R. G. JAMISON.

HOBBY HORSE VELOCIPEDE.

APPLICATION FILED JAN. 3, 1911.

1,011,204.

Patented Dec. 12, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

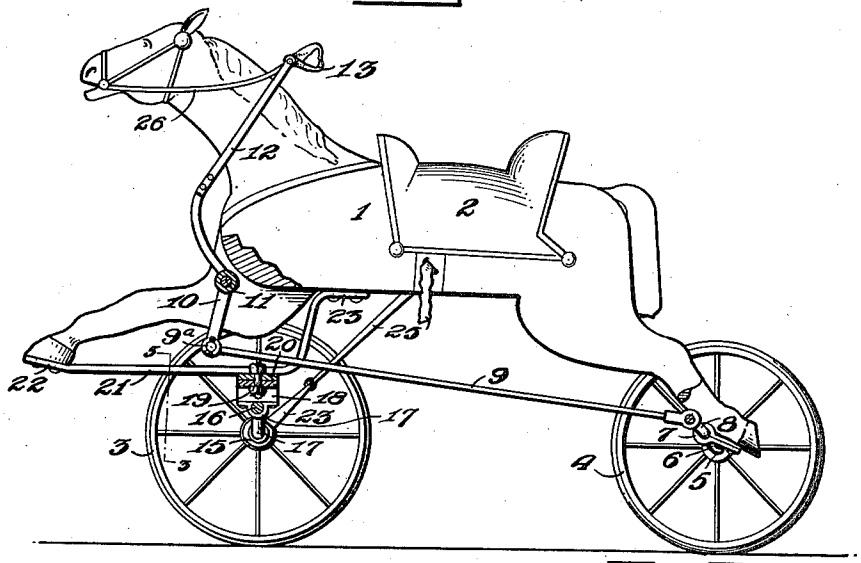


Fig. 3.

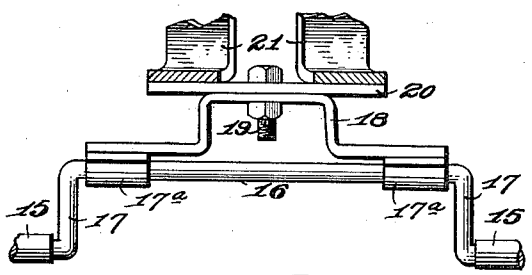


Fig. 2.

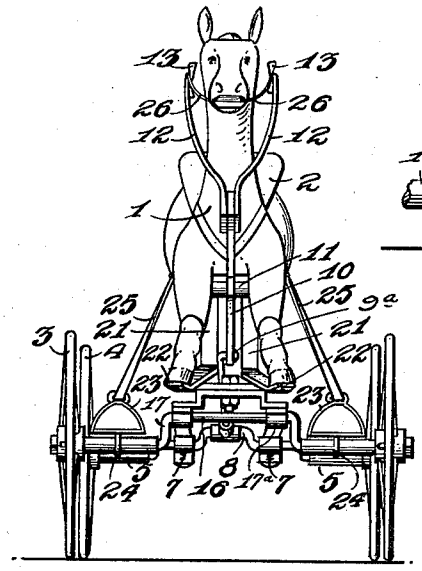
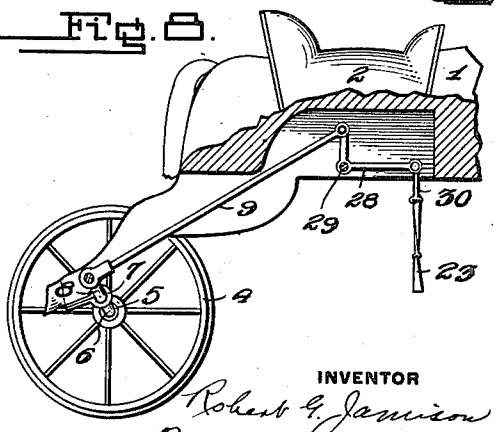


Fig. 8.



WITNESSES

C. Everett Lancaster

William E. Lyon

INVENTOR

Robert G. Jamison

By Fredk W. Hunter

Attorney

R. G. JAMISON.

HOBBY HORSE VELOCIPEDE.

APPLICATION FILED JAN. 3, 1911.

1,011,204.

Patented Dec. 12, 1911.

