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| Attorney Docket No. | MPW 3L2 |
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| First Inventor | Christopher F. Lucas |
| Title | CHILDREN'S RIDE-ON VEHICLES HAVING <br> IMPROVED SHIFTER ASSEMBLIES |
| Express Mail Label No. | EV493219494US |

        CD-ROM or CD-R in duplicate, large table or
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Prior application information: Examiner
Art Unit:
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## FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

| Application Type | FILING FEES Small Entity |  | SEARCH FEES Small Entity |  | EXAMINATION FEES Small Entity |  | Fees Paid (\$) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fee(\$) | Feol(\$) | Fee(\%) | Fee(\$) | Fee (\$) | Feol (\$) |  |
| Utility | 300 | 150 | 500 | 250 | 200 | 100 | 1000.00 |
| Design | 200 | 100 | 100 | 50 | 130 | 65 |  |
| Plant | 200 | 100 | 300 | 150 | 160 | 80 |  |
| Reissue | 300 | 150 | 500 | 250 | 600 | 300 |  |
| Provisional | 200 | 100 | 0 | 0 | 0 | 0 |  |

## 2. EXCESS CLAIM FEES

## Feo Description

Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent

| Total Claims | Extra Claims | Fee (\$) | Fee Paid (\$) |
| :---: | :---: | :---: | :---: |
| $38-20$ or $\mathrm{HP}=$ | 18 | 50.00 | 900.00 |
| $\mathrm{HP}=$ highest number of total claims paid for, if greater than 20 |  |  |  |
| Indep. Claims | Extra Claims | $\frac{\mathrm{Fee}(\$)}{200.00}$ | $\text { Fee Paid ( } \$ \text { ) }$ |

## 3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper, the application size fee due is $\$ 250$ ( $\$ 125$ for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. $41(\mathrm{a})(1)(\mathrm{G})$ and 37 CFR 1.16(s).
Total Sheets
THER FEE( $\mathbf{S}$ )
Non-English Specification, $\$ 130$ fee (no small entity discount)
Other:

| SHPMITED |  |  |  |
| :---: | :---: | :---: | :---: |
| Signature | , | $\begin{aligned} & \begin{array}{l} \text { Registration No. } \\ \text { (Attorney/Agent). } \end{array} \text { 39,952 } \\ & \hline \end{aligned}$ | Telephone (503) 224-6655 |
| Name (Print/Type) | David S. D'Ascenzo |  | Date April 24, 2006 |

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## FEE CALCULATION

1. BASIC FILING, SEARCH, AND EXAMINATION FEES

| Application Type | FILING FEES Small Entity |  | SEARCH FEES Small Entity |  | EXAMINATION FEES Small Entity |  | Fees Paid (\$) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Fee(\$) | Feol(\$) | Fee(\%) | Fee(\$) | Fee (\$) | Feol (\$) |  |
| Utility | 300 | 150 | 500 | 250 | 200 | 100 | 1000.00 |
| Design | 200 | 100 | 100 | 50 | 130 | 65 |  |
| Plant | 200 | 100 | 300 | 150 | 160 | 80 |  |
| Reissue | 300 | 150 | 500 | 250 | 600 | 300 |  |
| Provisional | 200 | 100 | 0 | 0 | 0 | 0 |  |

## 2. EXCESS CLAIM FEES

## Feo Description

Each claim over 20 or, for Reissues, each claim over 20 and more than in the original patent

| Total Claims | Extra Claims | Fee (\$) | Fee Paid (\$) |
| :---: | :---: | :---: | :---: |
| $38-20$ or $\mathrm{HP}=$ | 18 | 50.00 | 900.00 |
| $\mathrm{HP}=$ highest number of total claims paid for, if greater than 20 |  |  |  |
| Indep. Claims | Extra Claims | $\frac{\mathrm{Fee}(\$)}{200.00}$ | $\text { Fee Paid ( } \$ \text { ) }$ |

## 3. APPLICATION SIZE FEE

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Total Sheets
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# CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES 

## Technical Field

 particularly to battery-powered children's ride-on vehicles and drive assemblies for use with such vehicles.
## Background of the Disclosure

Children's ride-on vehicles are reduced-scaled vehicles that are designed for use by children. For example, children's ride-on vehicles include a seat adapted to accommodate one or more children and steering and drive assemblies that are adapted to be operated by a child sitting on the seat. One type of drive assembly that is often used in children's ride-on vehicles includes a battery-powered motor assembly that is adapted to drive the rotation of one or more of the vehicle's wheels. Typically, the vehicle will

The present disclosure relates generally to children's ride-on vehicles, and more enables a child to select when power is delivered to the motor assembly. Some drive assemblies further include other user input devices, which are operated by a child sitting on the vehicle's seat to select the speed and/or direction at which the vehicle travels.

## Brief Description of the Drawings

Fig. 1 is an isometric view of an illustrative example of a children's ride-on vehicle.

Fig. 2 is a top plan view of the children's ride-on vehicle of Fig. 1.

Fig. 3 is a schematic diagram of a suitable drive assembly for a children's ride-on vehicle, such as the vehicle of Fig. 1.

Fig. 4 is an isometric view of an illustrative battery assembly with portions of the vehicle's wiring harness and a charger shown in fragmentary.

Fig. 5 is a schematic diagram of a suitable velocity control assembly for a children's ride-on vehicle, such as the vehicle of Fig. 1.

Fig. 6 is a schematic diagram showing illustrative shift positions and shift paths along which a child may move a shifter handle that is associated with an actuator assembly of a velocity control assembly of Fig. 5 .

Fig. 7 is a schematic diagram showing illustrative shift positions and shift paths along which a child may move a shifter handle that is associated with an actuator assembly of a velocity control assembly of Fig. 5.

Fig. 8 is a schematic diagram showing illustrative shift positions and shift paths along which a child may move a shifter handle that is associated with an actuator assembly of a velocity control assembly of Fig. 5 .

Fig. 9 is a top plan view of an illustrative velocity control assembly according to the present disclosure.

Fig. 10 is an exploded isometric view of an illustrative velocity control assembly according to the present disclosure.

Fig. 11 is an isometric view of the velocity control assembly from Fig. 10, with the shifter handle in a first position and portions of the velocity control assembly shown in phantom.

Fig. 12 is an isometric view of the velocity control assembly from Fig. 10, with the shifter handle in a second position and portions of the velocity control assembly shown in phantom.

Fig. 13 is an isometric view of the velocity control assembly from Fig. 10, with the shifter handle in a third position and portions of the velocity control assembly shown in phantom.

Fig. 14 is an isometric view of the velocity control assembly from Fig. 10, with the shifter handle in a fourth position and portions of the velocity control assembly shown in phantom.

Fig. 15 is an isometric view of the bottom of the velocity control assembly from Fig. 10.

Fig. 16 is an exploded isometric view of another illustrative velocity control assembly according to the present disclosure.

Fig. 17 is an isometric view of the velocity control assembly from Fig. 16, with the shifter handle in a first position and portions of the velocity control assembly shown in phantom.

Fig. 18 is an isometric view of the velocity control assembly from Fig. 16, with the shifter handle in a second position and portions of the velocity control assembly shown in phantom.

Fig. 19 is an isometric view of the velocity control assembly from Fig. 16, with the shifter handle in a third position and portions of the velocity control assembly shown in phantom.

Fig. 20 is an isometric view of the velocity control assembly from Fig. 16, with the shifter handle in a fourth position and portions of the velocity control assembly shown in phantom.

Fig. 21 is a top plan view of the velocity control assembly from Fig. 16, showing the high speed lockout mechanism engaged and portions of the velocity control assembly shown in phantom.

Fig. 22 is a top plan view of the velocity control assembly from Fig. 16, showing the high speed lockout mechanism partially disengaged and portions of the velocity control assembly shown in phantom.

Fig. 23 is a top plan view of the velocity control assembly from Fig. 16, showing the high speed lockout mechanism disengaged and portions of the velocity control assembly shown in phantom.

## Detailed Description and Best Mode of the Disclosure

An illustrative example of a children's ride-on vehicle is shown in Fig. 1 and indicated generally at 10 . Ride-on vehicle 10 includes a support frame, or body, 12 that provides a riding space, or passenger compartment, 14 with a seat assembly 16 that is sized and configured to accommodate at least one child, including a child driver. Seat assembly 16 may be integral with or otherwise mounted on body 12 and may have any suitable configuration, including configurations in which the position of seat assembly 16 is adjustable within the passenger compartment, and configurations in which seat assembly 16 includes two or more seats or two or more seating regions. Typically, vehicle 10 will be sized for use by a child driver or by a child driver and a child passenger. For example, in the illustrated embodiment, seat assembly 16 includes a pair of seats, or seating regions, 18 and 20 , with seat 18 sized and positioned to receive a child driver and seat 20 sized and positioned to receive a child passenger.

Body 12 typically is formed from molded plastic and may be integrally formed or formed from a plurality of parts that are secured together by screws, bolts, clips or other suitable fasteners. Body 12 may additionally, or alternatively, be at least partially formed from other suitable material(s), such as metal, wood, or composite materials. Body 12 may include an underlying frame on which a chassis is mounted. In such an embodiment, the frame is often formed of metal and/or molded plastic, with the chassis typically formed of molded plastic.

As shown, body 12 is shaped to generally resemble a reduced-scale Jeep ${ }^{\circledR}$ vehicle. JEEP is a registered rademark of the Diamler Chrysler Corporation, and the JEEP mark
and designs are used by permission. Children's ride-on vehicles according to the present disclosure may be shaped to generally resemble any type of vehicle. Examples of suitable vehicles are reduced-scale, or child-sized, vehicles that are shaped to resemble corresponding full-sized, or adult-sized, vehicles, such as cars, trucks, construction vehicles, emergency vehicles, off-road vehicles, motorcycles, space vehicles, aircraft, watercraft and the like. However, it is also within the scope of the present disclosure that vehicle 10 may be shaped to resemble fantasy vehicles that do not have a corresponding adult-sized counterpart. Although vehicle 10 is depicted in the form of a reduced-scale Jeep ${ }^{\circledR}$ vehicle, it will be appreciated that the components and/or features of vehicle 10 may be configured for use on any type of children's ride-on vehicle having one or more powered components.

