L. M. BUTTERFIELD.

TOY VEHICLE.

APPLICATION FILED JAN. 30, 1920.

1,368,696.

Patented Feb. 15, 1921.

2 SHEETS—SHEET 1.

FIG. 1.

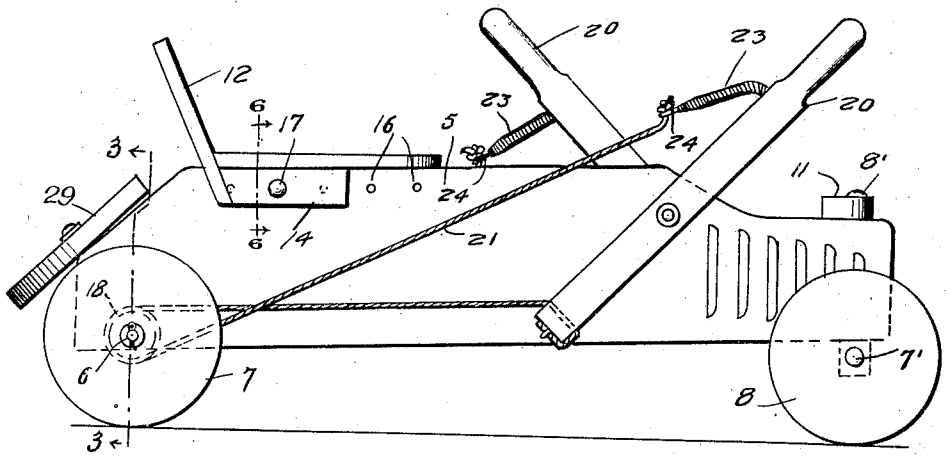


FIG. 2.

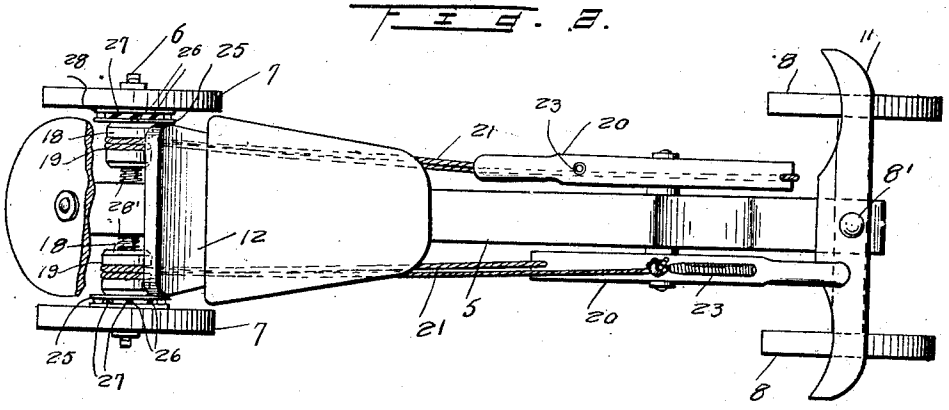
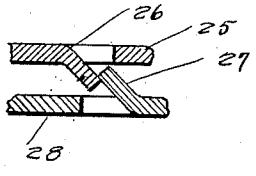


FIG. 7.



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2 SHEETS—SHEET 2.

FIG. 3.

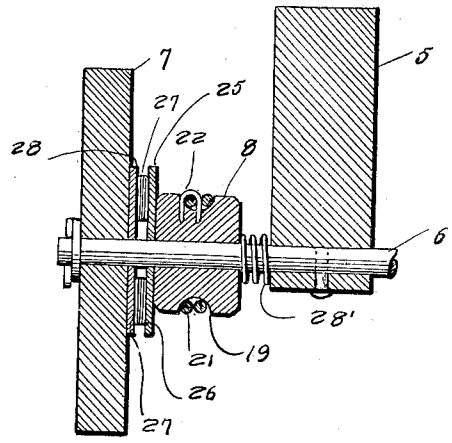


FIG. 4.

