March 20, 1928. 1,663,169

L. MARX

TOY VEHICLE

Filed March 26, 1927

Fig. 1.

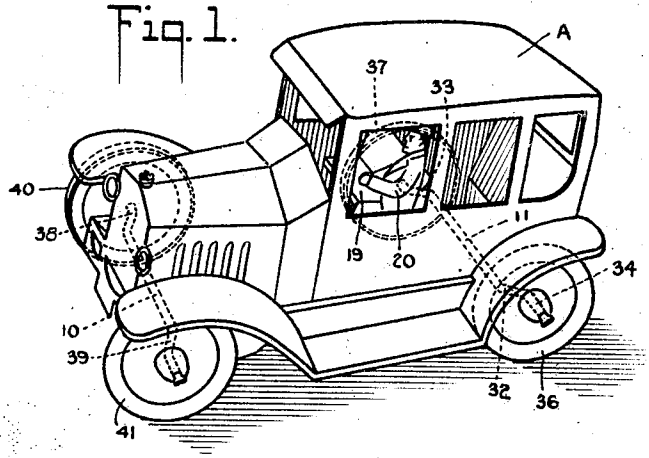


Fig. 2.

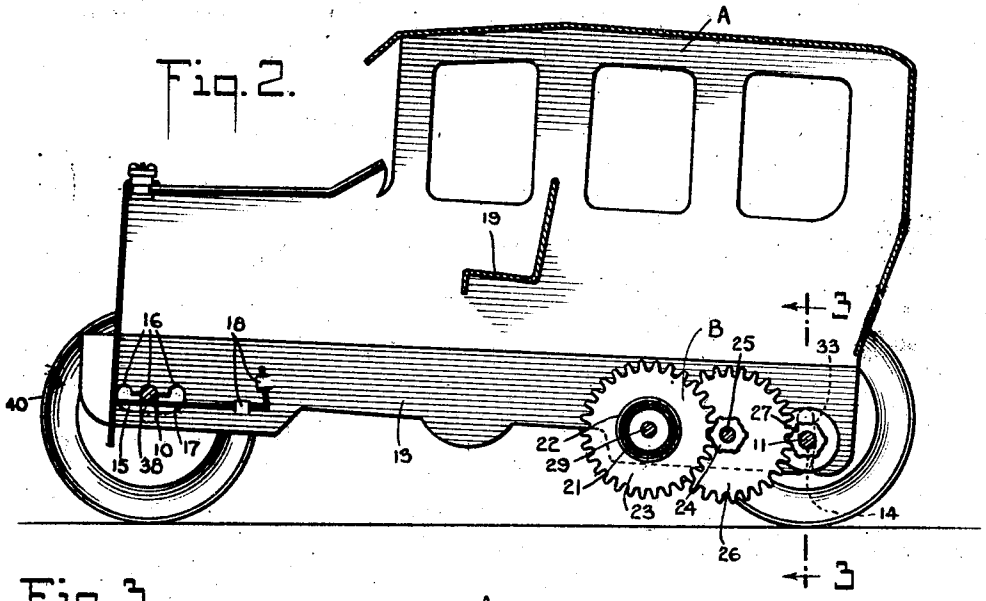
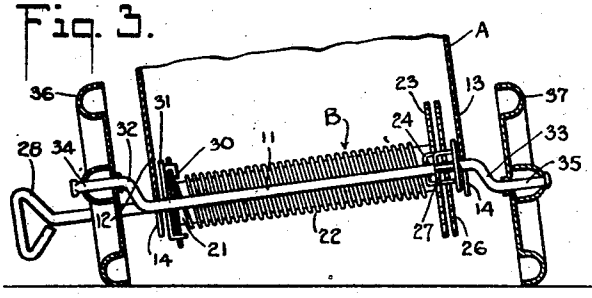


Fig. 3.



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UNITED STATES PATENT OFFICE.

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TOY VEHICLE.

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This invention relates to a toy, and relates more particularly to motor driven vehicle toys; and has special reference to the provision of a vehicle toy which is adapted to be propelled in an amusingly erratic manner.