Body 12 also includes a plurality of wheels 22 that are rotatably coupled to body 12, as indicated in Figs. 1-2. The plurality of wheels 22 includes a steerable wheel assembly 24 that contains at least one steerable wheel that is adapted to be steered by the vehicle's steering assembly 26, typically at least partially in response to user-imparted steering inputs thereto. The plurality of wheels further includes a driven wheel assembly 28 that contains at least one driven wheel that is adapted to be rotationally driven by the vehicle's drive assembly 30 . As used herein, the term "driven wheel" refers to a wheel that is rotated directly in response to a rotational input from the vehicle's drive assembly, which is either directly conveyed to the wheel by the output of the motor assembly or conveyed through a linkage, such as a gearbox, belt, chain, gear assembly, axle, or the like. In the illustrated embodiment, vehicle 10 includes four
wheels 22, with front wheels 32 and 34 forming steerable wheel assembly 24 , and rear wheels 36 and 38 forming driven wheel assembly 28 . The number of wheels on the vehicle may vary from two wheels to four, six or more wheels, although children's rideon vehicles typically include at least three wheels for stability. Similarly, each wheel assembly must contain at least one wheel, and a particular wheel may form all or a portion of both the steerable wheel assembly and the driven wheel assembly. For example, it is within the scope of the disclosure that either or both of front wheels 32 and 34 or rear wheels 36 and 38 are driven and steerable. Similarly, one front wheel and one rear wheel may be driven and/or steerable, or the vehicle may include one or more driven or steerable wheels underneath its body that are generally hidden by the body of the vehicle.

A portion of the vehicle's steering assembly 26 is shown in Figs. 1 and 2, and includes a steering column 40 (indicated in Fig. 2) and a steering mechanism 42. The steering assembly enables a child sitting on seat 18 to steer the vehicle's steerable wheel assembly 24 via user-applied steering inputs to steering mechanism 42 , which is positioned on vehicle 10 for operation by a child sitting on seat 18 . In the illustrated embodiment, steering mechanism 42 takes the form of a steering wheel 44 . Other suitable structures, such as handlebars and steering levers may be used and are within the scope of the present disclosure. Steering column 40 includes any suitable mechanical linkage that conveys a child's steering inputs from the steering mechanism to the vehicle's steerable wheel assembly, thereby steering the vehicle.

Fig. 3 schematically illustrates an example of a suitable drive assembly 30 for a children's ride-on vehicle, such as vehicle 10. Drive assembly 30 may include a motor assembly 46 adapted to selectively drive the rotation of the driven wheel assembly 28 , a battery assembly 60 adapted to selectively energize the motor assembly, and one or more user input devices 102 adapted to receive user input signals that may (1) selectively configure the drive assembly within a plurality of drive configurations and/or (2) selectively direct, or cause, the drive assembly to operate in a selected drive configuration.

The motor assembly 46 includes at least one electric motor 48 that is adapted to drive the rotation of at least one of the plurality of wheels. The motor assembly includes an output 50 that provides a rotational input to the driven wheel assembly. Typically, the output 50 from each of the one or more motors includes a rotating shaft and/or a rotation pinion or output gear. Output 50 may include more than one shaft, pinion, and/or gear, such as when motor assembly 46 includes more than one motor and/or when driven wheel assembly 28 includes more than one driven wheel. Motor assembly 46 may also be configured to power other moveable components on vehicle 10 , such as depending on the form of the vehicle. For example, the motor assembly may be coupled to raise and lower the blade of a ride-on that resembles a bulldozer, the bucket of a ride-on that resembles a skid-steer or other loader, the bed of a ride-on that resembles a dump truck, etc.

Power for the motor assembly is provided by any suitable power source. An illustrative example of a suitable power source is a battery assembly 60 . Battery
assembly 60 includes at least one battery 62 that is adapted to provide power to the motor assembly. Any suitable type and number of batteries may be used in battery assembly 60. Although not required, the batteries are typically rechargeable batteries. For example, one or more six-, twelve-, eighteen-, or twenty-four-volt batteries have proven effective. An illustrative example of a battery assembly 60 is shown in Fig. 4. Also shown in Fig. 4 is a connector assembly 64 to transmit power from the battery assembly to the motor assembly 46. Thus, motor assembly 46 is operably connected to battery assembly 60 by any suitable electrical connectors, such as cables, wires, or positive and negative terminals or leads, and the like. In the exemplary battery assembly 60 shown generally in Fig. 4, the connector assembly includes a plug 66 that fits into a socket 68 that is electrically connected to the battery assembly. The battery assembly 60 may optionally include a charging jack 70 that is configured to receive a charging probe 72. The plug and probe connect to wires, or electrical cables, 74 that transmit electrical power from the battery assembly to the motor assembly. It is within the scope of the present disclosure that vehicle 10 may include any other suitable structure for conducting electrical power from battery assembly 60 to motor assembly 46, with the battery assembly of Fig. 4 merely providing an illustrative example. For example, it is within the scope of the present disclosure that battery assembly 60 may include an electrical connector, such as a plug or socket, that extends from the housing of the battery assembly and is electrically connected thereto by lengths of wires.

As shown in Fig. 2, body 12 also may include a battery comparment 76 that is adapted to receive battery assembly 60 . Battery compartment 76 may take any of a
variety of different shapes, sizes, and configurations depending on such factors as the form of vehicle 10 , the portion of the vehicle's body within which the compartment is formed, the size and shape of battery assembly 60 , etc. Fig. 2 provides graphical illustrations of several suitable, non-exclusive positions for battery compartment 76.

In Fig. 3, drive assembly 30 is shown further including an optional motor output linkage 100 that mechanically interconnects the motor assembly with the driven wheel assembly. Motor output linkage 100 is any suitable mechanism that transmits the rotational input from the motor assembly's output(s) to the driven wheel assembly. Examples of suitable linkages 100 include an intermediate linkage between the output and the driven wheel assembly, such as a gearbox containing one or more gears, a belt or chain drive, a worm gear, one or more individual gears, and the like. The motor output linkage may be adapted to transmit the rotational input from the motor assembly to the driven wheel assembly at the same relative rate of rotation, or it may mechanically augment the rotational input to convey a greater or lesser rate of rotation relative to the rate of rotation of the output of the motor assembly. It is also within the scope of the disclosure that drive assembly 30 may be formed without motor output linkage 100 , in which case the output(s) 50 of the motor assembly directly transmit the rotational input to the driven wheel assembly.

The one or more user input devices 102 , or control devices, are adapted to convey inputs from a child sitting on seat 18 to the drive assembly. Generally, user input devices 102 convey the user inputs to battery assembly 60 , motor assembly 46 and/or controller 196 (described below) via the vehicle's wiring harness 86. User input
devices 102 may thereby be used (1) to selectively configure the drive assembly within a plurality of drive configurations and/or (2) to selectively direct, or cause, the drive assembly to operate in a selected drive configuration.

An illustrative example of a suitable user input device 102 includes a velocity control assembly 104, which receives user input(s) that selectively configure the drive assembly to be in one of the plurality of drive configurations. Each drive configuration defines a relative rate of rotation, and/or direction of rotation, of the motor assembly 46. As shown in Fig. 2, the velocity control assembly 104 may be positioned anywhere adjacent to seat 18 so as to enable a child sitting in seat 18 to provide user input(s) to velocity control assembly 104.

Fig. 5 schematically shows an illustrative example of a velocity control assembly 104. Velocity control assembly 104 may (but is not required to) include a housing assembly 105 . Housing assembly 105 includes one or more components associated with the ride-on vehicle's body 12 that are adapted to secure, house and/or maintain the other components of the velocity control assembly. Housing assembly 105 may be integral with the vehicle's body 12 , may be a separate unit that is removably securable to the vehicle's body 12 , and/or may include both integral and separately formed components. Housing assembly 105 may be positioned to enable a user sitting in seat 18 to provide user input(s) that are received by velocity control assembly 104.

As shown in Fig. 5, velocity control assembly 104 comprises a switch assembly 106, which includes any assembly having at least one switch that is adapted to be selectively configured between a plurality of velocity settings. Each velocity setting
may in turn configure the drive assembly to be in a predetermined drive configuration, some or all of which may be non-neutral drive configurations. The overall configuration of the various switch(es) included in the switch assembly determines the switch assembly's velocity setting. The velocity setting in turn configures the drive assembly to be in a predetermined drive configuration, as briefly described above.

As an illustrative, non-exclusive example, switch assembly 106 may include a speed switch 108 and/or a direction switch 110. Speed switch 108 enables a user to select the relative rate of rotation of the motor assembly's output 50 (shown in Fig. 3) by selectively configuring the drive assembly between various low speed and high speed drive configurations. An illustrative example of a suitable speed switch 108 is a switch that selectively configures a pair of batteries between series and parallel configurations to define relative "low" speed and "high" speed drive configurations. As another example, speed switch 108 may additionally or alternatively selectively configure a pair of motors between series and parallel configurations. Direction switch 110 enables a user to select the direction (i.e., clockwise or counterclockwise) of rotation of output 50 by configuring the drive assembly to be in either a forward or a reverse drive configuration. As a further illustrative example, when the drive assembly includes, or is in communication with, a microprocessor or other suitable controller, the controller may respond to inputs from the switches of the switch assembly to control activation of the motor assembly by the battery assembly to achieve the selected drive configuration.

