

No. 752,435.

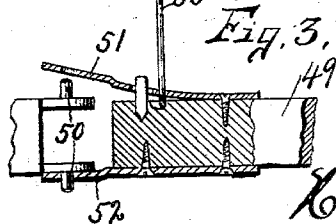
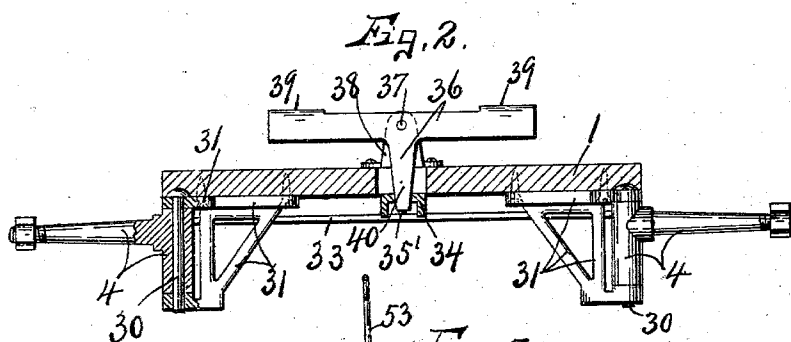
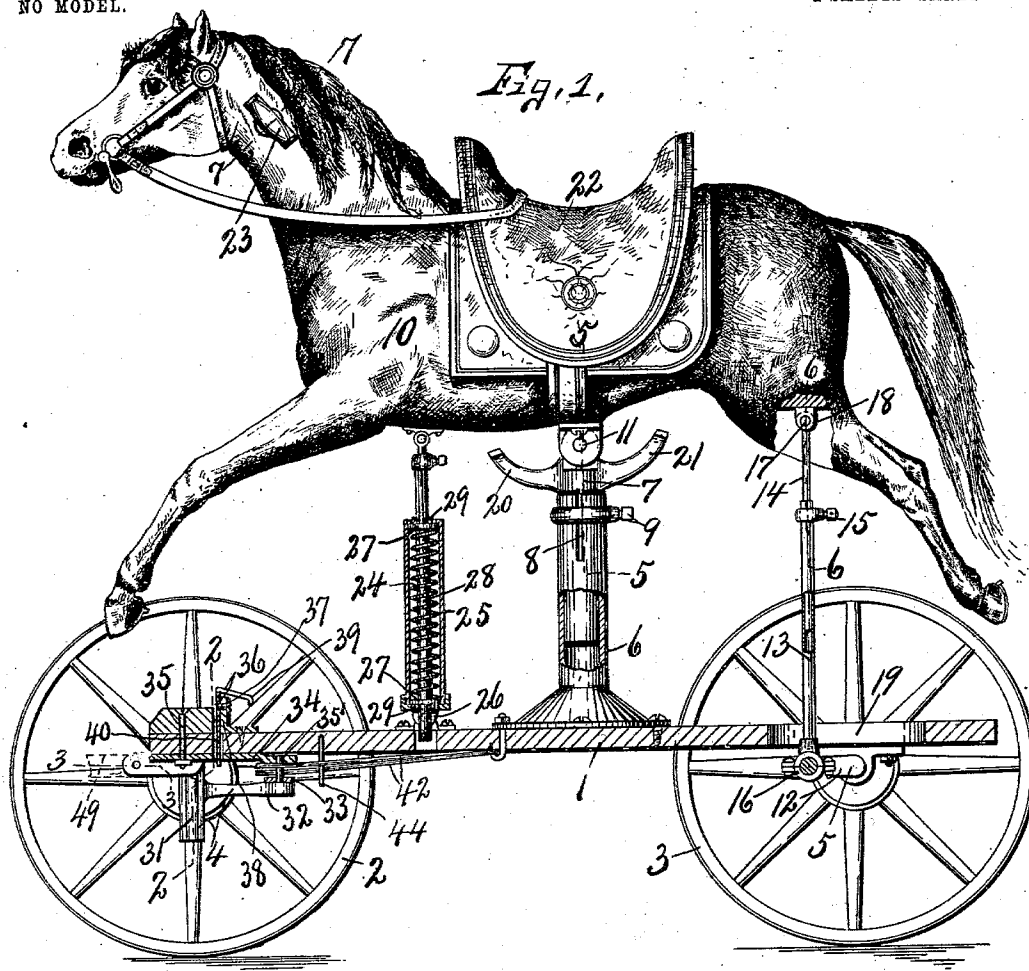
PATENTED FEB. 16, 1904.

