

Title (en)  
Spring driving mechanisms for toy vehicles.

Title (de)  
Federtriebwerke für Spielzeugfahrzeuge.

Title (fr)  
Moteurs à ressort pour véhicules jouets.

Publication  
**EP 0015217 A1 19800903 (FR)**

Application  
**EP 80420014 A 19800131**

Priority  
• FR 7903789 A 19790202  
• FR 7918175 A 19790709

Abstract (en)  
1. Driving mechanism for toy vehicles provided with a body (21) and wheels, this driving mechanism having two side plates (1, 2), a drive axle (3) of which at least one bearing is elastically movable relative to one of the side plates and a spiral spring (13) whose tension is produced by rolling the toy in at least one direction of displacement while elastically lowering its body relative to the drive axle (3), the said driving mechanism also having a first and a second toothed wheel (8, 9), fixed on the drive axle, a winding wheel (17) connected to the inside end of the spiral spring via its axis (16) and drivable by the said first toothed wheel (8) when the body is lowered in relation to the axle (3) and a train of toothed wheels (10, 11) able to provide the propulsion of the vehicle and always in mesh with the said second toothed wheel, characterized in that the said driving mechanism also comprises a cage (12) which surrounds the spring (13) and which is fitted with an external toothed ring (12a), in that one of the bearings of drive axle (3) is fixed onto one side plate (2) whilst its other bearing is carried by the extremity of a elastic arm (1a) which is attached to the other side plate (1), in that this other side plate (1) is provided with longitudinal pins (1g, 1h), on which the body is supported in such a way that the lowering of the latter causes a lateral rocking movement of the driving mechanism and ensures the engagement of the first toothed wheel (8) with a pinion of a winding-transmission, in that the train of toothed propulsion wheels (10, 11) always remains in mesh with the toothed ring (12a), and in that the modulus of the pinions (14, 17, 24, 25) of the winding-transmission is greater than that of the toothed wheels of the propulsion train.

Abstract (fr)  
L'essieu (3) peut s'incliner élastiquement pour faire engrener, dans le sens d'avance la denture (8) avec le pignon baladeur (14) et la roue de remontage (17) qui agit sur le bout intérieur d'un ressort spiral dont le bout extérieur coopère avec une cage (12) portant une denture (12a) reliée à l'essieu (3) par un jeu de rouages (11,10,9). Un pignon (24) toujours en prise avec un second pignon baladeur (25) vient engrener avec la roue de remontage (17) lorsque le jouet est déplacé dans le sens du recul. Le premier baladeur (14) est alors dégagé de ladite roue (17) son axe (15) glissant dans une encoche du flasque (1). Industrie des jeux et jouets.

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IPC 8 full level  
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• DE 2650148 A1 19780503 - SHINSEI INDUSTRIES CO  
• FR 2093446 A5 19720128 - DARDA HELMUT [DE]

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