

2

April 27, 1937.

L. MARX

2,078,767

VEHICLE TOY

Filed March 13, 1936

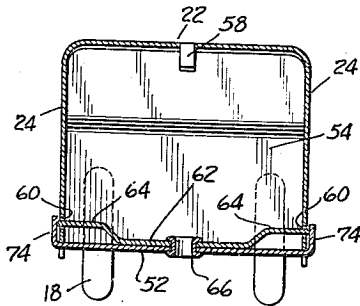
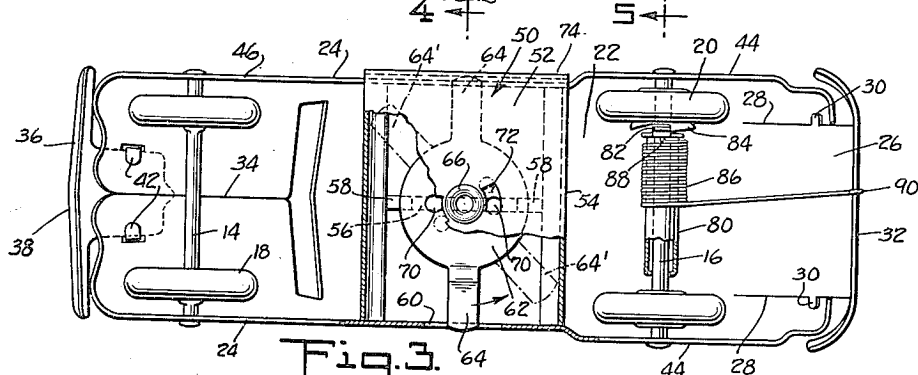
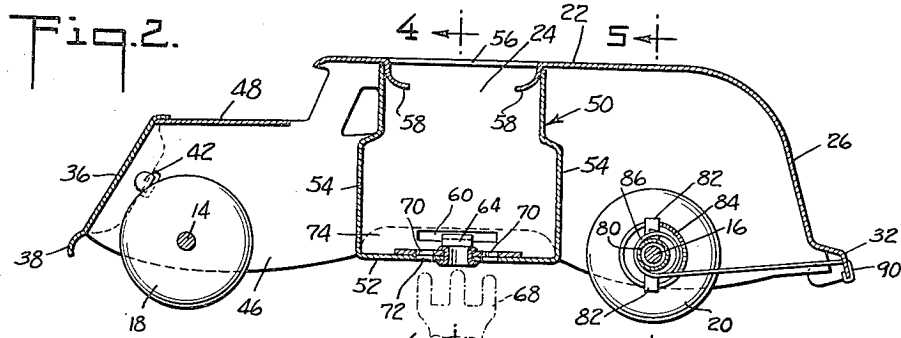
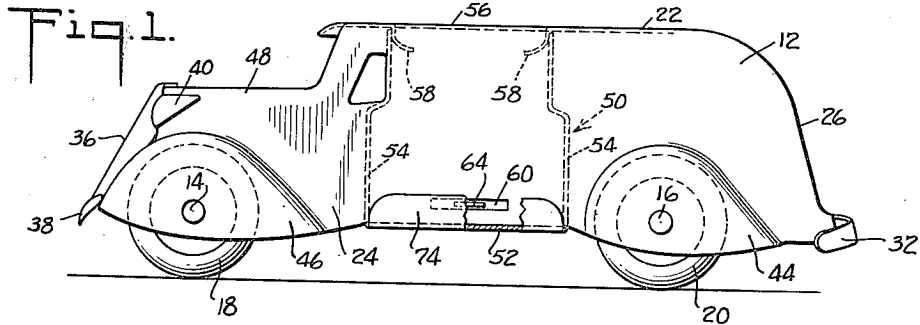


Fig. 4.

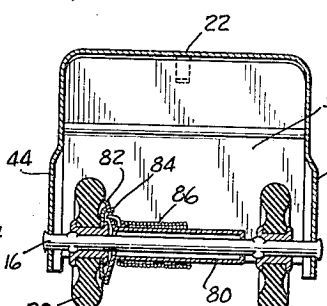


Fig. 5.

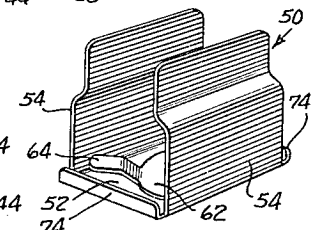


Fig. 6.