C. O. BARNES.
VEHICLE.

APPLICATION FILED MAR. 6, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



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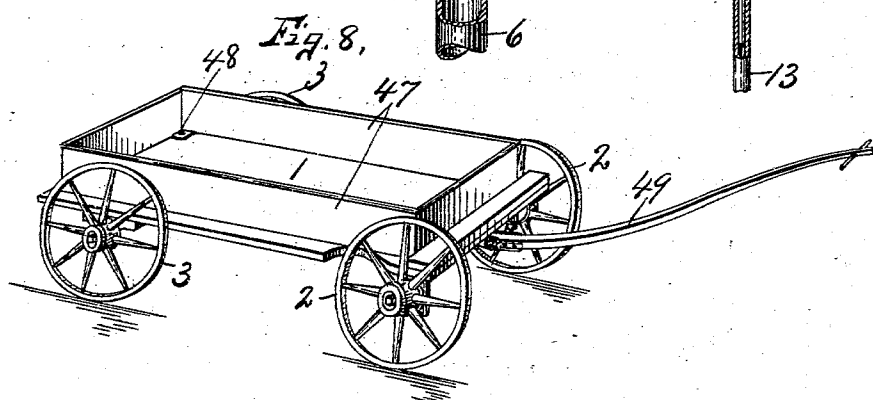
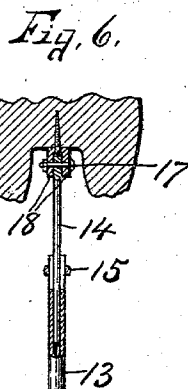
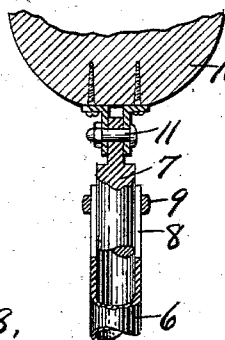
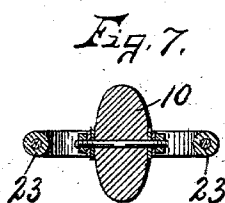
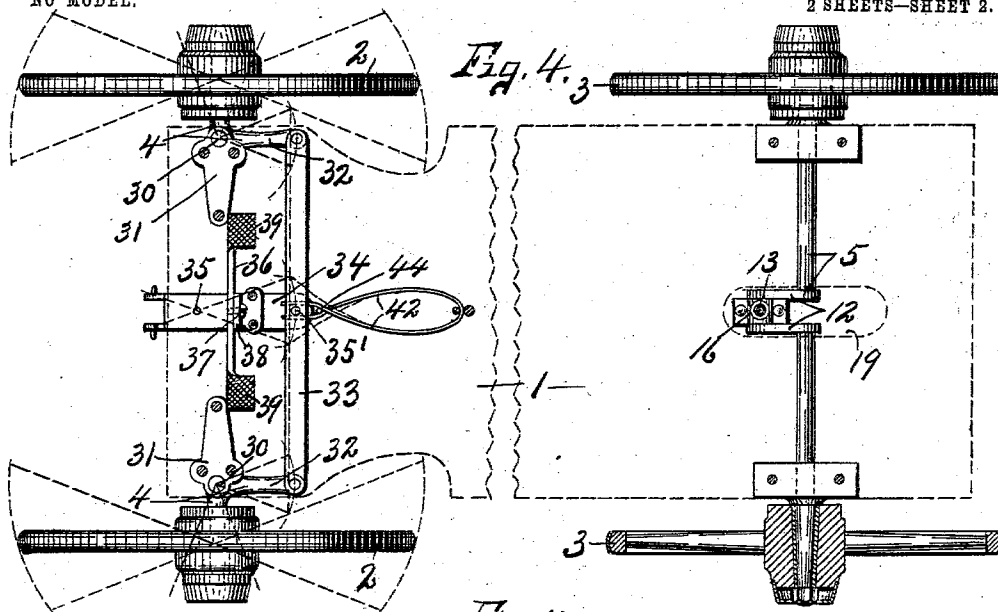
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2 SHEETS—SHEET 2.