Switch assembly 106 may have various structural configurations. Each of the switch assembly's switches may include a rocker switch, a pushbutton switch, a contact
switch, or any other type of suitable switch. Switch assembly 106 may be located in any suitable location on body 12 or steering assembly 26 for actuation by a child sitting on seat 18 . For example, switch assembly 106 may directly receive user inputs from the child. Alternatively or additionally, switch assembly 106 may be indirectly configured by an actuator assembly 112 that directly receives user inputs from a child sitting on seat 18 , as described below. Switch assembly 106 may convey the user inputs to a controller, such as subsequently described controller 196 , which, responsive to inputs from the switches, configures the drive assembly to be in a selected drive configuration.

Velocity control assembly 104 may (but is not required to) include an actuator assembly 112 in addition to switch assembly 106. Actuator assembly 112 includes any assembly that is adapted to receive user inputs from the child sitting on seat 18 , whereby actuator assembly 112 engages switch assembly 106, and configures switch assembly 106 to be in a corresponding velocity setting. Actuator assembly 112 may include a shifter handle 114 adapted to be selectively moved by the child between a plurality of positions along a plurality of shift paths. Shifter handle 114 may be similar to the shifter handle from a full-sized motorized vehicle, and may be movable between a first position and a second position along a first shift path, and a second and a third position along a second shift path, etc., as described in more detail below. Actuator assembly 112 may be adapted to configure switch assembly 106 to be in a particular, or predetermined, velocity setting for each shift position of shifter handle 114. Further, the velocity setting corresponding to one shift position may be the same as, or different than, the velocity setting corresponding to another shift position.

The actuator assembly 112 may include an actuator 115 operatively coupled to shifter handle 114, and adapted to selectively engage the switch assembly. As shifter handle 114 is moved between shift positions, actuator 115 may be moved by shifter handle 114 in a manner that causes actuator 115 to engage at least a portion of switch assembly 106 , thereby reconfiguring the switch assembly to be in the predetermined velocity setting. In some actuator assemblies 112 , actuator 115 may be coupled to shifter handle 114 in a manner such that some, but not all, movement of shifter handle 114 causes movement of actuator 115 . Thus, movement of shifter handle 114 between certain shift positions, or along certain shift paths may not cause any movement of actuator 115 , and therefore may not reconfigure switch assembly 106 to be in a different velocity setting.

The actuator assembly 112 may have various structural configurations, such that shifter handle 114 may be moved along a wide variety of shift paths. Figs. 6-8 each provide illustrative, non-exclusive examples of different possible configurations, where the circles generally indicate examples of shift positions, and the lines generally indicate examples of shift paths. Actuator assemblies adapted to utilize the illustrative, nonexclusive examples of shift paths and positions may be oriented in any suitable orientation relative to the ride-on's body and/or seat 18 , including configurations that are mirror-images or inversions of the illustrative configurations shown in Figs. 6-8. Some shift positions and shift paths are shown in phantom lines to indicate that the actuator assembly may have any number of shift positions and shift paths. Also as illustrated in Figs. 6-8, the shift positions and shift paths may be arranged in virtually any conceivable
manner, such as to resemble, or simulate, the shifter mechanisms of a manual or automatic transmission for a full-scale motorized vehicle. Some shift paths may be colinear with other shift paths, while some shift paths may be at divergent angles from other shift paths. Multiple adjoining shift paths that are not co-linear with each other may be described as "aggravated" or "divergent" shift paths, which hinder a child's ability to rapidly move shifter handle 114 between the endmost shift positions along the aggravated shift path. Although the shift paths shown in Figs. 6-8 are substantially linear, the present disclosure also encompasses non-linear shift paths.

Fig. 9 shows a top-down view of an illustrative, non-exclusive example of an actuator assembly 112 that may be used with velocity control assemblies according to the present disclosure. The actuator assembly 112 shown in Fig. 9 includes four shift positions $116,118,120$ and 122, each of which corresponds to a particular drive configuration. As described above, actuator assembly 112 is adapted to configure the switch assembly (not shown) to be in a particular velocity setting for each shift position. Moving shifter handle 114 between the four shift positions $116,118,120$ and 122 may thus cause actuator assembly 112 to selectively engage the switch assembly's switches (not shown) in a manner that configures switch assembly 106 to be in up to four different velocity settings, such as one for each shift position. Also as described above, each velocity setting in turn configures the drive assembly to be in a predetermined drive configuration. Therefore, each shift position corresponds to a particular drive configuration. For example, shift position 116 may correspond to a low-speed reverse drive configuration, shift positions 118 and 120 may both correspond to a low-speed
forward drive configuration, and shift position 122 may correspond to a high-speed forward drive configuration.

The actuator assembly 112 shown in Fig. 9 also includes three adjoining shift paths 124,126 and 128 . Because these shift paths are not co-linear with each other, the overall shift path formed by adjoining shift paths 124,126 and 128 may be described as an "aggravated" shift path, as described above. For example, the overall shift paths formed by adjoining (1) shift paths 124 and 126 , (2) shift paths 126 and 128, or (3) shift paths 124,126 and 128 , are each aggravated shift paths. As indicated above, providing an actuator assembly having an aggravated shift path hinders a child's ability to rapidly move the shifter handle between the endmost shift positions along the aggravated shift path. For example, the aggravated shift path formed by adjoining shift paths 124 and 126 hinders the child's ability to rapidly move shifter handle 114 between shift position 116 and shift position 120 , because the child must change the direction of the forces applied to shifter handle 114 upon reaching shift position 118. Likewise, if the shifter handle 114 is in shift position 116, the aggravated shift path formed by adjoining shift paths 124,126 and 128 hinders the child's ability to rapidly move shifter handle 114 to shift position 122 , because the child must change the direction of the forces applied to shifter handle 114 upon reaching both shift position 118 and shift position 120.

Providing an actuator assembly 112 having an aggravated shift path may reduce the potential for damage to the drive assembly of the children's ride-on. As indicated above, each shift position corresponds to a particular drive configuration. For children's ride-on vehicles having both a reverse drive configuration, and a high-speed forward
drive configuration, rapidly shifting between these drive configurations while the drive assembly is operating places substantial loads on the mechanical and/or electrical components of drive assembly 30. Because an actuator assembly 112 having an aggravated shift path between the reverse drive configuration and the high-speed forward drive configuration hinders the child's ability to rapidly shift between these drive configurations, the aggravated shift path may reduce the loads applied to the various components of drive assembly 30 , such as compared to a similar drive assembly having only a linear shift path.

For example, referring to the top-down view of the actuator assembly 112 shown in Fig. 9, shift position 116 may correspond to a low-speed reverse drive configuration, shift positions 118 and 120 may both correspond to a low-speed forward drive configuration, and shift position 122 may correspond to a high-speed forward drive configuration. If shifter handle 114 is in shift position 116 (low-speed reverse), the aggravated shift path formed by adjoining shift paths 124,126 and 128 hinders the child's ability to rapidly move shifter handle 114 to shift position 122 (high-speed forward). The aggravated shift path thus reduces the child's ability to place an unnecessary load on drive assembly 30 , and prolongs the life of the children's ride-on vehicle.

As schematically illustrated in Fig. 5, the actuator assembly 112 may (but is not required in all embodiments to) further include a biasing mechanism 160 that urges the shifter handle towards a selected one of the shift positions. The biasing mechanism 160 may increase, at least in one direction, the time required for a child to move the shifter
handle along at least one selected shift path by requiring the child to exert sufficient force upon the shifter handle 114 to overcome the bias imparted on the shifter handle by the biasing mechanism. The biasing mechanism may additionally or alternatively urge the shifter handle (or other suitable portion of the actuator assembly) toward a particular shift position or shift path. The shift position to which the biasing mechanism 160 urges the shifter handle may, as an illustrative, non-exclusive example, be selected so as to hinder the child's ability to rapidly move the shifter handle between shift positions corresponding to a low-speed reverse and a high-speed forward drive configuration. As with the aggravated shift paths, biasing mechanism 160 may thus be used to reduce the potential for damage to the drive assembly of the children's ride-on.

For example, referring to the top down view of the actuator assembly 112 shown in Fig. 9, shift position 116 may correspond to a low-speed reverse drive configuration, shift positions 118 and 120 may both correspond to a low-speed forward drive configuration, and shift position 122 may correspond to a high-speed forward drive configuration. A biasing mechanism (not shown) may be provided that urges the shifter handle 114 towards one of the shift positions, such as shift position 118. If the shifter handle is in shift position 116 (low-speed reverse), and the child wants to move the shifter handle 114 to shift position 122 (high-speed forward), the child must overcome the bias conferred upon the shifter handle by the biasing mechanism as the child shifts from shift position 118 to shift position 120. The overall amount of time required for the child to move the shifter handle to shift position 122 is thus increased, and potential for damage to the drive assembly is reduced. It is within the scope of the present disclosure
that the biasing mechanism (when present) may be configured to urge the shifter handle to any of the shift positions, or alternatively, to an intermediate position between two of the shift positions.

