Sept. 9, 1924. 1,507,765

W. D. BLUDWORTH

MECHANICAL HORSE

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Fig. 1

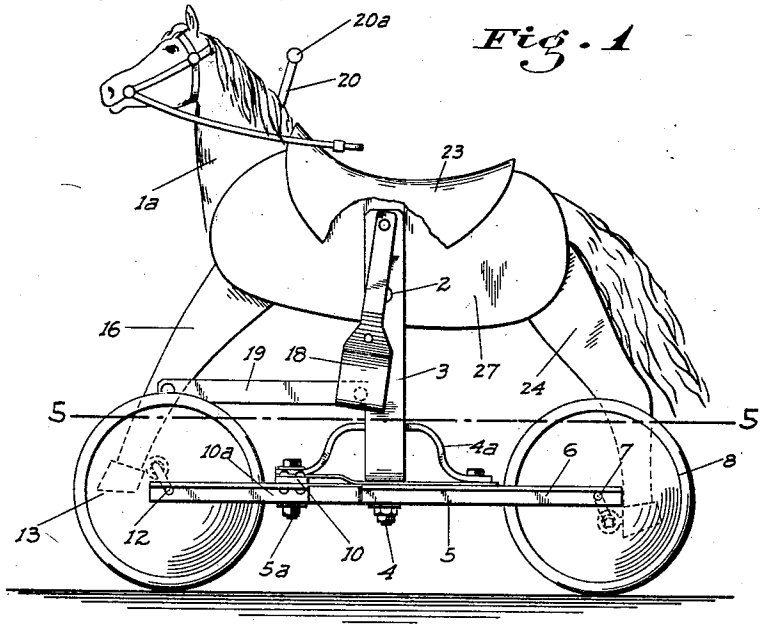


Fig. 2

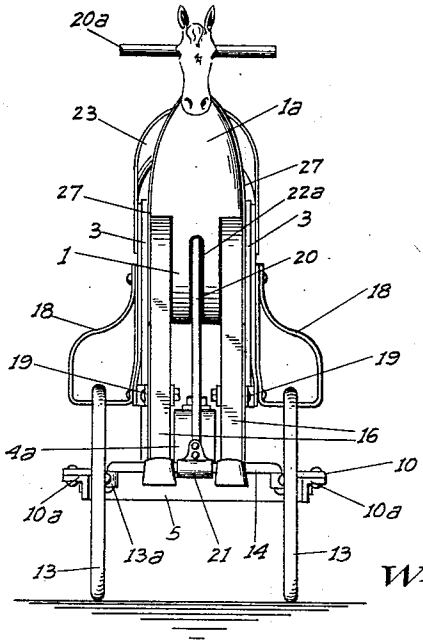
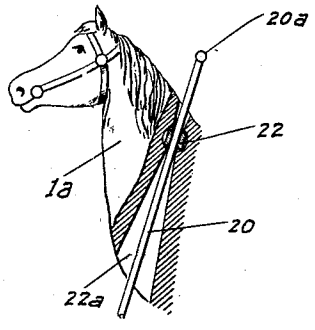


