

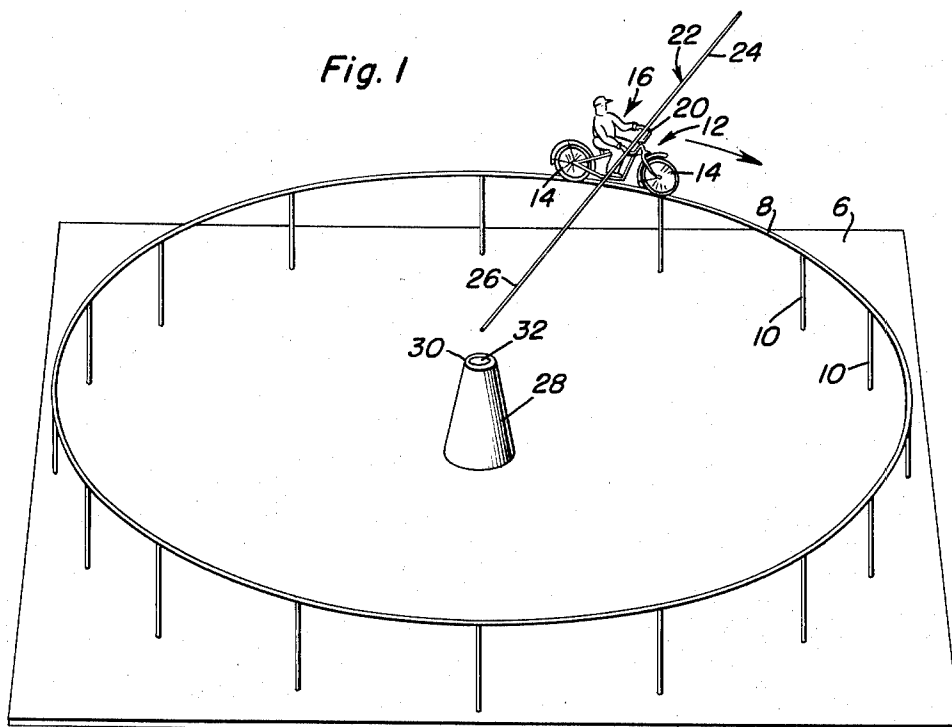
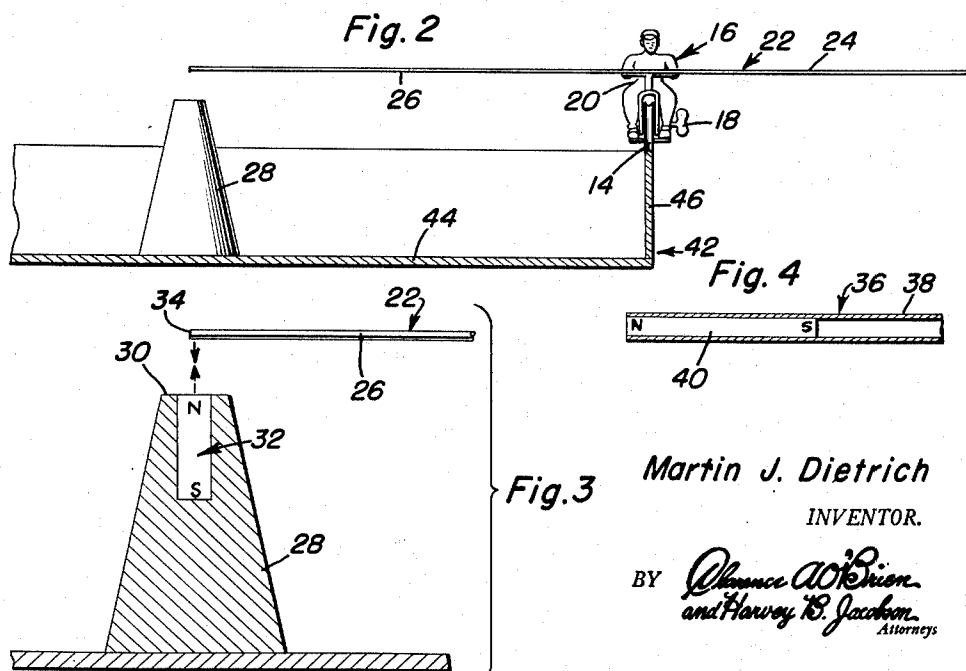
Feb. 23, 1954