As schematically illustrated in Fig. 5, actuator assembly 112 may (but is not required in all embodiments to) further include a restraining mechanism 170 that is adapted to be selectively engaged in a manner that prevents the shifter handle from being moved to at least a selected one of the shift positions. Restraining mechanism 170 is adapted to restrict the actuator assembly from being configured to at least one of its drive configurations, such as by blocking or otherwise restricting movement of the shifter handle to at least one of the shift positions and/or movement of the actuator to at least one of its defined positions in which it would otherwise engage the switch assembly to enable a different velocity configuration. For example, the restraining mechanism may include a restraining member that selectively obsmacts a shift path for the shifter handle and/or access to a switch (or contact) of the switch assembly to prevent the drive assembly from being configured to a particular drive configuration. As an illustrative example, when switch assembly 106 includes at least a speed switch 108 and a direction switch 110 , the restraining mechanism may be selectively engaged to restrict movement to a drive configuration that otherwise is able to be selected and enabled by a child via manual inputs to the shifter handle. Illustrative, non-exclusive examples of these drive configurations include (but are not limited to) a reverse drive configuration and/or a high speed drive configuration. Restraining mechanism 170 is a releasable, or selectively engageable mechanism so that the ride-on may be driven in the restricted drive
configuration upon release, or disengagement, of the restraining mechanism. In some embodiments, restraining mechanism 170 is configured to require a tool to release the restraining mechanism once it is engaged and/or to require access by a user to a portion of the ride-on that is not accessible during driving operation of the ride-on in order to release the restraining mechanism once it is engaged.

Figs. 10-15 show an illustrative, non-exclusive example of a velocity control assembly 104 according to the present disclosure. As shown in Fig. 10, the illustrative velocity control assembly 104 includes a housing assembly 105, a switch assembly 106, and an actuator assembly 112.

Housing assembly 105 is shown in Figs. 10-15, and may include a top member 130 and a bottom member 132. As illustrated, top member 130 includes a slot 134 through which shifter handle 114 passes when the velocity control assembly 104 is assembled. Slot 134 thus forms a guide that defines the plurality of shift positions and the plurality of shift paths. The shift paths shown in Fig. 10 are substantially the same as those shown in Fig. 9, and discussed above. Housing 105 thus in part forms a guide assembly adapted to guide the movement of the shifter handle. Bottom member 132 is configured to engageably mate with top member 130 , thereby forming a space that houses and/or maintains the various other components of the vehicle control assembly 104, as described below. It is within the scope of the present disclosure that housing 105 may be otherwise constructed and is not required in all embodiments to have top and bottom members 130 and 132.

Switch assembly 106, shown in Figs. 10-15, includes a speed switch 108 and a direction switch 110. Speed and direction switches 108 and 110 are shown as rocker switches that rotate about rotational axes between a plurality of settings, although any suitable type of switch may be used. Speed switch 108 is at least movable between a low-speed setting and a high-speed setting, while direction switch 110 is movable between a reverse setting and a forward setting. Speed and direction switches 108 and 110 fit within the housing's bottom member adjacent to actuator 115. As described in more detail below, actuator 115 is configured to selectively engage speed switch 108 and direction switch 110 , thereby configuring the switch assembly between a low-speed reverse velocity setting (shown in Fig. 11), a low-speed forward velocity setting (shown in Figs. 12-13), and a high-speed forward setting (shown in Fig. 14).

Actuator assembly 112, shown in Figs. 10-12 and 14, includes a shifter handle 114 , an actuator 115 , a pivot pin 136, and an optional slot cover 138. As shown in Fig. 10, shifter handle 114 fits through slot 134 in the housing's top member 130, through a hole 140 in the slot cover 138, and through a slot 142 in actuator 115. The pivot pin 136 passes through a hole 144 on one side of the actuator, through a pivot hole 146 in shifter handle 114, and through another hole 146 on the other side of actuator 115 , such that shifter handle 114 is pivotally attached to actuator 115 about pivot axis P. As best shown in Figs. 11-14, actuator 115 may be a cylindrical or other tubular member that is sandwiched between the housing's top member 130 and bottom member 132, and is freely rotatable about rotational axis R .

When the velocity control assembly 104 shown in Figs. 10-15 is fully assembled, some, but not all, movement of shifter handle 114 causes rotational movement of actuator 115. For example, if slot 134 were shaped to permit a user to move shifter handle 114 through a shift path defining a plane perpendicular to the axis of rotation R , the movement would cause actuator 115 to rotate about the axis of rotation R through a distance directly proportional to the distance shifter handle 114 is moved. In contrast, moving shifter handle 114 through a shift path defining a plane that is parallel to the axis of rotation R causes shifter handle 114 to pivot within slot 142 about pivot axis P without rotating or otherwise moving actuator 115. It should be appreciated that moving shifter handle 114 through a shift path defining a plane that is neither perpendicular nor parallel to the axis of rotation R both causes actuator 115 to rotate about the rotational axis R , and causes to shifter handle 114 to pivot about the pivot axis P .

At least some of the shifter handle's movements cause actuator 115 to move between a plurality of actuator positions. For example, moving shifter handle 114 from one shift position to another shift position along a shift path defining any plane that is not parallel to the axis of rotation R causes actuator 115 to rotate from one actuator position to another actuator position. In contrast, moving shifter handle 114 from one shift position to a another shift position along a shift path defining a plane that is parallel to the axis of rotation R causes the shifter handle to pivot about pivot axis P without moving the actuator between actuator positions. This relative movement is described in more detail below.

As shown in Figs. 10-15, actuator 115 may include cams 150, (which additionally or alternatively may be referred to as nubs, protruding members, or engaging members) that are positioned and shaped to selectively engage portions of the switch assembly as the actuator is rotated about rotational axis R in response to some movement of shifter handle 114. Movement of shifter handle 114 is thus selectively translated through actuator 115 to switch assembly 106, which is configured to be in a particular velocity setting. As described above, each velocity setting of the velocity control assembly in tum configures drive assembly 30 to be in a particular drive configuration.

Fig. 11 shows shifter handle 114 in a first shift position, which corresponds to a low-speed reverse drive configuration. Speed switch 108 is set to the low-speed setting, and direction switch 110 is set to the reverse setting.

Fig. 12 shows shifter handle 114 in a second shift position, which corresponds to a low-speed forward drive configuration. A comparison of Figs. 11 and 12 shows that moving shifter handle 114 from the first shift position (Fig. 11) through a first shift path to the second shift position (Fig. 12) causes actuator 115 to rotate about its rotational axis R , whereby cams 150 engage direction switch 110 and move direction switch 110 from the reverse setting (Fig. 11) to the forward setting (Fig. 12). The same comparison also shows that moving shifter handle 114 from the first shift position to the second shift position does not cause cams 150 to engage speed switch 108 , which thus remains in the low-speed setting.

Fig. 13 shows shifter handle 114 in a third shift position, also corresponding to a low-speed forward drive configuration. A comparison of Figs. 12 and 13 shows that
moving shifter handle 114 from the second shift position (Fig. 12) through a second shift path to the third shift position (Fig. 13) causes shifter handle 114 to move through a plane parallel to the rotational axis R of the actuator. Thus, shifter handle 114 pivots about the pivot axis P without rotating actuator 115 , as described above. Because moving shifter handle 114 from the second position to the third position does not rotate actuator 115 , the cams 150 also do not move in a manner that causes them to engage either speed switch 108 or direction switch 110 . Therefore, speed switch 108 remains in the lowspeed setting, and direction switch 110 remains in the forward setting.

Fig. 14 shows shifter handle 114 in a fourth shift position, which corresponds to a high-speed forward drive configuration. A comparison of Figs. 13 and 14 shows that moving shifter handle 114 from the third shift position (Fig. 13) through a third shift path to the fourth shift position (Fig. 14) causes the actuator to rotate about its rotational axis R, whereby cams 150 engage speed switch 108 and move speed switch 108 from the low-speed setting (Fig. 13) to the high-speed setting (Fig. 14). The same comparison also shows that moving shifter handle 114 from the third shift position to the fourth shift position does not cause cams 150 to engage direction switch 110 , which thus remains in the forward setting.

As indicated above, slot 134 in top member 130 functions as a guide for shifter handle 114, and may thus be considered a portion of actuator assembly 112. As shown in Figs. 10-14, slot 134 may define an "aggravated" shift path that reduces the potential for damage to the drive assembly, such as responsive to rapid reconfiguring of the drive
assembly between a low-speed reverse drive configuration and a high-speed forward drive configuration.

As shown in Figs. 10-15, slot cover 138 has a size and shape that complements the inside portion of the housing's top member 130. When velocity control assembly 104 is fully assembled, slot cover 138 is secured to shifter handle 114 in a position abutting the complementary portion of the housing's top member 130. The slot cover functions to form a barrier below slot 134 regardless of the position of shifter handle 114 . When present, slot cover 138 thus prevents foreign objects from entering the inside of velocity control assembly 104 through slot 134 .

As shown in Fig. 15, the actuator assembly 112 associated with the illustrative velocity control assembly 104 provides an illustrative, non-exclusive example of an actuator assembly that includes a biasing mechanism 160. The illustrated biasing mechanism 160 is adapted to urge shifter handle 114 towards the second shift position (shown in Fig. 12). In Fig. 15, biasing mechanism 160 takes the illustrative, nonexclusive form of a torsion spring 162 dimensioned to be coupled with actuator 115 by pivot pin 136, and having a first end 162 a and a second end 162 b . First end 162 a abuts a stop 164 on actuator 115 , while second end 162 b torsionally abuts an opposing wall 166 within the slot cover. The torsion spring thus applies a biasing force B against opposing wall 166 that urges shifter handle 114 towards the second shift position (shown in Fig. 12). As described above, biasing mechanism 160 requires a child wanting to move shifter handle 114 from the second position (shown in Fig. 12) to the third position (shown in Fig. 13) to exert sufficient force upon shifter handle 114 to overcome the bias
imparted on the shifter handle by the biasing mechanism. As with the "aggravated" shift path, biasing mechanism 160 thus increases the time required for a child to move shifter handle 114 between shift positions corresponding to the low-speed reverse drive configuration (shown in Fig. 11) and the high-speed forward drive configuration (shown in Fig. 14).

