This invention relates generally to children's toys and more particularly to an improved rocking horse, or the like.

Conventional rocking horses provide entertainment for younger children and are capable of holding their interest and keeping them amused for considerable periods of time. Eventually, however, they become tired of the simple rocking motion.

In accordance with the present invention a rocking toy is provided which is also capable of being simultaneously rotated.

More specifically, the invention provides a rocking horse which can be rocked back and forth and also rotated at the same time by the child. The arrangement provides for swivelly mounting the rockable horse assembly and tilting it at an incline. As a result, after some practice, the child learns to shift his weight, either fore or aft, to the high side and thereby cause the horse to rotate. The child, by timing the rocking motion of the horse so as to shift his weight to the upper part of the downward inclined portion of the circular travel, can cause the toy to rock as well as continuously rotate. Thus the rocking and twisting action of a live horse is simulated with a great deal of realism which provides an exciting ride and holds the child's interest for long periods of time.

Generally the invention provides a toy that can be simultaneously rocked and rotated solely by the action of the child on the toy.

Another object of the invention is to provide a music device on the toy which is positively actuated to produce music by the relative movement between parts of the toy. The music device is actuated by the slightest rocking movement.

These and other objects and advantages of the invention will appear as this disclosure progresses, reference being had to the accompanying drawings, in which:

- Figure 1 is a perspective view of a toy rocking horse embodying the invention;
- Figure 2 is a vertical sectional view, on an enlarged scale, of the swivel connection between the base frame and the upper frame;
- Figure 3 is a plan view of the device shown in Figure 1;
- Figure 4 is a fragmentary elevational view of the base frame and upper frame, parts broken away or in section for clarity;
- Figure 5 is a fragmentary bottom view of the music box actuating device shown in Figure 1, the view being on an enlarged scale; and
- Figure 6 is a perspective view of the linkage shown in Figures 1 and 5, but on an enlarged scale.

Referring in greater detail to the drawings, a body of a horse 5 has been shown for purposes of illustrating the invention, the horse having a pair of spaced apart front legs 6 through which a foot rest 7 extends. A pair of transverse support members 8 are secured to the body and are spaced along the length of the horse at its underside and which extend laterally from each side thereof.

A heavy coil spring 9 is hooked at one of its ends to a screw eye 10 in the ends of each support member 8. The other ends of the springs are hooked to an eye bolt 11 secured in the upper ends 12 of the upper frame 13.

The upper frame consists of identically formed halves 14 and 15 which are formed of high-strength steel tubing. The legs 16 of these halves diverge in an upward direction. Each of these halves include the generally horizontal lower portions 17 which are disposed at an angle to one another and are integrally joined at the center of the halves. The center of each half 14, 15 has a horizontal aperture extending therethrough, which apertures are alignable for the purpose of receiving the bolt means 18. Portions 17 each have a generally vertical aperture 19 for the reception of bolt means 20.

The lower or base frame 22 is formed by identical cross members 23, 24 which are fabricated from high-strength steel tubing and are positioned at right angles to one another. These members each have a center flattened portion which are secured together by bolt means 25 extending therethrough. The bolt means extend downwardly to the floor for supporting the toy.

These cross members each have a downwardly turned short leg 26 at one end and a downwardly turned longer leg 27 at the opposite end. Thus the lower frame 22 is inclined at an angle to the horizontal as is the upper frame 13 carried thereby. The free ends of the frame members are equipped with protective rubber caps 28.

The upper frame is swivelly mounted to the lower frame by means of a large anti-friction bearing assembly 30. This assembly includes a lower plate 31 and a complementary upper plate 32 both of which are stamped from heavy sheet metal. These plates each have complementary ball bearing tracks 33 formed therein by stamping and between which are held captive a plurality of ball bearings 34. Another set of ball bearings 35 are held captive between the track 36 and retaining cup 37.

The plates are secured together for relative rotation by a center rivet pin 38 which secures cup 37 and lower plate 31 together. This swivel joint thus provides a wide bearing surface for supporting the upper frame for free rotary movement in either direction. The plates 31, 32 each have an aperture adjacent each of their four corners which are in alignment with apertures in the lower and upper frames, respectively, and through which bolt means 39 and 20 extend for securing the plates to their respective frames.

The swivel joint thus provided between the upper and lower frames forms a good bearing surface which permits a light child to rotate freely under the influence of gravity. The legs of the lower frame extend radially beyond the upper frame to prevent overturning of the unit regardless of the amount of action of the child in operating the toy. The center portion of the lower frame is supported by bolt 25 which bears directly on the floor to absorb vertical thrust loads and maintain proper position of the swivel joint. The upper frame halves 14 and 15 present their angularly related portions to the upper plate and, when secured to the plate and to each other, provide a rigid and stable upper frame unit.

The identically formed halves 14 and 15 and also 23, 24 provide for economy of manufacture and good nesting for shipping purposes.

