Sept. 25, 1962 J. R. PARKS 3,055,672

TOY HOBBYHORSE WITH SOUND SIMULATING MEANS

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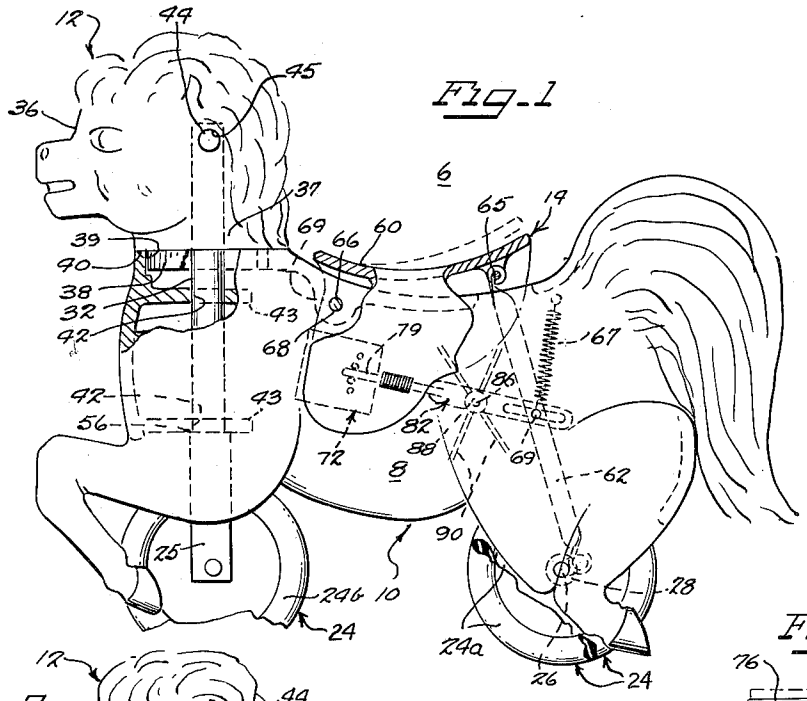