As shown in Figs. 10-14, the actuator assembly 112 associated with the illustrative velocity control assembly 104 further includes a restraining mechanism 170 adapted to be selectively engaged in a manner that prevents shifter handle 114 from being moved to the fourth position (shown in Fig. 14). Restraining mechanism 170 includes a hole or other suitable socket or receiver, 172 in housing 105 for receiving a restraining member 174 , such as a screw, bolt, pin, etc. Restraining mechanism 170 is selectively engaged by inserting restraining member 174 into hole 172 , whereby stopping member 174 fits within a slot 176 in actuator 115 (which is perhaps best shown in Figs. 12 and 13). When restraining member 174 is engaged with actuator 115 , shifter handle 114 may be freely moved between the first shift position (shown in Fig. 11), the second shift position (shown in Fig. 12), and the third shift position (shown in Fig. 13), because restraining member 174 freely moves within slot 176 and does not restrain the rotational motion of actuator 115 . However, when restraining mechanism 170 is engaged, actuator 114 will not freely rotate to a position that corresponds to the shifter handle 115 being moved into the fourth position (as shown in Fig. 4), because restraining member 174 engages the end of slot 176 , and prevents this rotation. By preventing the actuator from rotating in this
manner, the restraining member 174 in turn prevents shifter handle 115 from rotating to the fourth position.

Figs. 16-23 show another illustrative, non-exclusive example of a velocity control assembly 104 according to the present disclosure. As shown in Fig. 16, the illustrative velocity control assembly 104 includes a housing assembly 105, a switch assembly 106 , and an actuator assembly 114.

Housing assembly 105 , shown in Figs. 16-23, includes a top member 130 and a pair of bottom members 132a and 132b. The top member 130 includes a slot 134 through which shifter handle 114 passes when velocity control assembly 104 is assembled. Slot 134 thus forms a guide that defines the plurality of shift positions and the plurality of shift paths, as described below. The shift paths shown in Fig. 16 are substantially the same as those shown in Figs. 9-15. Housing 105 thus in part forms a guide assembly adapted to guide the movement of the shifter handle. Bottom members 132 a and 132 b are configured to engageably mate with each other in a manner that houses and/or maintains the various other components of the vehicle control assembly 104, as described below.

Switch assembly 106, such as shown in Figs. 16-20, includes a speed switch 108 and a direction switch 110. Speed and direction switches 108 and 110 are rocker switches that rotate about rotational axes between a plurality of settings, although any suitable type of switch may be used. Speed switch 108 is at least movable between a low-speed setting and a high-speed setting, while the direction switch 110 is movable between a reverse setting and a forward setting. Speed and direction switches 108
and 110 fit within holes 135 in the housing's bottom member adjacent to actuator 115 . As described in more detail herein, actuator 115 is configured to selectively engage speed switch 108 and direction switch 110 , thereby configuring switch assembly 106 between a low-speed reverse velocity setting (shown in Fig. 17), a low-speed forward velocity setting (shown in Figs. 18-19), and a high-speed forward setting (shown in Fig. 20).

Actuator assembly 112 , such as shown in Figs. 16-20, includes a shifter handle 114, an actuator 115, a pivot pin 136, and an optional slot cover 138. As shown in Fig. 10, shifter handle 114 fits through slot 134 in the housing's top member 130, through a hole 140 in slot cover 138, and through a slot 142 in actuator 115 . Pivot pin 136 passes through a hole 144 on one side of actuator 115 , through a pivot hole 146 in shifter handle 114, and through another hole 146 on the other side of actuator 115 , such that shifter handle 114 is pivotally attached to actuator 115 about pivot axis P . The illustrative actuator 115 shown in Fig. 16 includes a cylindrical portion 115 a and an arm $115 b$ that extends away from cylindrical portion 115 a in a direction opposite, or generally opposed, to the direction of shifter handle 114 when shifter handle 114 is attached to actuator 115. As perhaps best shown in Figs. 17-20, cylindrical portion 115a is sandwiched between the housing's bottom members 132 a and 132 b , and is freely rotatable about rotational axis R .

When the velocity control assembly 104 shown in Figs. 16-23 is fully assembled, some, but not all, movement of shifter handle 114 causes rotational movement of actuator 115. For example, if slot 134 were shaped to permit a user to move shifter handle 114 through a plane perpendicular to the axis of rotation $R$, the movement would
cause actuator 115 to rotate about the axis of rotation R through a distance directly proportional to the distance shifter handle 114 is moved. In contrast, moving shifter handle 114 through a plane that is parallel to the axis of rotation R causes shifter handle 114 to pivot within slot 142 about pivot axis P without rotating or otherwise moving actuator 115. It should be appreciated that moving shifter handle 114 through a plane that is neither perpendicular nor parallel to the axis of rotation $R$ both causes actuator 115 to rotate about the rotational axis R , and causes shifter handle 114 to pivot about the pivot axis P .

As shown in Figs. 16-20, the actuator's arm 115 b may include cams 150, (which additionally or alternatively may be referred to as nubs, protruding members, or engaging members) that are positioned and shaped to selectively engage portions of switch assembly 106 as actuator 115 is rotated about rotational axis R in response to movement of shifter handle 114. Movement of shifter handle 114 is thus selectively translated through actuator 115 to switch assembly 106 , which is thereby configured to be in a particular velocity setting. As described above, each velocity setting of the velocity control assembly in tum configures the drive assembly to be in a particular drive configuration.

Fig. 17 shows shifter handle 114 in a first shift position, which corresponds to a low-speed reverse drive configuration. Speed switch 108 is set to the low-speed setting, and direction switch 110 is set to the reverse setting.

Fig. 18 shows shifter handle 114 in a second shift position, which corresponds to a low-speed forward drive configuration. A comparison of Figs. 17 and 18 shows that
moving shifter handle 114 from the first shift position (Fig. 17) through a first shift path to the second shift position (Fig. 18) causes actuator 115 to rotate about its rotational axis R , whereby cams 150 engage direction switch 110 and move direction switch 110 from the reverse setting (Fig. 17) to the forward setting (Fig. 18). The same comparison also shows that moving shifter handle 114 from the first shift position to the second shift position does not cause cams 150 to engage speed switch 108, which thus remains in the low-speed setting.

Fig. 19 shows shifter handle 114 in a third shift position, also corresponding to a low-speed forward drive configuration. A comparison of Figs. 18 and 19 shows that moving shifter handle 114 from the second shift position (Fig. 18) through a second shift path to the third shift position (Fig. 19) causes shifter handle 114 to move through a plane parallel to the rotational axis R of actuator 115 . Thus, shifter handle 114 pivots about the pivot axis P without rotating actuator 115, as described above. Because moving shifter handle 114 from the second position to the third position does not rotate actuator 115, cams 150 also do not move in a manner that causes them to engage either speed switch 108 or direction switch 110. Therefore, speed switch 108 remains in the lowspeed setting, and direction switch 110 remains in the forward setting.

Fig. 20 shows shifter handle 114 in a fourth shift position, which corresponds to a high-speed forward drive configuration. A comparison of Figs. 19 and 20 shows that moving shifter handle 114 from the third shift position (Fig. 19) through a third shift path to the fourth shift position (Fig. 20) causes the actuator to rotate about its rotational axis R , whereby the cams 150 engage the speed switch 108 and move the speed
switch 108 from the low-speed setting (Fig. 13) to the high-speed setting (Fig. 14). The same comparison also shows that moving shifter handle 114 from the third shift position to the fourth shift position does not cause cams 150 to engage direction switch 110 , which thus remains in the forward setting.

As indicated above, slot 134 in top member 130 functions as a guide for shifter handle 114, and may thus be considered a portion of actuator assembly 112. As shown in Figs. 17-20, slot 134 may define an "aggravated" shift path that reduces the potential damage to the drive assembly, such as responsive to rapid reconfiguring of drive assembly 30 between a low-speed reverse drive configuration and a high-speed forward drive configuration.

As shown in Figs. 16-21, the slot cover 138 has a size and shape that complements the inside portion of the housing's top member 130. When velocity control assembly 104 is fully assembled, slot cover 138 is secured to shifter handle 114 in a position abutting the complementary portion of the housing's top member 130. The slot cover functions to form a barrier below slot 134 regardless of the position of the shifter handle 114 . When present, the slot cover thus prevents foreign objects from entering the inside of the velocity control assembly 104 through the slot 134 .

As best shown in Figs. 16 and 18-19, the actuator assembly 112 associated with the illustrative velocity control assembly 104 further includes a biasing mechanism 160 that urges the shifter handle towards the second shift position (shown in Fig. 18). In the illustrative example shown in Fig. 18, biasing mechanism 160 includes a compression spring 162 having a first end 162a and a second end 162 (as indicated in Fig. 16). First
end 162a abuts a stop 164 on actuator 115 , while second end 162 b abuts an opposing wall 166 within slot cover 138 . The compression spring thus applies a biasing force B against the opposing wall 166 that urges the slot cover 138 , and therefore also urges shifter handle 114 , towards the second shift position (shown in Fig. 18). As described above, the biasing mechanism requires a child wanting to move the shifter handle 114 from the second position (shown in Fig. 18) to the third position (shown in Fig. 19) to exert sufficient force upon the shifter handle 114 to overcome the bias imparted on shifter handle 114 by biasing mechanism 160. As with the "aggravated" shift path, biasing mechanism 160 thus increases the time required for a child to move shifter handle 114 between shift positions corresponding to the low-speed reverse drive configuration (shown in Fig. 17) and the high-speed forward drive configuration (shown in Fig. 20).