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VEHICLE.

SPECIFICATION forming part of Letters Patent No. 752,435, dated February 16, 1904.

Application filed March 6, 1903. Serial No. 146,458. (No model.)

To all whom it may concern:

Be it known that I, CHARLES O. BARNES, of Fruit Valley, in the county of Oswego, in the State of New York, have invented new and useful Improvements in Vehicles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in vehicles, and refers more particularly to rocking-horse-propelled velocipedes, in which the rocking motion of the horse is utilized to rotate a suitable driving-shaft for propelling the vehicle.

The primary object of this invention is to render the apparatus convertible for different uses, either as a velocipede, in which the rocking motion of the horse is transmitted to the driving mechanism for propelling the vehicle, or by disconnecting the horse from the driving mechanism it may be used simply as a rocking-horse still mounted upon the body of the vehicle, or the superimposed horse and its connecting mechanism with the body of the vehicle and driving mechanism may be readily removed and a suitable box and pole or tongue secured to the body for use as a child's express-wagon.

Another object is to provide for the vertical adjustment of the horse relatively to the body or platform of the vehicle, so that the apparatus may be conveniently operated by children of various sizes.

Further objects will appear in the subsequent description.

Referring to the drawings, Figure 1 is an elevation, partly in section, of the rocking-horse-propelled velocipede embodying the various features of my invention. Figs. 2 and 3 are sectional views taken, respectively, on lines 2-2 and 3-3, Fig. 1, showing particularly the mechanism in Fig. 2 and the manner of attaching and detaching the pole or tongue in Fig. 3. Fig. 4 is a top plan of the detached running-gear and steering mechanism, the platform being indicated in dotted lines. Figs. 5, 6, and 7 are sectional views taken, respectively, on lines 5-5, 6-6, and 7-7, Fig. 1. Fig. 8 is a perspective view of the

running-gear and body of the velocipede shown as converted into a child's express-wagon.

Similar reference characters indicate corresponding parts in all the views.

It will readily be seen that this invention is adapted as a toy or exercising device for children, the rocking-horse being adjustable vertically relatively to the platform, so as to accommodate children of different sizes, or may be used by the same child during a period of years and finally converted into an express-wagon as the child matures.

In carrying out the objects of this invention I have shown a running-gear consisting of a platform 1, front and rear supporting-wheels 2 and 3, the front wheels being mounted upon separate horizontally-swinging axle-sections 4, and the rear wheels are mounted upon the opposite ends of a rotary crank shaft or axle 5.

Mounted upon the central portion of the platform 1 and rising therefrom is a supporting-standard consisting of a fixed section 6 and a vertically-adjustable section 7, telescoping with the fixed section 6 and sliding vertically thereon, the upper end of the fixed section being split at 8, and is provided with a clamp 9, whereby the split upper end is clamped upon the vertically-adjustable section for holding it in its adjusted position.

A rocking-horse 10 is pivotally mounted at 11 upon the upper end of the vertically-adjustable section 7, so as to support the horse substantially midway between its forward and rear legs, whereby the horse may be rocked vertically, as in the attitude of running. It is thus apparent that the rocking-horse is fulcrumed at a point between the front and rear axles directly above the platform 1 and that both ends of the horse have an oscillating motion.

The rear shaft or axle 5 is provided with crank-arms 12, which are connected to the rear end of the horse by an extensible connecting-rod consisting of a lower section 13 and an upper section 14, said sections having sliding engagement with each other and are held in their adjusted position by a suitable clamp 15, similar to the clamp 9, the lower section 13 being

connected to the wrist-pin of the crank-arms by a split box 16, held in position by suitable bolts, so that the section 13 may be readily detached from the wrist-pin when desired. The upper section 14 is pivotally secured at 17 to suitable ears 18, which are permanently secured to the horse, preferably between its hind legs, it being understood that the platform, which is disposed in a plane above the axles, is provided with an opening, as 19, through which the connecting-rod between the rear end of the horse and crank-shaft plays.

