C. W. HOWARD.

TOY VEHICLE.

APPLICATION FILED MAY 13, 1919.

1,361,584.

Patented Dec. 7, 1920.

2 SHEETS—SHEET 1.

FIG. 1.

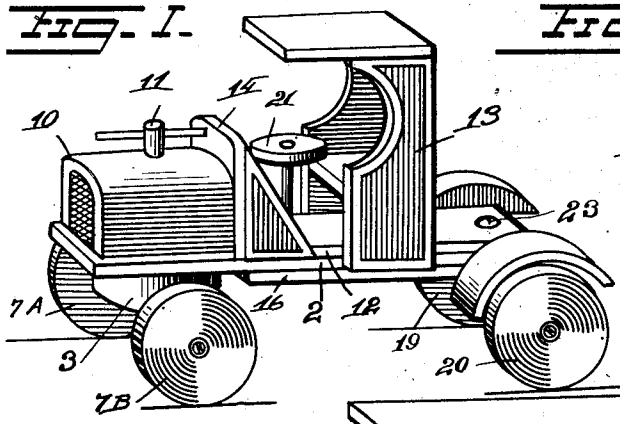


FIG. 2.

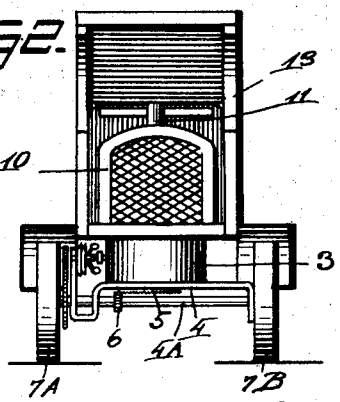


FIG. 3.

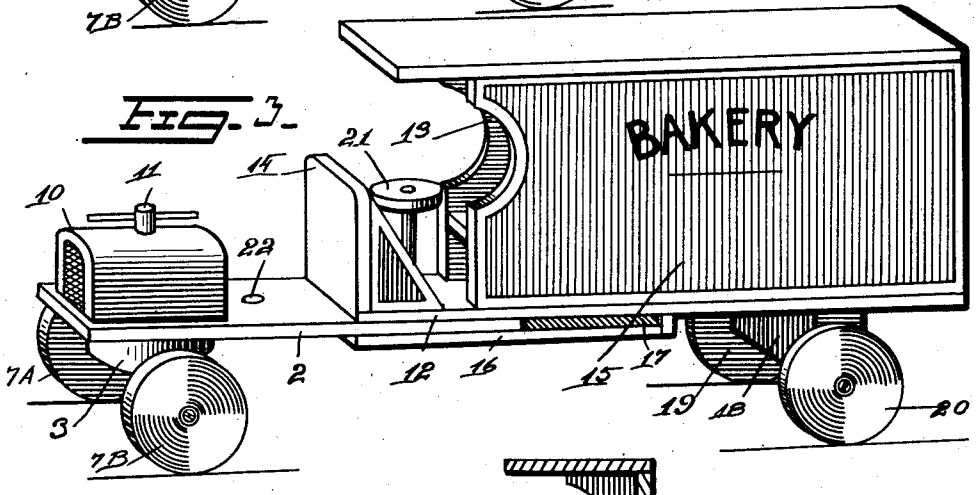


FIG. 4.

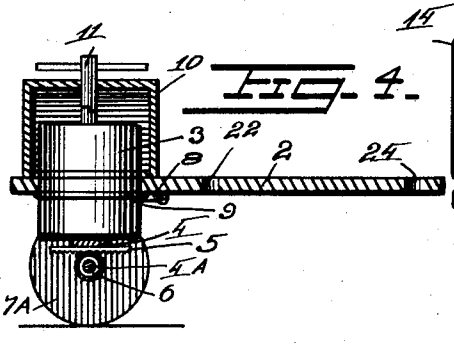
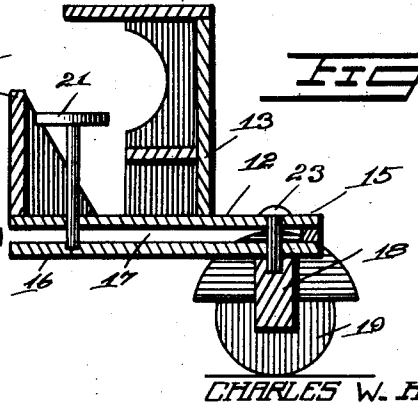


FIG. 5.