INVENTOR  
**Louis Marx**  
 BY  
*James & Franklin*  
 ATTORNEYS

Patented Apr. 27, 1937

2,078,767

## UNITED STATES PATENT OFFICE

2,078,767

## VEHICLE TOY

Louis Marx, New York, N. Y.

Application March 13, 1936, Serial No. 68,626

12 Claims. (Cl. 46—2)

This invention relates to vehicle toys, and more particularly to such a toy combined with a coin savings bank and simplified spring motor means, all entering into advantageous structural combination with one another.

The primary object of my invention is to generally improve vehicle toys, particularly small inexpensive vehicle toys of the so-called "shell" type. These toys consist essentially of a single main piece of sheet metal dished upwardly to form substantially the entire vehicle body, and wheel-bearing axles extending across the open bottom of the toy from one side to the other.

One more particular object of my invention resides in the provision with such a toy of auxiliary means making the toy usable as a coin savings bank, said means being simple and inexpensive in construction and being supported directly from the aforesaid shell type vehicle body. Another object resides in the provision of spring motor means of simplified type supported primarily by the wheel axle and extending rearwardly or away from the coin compartment, thus preventing interference of one with the other.

To the accomplishment of the foregoing and other objects which will hereinafter appear, my invention consists in the vehicle toy elements and their relation one to the other, as hereinafter are more particularly described in the specification and sought to be defined in the claims. The specification is accompanied by drawing in which:

Fig. 1 is a side elevation of a vehicle toy embodying features of my invention;

Fig. 2 is a section taken in elevation through the toy;

Fig. 3 is a partially sectioned inverted plan view of the toy;

Fig. 4 is a transverse section taken in the plane of the line 4—4 of Fig. 2;

Fig. 5 is a transverse section taken in the plane of the line 5—5 of Fig. 2; and

Fig. 6 is a perspective view of the accessory employed to convert the vehicle to a savings bank.

Referring to the drawing, the toy vehicle comprises a vehicle body 12 provided with front and rear axles 14 and 16, said axles carrying front and rear wheels 18 and 20. The body 12 may be formed substantially from a single piece of sheet metal. This sheet metal is struck upwardly or dished to form a top wall 22 and side walls 24. The back is closed by a rear wall 26, and in order to avoid the necessity for considerable drawing of the metal, I prefer to sever the blank at the lines 28 best shown in Fig. 3, the rear wall 26 then constituting an extension of the top 22, which is

bent downwardly to fit against the sides at the seams 28. Tongues 30 may be used to help hold the parts in desired relation. The lower edge of the rear wall 26 may, if desired, be suitably shaped and bent to form a simulated rear bumper 32.

At the forward portion of the vehicle, the necessity for substantial drawing of the metal may be avoided by the provision of a seam 34 (Fig. 3) at the top of the hood, the sides of the hood being bent inwardly until they meet in abutting relation at the seam 34. The forward end of the vehicle is provided with a radiator simulation 36. This is preferably made of a separate piece of metal in order to use a contrasting color, for example a nickel or tinned finish, in contrast with the painted exterior of the remainder of the toy. The radiator simulation 36 may be extended and suitably bent at the bottom to form a bumper simulation 38, and at the top to form simulated headlights 40. The part 36 is secured to the remainder of the vehicle body by appropriate tongue and slot connections 42 as shown in Figs. 2 and 3.

The side walls 24 of the body act also as wheel housings or mudguard simulations for the vehicle. In order to improve the appearance of the toy, the side walls are pressed outwardly slightly at the rear wheels, as is indicated at 44 (Figs. 1, 3 and 5). It is unnecessary to do this at the front wheels, because the side walls are anyway pressed inwardly immediately adjacent the front wheel housings 46 in order to join the hood simulation 48.

It should be understood that the entire bottom of the vehicle body as thus far described is open, and it is for this reason that the construction is frequently referred to as "shell" type. It will also be understood that the shell type body may be formed by pressing or drawing the metal upwardly, thus avoiding the use of seams; that the body may be made in forms different from that here disclosed; and that the essential characteristics of the construction are the open bottom and the support of the axles by extending the same across the open bottom of the toy from one side wall to the opposite side wall.

The particular toy body here illustrated simulates an armored delivery truck, this being appropriate in view of the provision therein of a coin savings bank. The toy is useful even without the bank, and may be made and sold in two forms, one without and one with the bank mechanism. To change the vehicle toy to a bank, I provide an auxiliary member 50 best shown in Fig. 6 of the drawing. This member consists of a

piece of sheet metal bent upwardly to generally U-shaped configuration, it then comprising a bottom wall 52 and side walls 54. The side walls 54 are dimensioned to fit transversely between the main side walls 24 of the vehicle. It will be evident from inspection of the drawing that by simply inserting the member 50 upwardly within the vehicle body 12, a fully enclosed bank compartment is formed, three of the six walls being the top and side walls 22 and 24 of the vehicle body, and the other three walls being the bottom and side walls 52 and 54 of the member 50.

