ABSTRACT

A toy having retractable appendages, the toy comprising a body portion and a first appendage and a second appendage pivotally connected to the body portion to allow the appendages to be placed in a retracted position. The appendages biased by a spring arrangement into an unretracted position. A releasable locking mechanism retains the appendages into a retracted position when locked and allows the appendages to return to the unretracted position when released. In a preferred embodiment, the toy is configured as a motorcycle, wherein the first and second appendages each have a wheel rotatably connected thereto. In another embodiment, one of the wheels comprises a flywheel.
TOY HAVING RETRACTABLE APPENDAGES

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority to U.S. Provisional Application Ser. No. 60/521,728 filed Jun. 25, 2005, which is incorporated herein by reference.

BACKGROUND OF INVENTION

The present invention generally relates to toys, such as toy vehicles, and more particularly to toy vehicles, such as a toy motorcycle, having one or more appendages that are retractable to a retracted locked position that can be released back into an unretracted position.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a photograph of an embodiment in accordance with the principles of the present invention in the form of a toy motorcycle, shown in a perspective view.

FIG. 2 is a schematic diagram of the toy vehicle depicted in FIG. 1 shown in an unretracted position in accordance with the principles of the present invention.

FIG. 3 is a schematic diagram of the toy vehicle depicted in FIG. 1 shown in a transitional position as the vehicle is being placed in a retracted position in accordance with the principles of the present invention.

FIG. 4 is a schematic diagram showing the vehicle depicted in FIG. 1 in a retracted position in accordance with the principles of the present invention.

FIG. 5 is an exploded assembly view of a flywheel utilized as a rear wheel of the vehicle depicted in FIGS. 1-3.

DETAILED DESCRIPTION

While the present invention is capable of embodiment in many different forms, there is shown in the drawings, and will herein be described in detail, one or more specific embodiments with the understanding that the present disclosure is to be considered an exemplification of the principles of the invention and is not intended to limit the invention to these specific embodiments.

The present invention is directed to toys in general, and more particularly to toy vehicles having appendages, such as wheel carriages, that can be retracted and locked to a portion of the vehicle such that the vehicle is placed in a retracted state. Upon unlocking of the appendages, the vehicle is allowed to return to an unretracted state. The vehicle can utilize a locking mechanism to retain one or more appendages in the retracted state. Further, one or more bias elements or mechanisms, such as a spring mechanism, can be implemented to facilitate automatic return of the appendages to an unretracted state when the locking mechanism is released.

Referring now to the photograph in FIG. 1, a preferred embodiment in accordance with the principles of the present invention is shown as a toy vehicle 10 in the form of a "chopper" style motorcycle. The vehicle 10 includes a front wheel 12 attached to an appendage in the form of a front fork 14 and a rear wheel 16 attached to an appendage in the form of a rear carriage 18. The front fork 14 is pivotally attached at a pivot 20 to a main portion 22 of the vehicle 10. The rear carriage 18 is pivotally attached at a pivot 24 of the main portion 22 of the vehicle 10. As shown in FIG. 1, the vehicle may incorporate one or more decorative features 26, which facilitate a more life-like look to the vehicle 10. As shown in FIG. 2, the vehicle 10 is shown in an unretracted state or position. As shown in FIG. 3, there are preferably three retractable appendage movements A, B and C. When a user desires to place the vehicle in a retracted position, the user can first grasp the rear wheel 16 and pivotably swing it in the direction indicated by arrow A toward the main portion 22 of the vehicle 10, while subsequently moving the front wheel 12 and the front fork 14 and pivotably swing it in the direction indicated by arrow B toward the main portion 22 of the vehicle 10. As the front wheel 12 and front fork 14 are pivoted, a set of handlebars 28 also collapse and pivot toward the fork 14 as indicted by arrow C. When fully retracted, the rear wheel seats within the main portion 22. As shown in FIG. 4, when fully retracted, the front wheel 12 is disposed substantially in the location of the rear wheel 16 when the vehicle 10 was in the unretracted position of FIG. 2, and the front fork 14 is disposed generally over the fully retracted rear wheel 16 within the main portion 22 of the vehicle 10.

As shown in FIGS. 2-4, a release button 30, preferably disguised as one of the decorative features 26, is provided in connection with the main portion 22 of the vehicle 10. The release button 30 may be part of a lever mechanism that pivots to lock and unlock either one or both of the pivoting appendages (the fork 14 and the rear carriage 18) by interference therewith. The lever mechanism may be spring loaded to aid in locking. Alternatively, the button 30 may be configured to cause the main portion 22 to flex into and out of interference with the appendages. In this embodiment, the appendages are spring-loaded and biased to retain the appendages in the unretracted state. Thus, when retracted, the appendages are pivoted against the spring force. In the retracted state, when the release button is pressed, the spring force causes the appendages to return to the unretracted state. The appendages are preferably spring loaded by use of a coil spring at the pivots 20 and 24. A leaf spring may alternatively be utilized, or any other arrangement providing a suitable spring force to facilitate return of the appendages to the unretracted state.

As shown in FIG. 5, the rear wheel 16 is preferably configured as a fly wheel, which allows a user to spin the wheel and sustain the spinning for a given period of time to allow the vehicle to be propelled when placed on a surface. Each of the components of the flywheel assembly is illustrated in FIG. 5.

Of course, it should be understood that the vehicle may include any number and type of appendages depending on its particular form. It is contemplated that the vehicle may take the form of an automobile, truck, boat, airplane, helicopter, or any other toy vehicle form imaginable. Further, it is also contemplated that the retractable appendages may be incorporated into a non-vehicle toy, such as a toy figure, for example. In such a case, the toy figure may incorporate retractable appendages with or without wheels and may represent any portion of the toy figure, such as, for example, arms and legs of a dinosaur or robot-like figure. Any number of configurations is possible and would be readily apparent to one of ordinary skill in the art.
While specific embodiments have been illustrated and described herein, numerous modifications may come to mind without significantly departing from the spirit of the invention, and the scope of protection is only limited by the scope of the accompanying claims.

What is claimed is:

1. A toy having retractable appendages, the toy comprising:
   a body portion;
   a first appendage and a second appendage pivotably connected to the body portion to allow the appendages to be placed in a retracted position, the appendages biased by a spring arrangement into an unretracted position; and
   a releasable locking mechanism that retains the appendages into a retracted position when locked and allows the appendages to return to the unretracted position when released.

2. The toy of claim 1, wherein the toy is configured as a motorcycle.

3. The toy of claim 2, wherein the first and second appendages each have a wheel rotatably connected thereto.

4. The toy of claim 3, wherein one of the wheels comprises a flywheel.

5. The toy of claim 1, wherein the toy incorporates decorative features.

6. The toy of claim 1, wherein the release locking mechanism comprises a coil spring or a leaf spring.

7. The toy of claim 1, wherein the release locking mechanism comprises a release button to allow the appendages to be placed in the retracted position and to allow the appendages to be placed in the unretracted position.

8. The toy of claim 7, wherein the release button incorporates one or more decorative features.

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