Fig. 1

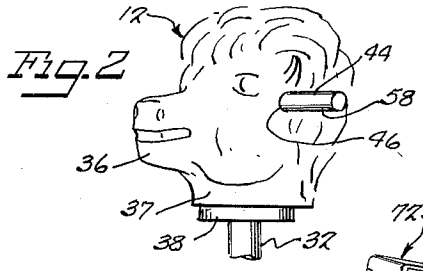


Fig. 2

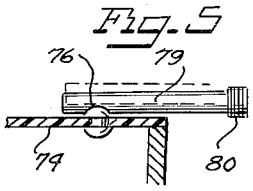


Fig. 5

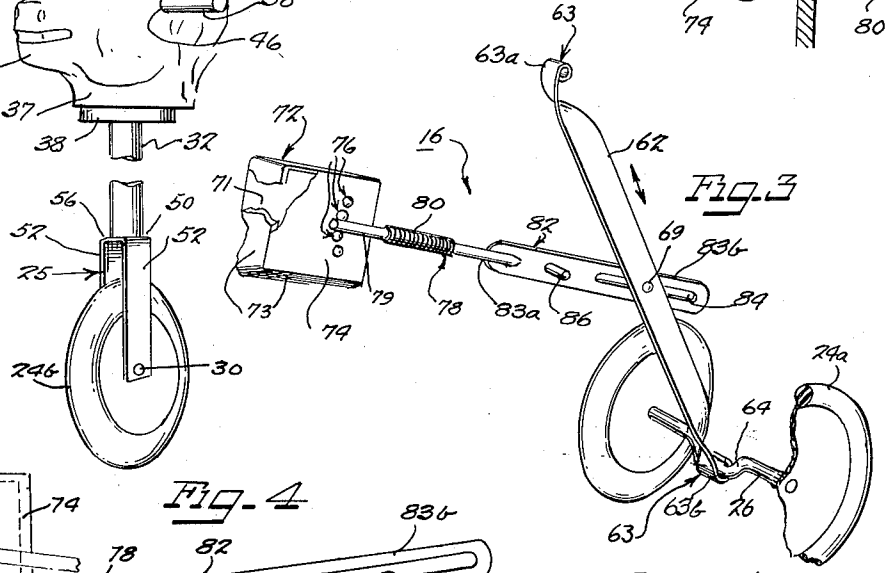


Fig. 3

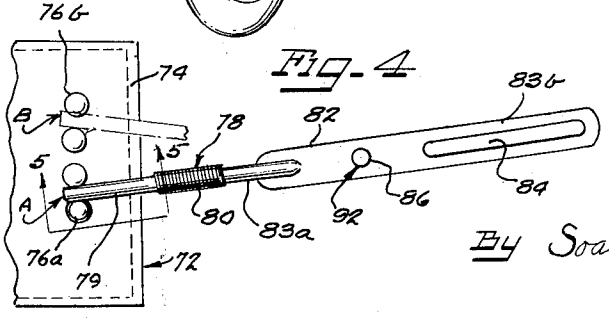


Fig. 4

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TOY HOBBYHORSE WITH SOUND SIMULATING MEANS

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The present invention relates generally to a toy and more particularly to a toy hobbyhorse.

Toy hobbyhorses have always been a great source of enjoyment to children, and a great variety of hobbyhorses have been devised, providing many different features. A number of these have attempted to simulate the characteristics of a real horse with varying degrees of success.

The object of the present invention is to provide an improved hobbyhorse. A more limited object is to provide a toy hobbyhorse having means which realistically simulate the sound of a horse's hoofbeats. Another object is to provide a toy hobbyhorse which includes novel steering means. Another object is to provide a toy hobbyhorse which simulates the riding motion of a real horse.

In the drawings:

FIGURE 1 shows a side view (partially broken away) of a toy hobbyhorse embodying various features of the invention.

FIGURE 2 is a perspective side view of the steering means of the hobbyhorse shown in FIG. 1;

FIGURE 3 is a perspective view of the sound-producing means of the hobbyhorse shown in FIG. 1; and

FIGURE 4 is a side view of a part of the sound-producing means showing various positions of the sound-producing finger.

FIGURE 5 is a sectional view taken along line 4—4 of FIG. 4 showing the relationship of the sound-producing finger to a projection.

The present invention relates to a toy hobbyhorse, the preferred embodiment of which is shown in the drawings. Briefly, the illustrated hobbyhorse 6 comprises a wheeled animal 8 simulating a horse or pony which the child sits upon and propels forward with his feet. The animal 8 is made up of two parts: a body 10 and a separate head 12. As the hobbyhorse 6, shown in the drawings, moves forward, a seat 14 raises and lowers to simulate riding motion, while a sound-producing means 16 is actuated to simulate the sound of a horse's hoofbeats in time with the seat movement. In addition, the head 12 is connected to the front wheel of the toy so that by turning the head the child can steer the hobbyhorse; the horse traveling in the direction in which the head is faced.

The face of the animal 8 is semi-human, the mane and tail are full and wavy, and the legs are raised as if in full stride. The animal represented need not be a horse, and simulations of other animals may be used, but for the sake of simplicity and clarity the remainder of the description will refer only to an embodiment of the invention in the form of a horse. The two parts 10 and 12 may be made from any suitable material such as certain light weight but durable plastics. A good method of fabricating these parts is by making each in two halves and securing the halves together by cement or in any other suitable manner. The halves may be formed by an injection molding process with a decorative exterior and with various internal extensions which serve as reinforcement and also in other capacities, as will be explained in detail below.

The hobbyhorse, as shown in FIG. 1, is mounted on three ground wheels 24. A rear wheel 24*a* is fixedly secured adjacent either end of a cylindrical rear axle 26. The ends of the axle 26 extend outwardly from the wheels 24*a* and are journaled in opposed rear bearings 28 in the

rear end of the body 10. A single front wheel 24*b* is rotatably supported in a front wheel bracket 25 supported at the front end of the toy. While the illustrated embodiment shows a toy having three wheels, one at the front and two at the rear, the number or distribution of the wheels may be varied as desired, so long as sufficient stability is provided for the hobbyhorse.

As indicated above, the child sits upon the horse, propelling it with his feet, and steering it by turning its head. The horse moves in the direction in which the head is pointed.

The head 12 of the hobbyhorse comprises, generally, a face 36 carried by a generally cylindrical neck 37 which is of reduced diameter at its lower end 38. In the top of the forward end of the body 10 of the hobbyhorse is a generally circular recess 39 in which the reduced end 38 can rotate. The head 12 is supported vertically by the rim 40 formed around the outside of the recess 39.

A steering post or shaft 32 is fixedly attached at its upper end to the head 12, extends downwardly through the body 10, and is fixedly connected to the front wheel bracket 25. The steering shaft 32 is rotatably received in the body 10 by a pair of vertically spaced front end bearings 42. Each bearing 42 is provided by a pair of mating semi-circular recesses in a pair of vertically aligned horizontal plates 43. In the illustrated embodiment, each plate 43 is integrally formed with one of the halves of the body 10.