The prime object of my present invention relates to a motor driven toy simulating an automotive vehicle embodying a drive mechanism constructed and designed to propel the toy along the ground or other suitable support with a rollicking or oscillating side to side motion combined with a skip and start skidding action producing a non-uniform and changeable erratic behaviour in the propulsion of the toy.

Other principal objects of the invention reside in the provision of an erratically operated vehicle in which the parts are constructed with standard vehicle parts organized so as to be operated by such standard parts in a durable and efficient manner producing a construction which may be manufactured at low cost and sold at a low figure.

To the accomplishment of the foregoing and such other objects as will hereinafter appear, my invention consists in the elements and their relation one to the other, as hereinafter more particularly described and sought to be defined in the claims; reference being had to the accompanying drawings which show the preferred embodiment of my invention, and in which:

Fig. 1 is a perspective view of the vehicle toy of my invention,

Fig. 2 is a longitudinal cross-sectional view thereof drawn to an enlarged scale, and

Fig. 3 is a fragmentary view thereof taken in cross-section in the plane of the line 3—3, Fig. 2.

Referring now more in detail to the drawings, the toy vehicle embodying my invention comprises a vehicle body generally designated as A, shaped to simulate an automotive body, and a motor mechanism B constructed and designed to impart to the body A an erratic and amusing propelling action when the toy is set in operation.

The vehicle body A, preferably having a design of a well known commercial make of vehicle body, is fashioned from sheet metal, the parts of which are assembled together in any manner well known to the toy art. In said body A are journalled front and rear axles 10 and 11 respectively, which axles are given a unique end configuration for the purpose of imparting the erratic behaviour to the vehicle in the propulsion thereof; and to accommodate the ready reception of these axles by the vehicle body in the assembling of the parts, the side walls 12 and 13 of the body A are provided with open ended journalling slots 14, 14, the entrant ends of which slots are substantially narrower than the axle seating portions thereof. With this construction it will be apparent that the axles may be seated in the journalling side walls of the vehicle body by inserting the same through the receiving slots 14, 14. One of the sides of the front axle 10 is journalled in the side wall 12 of the body in a manner similar to that described for the axle 11; but the other side of said axle 10 is journalled in the side wall 13 of the body in the manner best depicted in Fig. 2 of the drawings, said side wall being provided with a slot 15 having a plurality of recessed portions 16 therein in which the axle 10 is adapted to be selectively seated for steering purposes, the said axle 10 being held in any of its adjusted positions by means of a spring element 17 bearing against the axle and anchored to the body wall 13 as at 18. Preferably also, the said body A is provided with a bracing member 19 in the form of a seat which may carry a chauffeur or other driving figure 20.

The motor mechanism B comprises a spring motor construction of well known form mounted within the body A and connected to drive the rear driving axle 11, the said motor mechanism comprising a drum 21 to one end of which is fixed a torsion spring 22, the said drum carrying a gear 23 meshing with a pinion 24 fixed to a shaft 25 which shaft carries a gear 26 meshing in turn with a pinion 27 fixed to the drive axle 11. For winding the motor mechanism there is provided the usual winding key 28 having a shaft 29 extending through the drum 21, and to said shaft is fixed a ratchet wheel 30 cooperating with a stop pawl 31. With this construction, as is well known to those skilled

in the art, when the winding key 28 is turned, the motor will be energized to impart motion to the drive axle 11.

As heretofore mentioned, the desired object of the invention resides in the provision of a vehicle toy which may be propelled with a skip and start skidding action combined with a side to side oscillating or rollicking motion. To accomplish these results, and particularly with the utilization of standard toy vehicle parts, the drive axle and preferably both axles 10 and 11 are provided with integral crank end sections, each section having a wheel receiving portion offset from the axis of the axle, said offset portions receiving the traction wheels of ordinary standard toy construction, which wheels are mounted at their centers with a loose fit. More specifically, as shown in the drawings, the drive axle 11 is provided at its opposite ends with the crank sections 32 and 33 disposed in opposite directions so that the offset portions 34 and 35 are arranged on opposite sides of the axis of the axle 11; and on these offset portions 34 and 35 the traction wheels 36 and 37 are mounted with a loose fit so that the wheels are freely rotatable on the axle ends. Similarly, the front axle 10 is provided with oppositely disposed cranked sections 38 and 39 on which are loosely mounted the front traction wheels 40 and 41.