As shown in Figs. 16 and 21-23, the actuator assembly 112 associated with the illustrative velocity control assembly 104 further includes a restraining mechanism 170 adapted to be selectively engaged in a manner that prevents shifter handle 114 from being moved to the fourth position (shown in Fig. 21). Restraining mechanism 170 includes a restraining member 178 dimensioned to fit between slot cover 138 and the housing's top member 130. Restraining member 178 includes a tab 179 that fits through a slot 180 in the housing's top member 130, and provides a gripping surface for a user to move restraining member 178 within housing 105. As indicated in Fig. 16, restraining member 178 may include a hole 182 for receiving a securing member 184 , as described below. As is perhaps best shown in Figs. 21-23, restraining member 178 can be moved from a non-restraining position (shown in Fig. 21) through an intermediate position
(shown in Fig. 22) to a restraining position (shown in Fig. 23) by moving tab 179 within slot 180 along direction X. Restraining mechanism 170 also includes a hole 186 in the housing's top member 130 for receiving a securing member 184 , such as a screw, bolt, pin, etc.

When the restraining member 178 is in the restraining position (shown in Fig. 23), securing member 184 may be inserted through hole 186 in the housing's top member 130, and through hole 182 in restraining member 178 , whereupon restraining member 178 is secured in the restraining position. Restraining mechanism 170 is thus engaged, as restraining member 178 forms a physical barrier that prevents shifter handle 114 from being moved from the third position to the fourth position. To disengage the restraining mechanism, a user must remove securing member 184 from hole 186 , whereupon the restraining member 170 may be moved into the non-restraining position, either by moving the tab 179 within slot 180 in the opposite of direction X , or by moving shifter handle 114 from the third position to the fourth position, as shown by arrow Y. In Figs. 10-15 and 16-23, two illustrative, non-exclusive examples of velocity control assemblies 104 according to the present disclosure have been presented in detail. It is within the scope of the present disclosure that the velocity control assemblies may be otherwise implemented, such as discussed and/or illustrated with respect to one or more of Figs. 5-9. For example, the switch assembly may include more than two switches, the switches may take forms other than two-position rocker switches (including contact switches that are engaged by one or more corresponding contacts or bridges on the actuator assembly), the actuator assembly may define differently oriented shift paths
and/or a different number of shift positions (including fewer or more positions), than illustrated with respect to Figs. 10-23, and/or the switches may be embodied to be switches other than a pair of speed and direction switches. In some embodiments that include a restraining mechanism, the selectively restricted position may be a reverse drive configuration, while in others it may be a high (or comparably higher) speed configuration. In some embodiments, the actuator assembly may define three shift positions, while in others it may define 4 , 5 , or more shift positions. In some embodiments, at least two of the shift paths may extend at non-linear orientations relative to each other, such as at angles of less than $180^{\circ}$, with additional illustrative examples including angles of $30-150^{\circ}$, angles of $45-135^{\circ}$, angles of $60-120^{\circ}$, and/or angles of approximately $90^{\circ}$. In some embodiments that include at least three shift paths, at least three of the shift paths extend at non-linear relative orientations. In embodiments that include a biasing mechanism, any suitable biasing member, or combination of members, may be used, with illustrative examples including springs (such as extension, torsion, leaf, compression, etc.), resilient members, and elastic members.

Referring again to Figs. 2 and 3, another illustrative example of a suitable user input device 102 includes a drive actuator 190 , which receives user input(s) that selectively direct the drive assembly to operate in a selected drive configuration, such as by directing the battery assembly to energize the motor assembly. Examples of suitable drive actuators 190 include an on/off switch, a foot pedal, a throttle lever, and a rotational handgrip on a steering mechanism that includes a handlebar. In Fig. 2, an example of a drive actuator 190 is shown in the form of a foot pedal 192 positioned to be selectively
engaged by a child sitting on seat 18. When drive actuator 190 takes a form other than a foot pedal, it may be located in any suitable location within or near passenger compartment 14 so that a child sitting on seat 18 may reach the actuator while positioned to operate the vehicle. For example, an on/off switch or throttle may be located on the body or on the steering mechanism, such as illustrated at 194 in Fig. 2.

As indicated in Fig. 3, drive assembly 30 may (but is not required to) further include a controller 196, which is adapted to control electronically the transmission of the rotational input from the motor assembly to the driven wheel assembly. More specifically, controller 196 includes a microprocessor or suitable control circuit that is adapted to control the actuation, or energization, of the motor assembly by the battery assembly to regulate electronically the rotational input transmitted by the motor assembly to the driven wheel assembly. Controller 196 may regulate at least one of the timing and the ramp, or rate, of application of the transmission of the rotational input after actuation of a corresponding user input device by a child sitting on seat 18 . In other words, the controller delays in at least time and/or rate of transmission the rotational input to the driven wheel assembly responsive at least in part to a user input selecting the desired, or selected, rotational input. For example, the controller may be adapted to control the energization of the ride-on's motor assembly by the battery assembly through microprocessor-based duty cycle ramping and/or pulse width modulation. Illustrative, non-exclusive examples of suitable controllers are disclosed in U.S. Patent No. 6,771,034, the complete disclosure of which is hereby incorporated by reference for all purposes.

## Industrial Applicability

The present disclosure is applicable to children's ride-on vehicles with batterypowered motor assemblies.

It is believed that the disclosure set forth herein encompasses multiple distinct inventions with independent utility. While each of these inventions has been disclosed in its preferred form, the specific embodiments thereof as disclosed and illustrated herein are not to be considered in a limiting sense as numerous variations are possible. The subject matter of the disclosure includes all novel and non-obvious combinations and subcombinations of the various elements, features, functions and/or properties disclosed herein. Similarly, where the claims recite "a" or "a first" element or the equivalent thereof, such claims should be understood to include incorporation of one or more such elements, neither requiring nor excluding two or more such elements.

It is believed that the following claims particularly point out certain combinations and subcombinations that are directed to one of the disclosed inventions and are novel and non-obvious. Inventions embodied in other combinations and subcombinations of features, functions, elements and/or properties may be claimed through amendment of the present claims or presentation of new claims in this or a related application. Such amended or new claims, whether they are directed to a different invention or directed to the same invention, whether different, broader, narrower or equal in scope to the original claims, are also regarded as included within the subject matter of the inventions of the present disclosure.