The steering shaft 32 fits up inside the head 12 and is secured in fixed relation with respect to the head 12 by a rod 44 which passes through a hole 45 in the shaft and through opposed holes 46 in the head. The rod 44 may be secured in the described position by glue or other suitable means.

The steering shaft 32 is fixedly secured at its lower end to the front wheel fork or bracket 25 with direction of the head and the plane of the front wheel 24*b* coinciding. Thus, when the head is faced in a particular direction, the wheel 24*b* is thereby turned to cause the toy to move in that same direction. In the illustrated embodiment, the front wheel bracket 25 is an inverted U-shaped member having a short, horizontally oriented, yoke-portion 50, which is secured to the steering shaft 32, and a pair of downwardly extending legs 52 between which the front wheel 24*b* is rotatably supported by a front wheel shaft 30.

The yoke-portion 50 of the front wheel bracket 25 is larger than the cross section of the steering shaft 32 or the lower front end bearing 42 so as to provide a horizontal lip 56 upon which the lower horizontal plate 43 and thus the front end of the toy is supported. The lip 56 also restrains upward movement of the steering shaft 32 relative to the body 10 when an upward force is exerted on the head 12.

In the preferred embodiment, the rod 44 is extended outwardly from the head to provide handles 58 for the child to grip and to steer the toy with. If desired, separate handles or grips may be attached to the head or the toy may be steered by merely grasping the head 12 itself and turning it.

The movable seat 14, which is preferably in the shape of a riding saddle 60, is raised and lowered by a connecting rod 62 which is reciprocated by the rotation of the rear wheels 24*a*.

As seen particularly in FIGS. 1 and 4, the saddle 60 is an inverted, generally U-shaped member which rests upon the body 10 of the hobbyhorse in a position that will locate the weight of the rider between the front and rear wheels of the toy to provide the desired stability. The saddle 60 is hinged to the body 10 by a saddle pin 66 which extends through aligned holes 68 in the body and in the saddle itself (FIG. 1). Support portions 69 are

provided in the body 10 of the toy around the saddle pin 66 to give added support and strength.

The connecting rod 62 of the preferred embodiment, shown in FIG. 3, comprises an elongated strip of metal disposed in the vertical plane and having each of its ends shaped to form a bearing 63. The bearing 63*a* at the upper end of the rod 62 receives a horizontal pin 65 which is mounted at the rearward end of the saddle 60, so as to pivotally connect the rod 62 to the saddle 60. The connecting rod 62 extends generally downwardly and is pivotally connected by the bearing 63*b* at its lower end to a crank 64 which is a part of the rear axle 26. Near the center of the rod 62 is a pin 69, the function of which will be described later.

A spring 67, connected to the rod 62 and the body 10, biases the rod upwardly, serving as a counter balance to the weight of the child. The spring 67 aids the effective operation of the toy by storing energy and giving the saddle 60 a boost or slight added thrust during its upward movement.

As the toy is propelled along, the rotation of the rear axle 26 reciprocates the connecting rod 62 which in turn reciprocates the rearward end of the hinged saddle 60. The saddle raises and lowers (in timed relation to the sound of hoofbeats as described in detail below) each time the rear wheels 24*a* complete one revolution, to create the jogging effect characteristic of a trotting or galloping horse. The saddle movement may, obviously, be varied as desired by changing the relative sizes of the parts. That movement might also be made adjustable as, for example, by providing means (not shown) to vary the length of the connecting rod 62. The sound-producing means 16, shown best in FIGS. 3 and 4, comprises, generally, a chamber 72 located inside the hobbyhorse and having as one wall a diaphragm 74, which supports a plurality of projections 76. A movable element 78 is brought into successive engagement with the projections 76 by suitable means, actuated by the movement of the toy, so as to produce a sound, simulating that of a horse's hoofbeats, in timed relation to the saddle movement.

