Aug. 20, 1929. L. MARX 1,725,536

ACROBATIC TOY

Filed March 23, 1928

Fig. 1.

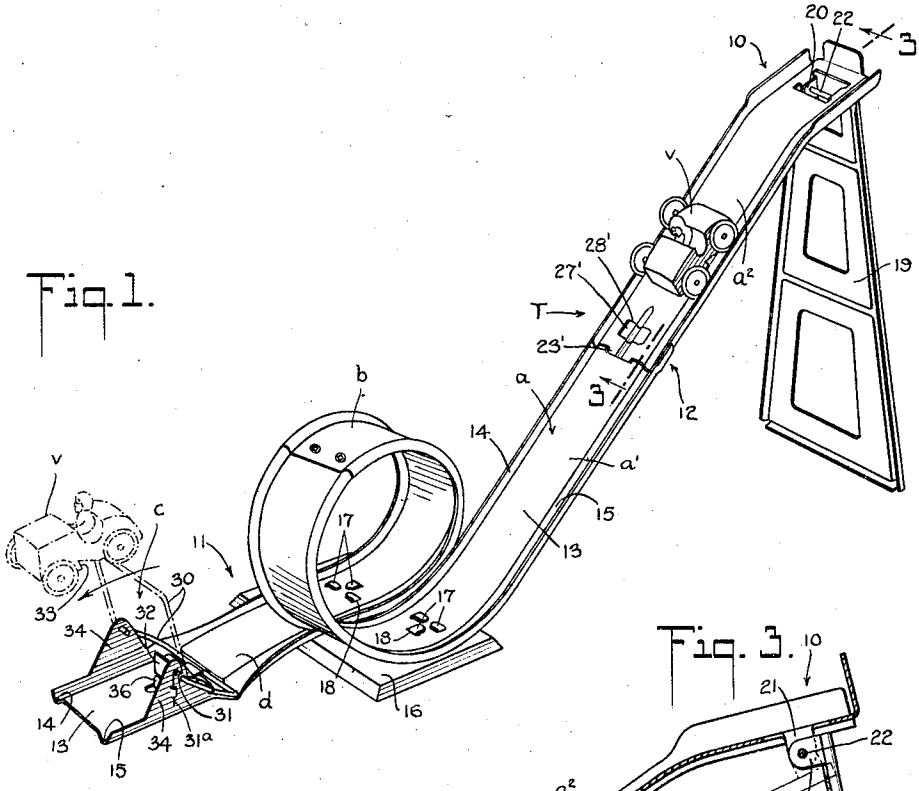


Fig. 3.

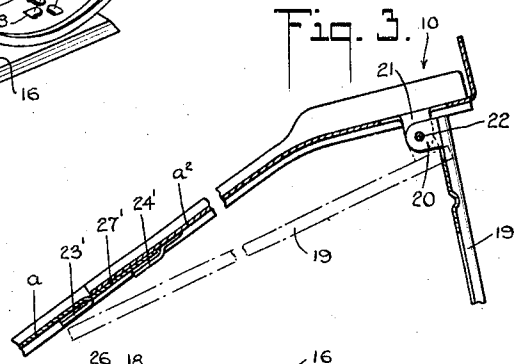


Fig. 2.

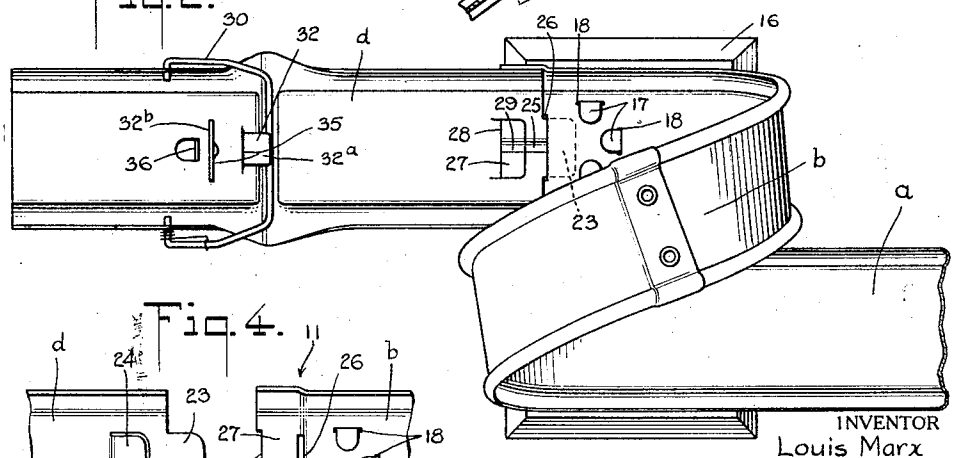


Fig. 4.