2 SHEETS—SHEET 2.

Fig. 4.

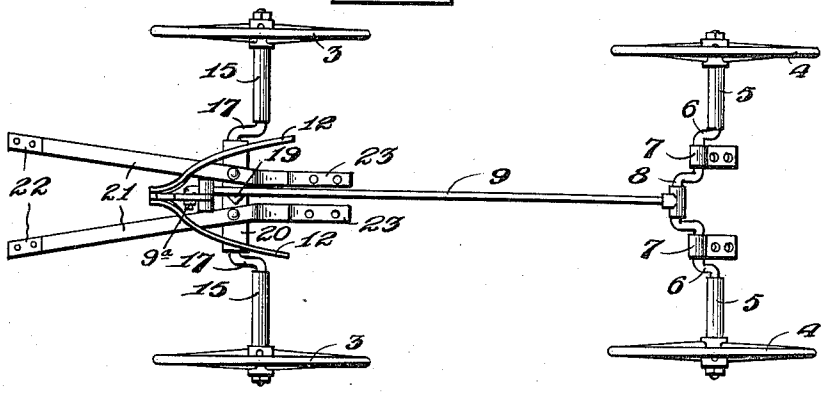


Fig. 5.

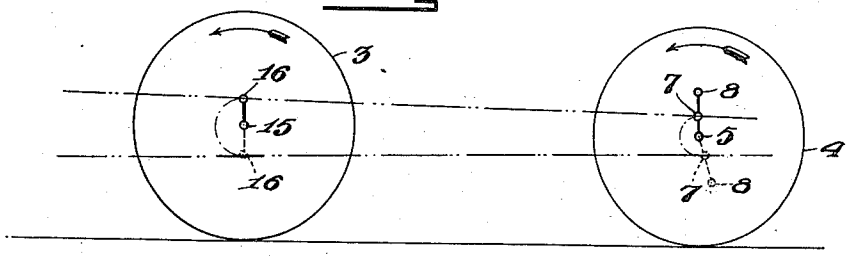


Fig. 6.

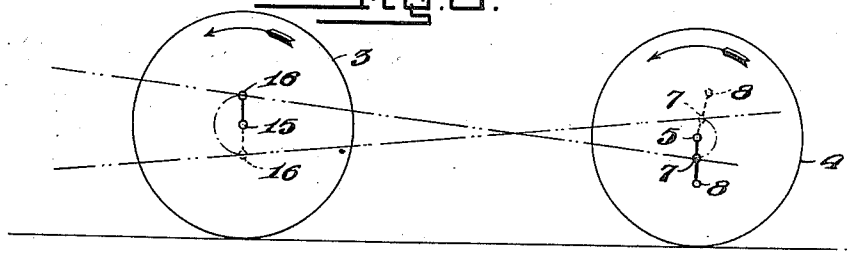
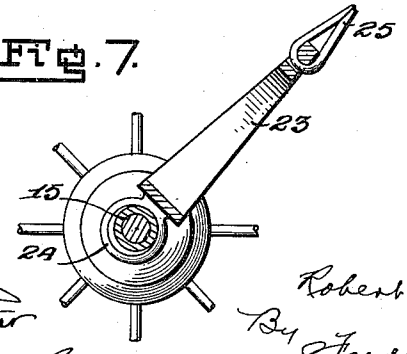


Fig. 7.



WITNESSES

C. Everett Lancaster

William C. Lyon

INVENTOR

Robert G. Jamison.

By Fredk W. Hunter

Attorney

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ROBERT G. JAMISON, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO WILLIAM EDWARD STANLEY, OF PITTSBURGH, PENNSYLVANIA.

HOBBY-HORSE VELOCIPEDE.

1,011,204. Specification of Letters Patent. Patented Dec. 12, 1911.

Application filed January 3, 1911. Serial No. 600,593.

To all whom it may concern:

Be it known that I, ROBERT G. JAMISON, a resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Hobby-Horse Velocipedes, of which the following is a specification.

This invention relates to toys or exercising apparatus combining the features of a velocipede and a hobby horse.

The object of the invention is to provide a device of the character described which can be propelled as a velocipede, and which at the same time will give the movements of a galloping horse.

The invention comprises the combination and arrangement of parts hereinafter described and claimed.