Fig. 3



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Fig. 4

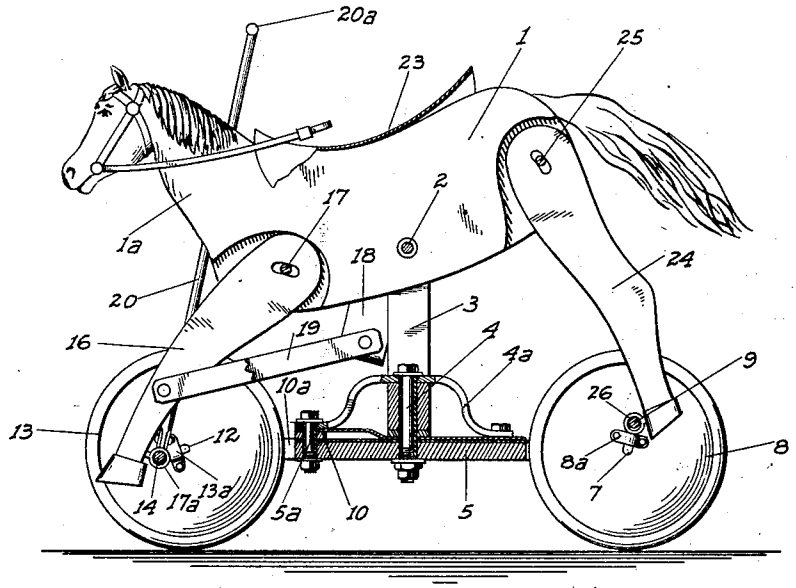
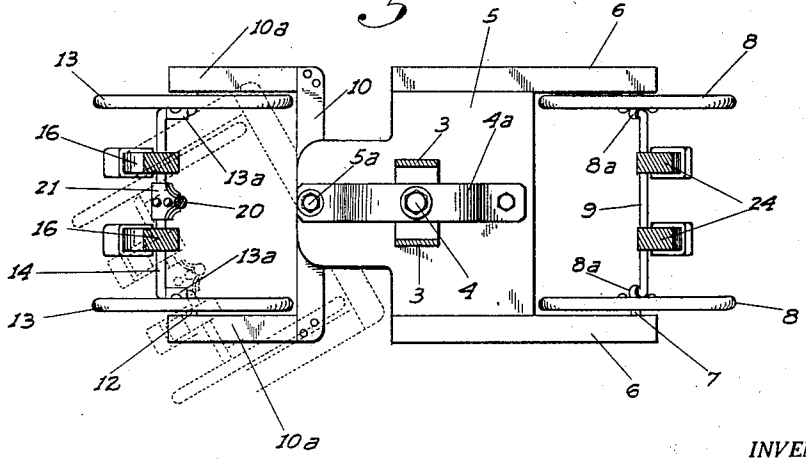


Fig. 5



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Patented Sept. 9, 1924. 1,507,765

UNITED STATES PATENT OFFICE.

WILLIAM D. BLUDWORTH, OF SACRAMENTO, CALIFORNIA.

MECHANICAL HORSE.

Application filed May 14, 1923. Serial No. 638,845.

To all whom it may concern:

Be it known that I, WILLIAM D. BLUDWORTH a citizen of the United States, residing at Sacramento, county of Sacramento, State of California, have invented certain new and useful Improvements in Mechanical Horses; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in toys for children, the principal object being to provide a device which will combine the features of a galloping horse with those of a velocipede, so that the galloping movement of the horse will cause the device to travel along the ground, and the faster the galloping movement, the more rapid will be the speed of the device along the ground.

The horse is of a size to be ridden in the usual manner by any child of suitable size, who may cause the galloping and propulsive movement to take place by exertion of the arms and hands, or of the feet, or both together, and a fore and aft swinging movement of the body will also aid in attaining the desired movements.

The galloping of the horse will also be obtained if the device is pushed or pulled along the ground, or descends a grade by gravity.

Means are also provided, arranged in combination with the hand propelling means, for steering the device.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claims.

In the drawings similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a side view of the device.

Fig. 2 is a front view of the same.

Fig. 3 is a fragmentary section through the neck portion of the horse, showing the steering and propelling rod.

Fig. 4 is a longitudinal section of the horse.

Fig. 5 is a sectional plan, taken on the line 5—5 of Fig. 1.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 denotes the body of the device, shaped to represent the body and head of a horse, and of suitable dimensions. This body is pivoted as at 2 intermediate its ends and in a transverse plane on vertical and rigid bars or supports 3, formed as a U-shaped unit, which rests on a base or platform 5, and is mounted thereon for turning movement in a horizontal plane by means of a vertical pin 4 mounted in said base, and rigidly held from twisting or similar movement by auxiliary supporting means 4^a secured on said base.

From the rear end of this base rigid horizontal arms 6 extend, to serve as supports and bearings for the spindles or axles 7 of rear wheels 8, said axles being connected by an intermediate and offset portion 9, forming a crank. To secure the wheels to the axles in positive driving relation without the use of keys and the like, I employ straps 8^a straddling the offsetting crank-arms of the spindles, which lie adjacent the wheels, said straps being secured to the wheels, which are preferably of the disc type.