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ACROBATIC TOY.

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This invention relates to a toy, and relates more particularly to a novel mechanically operated acrobatic toy.

The prime object of my present invention centers about the provision of a mechanically operated toy in which a figure, such as a simulated vehicle, is made to perform a sequence of acrobatic actions or "stunts" which includes the riding or "looping" of a loop followed by a leaping or "vaulting" act.

A further prime object of my present invention relates to the provision of an acrobatic toy designed to produce successive "looping" and "vaulting" acts of a toy vehicle and constructed so as to enable the child to set up or assemble the toy in a plurality of ways to make either a structure having a looping action alone or a structure having such a looping action combined with the vaulting action.

Further objects of the invention include the provision of an acrobatic toy of the character referred to made up of sectionalized parts adapted to be set up by the child to form the completed structure and collapsed so as to be boxed in small confines both for shipping and storage uses; and the still further provision of an acrobatic toy of this character constructed of a minimum of workable parts and designed so that the same may be set for operation without difficulty by a child, the component parts of the toy embodying a simple structure capable of being manufactured and sold at a low cost.

To the accomplishment of the foregoing and such other objects as will hereinafter appear, my invention consists of the elements and their relation one to the other as more particularly described hereinafter; reference being had to the accompanying drawing which shows the preferred embodiment of my invention, and in which:

Fig. 1 is a perspective view of the toy showing the same in set up condition and in operation for performing the sequence of acrobatic actions,

Fig. 2 is a plan view of a part of the same shown on an enlarged scale,

Fig. 3 is an elevational view of a part of the same taken in cross-section along the lines 3—3, Fig. 1, and

Fig. 4 is a view of a detail showing the manner of detachably attaching the sections or parts of the toy.

Referring now more in detail to the drawings, the acrobatic toy of the invention comprises in its generic aspects a track section generally designated as T on which a figure toy such as a toy vehicle v is adapted to travel gravitationally from an elevated starting stage 10 to a lower stage 11, the said track section including an inclined track portion a, a loop portion b and a means c at the lower stage of the track section operable by impact of the toy vehicle v moving down the track section and through the loop portion thereof for vaultingly projecting the said toy vehicle from the lower stage of the track section into space, as depicted by the dotted line representation shown in Fig. 1 of the drawings.

To satisfy the play instincts of the child for a building set and for variety, the toy of the invention is designed and constructed so as to be capable of being set up or taken apart by the child to make either a structure having a looping action alone or one having such a looping action combined with a vaulting action. To this end the track portions are made in a plurality of parts or sections arranged more particularly so that the inclined track portion a and the loop portion b define together a complete path of travel for the toy vehicle between the elevated and lower stages 10 and 11, and so that the vaulting mechanism c is embodied in an addable track portion d which is detachably attachable to the loop track portion or section b at the lower or terminating stage 11 thereof, as most clearly shown in Fig. 2 of the drawings. Preferably also where the inclined track portion a is made to extend a substantial length, the same is divided into the parts a' and a^2 detachably connected together at an intermediate region generally designated by the reference character 12.

The track sections or parts are preferably made of sheet metal suitably stamped out or died to provide a body 13 and side channels or depressions 14 and 15, the channels defining the tracks for the wheels of the toy vehicle v, as clearly shown in Fig. 1 of the drawings. The loop track portion b, as well as the inclined track part a' made preferably integral therewith, are supported by and

attached to a base 16 also made of sheet metal, the attachment being by means of a plurality of tongues 17, 17 which are struck out from the body of the base 16 and which are received by slots 18, 18 in the loop track portion *b* and bent over the body 13 of the track section, as clearly shown in Figs. 1 and 2 of the drawings. The upper inclined track portion a^2 is provided with a stand support 19 also formed out of sheet metal, the said stand being hingedly attached to the upper part of the track portion a^2, the hinge being provided by sets of apertured ears 20 and 21 formed integrally with the stand 19 and track portion a^2 receiving a hinge pintle or rod 22. The construction of these parts is preferably such that the stand 19 is movable from the supporting position shown in Figs. 1 and 3 of the drawings to a collapsed position shown in dotted line in Fig. 3 of the drawings.