To further amuse the child, a music device is provided which is positively operated whenever a rocking motion occurs. This device includes a conventional music box.
that is concealed and secured between the horse's front legs and which produces a tune when its lever 41 is pumped. A linkage 42 is provided which utilizes the relative movement between the horse and upper frame to actuate the box. This linkage is also kept entirely concealed so as not to detract from the overall appearance of the toy. The linkage includes an end portion 44 inserted in one of the springs and also has a portion 45 extending downwardly therefrom on the outside of the spring. A transverse portion 46 then extends along the underside of the support 8 and is rotatably mounted thereto or the like. Portion 46 terminates centrally of the support and has a downwardly and forwardly extending portion 48 and an end portion 49. Portion 49 contacts the box lever 41 and actuates the latter as follows. When the horse is tipped forward from the position shown in Figure 1, the front support 8 and the associated end of the spring are depressed or lowered relative to the leg 16. As a result, the linkage is rotated in its brackets—the end 49 raising relative to the horse and associated music box. The end 49 thereby pushes the lever 41 upwardly and actuates the music box. By initially positioning the end 49 against the lever 41 when the horse is in the unloaded position shown in Figure 1, the box will be actuated upon slight downward movement of the front end of the horse. Downward movement of the rear end of the horse, and consequent slight upward movement of the frontal end thereof, causes the end 49 to swing away from the lever 41, thus permitting the latter to cock or return to its free position for the next actuation. Positive actuation of the box is assured for even very slight rocking movement. A toy has been provided by the present invention which rotates as it is rocked back and forth in a rhythmic motion. To start the operation, the horse would be placed with its tail just to the right of the highest point 50 as shown in Figure 3, if clockwise rotation is desired. The rider then leans rearwardly until the horse rotates about a half revolution which causes the head end of the horse to assume the position over the high point 50. The rider then rocks forwardly and at the horse continues its rotation. This time rocking action is continued and after some practice, the child can produce continuous rotation. Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointed out and distinctly claiming the subject matter which is regarded as the invention. I claim:

1. A rotatable rocking toy comprising, a base frame having a non-vertical axis, an upper frame rotatably mounted on said base frame for rotation about said non-vertical axis, and a toy having a seat for a child and rockably mounted in a central portion of said upper frame whereby a child is mounted centrally in said upper frame and can rock and simultaneously shift his weight from one side to the other to cause gravity to rotate said horse about said axis.

2. A rotatable rocking toy comprising, a base frame, an upper frame, an anti-friction bearing assembly connected between said frames and having a non-vertical axis whereby said upper frame is freely rotatable on said base frame about said non-vertical axis, and a toy having a child's seat rockably mounted in a central portion of said upper frame for rotation about said axis between a high side and a low side, whereby a child on said horse can rock back and forth so as to repeatedly shift his weight to said high side to cause rotation of said horse.

3. A rotatable rocking toy comprising, a base frame inclined from a horizontal position, an upper frame having a toy horse rockably and resiliently mounted in a central portion thereof, and an anti-friction bearing assembly connected between said frames for rotatably mounting said upper frame on said inclined base frame for rotation between high and low sides, whereby a child mounted on said horse can rock back and forth to repeatedly shift his weight to said high side and cause rotation of said upper frame by gravity.

4. A rotatable rocking toy comprising, a base frame inclined from the horizontal, an anti-friction bearing assembly having lower and upper bearing retaining plates, said lower plate being rigidly secured to said base frame, and said upper plate being provided with anti-friction bearing means for permitting free relative rotation therebetween about a non-vertical axis whereby a high and a low side are defined for said upper plate, an upper frame rigidly secured to said upper plate, a child's riding toy resiliently mounted in said upper frame for back and forth rocking movement whereby a child on said toy can shift his weight to said high side to cause rotation of said upper frame by gravity.

5. A rotatable rocking toy comprising, a base frame, an upper frame rotatably mounted about a non-vertical axis on said base frame, a toy horse mounted in the central portion of said upper frame, a seat on said horse and located centrally of said upper frame, and springs resiliently connecting said horse to said upper frame at both fore and aft and transversely spaced locations, whereby said horse is adapted to rock back and forth and also bodily up and down to simulate a bucking action while at the same time rotating.

6. A rotatable rocking toy comprising, a base frame, an upper frame rotatably mounted on said base frame for rotation about a non-vertical axis, a toy horse rockably mounted in the central portion of said upper frame and having a seat which is located generically centrally of said upper frame, and springs resiliently connecting said horse to said upper frame at fore and aft and transversely spaced locations, whereby a child can rock and move bodily vertically and simultaneously shift his weight from one side of said axis to another to cause gravity to rotate said horse about said axis.

7. A rotatable rocking toy comprising, a base frame inclined from a horizontal position, an upper frame having a toy horse rockably mounted in a central portion of said upper frame, an anti-friction bearing assembly connected between said frames for rotatably mounting said upper frame on said inclined base frame for rotation between high and low sides, said horse having a child's seat which is located centrally of said upper frame, and springs resiliently connecting said horse to said upper frame at fore and aft and transversely spaced locations, whereby a child mounted on said horse can rock back and forth with a bucking action and repeatedly shift his weight to said high side and cause rotation of said upper frame by gravity.

8. A rotatable rocking toy comprising, a base frame, an upper frame rotatably mounted about a non-vertical axis on said base frame, a toy horse mounted in the central portion of said upper frame and having a child's seat which is located centrally of said upper frame, springs resiliently connecting said horse to said upper frame at both fore and aft and transversely spaced locations whereby said horse is adapted to rock back and forth and bodily up and down to simulate a bucking action while at the same time rotating, a music box secured to said horse and having an actuating part, and a link mounted on said horse and having a first portion engageable with said part, said link having another portion that is positioned so as to be subject to less movement than said horse as the latter is rocked whereby said first portion is moved to actuate said part.

9. A rotatable rocking toy comprising, a base frame, an upper frame rotatably mounted on said base frame for rotation about a non-vertical axis, and a toy horse rockably mounted in the central portion of said upper frame and having a child's seat which is located centrally of said upper frame, springs resiliently connecting said horse to said upper frame at fore and aft and transversely spaced locations whereby a child can rock and move bodily ver-
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tically and simultaneously shift his weight from one side of said axis to another to cause gravity to rotate said horse about said axis, a music box secured to said horse and having an actuating lever, and a link oscillatably mounted on said horse and having a first portion engageable with said lever, said link having another portion that is positioned in one of said springs so as to be subjected to less movement than said horse as the latter is rocked whereby said first portion is moved to actuate said lever.

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