The operation of the vehicle toy of my invention will be readily understood. When the motor mechanism is energized and the toy vehicle set or placed upon the ground or other suitable support the drive wheel 11 will be rotated to impart motion to the crank ends 32 and 33 thereof, the operation of which may or may not impart propelling motion to the toy depending upon the degree of energization of the motor, the friction between the wheels and the support and the momentum of the toy, as well as upon other operating features. Accordingly, the toy at one time will be made to oscillate from side to side with a wheel skidding action without any forward propulsion imparted to the vehicle, while at another time the vehicle will be propelled with a skipping and starting behaviour which may be described as by "fits and spurts," while the vehicle body is rollicking from side to side. The loose mounting of the front axle 10 and the provision of the crank ends thereon also adds to varying the side to side oscillation so that at one time the toy body may be bodily oscillated from side to side while at another time such oscillation is transformed into a gyratory action with all parts of the vehicle moving up and down at different times. Thus a varying erratic action is effected which affords considerable amusement.

It will also be apparent that while I have shown and described my invention in the preferred form, many changes and modifications may be made in the structure disclosed without departing from the spirit of the invention, defined in the following claims.

I claim:

1. A motor driven toy vehicle comprising a vehicle body and means for propelling the same in an erratic manner, said means comprising a drive axle journalled in said body, motor means supported on said body and connected to said axle to drive the same, at least one of the ends of said axle being provided with an integral crank section having a wheel receiving portion offset from the axis of said axle, and wheels loosely mounted at their centers on said axle, one of said wheels being mounted upon the offset portion of the crank end of said axle whereby upon energization of said motor the vehicle may be propelled with a skip and start action combined with a side to side oscillating or rollicking motion.

2. A motor driven toy vehicle comprising a vehicle body and means for propelling the same in an erratic manner, said means comprising a drive axle journalled in said body, motor means supported on said body and connected to said axle to drive the same, the opposite ends of said axle being provided with oppositely disposed integral crank sections having wheel receiving portions offset from the axis of said axle, and wheels loosely mounted at their centers on the offset portions of the crank ends of said axle whereby upon energization of said motor the vehicle may be propelled with a skip and start action combined with a side to side oscillating or rollicking motion.

3. A motor driven vehicle comprising a vehicle body shaped to simulate an automotive vehicle and means for propelling the same in an erratic manner, said means comprising a front axle and a rear drive axle journalled in said body, a spring motor means supported within said body and provided with gearing connected to said drive axle, the opposite ends of each of said axles being provided with oppositely disposed integral crank sections having wheel receiving portions offset from the axes of said axles, the front axle being loosely journalled in said body, and wheels loosely mounted at their centers on the offset portions of all the crank ends of said axles whereby upon energization of said motor the vehicle may be propelled with a skip and start skidding action combined with an erratic side to side oscillating or rollicking motion.

4. A motor driven toy vehicle comprising a vehicle body and means for propelling the same in an erratic manner, said means comprising a drive axle journalled in said body, motor means supported on said body and connected to said axle to drive the same, at least one of the ends of said axle being provided with an integral crank section having

a wheel receiving portion offset from the axis of said axle, and wheels mounted at their centers on said axle, one of said wheels being mounted upon the offset portion of the crank end of said axle and at least one of said wheels being loosely mounted on said axle whereby upon energization of said motor the vehicle may be propelled with a facile side to side oscillating or rollicking and with a skip and start motion.

Signed at New York, in the county of New York and State of New York this 23rd day of March A. D. 1927.

LOUIS MARX.