A coin deposit slot 56 is cut through any desired one of the walls, preferably the top wall 22 of the vehicle body. This slot is of course located directly over the member 50. If desired, the material cut from slot 56 may be bent downwardly and inwardly to form tabs 58 which serve the functions, first, of locating and guiding the member 50 into proper position when inserting the member upwardly within the vehicle body; second, of limiting the denomination of the coin which will be received in the bank; and third, of tending to prevent the removal of coins from the bank by shaking the same through the coin deposit slot.

The member 50 is retained in position by appropriate lock mechanism. In the present case, I provide slots 60 in the side walls 24 of the vehicle body near the bottom edge thereof. The bottom wall 52 of member 50 carries on its upper surface a lock plate 62 having outwardly extending arms 64. The plate is oscillatably secured to the bottom 52 by suitable means such as the eyelet 66. The lock plate is operated by a suitable key here exemplified by a small three-pronged key 68 shown in broken lines in Fig. 2. Plate 62 has holes 70 which receive the outer prongs of key 68, while eyelet 66 receives the center prong. The bottom 52 has arcuate slots 72 located in register with the holes 70. By inserting the key and turning the same, the lock plate 62 may be moved from the solid line position to the dot-and-dash line position shown in Fig. 3. The arms 64 are thus moved from a position interlocked with the slots 60 to a position 64' free of the slots 60.

The side edges of bottom 52 are preferably turned upwardly or flanged as shown at 74, the flanges being of sufficient height to cover the slots 60 and the arms 64 of the locking mechanism. This, of course, improves the appearance of the toy and prevents tampering with the lock except by use of the key.

Like the bank mechanism, the motor mechanism is of simplified type well adapted for addition to a shell type toy without complicating the construction of the essential parts of the toy. The rear axle 16 has slipped thereover a sheet metal tubular or hollow drum 80. This drum is freely rotatable on the axle and is also longitudinally or axially movable thereon. One end of the drum is provided with a pair of outwardly projecting ears or driving dogs 82. The rear wheel adjacent the said end of the drum is provided with a ratchet plate 84, this consisting simply of a disc having suitable sloping teeth adapted for cooperation with the driving dogs 82. The driving spring 86 consists of a piece of thin spring wire, one end 88 of which is secured to the drum and the other end 90 of which is carried rearwardly and secured to the body of the vehicle. The intermediate portion of the wire is helically coiled about the drum 80, as is clearly shown in

the drawing. The end 90 is preferably secured to the body at a point disposed toward the ratchet mechanism 82 and 84, thus establishing a slight tension tending to move the drum toward ratchet disc 84.

To wind the toy, it is simply placed on the floor and moved rearwardly until the spring becomes taut. It is thereupon released, and the toy is given a driving impulse forwardly by the spring. When the spring has become unwound the toy may nevertheless continue moving under its own momentum because the ratchet mechanism is then disengaged. The ratchet mechanism engages for positive movement when the toy is moved rearwardly to wind the spring or when the toy is moving forwardly under the driving power of the spring. It will be understood that if it is desired that both rear wheels drive the toy, these wheels are secured to and interconnected by the rear axle 16, the axle then being made freely rotatable in the side walls of the vehicle body. It will also be understood that the toy may be pulled about by a string if desired, just like an ordinary pull toy, because of the over-running permitted by the ratchet mechanism.

It is believed that the mode of constructing and using, as well as the many advantages of my improved vehicle toy, will be apparent from the foregoing detailed description thereof. The main dies and machinery may be used to manufacture a simple shell type pull toy devoid of bank and motor mechanism. To make the present improved toy, it is merely necessary to cut the coin deposit slot 56 and the lock slots 60 through the top and side walls of the vehicle body. The bank member 50 is then moved upwardly into the vehicle body and locked in place. To add the motor mechanism, it is merely necessary to slip the spring drum over the rear axle when assembling the toy, and to use one rear wheel provided with the ratchet disc 84. The bank mechanism and the motor mechanism are both supported by a toy body of the open-bottomed one-piece or shell type, it being unnecessary to add a special chassis or motor frame or the like. The bank and motor mechanisms are so disposed as to avoid interference of one with the other. I am thus enabled at very slight increase in cost to manufacture a toy, the functional possibilities and play value of which are greatly enhanced.