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2 SHEETS—SHEET 2.

Fig. 6.

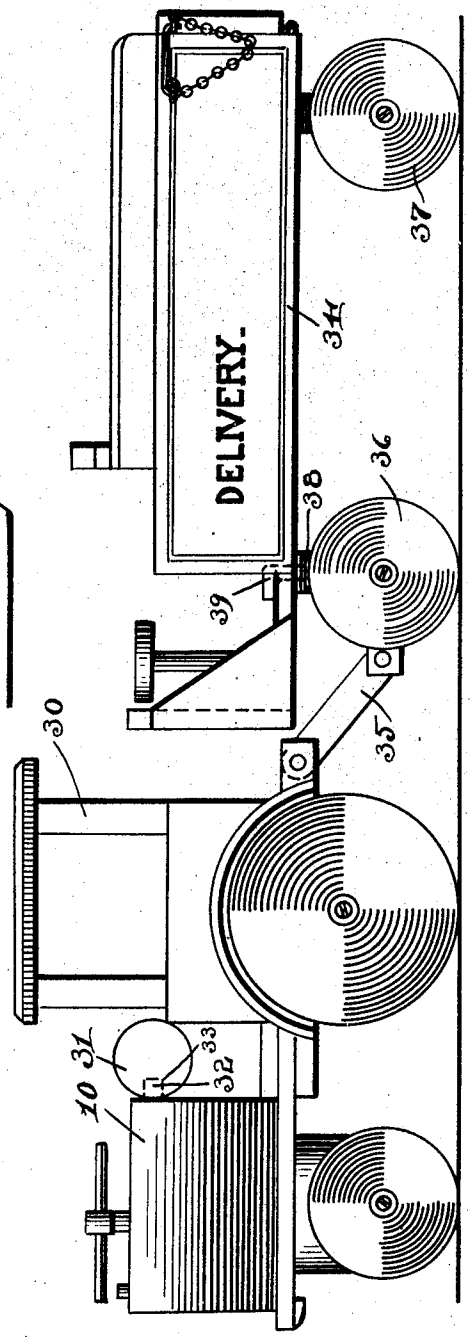


Fig. 8.

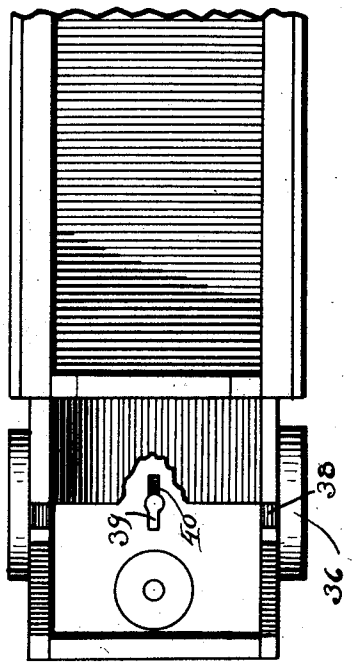
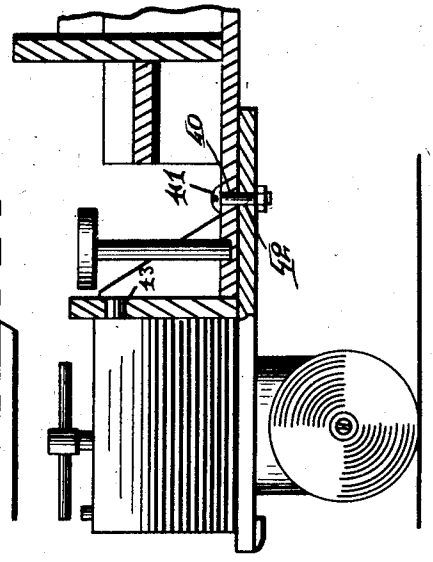


Fig. 7.



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TOY VEHICLE.

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To all whom it may concern:

Be it known that I, CHARLES W. HOWARD, a citizen of the United States, residing at Albion, in the county of Orleans and State of New York, have invented certain new and useful Improvements in Toy Vehicles, of which the following is a specification.