The detachable connection between the track parts a' and a^2 and between the loop and addable track sections *b* and *d* are the same in all respects, and a description of the detachable attachment between the loop and addable track sections will therefore suffice for both. As shown particularly in Figs. 2 and 4 of the drawings, the addable track section *d* is provided with a front tongue 23 and a second tongue 24 to the rear thereof, both being preferably medially channeled as at 25, the tongue 24 being depressed downwardly so as to lie below the plane of the body of the track section *d*. The ending stage 11 of the loop section *b* is cooperatively provided with a slot 26 which receives the tongue 23 and with a depressed part 27, the edge 28 of which is received by the space between the tongue 24 and the remaining body of the track section *d*, all as clearly shown by a comparison of Figs. 2 and 4 of the drawings. The track part 27 is also preferably medially provided with a groove or channel 29 which guidingly mates with a groove 25. The similar parts of the attachable connection at 12 between the inclined track parts a' and a^2 are designated by similar and primed reference characters.

With the provision of the construction thus far described, it will be seen that the inclined track portion *a* and the loop portion *b* may be set up or assembled by the child without using the additional track section *d*, to make a structure capable of performing the "stunts" such as the movement of the vehicle *v* down the incline of the track section and through and out of the loop section *b*, the vehicle moving from the lower stage 11 of such loop section onto a support such as the ground or floor on which the toy is mounted. It will be further seen that the child may at will add the track section *d* to the lower stage 11 of the track to make the complete structure shown in Fig. 1 of the drawings, wherein the vehicle *v*, after looping the loop, is vaultingly projected into space by the means now to be described.

The means *c* for producing the vaulting or leaping action of the vehicle comprises a spring actuated throwing or projecting member 30 which is placed under tension and which is actuated by a spring 31, and a trip member 32 slidably movable on the track section *d* and functioning for holding the projecting member 30 in tensioned condition, as shown in full lines in Figs. 1 and 2 of the drawings, the said trip member being actuated into its releasing position by impact of the vehicle figure *v*. The projecting member 30, when released, springs to the position shown in dotted lines in Fig. 1 of the drawings and, engaging the vehicle *v* at undercut parts 33 thereof, forcibly projects the vehicle from the track section *d* into space as shown in Fig. 1 of the drawings for further movement on the support such as the floor or ground on which the assembled toy is mounted.

The parts of the vaulting mechanism *c* are designed and constructed more specifically so as to be capable of being set with ease by a child and operated with a great degree of certainty by the impacting movement of the vehicle to produce a forcible upward throw of the vehicle. To these ends the projecting member 30 is made in the form of a yoke-shaped member hingedly supported at elevated points on standards 34, 34 made integral with the track section *d*, the tensioning spring 31 being arranged on the outside of one of the standards, the said spring having a coil portion surrounding a hinge pin part of the projecting member, an anchoring point 31^a on a standard 34, and a point of application on an arm of the projecting member 30, as clearly shown in Figs. 1 and 2 of the drawings. The trip member 32 is bent to provide a horizontal slide portion 32^a slidable in slots 35 in the track section *d* and a vertical portion 32^b which is engaged medially by the front of the vehicle *v* and which is moved against a back stop 36 struck up from the track section blank. By means of this construction the trip member is substantially always released by the impact of the vehicle in spite of the tensioned condition of the throwing or vaulting member 30, this resulting in substantial certainty of operation. The parts, as will be noted, embody a simple design capable of being manufactured at a low cost.

The manner of making and assembling the parts of the acrobatic toy of my present invention and the many advantages thereof will in the main be fully apparent from the above detailed description thereof. It will be further apparent that while I have shown

and described my invention in its preferred form, that many changes and modifications may be made in the structure disclosed without departing from the spirit of the invention, defined in the following claims.