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2,669,800

WHEELED FIGURE TOY TRACK AND BALANCE MEANS

Filed March 2, 1953



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UNITED STATES PATENT OFFICE

2,669,800

WHEELED FIGURE TOY TRACK AND
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Application March 2, 1953, Serial No. 339,533

2 Claims. (Cl. 46—45)

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The present invention relates to certain new and useful improvements in figure toys, generally speaking, and has reference in particular to a construction which is characterized by a figure on a bicycle which is adapted to travel, somewhat mysteriously, on and around an endless track in a fun and interest provoking manner.

More specifically, the invention appertains to a toy in the form of a bicycle with a rider thereon and wherein a balance bar is attached to the handle bars of the bicycle, novel means being provided for maintaining the balance bar in a predetermined approximately horizontal plane in order that the bicycle, which may be a spring-motor, self-propelled type, is held erect much to the amazement of a child or other observer.

In carrying out a preferred embodiment of the invention, the forces of gravity, magnetism, and centrifugal-forces are encountered, taken into account and are interestingly revealed to the child enthusiast with the idea in mind that the unique toy construction becomes instructive in respect to teaching the observer basic underlying principles having to do not only with the simple mechanics involved but with the stated forces singly and collectively.

More explicitly revealed, the invention has to do with a toy in which the forces of gravity and magnetism combine for desired results and comprising, in combination, a stationary base, an elevated single rail endless track mounted atop said base, a self-propelled figure toy including a support having at least one wheel in rolling contact with said rail, a balance bar carried by said toy, and means cooperating with said base, rail, toy, and balance bar whereby the latter is maintained in a substantially horizontal position in a manner such that it actually balances and keeps said toy erect as the latter whirls around the track, and wherein said means embodies a permanent magnet.

It is also an object of the invention to structurally, functionally, and otherwise improve upon similarly constructed and performing structural adaptations and, in doing so, to effectively meet the respective manufacturing and use requirements of manufacturers, retailers, and juvenile and other users.

Other objects, features, and advantages will become more readily apparent from the following description and the accompanying sheet of drawings.

In the drawings, wherein like numerals are employed to designate like parts throughout the views:

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Figure 1 is a perspective view showing a toy constructed in accordance with the principles of the present invention and illustrating the manner in which the same is intended to function;

Figure 2 is a view based on Figure 1 and which is fragmentary, sectional and elevational in form and which discloses a modified base and track construction;

Figure 3 is a view on an enlarged scale in section and elevation with the balance bar fragmentarily shown and illustrating the magnetic features utilized; and,

Figure 4 is a fragmentary sectional view of one end portion, on an enlarged scale, of a modified balance bar with a permanent magnet fitted therein.

Referring now to the drawings by way of reference numerals and with the assistance of lead lines, the base means, which may be of appropriate construction, is here denoted by the numeral 6. In Figure 1 it comprises a rectangular cardboard or equivalent base. The endless track, which is preferably a single rail, is denoted by the numeral 3 and has appropriate supporting posts 10—10 which are vertically arranged and situated at circumferentially spaced points and suitably attached at their lower ends to the base. The toy bicycle, motorcycle, mono-cycle or other wheeled vehicle, is denoted by the numeral 12. If desired or found necessary, the wheels will have grooved peripheral rims 14—14 so that they will function as wheeling or rolling elements as well as retaining elements. Of course, the track could be flat and the rim portions of the wheels flat but it has been found that it is perhaps better that the track rail should be cylindrical in cross-section so that the wheels will be properly "channeled" on the rail. It is also desired that the toy should have a complementary or companion rider or equivalent figure 18. In actual practice, any appropriate spring-motor will be incorporated and the winding key of this is shown at 19 in Figure 2. That is to say, the "bicycle" is to be self-propelled. The handle bars are denoted generally by the numeral 20 and the aforementioned balance bar is denoted, as a unit, by the numeral 22. This may be a metal bar, as shown, with the intermediate portion welded or otherwise secured to the handle bar means 20 and with one end portion 24 projecting radially and outwardly beyond the track rail and the other end portion projecting radially inward and having its inner overbalanced end portion 26 terminating at the axial center of the track. At this point, there is a post or upright 28 of any suit-