Specifically, in the preferred embodiment, the sound chamber or enclosure 72 is a sound-box having a base 71 provided by a portion of the wall of the toy, four rectangularly disposed side walls 73 integral with and extending inwardly from the base 71, and the fishpaper diaphram 74 which is secured to the side walls 73 by any suitable means such as glue or tape. The projections 76 of the preferred embodiment are four small, round-head, brass rivets which pass through the diaphram 74 and are each secured in place by having both of their ends enlarged. The illustrated movable element 78 includes a short, cylindrical, brass, sound-producing rod or finger 79 which is flexibly and resiliently connected, in longitudinal alignment, to the forward end 83*a* of an elongated pivoted member 82 by means of a helical spring 80. The pivoted member 82 has a pair of outwardly extending pins 86 intermediate its ends which are rotatably received in opposed bearings 88 in the body 10 of the hobbyhorse. The body 10 may be strengthened around these bearings 88 by suitable reinforcing ribs 90 (FIG. 1). The rearward end 83*b* of the pivoted member 82 has a longitudinally extending slot 84 which receives the pin 69 carried by the connecting rod 62. The reciprocating motion of the connecting rod 62 causes the finger 79 to move back and forth.

The movable element 78 is positioned so that the path of travel of the finger 79 causes it to abut the projections 76. As the finger 79 is flexibly attached, it will be displaced slightly away from the surface of the diaphragm 74 by moving up and over the projections 76.

In addition, the finger 79 is momentarily retarded in its travel when it engages a projection and it then flicks or snaps past the engaged projection as the pivoted member 82 continues its course of travel. The finger 79 may also be caused to resiliently bear against the diaphragm 74 to provide better contact between the finger 79 and the projections 76.

In the preferred embodiment (FIG. 3) the four projections 76 are placed at approximately equal intervals in the path of movement of the finger 79. They are arranged, generally, along an arc having its center at about the pivot point 92 of the pivoted member 82. The finger 79 moves from a position designated A (FIG. 4) to a position designated B by successively passing over the two center projections and then striking the end projection 76*b*. The finger 79 completes its cycle by moving from position B back to position A by passing over the two center projections and striking the end projection 76*a*. This cycle, repeated with each full revolution of the rear wheels of the toy, comprises a raising and lowering of the saddle, and two click-click-clack sequences of sound that simulate a horse's hoofbeats.

Thus, a toy hobbyhorse is presented which possesses a number of lifelike characteristics. By sitting upon the toy and moving it along with his feet, the child causes the saddle to raise and lower in coordination with sound which simulates a horse's hoofbeats. In addition, the direction of movement of the toy is determined by turning the head of the horse to point in the direction in which the child wishes to move.

Various features of the invention are set forth in the following claims.

What is claimed is:

1. In a toy hobbyhorse, means for simulating the sound of a horse's hoofbeats comprising a sound-producing finger, means for moving said finger, a chamber having one wall comprised of a thin membrane which serves as a diaphragm, and a plurality of projections connected to said membrane intermediate its periphery and extending outwardly from its surface, said projections being placed in the path of movement of said finger so as to be successively engaged thereby.

2. In a toy hobbyhorse, means for simulating the sound of a horse's hoofbeats comprising an arm, a solid sound producing finger, means flexibly and resiliently connecting said finger to said arm, means for moving said arm, a chamber, one wall of which serves as a diaphragm, and a plurality of projections connected to said diaphragm intermediate its periphery and extending outwardly from its surface, said projections being placed in the path of movement of said finger so as to be successively engaged thereby, said finger resiliently giving under said engagements.

3. A toy wheeled hobbyhorse comprising a body, a pair of wheels, an axle rotatably supporting said wheels on the body, a child's movable seat hinged to the body, a reciprocating rod pivotally connected to both said seat and a crank on said axle, the rotation of the said wheels of the hobbyhorse causing the reciprocation of said rod to thereby raise and lower said seat, means for simulating a sound of a horse's hoofbeats comprising an arm, a solid sound-producing finger, means flexibly and resiliently connecting said finger to said arm, said arm being connected to said reciprocating rod, a chamber, one wall of which serves as a diaphragm, and a plurality of projections connected to said diaphragm, and placed in the path of movement of said finger so as to be successively engaged thereby, said finger resiliently giving under said engagements, whereby said seat movement and said sound of hoofbeats are in timed relation to one another.

4. A toy wheeled hobbyhorse comprising a body, a wheel rotatably supported on said body, a child's seat movably supported on said body for raising and lowering movement, means for simulating the sound of a horse's hoofbeats, said sound-simulating means comprising an arm supported on said body for movement, a solid sound-producing finger, means flexibly and resiliently supporting said finger on said arm, a chamber having one wall providing a diaphragm, and a plurality of projections con-

nected to said diaphragm intermediate its periphery and extending outwardly from its surface, said projections being placed in the path of movement of said finger so as to be successively engaged thereby, said finger resiliently giving under said engagements, and means operated by the rotation of said wheel for moving said arm and for raising and lowering said seat in timed relation to one another.

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