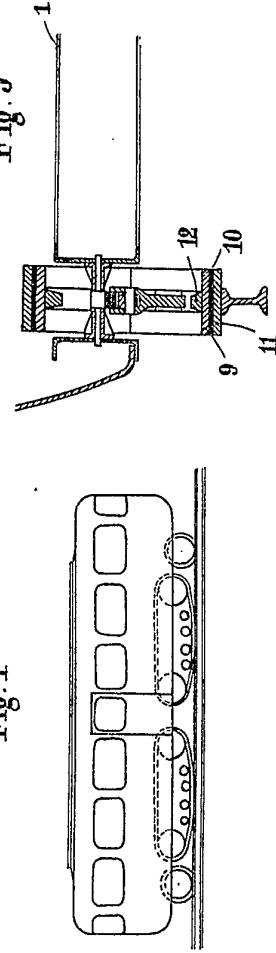


Fig. 4

Fig. 3



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