I claim:

1. An acrobatic toy comprising a track section on which a toy vehicle is adapted to travel gravitationally from an elevated starting stage to a lower stage, the said track section including a loop portion defining a loop path for part of the travel of the toy vehicle, and a throwing or projecting means located at the lower stage of the track section operable by an engagement with said toy vehicle moving down said track section and through the loop portion thereof for vaultingly projecting the said toy vehicle from the said lower stage of the track section into space.

2. An acrobatic toy comprising an inclined track section on which a toy vehicle is adapted to travel gravitationally from an elevated starting stage to a lower stage, the said track section including a loop portion intermediate the said elevated and lower stages of the track section defining a loop path for part of the travel of the toy vehicle, and means at the lower stage of the track section releasable by impact of said toy vehicle moving down said track section and through the loop portion thereof for vaultingly projecting the said toy vehicle from the said lower stage of the track section into space, said means comprising a spring actuated throwing or projecting member and a trip member for holding the projecting member in energized condition adapted to be tripped by said toy vehicle to release the projecting member.

3. A mechanical toy comprising a track means on which a toy vehicle is adapted to travel gravitationally from an elevated stage to a lower stage, the said track means including an inclined track section and a loop track section both defining a complete path of travel for the toy vehicle between the elevated and lower stages, and an addable track section detachably attachable to the loop track section at said lower stage, said addable track section embodying means releasable by an engagement with the toy vehicle moving down the inclined track section and through the loop track section for vaultingly projecting the toy vehicle into space.

4. A mechanical toy comprising a track means on which a toy vehicle is adapted to travel gravitationally from an elevated stage to a lower stage, the said track means including an inclined track section and a loop track section both defining a complete path of travel for the toy vehicle between the elevated and lower stages, and an additional track section attached to the loop track section at said lower stage of the track means, said additional track section embodying means releasable by an engagement with the toy vehicle moving down the inclined track section and through the loop track section for vaultingly projecting the toy vehicle into space.

5. A mechanical toy comprising a track means on which a toy vehicle is adapted to travel gravitationally from an elevated stage to a lower stage, the said track means including an inclined track section and a loop track section both defining a complete path of travel for the toy vehicle between the elevated and lower stages, a base support for said loop track section, a stand support for said inclined track section, and an addable track section detachably attachable to the loop track section at said lower stage, said addable track section embodying means releasable by impact of the toy vehicle moving down the inclined track section and through the loop track section for vaultingly projecting the toy vehicle into space.

6. A collapsible mechanical toy comprising a track means on which a toy vehicle is adapted to travel gravitationally from an elevated stage to a lower stage, the said track means including an inclined track section and a loop track section both defining a complete path of travel for the toy vehicle between the elevated and lower stages, the said sections being made of a plurality of detachably attachable parts, and an addable track section detachably attachable to the loop track section at said lower stage, said addable track section embodying means releasable by impact of the toy vehicle moving down the inclined track section and through the loop track section for vaultingly projecting the toy vehicle into space.

7. A collapsible mechanical acrobatic toy comprising a track means on which a toy vehicle is adapted to travel gravitationally from an elevated stage to a lower stage, the said track means including an inclined track section and a loop track section both defining a complete path of travel for the toy vehicle between the elevated and lower stages, the said sections being made of a plurality of sectionalized parts adapted to be set up and collapsed, a base support for the loop track section, a hinged stand support for the inclined track section, and an addable track section detachably attachable to the loop track section at said lower stage, said addable track section embodying means releasable by impact of the toy vehicle moving down the inclined track section and through the loop track section for vaultingly projecting the toy vehicle into space.

8. A mechanical toy comprising a track means on which a toy vehicle is adapted to travel gravitationally from an elevated stage to a lower stage, the said track means including an inclined track section and a loop

track section both defining a complete path of travel for the toy vehicle between the elevated and lower stages and an addable track section detachably attachable to the loop track section at said lower stage, said addable track section embodying means releasable by impact of the toy vehicle moving down the inclined track section and through the loop track section for vaultingly projecting the toy vehicle into space, said means including a spring tensioned projecting member hingedly supported on said addable track section and a trip member for releasably holding the projecting member in tensioned condition and adapted to be tripped by an impacting movement of said toy vehicle.

Signed at New York city, in the county of New York and State of New York this 21st day of March, A. D. 1928.

LOUIS MARX.