## WHAT IS CLAIMED IS:

1. A children's ride-on vehicle, comprising:
a body having at least one seat sized for a child;
a plurality of wheels rotatably coupled to the body, wherein the plurality of wheels includes at least one driven wheel and at least one steerable wheel;
a steering assembly comprising a steering mechanism adapted to receive steering inputs from a child sitting on the at least one seat, and a steering linkage adapted to convey the steering inputs to the at least one steerable wheel;
a drive assembly, comprising:
a motor assembly including at least one electric motor adapted to selectively drive the rotation of the at least one driven wheel;
a battery assembly adapted to selectively energize the motor assembly, and a velocity control assembly adapted to selectively configure the drive assembly to be in a plurality of drive configurations, the velocity control assembly comprising:
a switch assembly including at least one switch, wherein the switch assembly is adapted to be selectively configured between a plurality of velocity settings, and wherein each velocity setting in turn configures the drive assembly to be in a predetermined drive configuration;
an actuator assembly adapted to receive user inputs from the child sitting on the at least one seat, wherein the actuator assembly includes:
a shifter handle adapted to be selectively moved by the child between a plurality of shift positions along a plurality of shift paths, including between a first shift position and a second shift position along a first shift path, and a second shift position and a third shift position along a second shift path, wherein the first shift path is not co-linear with the second shift path; and
a biasing mechanism that urges the shifter handle towards a selected one of the shift positions; and
wherein the actuator assembly configures the switch assembly to be in a first velocity setting when the shifter handle is in the first shift position, a second velocity setting when the shifter handle is in the second shift position, and a third velocity setting when the shifter handle is in the third shift position.
2. The children's ride-on vehicle of claim 1, further comprising a drive actuator adapted to be selectively engaged by a child sitting on the at least one seat, wherein engagement of the drive actuator causes the drive assembly to operate in the drive configuration that is predetermined by the selected velocity setting.
3. The children's ride-on vehicle of claim 1 , wherein the velocity control assembly further includes a disengageable restraining mechanism that prevents the shifter handle from moving from the second shift position to the third shift position when the restraining mechanism is engaged.
4. The children's ride-on vehicle of claim 1, wherein the actuator assembly further comprises a guide assembly adapted to guide the movement of the shifter handle between the plurality of shift positions along the plurality of shift paths.
5. The children's ride-on vehicle of claim 4, wherein each of the plurality of shift paths are at least substantially linear.
6. The children's ride-on vehicle of claim 1, wherein the actuator assembly includes an actuator operatively coupled to the shifter handle, and wherein at least some movement of the shifter handle causes movement of the actuator.
7. The children's ride-on vehicle of claim 6 , wherein the actuator is adapted to be selectively rotated by the shifter handle about a rotational axis, and wherein at least some rotational movement by the actuator causes the actuator to selectively engage at least a portion of the switch assembly in a manner that configures the switch assembly within the plurality of velocity settings.
8. The children's ride-on vehicle of claim 7, wherein the shifter handle is pivotally connected to the actuator along a pivot axis that is substantially perpendicular to the rotational axis of the actuator, and wherein the actuator does not rotate about the rotational axis when the shifter handle is pivoted about the pivot axis.
9. The children's ride-on vehicle of claim 8, wherein the biasing mechanism includes a spring that urges the shifter handle to pivot about the pivot axis.
10. The children's ride-on vehicle of claim 6, wherein the at least one switch includes a rocker switch adapted to be selectively rotated about a rotational axis between a plurality of velocity settings, and wherein at least some movement of the actuator causes the actuator to engage and rotate the rocker switch between a plurality of velocity settings.
11. The children's ride-on vehicle of claim 1 , wherein the switch assembly includes at least one of:
a direction switch adapted to be selectively configured between a reverse setting and a forward setting; and
a speed switch adapted to be selectively configured between at least a low-speed setting and a high-speed setting.
12. The children's ride-on vehicle of claim 1 , wherein the first velocity setting configures the drive assembly to be in a low-speed reverse drive configuration, the second velocity setting configures the drive assembly to be in a low-speed forward drive configuration, and the third velocity setting configures the drive assembly to be in a highspeed forward drive configuration.
13. The children's ride-on vehicle of claim 1 , wherein the actuator assembly is adapted to configure the switch assembly to be in a velocity setting that in turn configures the drive assembly to be in a non-neutral drive configuration, when the shifter handle is positioned in the selected one of the shift positions to which the biasing mechanism urges the shifter handle.
14. The children's ride-on vehicle of claim 1 , wherein each of the plurality of velocity settings configures the drive assembly to be in a non-neutral drive configuration.
15. The children's ride-on vehicle of claim 1, wherein the second velocity setting is the same as the third velocity setting.
16. The children's ride-on vehicle of claim 1 , wherein the shifter handle is further adapted to be selectively moved between the third shift position and a fourth shift position along a third shift path, and whereby the actuator assembly configures the switch assembly to be in a fourth velocity setting when the shifter handle is in the fourth shift position.
17. The children's ride-on vehicle of claim 16 , wherein the second velocity setting is the same as the third velocity setting.
18. The children's ride-on vehicle of claim 17 , wherein the first velocity setting configures the drive assembly to be in a low-speed reverse drive configuration, the second and third velocity settings each configure the drive assembly to be in a low-speed forward drive configuration, and the fourth velocity setting configures the drive assembly to be in a high-speed forward drive configuration.
19. The children's ride-on vehicle of claim 16, wherein the biasing mechanism urges the shifter handle toward a selected one of the second or third shift positions when the shifter handle is in the second shift path.
20. The children's ride-on vehicle of claim 1 , wherein the first and second shift paths are oriented to restrict rapid reconfiguring of the actuator assembly between at least the first and the third shift positions.
21. A children's ride-on vehicle, comprising:
a body having at least one seat for a child;
a plurality of wheels rotatably coupled to the body, wherein the plurality of wheels includes at least one driven wheel and at least one steerable wheel;
a steering assembly comprising a steering mechanism adapted to receive steering inputs from a child sitting on the at least one seat, and a steering linkage adapted to convey the steering inputs to the at least one steerable wheel;
a drive assembly, comprising:
a motor assembly including at least one electric motor adapted to selectively drive the rotation of the at least one driven wheel;
a battery assembly adapted to selectively energize the motor assembly, and a velocity control assembly adapted to selectively configure the drive assembly to be in a plurality of drive configurations, comprising:
a housing assembly associated with the body;
a switch assembly coupled to the housing assembly, and including at least one switch, wherein the switch assembly is adapted to be selectively configured between a plurality of velocity settings, and wherein each velocity setting in turn configures the drive assembly to be in a predetermined drive configuration;
an actuator assembly operatively coupled to the housing assembly, and adapted to receive user inputs from the child sitting on the at least one seat, wherein the actuator assembly includes:
a shifter handle adapted to be selectively moved by the child between a plurality of shift positions along a plurality of shift paths, including between a first shift position and a second shift position along a first shift path, and a second shift position and a third shift position along a second shift path, wherein the plurality of shift positions and the plurality of shift paths are defined at least in part by the housing assembly, and wherein the first shift path is not co-linear with the second shift path; and a restraining mechanism adapted to be selectively engaged in a manner that prevents the shifter handle from being moved to at least a selected one of the shift positions;
whereby the actuator assembly configures the switch assembly to be in a first velocity setting when the shifter handle is in the first shift position, a second velocity setting when the shifter handle is in the second shift position, and a third velocity setting when the shifter handle is in the third shift position.
22. The children's ride-on vehicle of claim 21, further comprising a drive actuator adapted to be selectively engaged by a child sitting on the at least one seat, wherein engagement of the drive actuator causes the drive assembly to operate in the drive configuration that is predetermined by the selected velocity setting.
23. The children's ride-on vehicle of claim 21 , wherein engaging the restraining mechanism prevents the shifter handle from being moved from the second shift position to the third shift position.
24. The children's ride-on vehicle of claim 21 , wherein the restraining mechanism includes a restraining member, and wherein engaging the restraining mechanism includes disengageably securing the restraining member in a fixed position relative to the housing assembly.
25. The children's ride-on vehicle of claim 24, wherein the restraining member blocks the shifter handle from being moved to at least the selected one of the shift positions when the restraining mechanism is engaged.
26. The children's ride-on vehicle of claim 24, wherein:
the actuator assembly includes an actuator operatively coupled to the housing assembly;
the shifter handle is operatively coupled to the actuator; and
at least some of the shifter handle's movements cause the actuator to move between a plurality of actuator positions.
27. The children's ride-on vehicle of claim 26, wherein the restraining member is adapted to prevent the actuator from moving to at least a selected one of the actuator positions when the restraining mechanism is engaged, and wherein preventing the actuator from moving to the selected one of the actuator positions in turn prevents the shifter handle from moving to the selected one of the shift positions.
28. The children's ride-on vehicle of claim 26, wherein the actuator is adapted to be selectively rotated by the shifter handle about a rotational axis, and wherein at least some rotational movement by the actuator causes the actuator to selectively engage the at least one switch in a manner that configures the switch between a plurality of velocity settings.
29. The children's ride-on vehicle of claim 28 , wherein the shifter handle is pivotally connected to the actuator along a pivot axis that is substantially perpendicular to the rotational axis of the actuator, and wherein the actuator does not rotate when the shifter handle is pivoted about the pivot axis.
30. The children's ride-on vehicle of claim 29, wherein the restraining member is adapted to prevent the actuator from rotating to at least a selected one of the actuator positions when the restraining mechanism is engaged, and wherein preventing the actuator from moving to the selected one of the actuator positions in turn prevents the shifter handle from moving to the selected one of the shift positions.
31. The children's ride-on vehicle of claim 21 , wherein the first velocity setting configures the drive assembly to be in a low-speed reverse drive configuration, the second velocity setting configures the drive assembly to be in a low-speed forward drive configuration, and the third velocity setting configures the drive assembly to be in a highspeed forward drive configuration.
32. The children's ride-on vehicle of claim 31, wherein the restraining mechanism prevents the shifter handle from being moved from the second shift position to the third shift position.
33. The children's ride-on vehicle of claim 21, wherein the shifter handle is also adapted to be selectively moved between the third shift position and a fourth shift position along a third shift path, and whereby the actuator assembly configures the switch assembly to be in a fourth velocity setting when the shifter handle is in the fourth shift position.
34. The children's ride-on vehicle of claim 33, wherein the second velocity setting is the same as the third velocity setting.
35. The children's ride-on vehicle of claim 33 , wherein the first velocity setting configures the drive assembly to be in a low-speed reverse drive configuration, the second and third velocity settings each configure the drive assembly to be in a low-speed forward drive configuration, and the fourth velocity setting configures the drive assembly to be in a high-speed forward drive configuration.
36. The children's ride-on vehicle of claim 35, wherein the restraining mechanism prevents the shifter handle from being moved from the third shift position to the fourth shift position.
37. The children's ride-on vehicle of claim 21, wherein the housing assembly is coupled to the body.
38. The children's ride-on vehicle of claim 21, wherein the first and second shift paths are oriented to restrict rapid reconfiguring of the actuator assembly between at least the first and the third shift positions.

## Abstract of the Disclosure

Children's ride-on vehicles having improved shifter assemblies. The vehicles include a drive assembly comprising a velocity control assembly that selectively configures the drive assembly within a plurality of drive configurations and which includes a switch assembly adapted to be selectively configured between a plurality of velocity settings. Each velocity setting configures the drive assembly to a predetermined drive configuration. The velocity control assembly may include an actuator assembly that receives user inputs via a shifter handle moveable between a plurality of shift positions along a plurality of shift paths. Each shift position configures the switch assembly to a particular velocity setting. At least two of the shift paths have non-linear relative orientations. In some embodiments, the actuator assembly includes a biasing mechanism, which urges the shifter handle towards a selected shift position, and/or a restraining mechanism, which selectively prevents the shifter handle from being moved to a selected shift position.

1/10



Fig. 5


Fig. 6


Fig. 7


Fig. 8


Fig. 9
-104


4/10







Fig. 20


Fig. 21
Fig. 22


Fig. 23


# DECLARATION FOR PATENT APPLICATION 

English Language Declaration

As a below-named inventor, I hereby declare that:
My residence, mailing address, and citizenship are as stated below next to my name.
I believe that I am the original, first, and sole inventor (if only one name is listed below) or an original, first, and joint inventor (if plural names are listed below) of the subject matter that is claimed and for which a patent is sought on the invention entitled:

## CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES

the specification of which
X is attached hereto, or was filed on $\qquad$ as U.S. Patent Application Serial No. $\qquad$ -

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment referred to above.

I acknowledge the duty to disclose information that is material to patentability as defined in 37 C.F.R. § 1.56, including, for continuation-in-part applications, material information that became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.