It will be apparent that while I have shown and described my invention in a 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 vehicle toy comprising an upwardly dished open-bottomed sheet metal vehicle body including side walls, wheel-bearing axles extending transversely of said body at the forward and rear ends thereof, the wheels being located within and housed by the side walls of the vehicle body and the ends of the axles outside the wheels passing through and being supported by the side walls of the vehicle body, and motor means for propelling said vehicle, said motor means comprising a hollow cylindrical drum loosely received on the rear axle between the rear wheels, ratchet means on the inner side of one of the wheels and on the adjacent end of the drum, and a spring wire helically wound about said drum and having one end connected to said drum and the other end extending rearwardly from the drum 75

## TOYS

2,078,767

3

and connected to the rear end of the vehicle body.

2. A vehicle toy comprising an upwardly dished open-bottomed sheet metal vehicle body including side walls, wheel-bearing axles extending transversely of said body at the forward and rear ends thereof, the wheels being located within and housed by the side walls of the vehicle body and the ends of the axles outside the wheels passing through and being supported by the side walls of the vehicle body, and motor means for propelling said vehicle, said motor means comprising a hollow cylindrical drum loosely received on an axle between the wheels, said drum being axially movable on said axle, ratchet means on the inner side of one of the wheels and on the adjacent end of the drum, and a spring wire helically wound about said drum and having one end connected to said drum and the other end extending from the drum and connected to the vehicle body.

3. A vehicle toy comprising an upwardly dished sheet metal vehicle body including side walls and being open at the bottom, wheel-bearing axles extending transversely of said body at the forward and rear ends thereof, the wheels being located within and housed by the side walls of the vehicle body and the ends of the axles outside the wheels passing through and being supported by the side walls of the vehicle body, and motor means for propelling said vehicle, said motor means comprising a hollow cylindrical drum loosely received on the rear axle between the rear wheels, said drum being axially movable on said axle, ratchet means on the inner side of one of the wheels and on the adjacent end of the drum, and a spring wire helically wound about said drum and having one end connected to said drum and the other end extending rearwardly from the drum and connected to the rear end of the vehicle body, the point of connection being displaced toward the ratchet end of the drum.

4. A vehicle toy comprising an upwardly dished sheet metal vehicle body closed at the top and sides and open at the bottom, a coin bank disposed in said body, said bank including a relatively open sheet metal member having a plurality of sides and dimensioned to be passed upwardly into and received by the body, the sides of said member complementing the sides of the vehicle body and cooperating therewith together to form a closed coin compartment occupying only a part of the vehicle body, a coin deposit slot cut through one of the walls of the resulting compartment, and means for releasably securing the member in the body.

5. A vehicle toy comprising an upwardly dished sheet metal vehicle body, said body including top and side walls and being open at the bottom, a coin bank disposed in said body, said bank including a three-sided generally U-shaped sheet metal member dimensioned to be passed upwardly into and received by the body, the bottom of said U shaped member extending across the bottom of the body and the sides of said member extending transversely of the body between the side walls thereof, whereby the top and side walls of the body cooperate with the three walls of said member to form a closed or six-walled compartment, and a coin deposit slot cut through one of the walls of the resulting compartment.

6. A vehicle toy comprising an upwardly dished sheet metal vehicle body, said body including top and side walls and being open at the bottom, a coin bank disposed in said body, said bank in-

cluding a three-sided generally U-shaped sheet metal member dimensioned to be passed upwardly into and received by the body, the bottom of said U-shaped member extending across the bottom of the body and the sides of said member extending transversely of the body between the side walls thereof, whereby the top and side walls of the body cooperate with the three walls of said member to form a closed or six-walled compartment, a coin deposit slot cut through one of the walls of the resulting compartment, and lock means for releasably securing the member in the body.

7. A vehicle toy comprising an upwardly dished sheet metal vehicle body simulating an armored truck, said body including top and side walls and being open at the bottom, wheel-bearing axles extending transversely of said body at the forward and rear ends thereof, the ends of said axles passing through and being supported by the side walls of the vehicle body, a coin bank disposed in said body intermediate the front and rear axles, said bank including a three-sided generally U-shaped sheet metal member dimensioned to be passed upwardly into and received by the body, the bottom of said U-shaped member extending across the bottom of the body and the sides of said member extending transversely of the body between the side walls thereof, whereby the top and side walls of the body cooperate with the three walls of said member to form a closed or six-walled compartment, a coin deposit slot cut through one of the walls of the resulting compartment, key-operated lock means for releasably securing the member in the body.