In order to prevent any accident due to the undue tilting of the rocking-horse in either direction, I provide the section 7 of the supporting-standard with forwardly and rearwardly projecting arms 20 and 21, the ends of which are preferably curved upwardly and are disposed in the path of movement of the rocking-horse, there being sufficient clearance left between the abutting faces of the arms 20 and 21 and the lower faces of the rocking-horse to permit the free rotary movement of the crank-arms of the shaft 5 when the rocking-horse is utilized to propel the vehicle.

The horse 10 is equipped with a saddle 22 and with suitable gripping-handles 23, the latter being swiveled or pivoted to the opposite sides of the neck of the horse, so that the rider may hold himself safely on the saddle and at the same time be enabled to throw the weight of his body forwardly or rearwardly in the act of rocking the horse without liability of falling from the saddle.

It will be noted that the saddle is located directly over the fulcrum of the horse, and therefore the center of gravity of the rider is normally in vertical alinement with the fulcrum, and, the handle-grips 23 being located a considerable distance in front of the saddle, it is evident that the rider may throw the greater portion of his weight upon the grippers in tilting the forward end of the horse downwardly, and when the body of the rider is swayed rearwardly the rear end of the horse is thereby tilted downwardly, and the grip of the rider upon the handles 23 at the same time pulls the front end of the horse upwardly, so that the rocking motion of the horse is easy and dependent upon the mere swaying motion of the body back and forth.

In order to further facilitate the rocking action of the horse and also for the purpose of limiting the rocking movement, I provide a coil-spring 24, which is operatively connected to the platform 1 and horse 10 in front of the main supporting-standard and is adapted to be compressed as the front end of the horse is rocked in opposite directions. This spring is preferably inclosed in a tubular case 25, the lower end of which is closed and is pivotally connected at 26 to the platform 1. The upper end of this inclosing case 25 is also closed, and the opposite ends of the spring abut against movable shoulders 27, which are adapt-

ed to slide lengthwise within the case 25 and normally abut against its opposite end walls, being held in this position by the spring 24. A rod 28 extends through suitable apertures in the end walls of the case 25 and abutments 27, said rod being movable vertically independently of the case 25 and abutments 27 and is provided with shoulders 29, which normally engage the outer faces of the abutments 27, the upper end of the rod being extensible and is pivotally connected to the horse.

It is apparent from the foregoing description that the spring 24 serves to yieldingly hold the horse in one position—as, for instance, a substantially horizontal position—and that when the front end of the horse is depressed the rod 28 is similarly depressed, and the upper shoulder 29 actuates the adjacent abutment 27 against the action of the spring 24, the lower end of the rod sliding through the lower abutment 27 and adjacent wall of the case 25.

When the front end of the horse is rocked upwardly, the rod 28 is similarly moved, and the lower shoulder 29 engages the abutment 27 and operates the same against the action of the spring 24, the end walls of the case 25 serving to limit the outward movement of the abutments, and the spring is therefore compressed as the front end of the horse is rocked in either direction.

It has been previously stated that the front steering-wheels 2 are mounted upon separate horizontally-swinging axle-sections 4, said axle-sections being pivoted at 30 to brackets 31, which in turn are secured to the platform 1, said axle-sections being provided with rearwardly-projecting arms 32, to which the steering mechanism is connected. The steering mechanism preferably consists of a bar 33, connecting the free ends of the arms 32, and a horizontally-swinging lever 34, pivoted at 35 and having its rear end connected by a pin 35' to the central portion of the bar 33, so that when the lever 34 is oscillated similar motion is transmitted to the wheels, as best seen in Fig. 4.

A vertically-oscillated pedal-lever 36 is pivotally secured at 37 to a suitable ear 38, projecting upwardly from the upper face of the platform 1, said lever having its opposite ends provided with foot-engaging portions 39 within easy reaching distance from the saddle 22, the central portion of said lever having a depending arm 40, which projects into an aperture in the lever 34, so that when the pedal-lever is oscillated in opposite directions the lever 34 is rocked horizontally for shifting the position of the wheels 2.