able material which is attached to and rises from the base and whose upper end 30 is truncated and in a plane above the plane of the track. There is a permanent magnet 32 embedded axially in this upright. The magnet has the south pole facing downwardly and its north pole facing upwardly and exposed by way of the truncated end 30. The exact terminal end portion 34 of the balance bar terminates over the north pole of the magnet and this end 34 is likewise magnetized so that its north pole cooperates with that of the magnet 32. The forces thus repel and these magnetic forces are relied upon to offset the tendency of the wheeled toy to tilt inwardly toward the center of the ring. The bar 22 may be either magnetized or a magnet may be inserted into one end of the same and of course the fixed magnet means 32 is perpendicular to the horizontal plane of the base and at the exact axial center of the endless ring or track.

With further respect to the balance bar, a modification of the same is shown in Figure 4 wherein the same is conveniently denoted by the numeral 36 with the end portion 38 hollow and a permanent magnet 40 is fitted into the hollow end as shown. Here the balance bar may be of non-magnetic material.

It is also to be pointed out in connection with the modification seen in Figure 2 that the base and track may be of a construction other than that shown in Figure 1. That is to say, it is within the purview of the invention to utilize the cardboard or equivalent container or box as the base and track means. So, in Figure 2, the bottom of the box 42 is denoted at 44 and this carries the post or upright 28. Also, the rim or wall of the box, which is endless and circular and is denoted at 46, constitutes the track for the vehicle, as shown. Inasmuch as the vehicle and balance bar and all other essential features have already been described, it will be evident the same numbers employed in Figure 1 are also employed in Figure 2. In other words, the only difference between the figures is that the base and track differ in construction. In practice, the spring-motor which drives the bicycle or motorcycle will have to be geared in such a way that it will slow the speed down in order not to set up centrifugal forces such as would be likely to clash with the forces of gravity and magnetic forces which are taken into account in the completion and operation of the overall toy.

The fact that the magnet 32 is hidden in the upright 28 adds to the mystery element of the concept, as is obvious. Moreover, the fact that the terminal end 34 is repelled and maintained in a somewhat critical spaced relationship also adds to the unseen means which keeps the bicycle and rider riding in an upright or erect position continuously around the track. Considered collectively, these unique factors not only are such as to render the structure intriguing but are believed to be an innovation in this line of endeavor.

From the foregoing, the construction and operation of the device will be readily understood and further explanation is believed to be unnecessary. However, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed as new is as follows:

1. In a toy in which the forces of gravity, magnetism, and centrifugal forces are involved, in combination, a base, an elevated single endless track rail mounted on said base, a rider-equipped self-propelled bicycle having driven wheels operatively cooperable with said track rail, said bicycle embodying handle bar means, a balance bar having an intermediate portion affixed to said handle bar means with the outer end portion projecting radially and outwardly beyond the outer perimeter of the track rail and the inner end portion overhanging the base and projecting toward and terminating at the axial center of the track rail and base, said inner end portion being magnetized, and upright means carried by the axial center portion of said base having an axially arranged magnet with which said inner end of said balance bar is in spaced but retentive relationship.

2. In a toy in which the forces of gravity, magnetism, and centrifugal forces are involved, in combination, a flat relatively stationary portable base, a single rail endless track mounted atop said base within the marginal limits of the base, a self-propelled figure toy including a mobile support having at least one grooved wheel in rolling contact with the rail of said track, a balance bar having an intermediate portion affixed to said figure toy, the outer end of said balance bar projecting radially and outwardly beyond the perimeter of the track rail and the inner end portion of said balance bar overhanging the base and projecting toward and terminating at the approximate axial center of the base and track rail, said inner end portion being magnetized, an upright means carried by the axial center portion of said base and having an upper end disposed at a plane above the plane of the track rail and having an axially arranged magnet with which the magnetized inner end of said balance bar is cooperable in spaced relation.

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