In the accompanying drawings Figure 1 is in part a side view and in part a vertical longitudinal section through one form of the device; Fig. 2 is a front view of the same; Fig. 3 is a detail transverse section on the line 3—3, Fig. 1; Fig. 4 is a plan view of the running gear of the device; Figs. 5 and 6 are diagrammatic views illustrating the changes of movement of the body of the device; Fig. 7 is a vertical detail section through one of the stirrups and the front axle; and Fig. 8 is a side elevation illustrating a modification.

The main frame or body 1 of the device is shown as a representation of a horse, and while this is preferred so as to make more realistic the movements of a galloping horse, it is not absolutely essential, as any frame or body providing a seat for the user will answer the purpose. The seat 2 is illustrated to represent the saddle of the horse.

As illustrated, the running gear for the body comprises four wheels, a pair of front wheels 3 and a pair of rear wheels 4. The rear wheels 4 are fixed on the offset end portions 5 of the rear axle, the offsets being shown at 6, said axle being rotatably mounted in bearings 7 which are secured to the hind feet of the horse, or to the rear portion of any suitable body for the device. Between the bearings the said axle is provided with a crank 8, to which is connected the rear end of connecting rod 9, the forward end of which is pivotally connected at 9^a to the downwardly projecting arm of lever 10 fulcrumed at 11 to the body. The upwardly projecting arm of said lever is bifurcated, one of said bifurcations 12 extending upwardly at each side of the head of the horse. The free ends of said arms are provided with suitable grips 13, preferably in the form of leather loops, such as used on jockeys' and drivers' reins, which loops are grasped by the operator, so that by pulling thereon the lever is oscillated back and forth and through the connecting rod 9 rotary motion is imparted to the rear axle and rear wheels. It is merely necessary to pull on the arms 12 to bring the lever 10, connecting rod 9 and crank 8 to the position shown in Fig. 1, when the weight of the rider causes the rear wheels to rotate still farther forward, due to the offsets 6 in the rear axle, thereby swinging the upper end of lever arms 12 forwardly. Consequently the vehicle is propelled by successive pulls on the grips 13.

The forward wheels 3 are likewise fixed to offset portions 15 of the forward axle 16, the offsets being indicated at 17. This axle is rotatably mounted in bearings 17^a on the member 18 which is pivotally connected by a vertical pivot 19 to a cross piece 20 carried by two bars 21 secured at their outer ends 22 to the front feet of the horse, and at their rear ends 22^a underneath the body of the horse. The front axle swivels about the pivot 19 as a king pin in order to steer or guide the device.

The guiding is effected by the feet of the rider bearing against the offset portions 15 of the front axle, so that by pushing forwardly with one foot harder than the other the front axle is swung on the king pin 19 to guide the vehicle in the desired direction. To add to the illusion of riding I preferably provide stirrups 23 to whose foot rests or bottoms there are secured rings 24 which encircle the offset portion 15 of the front axle, so that said stirrup foot-rests move with the axle. The stirrup straps 25 preferably are formed of elastic fabrics or webs so they stretch when one foot or the other is pushed forwardly to guide the vehicle. If desired however these straps may be of non-elastic material, in which case they must be sufficiently long to allow for the largest desired movement of the front axle to guide the vehicle, so that normally these non-yielding straps hang slack. Also if desired for the purpose of adding to the illusion of riding a horse, reins 26 run from the

mouth of the horse and are secured to the upper ends of the lever arms 12, giving the simulation of reins.

Fig. 8 illustrates propelling mechanism comprising a bell crank lever 28 fulcrumed at 29 in the hollow body of the device and having the forward end of the connecting rod 9 secured to one arm thereof. To the other arm of said lever is connected a member 30, to whose ends the stirrups 23 are connected, so that the vehicle is propelled by the movements of the legs instead of the arms. This form of driving mechanism causes the rider to rise on the stirrups much as in the English style of riding.

