Jan. 9, 1934. F. J. MAYER 1,942,514

MECHANICAL TOY

Filed July 26, 1932

Fig. 1

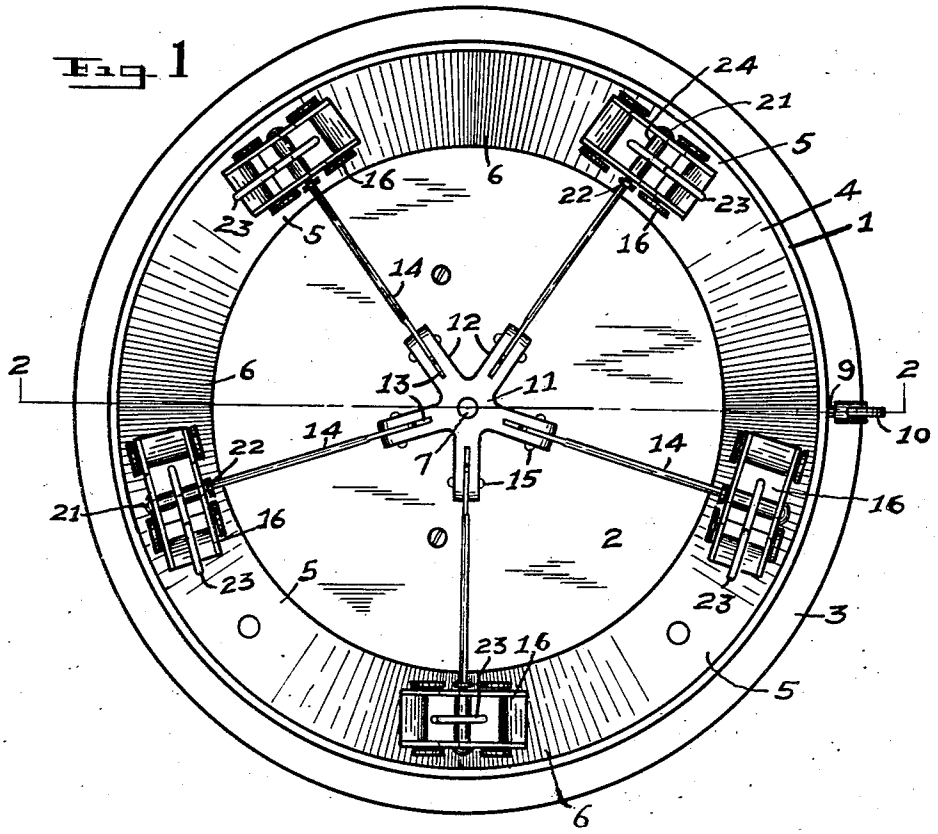


Fig. 2

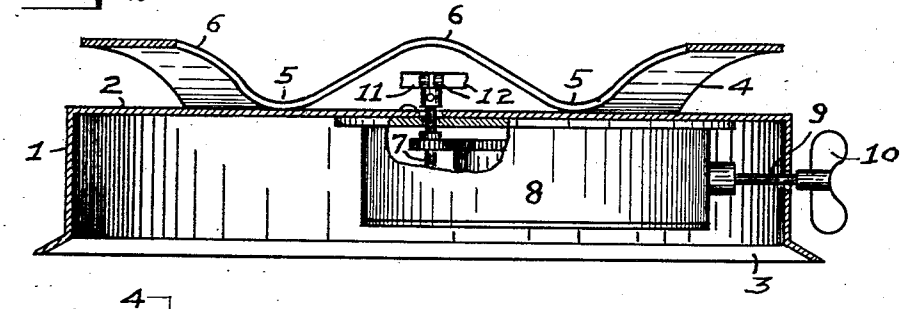


Fig. 3

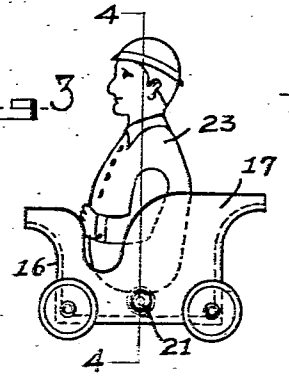
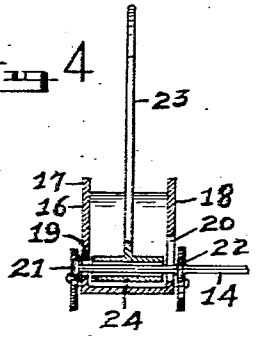


Fig. 4



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MECHANICAL TOY

Frank J. Mayer, Pittsburgh, Pa.

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1 Claim. (Cl. 272—31)

My invention relates to a mechanical toy and important objects thereof are to provide a toy of the character described, which is simple in its construction and arrangement, which operates with great activity and much movement affording amusement to children in their play, which is durable, compact, positive in its action, attractive in appearance, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts herein specifically described and illustrated in the accompanying drawing, but it is to be understood that the latter is merely illustrative of an embodiment of the invention, and that the actual needs of practice and manufacture may require certain mechanical variations from the embodiment shown. It is, therefore, not intended to limit the invention to the disclosure thereof herein illustrated, but rather to define such limitations to the scope of the claim hereunto appended.