A transverse bar 10 is pivoted on a pin 5^a mounted at the front end of the base 5, ahead of the uprights 3, for turning movement in a horizontal plane, the base being cut away at its sides for a certain distance to the rear of the bar 10, as shown in Fig. 5, to permit of a certain extent of movement of said bar. Rigidly connected to and extending forwardly from the bar 10 at its ends are longitudinal extensions 10^a, forming supports and bearing means for the spindles or axles 12 of the front wheels 13, said spindles being connected by an offset portion 14 forming a crank the same as at the rear wheel end, and connected in driving relation to the front wheels by strap means 13^a the same as used on said rear wheels.

The front legs 16 of the horse 1 are flexibly and independently pivoted thereon ahead of the pivots 2, as at 17, and extend down adjacent the crank 14, being con-

nected thereto by eyes 17ª through which said crank freely passes. Stirrups 18 are pivoted on the bars 3 above the pivots 2 and are connected to the legs 16 intermediate their ends by rigid links 19, the connections of which are somewhat flexible.

A substantially vertical propelling and steering rod 20 passes through the neck-end 1ª of the body, having a cross-bar handle 20ª on its upper end, and a transverse and rigidly fixed sleeve 21 on its lower end which surrounds the crank 14 between the eyes 17ª.

The rod 20 is turnably and slidably mounted in a block 22 concealed in the neck 1ª, and swivelly mounted therein, a slot 22ª of suitable form being provided in the neck to allow of the necessary relative movement of the rod.

A saddle 23 of suitable shape and size is mounted on the body 1 to the rear of the rod 20.

The rear legs 24 of the horse are flexibly pivoted on the body 1 to the rear of the bars 3, as at 25, their lower ends extending adjacent the crank 9 and being connected thereto by loose fitting eyes 26 mounted thereon.

The pivots 2, 17 and 25 are preferably concealed by side plates 27 secured on the body 1 and covering the said pivots and the upper portions of the bars 3 and legs 16 and 24.

The cranks 9 and 14 are positioned relative to each other so that when one is up, the other is nearly down, and vice versa, the wheels being the same size so that this relation is constantly maintained.

In operation then, it will be evident that with the rotation of the wheels, the body 1 will rock back and forth on its pivot 2, and the faster the wheels turn, the faster will be the rocking movement, which will simulate the galloping of a horse.

As hereinbefore stated, this movement may be imparted by pushing or pulling the device along, but it is preferably done by the rider of the horse alternately lifting up and pressing down on the bar 20 through the medium of the handles 20ª. It will also be evident that the movement thus imparted to the front crank, and hence to the front wheels, will be aided by a forward pressure on the links 19 imparted thereto by the feet in the stirrups 18, such pressure being of course timed to be in unison with the hand or arm pressures exerted on the handle 20ª.

To steer the device, the handle 20ª is turned in the desired direction without halting vertical reciprocatory movement of the rod 20. This, through the medium of the sleeve 21 on the lower end of the rod, causes the crank 14 to be swiveled, and of course the wheels 13 and frame 10—10ª likewise. The loose fit of the eyes 17ª on the crank allows a certain swivelling of the crank without disturbing the horse. A greater swivel movement causes the horse to swivel on its pivot 4 bringing the legs 16 again substantially at right angles to the crank 14, while the rear legs slide along the fixed crank 9, which they are enabled to do owing to the loose fit of the eyes 26 thereon.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claims.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

1. A combined galloping horse and velocipede comprising front and rear wheels, a base supported thereby, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, means connecting the body with the wheels to cause the former to rock with the rotation of the wheels and hand actuated means for positively rotating the wheels.

2. A combined galloping horse and velocipede comprising front and rear wheels, a base supported thereby, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, means connecting the body with the wheels to cause the former to rock with the rotation of the wheels and hand means actuable from above the body for positively rotating the wheels.

3. A combined galloping horse and velocipede comprising front and rear wheels, a base supported thereby, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, means connecting the body with the wheels to cause the former to rock with the rotation of the wheels and independent hand and foot actuated means for positively rotating the wheels.

4. A combined galloping horse and velocipede comprising front and rear wheels, a base supported thereby, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, means connecting the body with the wheels to cause the former to rock with the rotation of the wheels and a common hand actuated means for driving the front wheels and for steering the same at will.