In the use of the device the rider places his feet in the stirrups 23 and propels the vehicle by pulling on the hand grips 13. The latter movement through the connecting rod 9 and crank 8 propels the device, while the guiding to the right and left is effected by merely pushing forwardly on the one foot or the other as above stated to swing the forward axle on the king pin 19. By reason of the offsets in the forward and rear axles the body of the device is given an up and down movement, thereby simulating the galloping of a horse. It will be noted that the offsets 17 in the front axle are larger than the offsets 6 in the rear axle. Consequently there is a greater up and down movement at the forward end of the body than at the rear part, and this is in accordance with the usual movement of a horse in galloping. It will further be noted that the front wheels are slightly larger than the rear wheels. Consequently the relations of the offset portions of the two axles is constantly changing. For instance, at one time the said offsets may both stand in the same direction, so as to give a substantially parallel up and down movement to the whole body of the horse. This is indicated diagrammatically in Fig. 5. The difference in the sizes of the wheels causes the relative relations of these offset portions to constantly change and finally brings them into diametrically opposite positions. This latter condition is illustrated diagrammatically in Fig. 6, in which the forward portion of the horse rises while the rear portion drops, and vice versa. Consequently there is a constant variation in the movement of the horse's body, but on the whole the movement is such as to give the sensation of riding on a galloping horse.

The offset portions 6 and 17 of the axles with the wheels rigidly secured to such offset portions have the effect of locating the wheel rims eccentric with reference to the axis of rotation. It is not necessary to have the axles offset, as the same effect is secured with straight axles and eccentric wheels. The offset axles however are preferred, as it enables the use of circular wheels; which are cheaper to manufacture than eccentric wheels. It is also obvious that elliptic shaped wheels can be used on straight axles, which would have the effect of a double eccentric, and give two up and down movements for each rotation of the axle.

The number of wheels of the device are not important. The vehicle can have four wheels as shown; or three wheels, that is a single forward wheel with two rear wheels; or may be of the true velocipede or bicycle type, having one forward and one back wheel; or for that matter the principle of a wheel having its rim eccentric to the axis of rotation may be embodied in a monocycle or one wheeled device.

Various other forms of mechanism giving movement to the rear wheels may be provided in lieu of those illustrated. If desired a small motor may be mounted within the body of the device and connected by suitable transmitting gearing to the rear axle. All such changes I consider to come within the scope of the claims hereinafter made.

What I claim is:

1. In a device of the character described, the combination of a body or frame, a seat thereon, front and rear wheels on which said frame is mounted, driving mechanism for said wheels, the treads of both the front and rear wheels being eccentric to their axis of rotation, whereby the frame is not only propelled but also given an up and down motion, and bearings for the front wheels mounted on a vertical pivot, whereby the device is guided.

2. In a device of the character described, the combination of a body or frame, wheels on which the same is mounted, the front and rear wheels being of a different size, and driving mechanism for said wheels, the treads of said wheels being eccentric to their axis of rotation, whereby the frame is not only propelled but also given an up and down motion.

3. In a device of the character described, the combination of a body or frame, front and rear wheels on which the same is mounted, the treads of both the front and rear wheels being eccentric to their axis of rotation, an oscillatory operating lever, and connections therefrom to one of said wheels.

4. In a device of the character described, the combination of a body or frame, front and rear wheels on which the same is mounted, the treads of both the front and rear wheels being eccentric to their axis of rotation, and driving means therefor comprising a shaft or axle provided with a crank, an oscillatory operating lever, and connections from the latter to said crank shaft, whereby the act of moving said oscillatory lever in one direction produces rotation of said wheel.

5. In a device of the character described, the combination of a body or frame, front

and rear axles rotatably mounted thereon and each provided with offset portions, wheels rigid on said offset portions, one of said axles being provided with a crank, an oscillatory operating lever, and a connecting rod connecting said lever and the crank on said axle.

6. In a device of the character described, the combination of a body or frame, a seat thereon, axles rotatably mounted in bearings on said frame, wheels rigidly secured to said axles and having their treads eccentric to the axis of rotation, and driving mechanism operatively connected to the rear axle, the bearings of the front axle being mounted on a vertical pivot, whereby by changing the angle of said axle the device is guided.

7. In a device of the character described, the combination of a body or frame, a seat thereon, axles rotatably mounted in bearings on said frame, wheels rigidly secured to said axles and having their treads eccentric to the axis of rotation, driving mechanism operatively connected to the rear axle, the bearings on the front axle being mounted on a vertical pivot, and stirrup members connected to the ends of the front axle.

In testimony whereof, I have hereunto set my hand.

ROBERT G. JAMISON.

Witnesses:
F. W. WINTER,
MARY E. CAHOON.