In the drawing wherein like numerals of reference designate corresponding parts throughout the several views:—

Figure 1 is a top plan view of a mechanical toy constructed in accordance with the invention.

Figure 2 is a sectional view of the base and associated track member on line 2—2, Figure 1.

Figure 3 is an enlarged side elevation of the carriage embodied in the present invention.

Figure 4 is a sectional view on line 4—4, Figure 3.

Referring in detail to the drawing 1 denotes a base, preferably constructed from sheet metal and in the form of a cylindrical casing having a flat top 2 and an outwardly extending bottom flange 3. It is, of course, obvious that, the contour of the base, may be widely varied without departing from the spirit of the invention.

An annular track 4 is permanently fixed, in any suitable manner, to the upper face of the base top 2 and extends along the peripheral edge margin of the latter. The track 4 is preferably constructed from sheet metal and formed to provide an undulating upper surface having alternately disposed depressions 5 and elevations 6.

While the embodiment of the invention herein disclosed illustrates uniform and regularly arranged undulations of the track 4, it is evident that the undulations may vary in size, number, and in spaced relation with respect to each other.

A vertically disposed propelling shaft 7 extends through an aperture provided therefor in the diametric center of the base top 2 and projects above the latter. The propelling shaft 7 constitutes a part of the power mechanism, preferably in the form of a spring motor 8, as illustrated, or any other suitable power element operable for imparting rotation to the propelling shaft 7. The spring motor 8 is housed in the base 1 and secured against the underside of the top 2. The spring motor 8 includes a winding shaft 9, which projects laterally through the side wall of the base 1 and carries a winding key 10 on the outer free end thereof.

A spider 11 is fixed to the upper end of the propelling shaft 7 and includes a plurality of regularly spaced radially extending arms 12. Each of the arms 12 is provided with a vertically extending slot 13, which is open at its outer end. The spider 11 is disposed horizontally, preferably extending on a plane approximately intermediate of the heights of the undulations of the track 4.

A connecting rod 14 is pivotally connected, as at 15, in the slot 13 in each of the spider arms 12. The outer end of each of the connecting rods 14 is pivotally joined with a wheeled car or carriage 16, which is mounted and travels on the track 4. The outer end of each connecting rod 14 extends transversely through the associated carriage 16 and through the side walls 17 and 18 of the latter. The outer side wall 17 is provided with an aperture 19 and the inner side wall 18 with a vertical oblong slot 20 for the passage of the connecting rod 14. The outer end of each of the connecting rods 14 is formed with a head 21 and a collar 22 is fixed thereon adjacent to the side wall 18 for maintaining the carriage 16 in position at the outer end of the connecting rod 14.

During the operation of the device, the carriages 16 travel around on the undulating track 4, and the provision of the oblong slot 20 in the inner side wall 18 of each carriage 16 permits the variable angular disposition of the connecting rod 14, while the carriage travels along the depressions and elevations 5 and 6 of the track 4, without imparting a corresponding angular tilt to the carriage 16 on the track 4, whereby the carriages 16 are squarely maintained on all points of the latter at all times.

A figure 23, representing a rider or passenger, is preferably positioned in each of the carriages 16. A bearing 24 is fixed to the lower end of the figure 23 and mounted between the side walls 17 and 18 of the carriage 16 on the connecting rod 14. This

connection provides a pivotal attachment for the figure 23 whereby the latter will shift rearwardly and forwardly by gravity, against the respective ends of the carriage 16, each time that the carriage travels up and down over an elevation 6 of the track 4.

It will be noted that four depressions 5 and elevations 6 are provided in the track 4, and that the spider 11 has five arms 12 connecting with a corresponding number of carriages 16 by the connecting rods 14. This variation in the number of carriages 16 with respect to the undulations of the track 4 provides a continuous uniform speed of travel to the carriages around the track 4 and entirely eliminates faltering and jerking motion by establishing a better compensating gravity movement of the carriages over the undulations of the track 4.

It is apparent that, instead of the carriages 16 and figures 23, representations of other forms of vehicles, animals or other objects may be employed to meet any condition found in practice.

The base 1 and all associated parts thereof are preferably fancifully painted or colored to provide an attractive structure particularly attractive to children.

The present invention provides a most durable and attractive device of its kind, which operates with a great amount of action affording great amusement and entertainment to children in their play.

What I claim is:

In combination, a mechanical toy of the character described, comprising a base, an annular undulating track fixedly mounted on the top of said base, a driving mechanism carried in said base and including a vertically disposed revoluble shaft, a spider fixed to the upper end of said shaft and having a plurality of radially extending arms, a plurality of carriages mounted to travel around on said track, the inner side wall of each of said carriages being provided with a vertically disposed oblong slot, the outer side wall of each of said carriages provided with an aperture, connecting rods having a pivotal connection with the outer ends of respective spider arms, the outer end portions of said connecting rods extending transversely through respective carriages and projecting through said slots and said apertures in the side walls of said carriages, means carried by said connecting rods for maintaining the carriages in position at the outer ends of the connecting rods, a figurative member mounted in each of said carriages and provided with a bearing element at the lower end thereof, said bearing elements being disposed between the sidewalls of respective carriages and pivotally engaged by the outer end portions of said connecting rods to allow the alternate gravity movements of said figurative members against the end walls of said carriages during the travel of the latter around on said undulating track.

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