The object of this invention is to so construct a new and improved miniature toy vehicle so that the power unit and a portion of the chassis of the vehicle and interchangeable on different vehicle bodies. The bodies to which the power unit may be attached are constructed to represent miniature forms of a variety of delivery trucks, tractors and other motor driven vehicles now being used in many of the well known industries and for a variety of purposes.

This and other objects of this invention will be fully illustrated in the drawing, described in the specification and pointed out in the claims at the end thereof.

In the accompanying drawing,

Figure 1 is a perspective view of the toy vehicle representing a form of tractor.

Fig. 2 is a front elevation of the tractor shown in Fig. 1.

Fig. 3 is a perspective view of the toy vehicle with a body representing a form of delivery truck being attached thereto.

Figs. 4 and 5 are longitudinal cross sections of the driving section and body section of the tractor shown in Fig. 1.

Fig. 6 is a side elevation of the toy vehicle representing a tractor with a delivery wagon connected thereto.

Fig. 7 is a vertical section of a portion of the vehicle showing a modified form of connecting the body to the toy vehicle.

Fig. 8 is a top plan view of a portion of the delivery wagon shown in Fig. 6.

In the several figures of the drawings, like reference numerals indicate like parts.

The toy vehicle comprises two distinct sections; one the front or driving section and the other the rear or body section. The two sections are so arranged and constructed that a number of body sections may be used with and interchanged on one of the driving sections in order to change the toy vehicle to represent any one of the many types of motor trucks.

The driving section 1 comprises a horizontal plate 2 on which the power unit 3 is supported near the front thereof. The power unit 3 is preferably a spring motor similar to those used for driving other toys. The power unit 3, in turn, is supported on the stationary or dead front axle 4 to which it is suitably fastened. A driving shaft 4^A is mounted parallel to and under the dead axle 4 and rotates in suitable bearings provided thereon. This driving shaft is driven by the power unit 3 through a chain of gearing comprising the bevel gear 5 keyed to the power shaft of the driving unit and the gear 6 which is keyed to the driving shaft 4^A and with which the bevel gear 5 meshes. The front wheels 7^A and 7^B are fastened to the outer ends of the shaft 4^A and are driven thereby.

A spring latch is provided comprising a pawl 8 which is mounted to the underside of the plate 1 and engages the rack 9 provided on the periphery of the casing of the power unit. This latch is adapted to hold the axle 3 and the wheels 6 and 7 in a predetermined position. In this manner the wheels 6 and 7 may be set to drive the vehicle in different directions by turning the front axle 4 with the power unit 3 mounted thereon in the plate 2 in the direction in which the vehicle is to run.

The upper portion of the power unit 2, which projects above the bar or plate 1, is covered by the casing 10. This casing is formed to represent the radiator and engine hood of the motor vehicle. The key 11 for winding this spring motor is adapted to pass through a suitable opening in the top of the hood 10 to engage the winding shaft of the motor.

The body section or rear section of the toy vehicle is made up of the base plate or floor 12 on which are mounted the seat and cab 13, the dash board 14 and the body 15 which is shown as corresponding to the body of a delivery wagon. Mounted below the base plate 12 and parallel thereto is the plate or tongue 16. This tongue is suitably spaced apart from the base plate 12 and forms a pocket 17 therewith. The pocket 17 is adapted to receive the plate 2.

The body section of the vehicle is supported at the rear on the stationary axle 18 on either side of which the wheels 19 and 20 are suitably mounted to rotate.

In connecting the driving section 1 of the toy vehicle with one of the body sections

such as are shown in Figs. 1 and 3, the plate 1 of the driving section is moved into the pocket provided below the base plate 12 of the body of the vehicle. The column of the steering wheel 21 is then passed through the base plate 12 into the hole 22 provided in the plate 1 and a suitable bolt 23 at the rear of the base plate 1 is passed into the hole 24 in order to hold the two sections of the vehicle together and form a single unit representing a miniature motor truck according to the form of body provided thereon.

The power unit for driving the toy vehicle may be one of the well known types of spring motors and forms no part of this invention except that it is mounted on the front axle of the vehicle so as to swing therewith. It is also understood that while but two forms of bodies of motor trucks are shown in the drawing any number of them made up in different forms may be used and fastened to the driving section in the manner above pointed out.