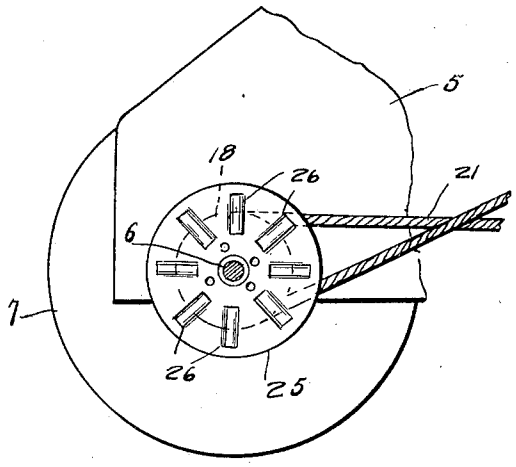


FIG. 5.

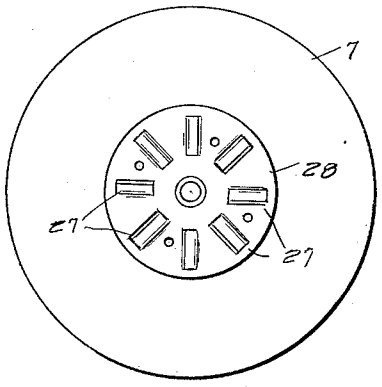
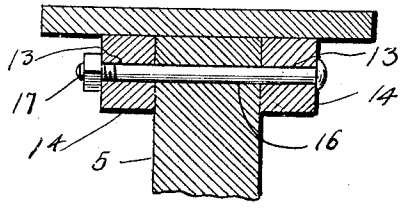


FIG. 6.



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UNITED STATES PATENT OFFICE.

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TOY VEHICLE.

1,368,696. Specification of Letters Patent. Patented Feb. 15, 1921.

Application filed January 30, 1920. Serial No. 355,058.

To all whom it may concern:

Be it known that I, LOUIS M. BUTTERFIELD, a citizen of the United States, residing at Raymond, in the county of Rockingham and State of New Hampshire, have invented certain new and useful Improvements in Toy Vehicles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to toy vehicles for children, its primary object being to provide a toy which is manually propelled and does not require the operator to engage the feet with the ground as the usual toy car known as the kiddie car.

A further object of the invention is to provide a toy vehicle which includes hand operated levers operatively connected with the drive wheels and which is steered by the operator's feet.

Another object of my invention is to provide a vehicle of this type embodying a seat which is adjustable longitudinally of the body of the vehicle, so that the vehicle may be used by persons of different sizes.

Still another object of the invention is to provide a toy car, the wheels of which are driven by a clutch mechanism operated by hand operated oscillating levers, the construction being such as to eliminate sudden jars to the levers upon actuation of the clutch mechanism to drive the wheels.

Another general object of the invention is to provide a child's vehicle of this character which is simple in construction, consists of few parts and may be manufactured and sold at a nominal cost.

With the above and other objects and advantages in mind, my invention consists in the novel combination of elements, construction and arrangement, operation and specific features all of which are to be hereinafter enlarged upon and explicitly defined in the subjoined claims, a practical embodiment of the invention being illustrated in the attached drawing.

Figure 1 is a side elevation of a toy vehicle constructed in accordance with my invention;

Fig. 2 is a top plan view of the same;

Fig. 3 is a sectional view taken on line 3—3 of Fig. 1 illustrating the coacting clutch disks for driving the drive wheels of the vehicle.

Fig. 4 is a fragmentary side elevation of the vehicle showing one of the drive wheels removed and illustrating the driven disk of the clutch;

Fig. 5 is an elevation looking at the inner face of one of the drive wheels removed from the vehicle and showing the clutch disk fixed thereto for coöperation with the driven clutch disk; and

Fig. 6 is an enlarged transverse sectional view taken on line 6—6 of Fig. 1.

Fig. 7 is a fragmentary detail view of one of the clutches embodied in the invention.

In the embodiment of the invention illustrated in the accompanying drawing I provide a body or beam which is rectangular in cross section and as illustrated this body is cut to possess the lines of the usual automobile. Extending transversely through the body at its rear end and projecting laterally from opposite sides thereof is an axle 6 upon which the gear or drive wheels 7 are rotatably mounted. The front axle is designated at 7′ and the wheels therefor at 8, the axle 7′ being fixed centrally to a vertically disposed bolt 8′ which extends vertically through the forward end of the body and is adapted for pivotal movement to swing the axle 8 to steer the vehicle. The upper end of this bolt is fixed to a swinging foot operated horizontally disposed steering bar 11.