5. A combined galloping horse and velocipede comprising front and rear wheels,

axles therefor having off-set crank portions, a base supported by the axles, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, front and rear legs for the body pivoted thereon and flexibly connected to the corresponding cranks, said cranks being arranged in substantially off-set relation and hand actuated means mounted on the body and applied directly to one of the cranks to rotate the same.

6. A combined galloping horse and velocipede comprising front and rear wheels, axles therefor having off-set crank portions, a base supported by the axles, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, front and rear legs for the body pivoted thereon and flexibly connected to the corresponding cranks, said cranks being arranged in substantially off-set relation, a vertical rod turnably mounted in the body and connected to one of the cranks, and means whereby on turning the rod, the corresponding wheels will be moved to lie in an angular plane whereby to steer the device.

7. A combined galloping horse and velocipede comprising front and rear wheels, axles therefor having off-set crank portions, a base supported by the axles, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, front and rear legs for the body pivoted thereon and flexibly connected to the corresponding cranks, said cranks being arranged in substantially off-set relation and hand actuated means mounted on the body and applied directly to one of the cranks to rotate the same, and foot actuated means applied horizontally to certain of the legs to likewise cause rotation of the corresponding crank.

8. A combined galloping horse and velocipede comprising front and rear wheels, axles therefor having off-set crank portions, a base supported by the axles, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, front and rear legs for the body pivoted thereon and flexibly connected to the corresponding cranks, said cranks being arranged in substantially off-set relation, hand actuated means mounted on the body and applied directly to one of the cranks to rotate the same, stirrups projecting downwardly from the body and pivoted thereon, and rigid horizontal links pivoted to the stirrups and to one pair of the legs.

9. A combined galloping horse and velocipede comprising front and rear wheels, axles therefor having central off-set crank portions, a base supported by the rear axle, a frame swivelly mounted on the base and having the front axle journaled therein, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, front and rear legs for the body pivoted thereon and flexibly connected to the corresponding cranks, and a common means mounted on the body and connected to the front crank to both cause the rotation of the crank and the turning of the front wheel frame on its swivel at will, said movements being capable of taking place simultaneously or independently of each other.

10. A combined galloping horse and velocipede comprising front and rear wheels, axles therefor having central off-set crank portions, a base supported by the rear axle, a frame swivelly mounted on the base and having the front axle journaled therein, a body shaped to simulate a horse pivotally supported from the base for fore and aft rocking movement, front and rear legs for the body pivoted thereon and flexibly connected to the corresponding cranks, a vertical rod turnably and slidably mounted in the body and actuable from thereabove, and a sleeve rigidly fixed on the lower end of the rod and through which the front crank passes.

11. A combined galloping horse and velocipede including a base, steerable wheels mounted in connection therewith, an axle for said wheels having a central crank portion, and connected in driving relation with the wheels, a body pivotally supported from the base for fore and aft rocking movement, means connecting the body with the wheels to cause the former to rock with the rotation of the wheels, and a substantially vertical hand actuated member turnably and slidably mounted in the body and connected to the crank.

12. A combined galloping horse and velocipede including a base, wheels mounted in connection therewith, a cranked axle for said wheels, connected in driving relation therewith, a body pivotally supported from the base for fore and aft rocking movement, means connecting the body with the wheels to cause the former to rock with the rotation of the wheels, and a hand actuated rod slidably mounted in the body and connected to the crank.

13. A combined galloping horse and velocipede including a base, wheels mounted in connection therewith, an axle for said wheels, connected in driving relation therewith, a body pivotally supported from the base for fore and aft rocking movement, means connecting the body with the wheels to cause the former to rock with the rotation of the wheels, a hand actuated member mounted on the body and connected to the axle, and means whereby said member may be manipulated to cause rotation of the axle and wheels.

14. A combined galloping horse and velocipede including a base, steerable wheels mounted in connection therewith, an axle for said wheels, connected in driving relation therewith, a body mounted on the base for fore and aft rocking movement, means connecting the body and wheels to cause the former to rock with the rotation of the wheels, and a common hand actuated means mounted on the body and directly connected to the axle for both rotating and turning the same to cause rotation and steering of the wheels.

In testimony whereof I affix my signature.

WILLIAM D. BLUDWORTH.