8. A vehicle toy comprising a vehicle body, wheel-bearing axles extending transversely of said body at the forward and rear ends thereof, a coin bank disposed in said body, said bank including a relatively open sheet metal member having a plurality of sides and dimensioned to be passed into and received by the body, the sides of said member complementing the sides of the vehicle body and cooperating therewith together to form a closed coin compartment, a coin deposit slot cut through one of the walls of the resulting compartment, and means for releasably securing the member in the body, and motor means for propelling said vehicle, said motor means including a hollow cylindrical drum loosely received on the rear axle between the rear wheels, ratchet means on one of the wheels and on the adjacent end of the drum, and a spring wound about said drum and having one end connected to said drum and the other end connected to the vehicle body.

9. A vehicle toy comprising an upwardly dished sheet metal vehicle body including top and side walls and being open at the bottom, wheel-bearing axles extending transversely of said body at the forward and rear ends thereof, the ends of said axles passing through and being supported by the side walls of the vehicle body, a coin bank disposed in said body intermediate the front and rear axles, said bank including a three-sided generally U-shaped sheet metal member dimensioned to be passed upwardly into and received by the body, the bottom of said U-shaped member extending across the bottom of the body and the sides of said member extending transversely of the body between the side walls thereof, whereby the top and side walls of the body cooperate with the three walls of said member to form a closed or six-walled

compartment, a coin deposit slot cut through one of the walls of the resulting compartment, means for releasably securing the member in the body, and motor means for propelling said vehicle, said motor means including a hollow cylindrical drum loosely received on the rear axle between the rear wheels, ratchet means on the inner side of one of the wheels and on the adjacent end of the drum, and a spring wire helically wound about said drum and having one end connected to said drum and the other end extending rearwardly from the drum and connected to the rear end of the vehicle body.

10. A vehicle toy comprising an upwardly dished sheet metal vehicle body simulating an armored truck, said body including top and side walls and being open at the bottom, wheel-bearing axles extending transversely of said body at the forward and rear ends thereof, the ends of said axles passing through and being supported by the side walls of the vehicle body, a coin bank disposed in said body intermediate the front and rear axles, said bank including a three-sided generally U-shaped sheet metal member dimensioned to be passed upwardly into and received by the body, the bottom of said U-shaped member extending across the bottom of the body and the sides of said member extending transversely of the body between the side walls thereof, whereby the top and side walls of the body cooperate with the three walls of said member to form a closed or six-walled compartment, a coin deposit slot cut through one of the walls of the resulting compartment, key-operated lock means for releasably securing the member in the body, and motor means for propelling said vehicle, said motor means including a hollow cylindrical drum loosely received on the rear axle between the rear wheels, said drum being axially movable on said axle, ratchet means on the inner side of one of the wheels and on the adjacent end of the drum, and a spring wire helically wound about said drum and having one end connected to said drum and the other end extending rearwardly from the drum and connected to the rear end

of the vehicle body, the point of connection being displaced toward the ratchet end of the drum.

11. A vehicle toy comprising an upwardly dished sheet metal vehicle body simulating an armored truck, said body including top and side walls and being open at the bottom, wheel-bearing axles extending transversely of said body at the forward and rear ends thereof, the ends of said axles passing through and being supported by the side walls of the vehicle body, a coin bank partly formed by and occupying substantially all of said body intermediate the front and rear axles, and motor means for propelling said vehicle, said motor means including a hollow cylindrical drum loosely received on the rear axle between the rear wheels, ratchet means on one of the wheels and on the adjacent end of the drum, and a spring wire helically wound about said drum and having one end connected to said drum and the other end extending rearwardly from the drum and connected to the rear end of the vehicle body.

12. A vehicle toy comprising an upwardly dished open-bottomed sheet metal vehicle body including top and side walls, a coin bank disposed in said body, said bank including a three-sided generally U-shaped sheet metal member dimensioned to be passed upwardly into and received by the body, the bottom of said U-shaped member extending across the bottom of the body and the sides of said member extending transversely of the body between the side walls thereof, whereby the top and side walls of the body cooperate with the three walls of said member to form a closed or six-walled compartment, a coin deposit slot cut through the top wall of the vehicle body, the metal removed to form the slot being bent inwardly, and a lock arm pivotally mounted on the bottom wall of the member, the sides of the vehicle body being slotted to receive the ends of the arm, the edges of the bottom wall being flanged upwardly to conceal the slots.

LOUIS MARX. 45