The seat of my improved vehicle is longitudinally adjustable on the upper edge of the body so that the vehicle may be adapted to be used by children of various sizes. This seat includes an inclined back rest 12. Cleats 14 extend from the inner face of the back rest at the lower edge thereof and receive the upper edge of the body 5 therebetween. The upper edge of the body 5 is provided with a plurality of alined openings 16 any one of which is adapted to receive a bolt 17 extending transversely through the cleats.

A drum 18 is rotatably mounted upon each end of the axle 6 and is provided with a circumferential groove 19. In order to continuously rotate the drum there is provided a pair of hand operated levers which are pivoted upon opposite sides of the body at the forward end thereof and are continuously oscillated toward and away from each other. A flexible element 21 is provided for each of the drums and each has one end attached to the lower end of each of the

levers 20 and is wound about the drum and disposed in the groove on the same and attached to the drum by fastenings 22. Extending rearwardly from each of the levers 20 is a coil spring 23, the latter terminating in eyes 24. The opposite ends of each of the flexible elements are extended forwardly and engaged with the hooks 24. When it is desired to replace the flexible elements with new ones it is only necessary to disengage the hooks from these elements and detach the same from the drum.

Inasmuch as the drive wheels will be rotated alternately owing to the lever arrangement, it is necessary to employ clutch mechanism which will become inoperative during the operation of the levers in one direction. This clutch arrangement is as follows: A clutch disk 25 is fixed to the outer face of each of the drums and has radially disposed parallel angularly disposed wings 26 struck therein which are adapted for interlocking engagement with similar wings 27 struck in a clutch plate 28 fixed to the inner face of each of the wheels 7. The interlocking wings of one set of clutch disks are disposed in a plane opposite to those of the other set as shown in Fig. 7.

Encircling the axle 6 upon opposite sides of the body are expansible coil springs 28′ which bear against the drums and normally urge the same toward the wheels to engage the clutch disks at the proper time, the coil springs allowing the drums to move slightly toward the body when the drums are rotated in a counter-clockwise direction.

In order to further give the vehicle the appearance of an automobile, an auxiliary wheel 29 is supported upon the rear end of the body.

It will be stated that the coil springs 23 operatively connected with the flexible elements prevent the levers from becoming suddenly jerked when the clutch elements are thrown into operative position.

The structure shown and described is a practical embodiment of the invention but it will be understood that the same may be modified according to requirements and that further my limits of modification are only governed by what is claimed.

What is claimed is:—

1. In a vehicle, a body, front steering wheels for the body, an axle extending transversely to the rear end of the body, wheels supported thereon, drums rotatable on the axle, means coacting between the drums and wheels for alternately driving the same, and flexible elements passing around each of the drums, a pair of pivoted levers, each of which having operative connection with the flexible elements whereupon rocking the levers in opposite directions the drums will be rotated to drive the wheels alternately, a clutch disk carried by each of the drums, outstanding angularly disposed parallel wings struck from the clutch disk, the wings on one disk being disposed opposite to those on the other disks, and clutch disks fixed to the drive wheels, and coöperating angularly disposed parallel wings struck in the latter for interlocking engagement with the first mentioned wings, and coil springs urging the drums to a position where the wings will be interlocked to drive the drive wheels when the drums are driven in a clockwise direction.

2. A vehicle including a body, driving and steering wheels supporting the body, a drum for each of the drive wheels rotatably mounted co-axial with the latter and capable of slight longitudinal movement, clutch elements fixed to each drive wheel and the drum therefor, the clutch elements of each wheel and drum having angularly disposed teeth, coil springs urging the drums to position to engage the clutch elements, and manually operated cables engaged with the drums for alternately rotating the drums to rotate the drive wheels.

In testimony whereof I affix my signature in presence of two witnesses.

LOUIS MARTIN BUTTERFIELD.

Witnesses:

ADDIE J. STEVENS,

GEORGE H. GUPTILL, Jr.