It is found to be desirable to provide means to hold the steering-wheels in their normal position in alinement with the rear wheels, and I therefore provide oppositely-acting spring-arms 42, having their rear ends secured to the lower face of the platform and their front ends

engaged with opposite faces of the pin 35', a suitable stop-pin 44 being secured to the platform and forming an abutment for the spring-arms 42, as best seen in Fig. 4, said spring-arms being preferably disposed in intersecting lines and crossing each other between the stop-pin 44 and their point of securement to the platform. It is thus seen upon reference to Fig. 4 that the movement of the bar 33 in one direction operates against the action of one of the spring-arms, and when moved in the opposite direction it operates against the action of the other spring-arm, and the abutment 44 serves to prevent the spring-arms from following each other.

In the operation of my invention the rocking-horse is normally held in one position by the spring 24, and the steering-wheels are also held in normal position by the spring-arms 42. Now when it is desired to use the rocking-horse to propel the vehicle the rider simply sits in the saddle and with a firm grip upon the handles 23 rocks the body backward and forward to throw the center of gravity to opposite sides of a vertical line drawn through the fulcrum of the horse, which motion rocks the horse and transmits rotary motion to the rear shaft or axle and one or both of the wheels which may be secured thereto. When riding along a straight path, the operator simply rests the feet on the platform at the opposite ends of the steering-lever 33, and when it is desired to change the direction of motion of the vehicle the operator simply places the foot upon one end of the pedal-lever 36 and depresses the same, which operation readily shifts the directions of the wheels through the medium of the bar 33 and its connection with the axle-sections 4, and as soon as the pressure upon the pedal is released the spring 42 returns the wheels to their normal straight position.

As the child grows it becomes necessary to elevate the horse a greater distance above the platform, and in doing this it is simply necessary to release the clamps 9 and 15 and also the extensible connection of the horse with the rod 28, whereupon the horse may be elevated to any desired position and the adjustable parts again clamped in position. As the child continues to mature it is desirable to convert the apparatus into an express-wagon, and for this purpose the rocking-horse and its supporting-standard, as well as the connections with the crank-shaft and platform, are removed and a suitable box 47 is placed upon the platform and secured thereto by fas-

tening means, as screws 48, the vehicle being drawn by a tongue or pole 49, which is attached to the front end of the lever 34.

The connection between the pole or tongue and lever 34 also forms a part of my invention, the front end of the lever 34 being provided with laterally-projecting studs or pins 50, and the pole is provided with rearwardly-projecting arms 51 and 52, one of which is adapted to spring laterally, and both are provided with apertures for receiving the studs 50, a suitable cam-lever 53 being pivotally mounted upon the pole and operatively connected to swing the arm 52 outwardly, so as to enable the tongue to be attached or detached from the pins 50.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a rocking-horse-propelled vehicle, the combination with a platform and supporting-wheels, of a standard consisting of a fixed section secured to the platform and a vertically-adjustable section secured directly to the fixed section, a rocking-horse pivotally secured between its front and rear legs to the adjustable section, a crank-shaft operatively connected to rotate one of the wheels, an extensible connection between the rear end of the rocking-horse and crank-shaft whereby the rocking of the horse transmits rotary motion to the crank-shaft and the rocking-horse is adjustable vertically with reference to the crank-shaft.

2. In a rocking-horse-propelled vehicle, the combination with a platform and supporting-wheels, of a standard rising from the central portion of the platform and consisting of a fixed section and a vertically-adjustable section, means for holding the adjustable section in its adjusted position, a rocking-horse pivotally secured directly to the adjustable section, a rotary crank-shaft operatively connected to rotate one of the wheels, a rod composed of sections, one being adjustable lengthwise of the other, the adjustable section being pivotally connected to the rocking-horse and the other section being connected to the crank-shaft, and means to hold the rod-sections in their adjusted position.

In witness whereof I have hereunto set my hand this 25th day of February, 1903.

CHARLES O. BARNES.

Witnesses:

F. J. SPRAGUE,
O'M. WRIGHT.