A slight modification in the manner in which the driving unit is attached to the body unit is shown in Figs. 6 to 8, inclusive. In Fig. 6 a special tractor body 30 is attached to the frame of the driving unit 1 in the manner shown in connection with Fig. 1.

A cylinder block 31 is fastened to the rear of the engine housing 10 by means of the rearwardly projecting pin 32 which is adapted to engage the hole 33 drilled into the periphery of the cylinder block 31.

The tractor is coupled to a delivery wagon 34 by means of the draw bar 35. The delivery wagon is provided with a pair of front wheels 36 and a pair of rear wheels 37. The front wheels 36 are mounted to rotate on the axle 38. This axle is swiveled below the frame of the delivery truck on a pivot pin 39.

In order to make the axle 38 with its wheels 36 detachable from the frame of the wagon 34, the pivot pin is made L shaped. The hole 40 in the bottom of the wagon is made correspondingly elongated so as to permit the insertion of the pin from below the bottom of the wagon. The pin 39 after being inserted into the hole 40 from below the bottom of the wagon is rotated so as to move the horizontal extension of the L shaped pin away from the elongated opening and prevent its disengagement from the body of the wagon.

When the wagon body 34 is to be attached to the self propelling driving unit 1, the front axle 38 and its wheel are detached therefrom. The front portion of the wagon without the front wheels is then placed on top of the platform of the driving unit as shown in Fig. 7. A stove bolt 41 is passed through the holes 40 and 42 provided in the platform of the driving and body units in order to clamp both the driving unit and body unit together.

The pin 32 which has been used to support the imitation gas tank of the tractor shown in Fig. 6 is adapted to engage the opening 43 provided in the dashboard of the wagon 34 and line up the body unit on the driving unit. The pin 32 and the bolt 41 are thus used to hold the body unit in line on the driving unit. This does away with the pocket shown in connection with Figs. 1 to 5, inclusive.

I claim:

1. In a toy vehicle, comprising a single unit, having two pairs of wheels, the combination of a driving section having one pair of wheels and a body section having another pair of wheels and means for connecting said body section with said driving section to form a single unit and a rigid body structure, said means comprising overlapping, parallel surfaces on the two sections which are fastened together.

2. In a toy vehicle comprising a single unit, having two pairs of wheels, the combination of a driving section having one pair of wheels and a body section having the other pair of wheels, said driving section and said body section forming a rigid body between them, a motor mounted on said body, said motor being adapted for driving the wheels on the driving section.

3. In a toy vehicle, the combination of a driving section, an independent body section, an engine housing on said driving section, a rearwardly projecting pin at the rear of said housing, and means on said body section to engage said pin and hold said body section on said driving section.

4. In a toy vehicle, the combination of a driving section, an independent body section, means for connecting said body section with said driving section, a driving unit mounted to turn in said driving section, and a pair of wheels supporting said driving section, said wheels being mounted to turn with said driving unit and being driven thereby.

5. In a toy vehicle, the combination of a driving section, an independent body section, means for connecting said body section with said driving section, a driving unit mounted to turn in said driving section, a pair of wheels supporting said driving section, said wheels being mounted to turn with said driving unit and being driven thereby, and means on said driving section to adjustably hold said driving unit and said wheels in a predetermined angle thereon.

6. A detachable driving section for toy vehicles comprising a platform, a driving unit carried on said platform and mounted

to rotate therein, wheels driven by said driving unit, said wheels being adapted to support one end of said driving section.

7. In a toy vehicle, the combination of a frame, wheels supporting said frame, said frame being divided into two sections, each of said sections being supported by wheels at one end thereof, and means to rigidly connect the unsupported end of each of said sections with each other to form a single unit, one of said sections carrying a driving unit for the combined sections.

8. In a toy vehicle, the combination of a detachable front driving section, a housing carried on said front driving section and being mounted to rotate thereon, said housing having a driving unit mounted thereon, a driving axle driven by said driving unit, wheels connected to said axle, said driving unit and said driving axle with its wheels being adapted to turn with said housing to steer the toy vehicle.

In testimony whereof I affix my signature.

CHARLES W. HOWARD.