I hereby claim foreign priority benefits under 35 U.S.C. § 119 (a)-(d) or (f) or 365(b) of any foreign application(s) for patent, inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application that designated at least one country other than the United States of America, listed below, and also have identified below any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

| Prior Foreign <br> Application <br> Number(s) | Country | Foreign Filing <br> Date <br> $(\mathrm{MM} / \mathrm{DD} / \mathrm{YYYY})$ | Priority <br> Claimed? $?$ | Certified <br> Copy <br> Attached? |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 , and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Full name of sole or first joint inventor: CHRISTOPHER F. LUCAS


Residence: $\quad 38$ Monterey Lane, Cheektowaga, New York 14225
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Full name of second joint inventor: JOHN RHEIN


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Post Office Address: 5525 Devonshire Lane, Hamburg, New York 14075

## POWER OF ATTORNEY, STATEMENT UNDER 37 C.F.R. § 3.73(b), and ASSERTION OF RIGHT UNDER 37 C.F.R. § 3.71 AND MPEP § 106

Applicants):_ CHRISTOPHER F. LUCAS and JOHN RHEIN
Serial No.:
Filed: $\qquad$
Title:

## CHILDREN'S RIDE-ON VEHICLES HA VING IMPROVED SHIFTER ASSEMBLy ES

Mattel, Inc., a Delaware corporation, hereby appoints the practitioners at Kolisch Hartwell, P.C., USPTO Customer No. 23581, as its attomeys and agents to prosecute the above-identified patent application and to transact all business in the United States Patent and Trademark Office connected therewith. These practitioners currently include:
J. Pierre Kolisch, Reg. No. 15,802; John M. McCormack, Reg. No. 26,948; Peter E. Heuser, Reg. No. 27,902; Edward B. Anderson, Reg. No. 30,154; David P. Cooper, Reg. No. 33,372; Pierre C. Van Rysselberghe, Reg. No. 33,557; Walter W. Karnstein, Reg. No. 35,565; Charles H. DeVoe, Reg. No. 37,305; Anton E. Skaugset, Reg. No. 38,617; David S. D'Ascenzo, Reg. No. 39,952; Owen W. Dukelow, Reg. No. 41,002; James R. Abney, Reg. No. 42,253; Stanley M. Hollenberg, Reg. No. 47,658; Peter D. Sabido, Reg. No. 50,353; Douglas W. McArthur, Reg. No. 50,795; Ian D. Gates, Reg. No. 51,722; Phaedra E. Paul, Reg. No. 56,366; Jeffrey S. Zola, Reg. No. 56,715; and Steven W. Hudnut, Reg. No. 57,786.

Mattel, Inc. states, under 37 C.F.R. § 3.73(b), that it is the assignee of the entire right, title, and interest in the above-identified patent application by virtue of an assignment from each of the inventors) named in the above-identified patent application. Copies of assignments or other documents in the chain of title are attached.

Mattel, Inc. hereby asserts its right, under 37 C.F.R. § 3.71 and MPEP § 106, to conduct the prosecution of the above-identified patent application to the exclusion of the named inventor (s) and any previous assignee (s).

| DIRECT COMMUNICATIONS TO: |  |
| :--- | :--- |
| David S. D'Ascenzo |  |
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| 200 Pacific Building | Telephone: (503) 224-6655 |
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| Portland, Oregon 97204 | E-mail: david@khpatent.com |

The undersigned (whose title is supplied below) is authorized to act on behalf of the above-identified assignee.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Mattel, Inc.

Date:
April 18, 2006


Name: __Daniel F. Sullivan

Title:_Assistant Secretary


#### Abstract

ASSIGNMENT WHEREAS, WE, CHRISTOPHER F. LUCAS, of Cheektowaga, County of Erie, State of New York, and JOHN RHEIN, of Hamburg, County of Erie, State of New York, have invented certain improvements in CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES, for which we have executed an application for Letters Patent of the United States on the date we executed this Assignment as hereinafter set forth; and

WHEREAS, MATTEL, INC., a Delaware corporation, having its principal place of business in El Segundo, County of Los Angeles, State of California, is desirous of acquiring an interest therein;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which hereby are acknowledged, we, CHRISTOPHER F. LUCAS and JOHN RHEIN, have sold, assigned and transferred, and by these presents do sell, assign and transfer unto MATTEL, INC. the full and exclusive right to the said invention in the United States and its territorial possessions and in any and all foreign countries and the entire right, title and interest in and to any and all Letters Patent which may be granted therefor in the United States and its territorial possessions and in any and all foreign countries and in and to any and all related applications, divisionals, reissues, continuations and extensions thereof.

We hereby authorize and request the Patent Office officials in the United States and any and all foreign countries to issue any and all of said Letters Patent, when granted, to MATTEL, INC., as the assignee of our entire right, title and interest in and to the same, for the sole use of MATTEL, INC., its successors and assigns.


Further, we agree that we will communicate to the said MATTEL, INC. or its representatives any facts known to us respecting said invention, and testify in any legal proceeding, sign all lawful papers, execute all related, divisional, continuation, substitution, renewal, reissue, PCT, and foreign applications, execute all necessary assignment papers to cause any and all of said Letters Patent to be issued to MATTEL, INC., make all rightful oaths and generally do everything possible to aid MATTEL, INC., its successors and assigns, to obtain and enforce proper protection for said invention in the United States and in any and all foreign countries.


Witness:


IN TESTIMONY WHEREOF, I have hereunto set my hand this _12 th day of _्_


JOHN REIN
Witness:


# U.S. DEPARTMENT OF COMMERCE <br> PATENT AND TRADEMARK OFFICE <br> FEE RECORD SHEET 

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PATENT APPLICATION FEE DETERMINATION RECORD Substule for Form PTO-075. Ellective Decamber 8.2004

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| BASICFEE <br>  | nua | NA |
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| EXUNANATION FEE <br>  | NA | N/A |
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SMALL ENTITY

| RATE (Si) | FEE (Y) |
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APPLICATION AS AMENDED - PART II


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*- If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
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The Highest Number Previously Peid For (Total or indepencieni) is the hiliest number found in the aporopriate box in column 1.
This colection of information is required by 37 CFR 1.16. The information is required to obtain or refain a benefil by the public which is to file (and by the USPTO to process) an application. Confidentiality is govemed by 35 U.S.C. 122 and 37 CFR 1.14. This colectión is estimated to lake 12 minules lo complets $\boldsymbol{l}_{2}:$ including gathering, preparing, and submiting the completed appfication form to the USPTO. Tine will vary depending upon the individual case. Any comments on the amount of time you require to complefe this form and/or suggestions for reducing this burden, shoulid be sent to the Chief Infarmation Officer, US. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADORESS. SEND TO: Commissioner for Patents, P.O. Box 1450,.Alexandria, VA 22313-1450.

71 of 176

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Date: April 24, 2006
In re Application of:
CHRISTOPHER F. LUCAS and JOHN RHEIN
Filed : April 24, 2006
For : CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES

## Commissioner for Patents

PO Box 1450
Alexandria, Virginia 22313-1450

## INFORMATION DISCLOSURE STATEMENT <br> UNDER 37 C.F.R. § 1.56

Pursuant to Applicants' duty of disclosure required under 37 C.F.R. § 1.56, Applicants are submitting the enclosed, completed PTO forms 1449 as required by 37 C.F.R. § 1.97 and 1.98. The filing of this Information Disclosure Statement should not be construed as a representation that a search has been made or as an admission that the listed references are prior art for this application. Applicants respectfully request that the listed references be expressly considered during prosecution of the application, and that the references be made of record therein and appear among the "references cited" on any patents issuing therefrom.

## CONTENT OF DISCLOSURE

This Information Disclosure Statement includes (1) three pages of PTO-1449 forms, and (2) a legible copy of each foreign and non-patent reference, if any, listed on the forms. However, because this application was filed on or after July 1, 2003, no copies of U.S. patents or published U.S. patent applications are included.

## TIMING OF DISCLOSURE / FEE INFORMATION

This Information Disclosure Statement is being filed with the application or with a Request for Continued Examination of the application under 37 C.F.R. §1.114. Therefore, in accordance with 37 C.F.R. § 1.97(b), no fee or statement under 37 C.F.R. § 1.97(e) is required.

Please contact the undersigned with any questions or comments regarding this Information Disclosure Statement.

Respectfully submitted, KOLISCH HARTWELL, P.C.

David S. D'Ascenzo
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## CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:
Signature


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## SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §§ 1.56, 1.97, and 1.98

Applicants are submitting this Information Disclosure Statement pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98 to disclose to the U.S. Patent and Trademark Office the patents, publications, applications, and/or other references listed on the enclosed, completed PTO-1449 form(s). The filing of this Information Disclosure Statement should not be construed as a representation that a search has been made or as an admission that the listed references are prior art for this application. Applicants respectfully request that the listed references be expressly considered during prosecution of the application, and that the references be made of record therein and appear among the "references cited" on any patents issuing therefrom.

This Information Disclosure Statement includes (1) one page of PTO-1449 forms, and (2) a legible copy of each foreign and non-patent reference, if any, listed on the form(s). However, because this application was filed on or after July 1, 2003, no copies of U.S. patents or published U.S. patent applications are included.

## Page 1 - SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT . . . Serial No. 11/410,568

## TIMING OF DISCLOSURE / FEE INFORMATION

This Information Disclosure Statement is being filed, to the best of the undersigned's knowledge, either (1) before the mailing of a first Office action on the merits, or (2) before the mailing of a first Office action after the filing of a request for continued examination under 37 C.F.R. § 1.114. Therefore, in accordance with 37 C.F.R. § 1.97(b), no fee or statement under 37 C.F.R. § 1.97(e) is required.

Please contact the undersigned with any questions or comments regarding this Information Disclosure Statement.

## CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, to: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on August 7, 2007.

David S. D'Ascenzo

Respectfully submitted,
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MPW 3L2
APPLICANTS

Christopher F. Lucas and John Rhein | FILING DATE | GROUP ART UNIT |
| :--- | :--- | April 24, 2006

U.S. PATENT DOCUMENTS

| EXAMINER <br> INITIAL | DOCUMENT <br> NUMBER | DATE | NAME | CLASS | SUB <br> CLASS | FIL DATE <br> IF APPROP. |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
|  | $5,175,062$ | $12 / 29 / 1992$ | Farooque, et al. |  |  |  |
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FOREIGN PATENT DOCUMENTS

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| APPLICATION NUMBER | FILING OR 371(c) DATE | FIRST NAMED APPLICANT | ATTY. DOCKET NO./TITLE |
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| $11 / 410,568$ | $04 / 24 / 2006$ | Christopher F. Lucas | MPW 3L2 |

CONFIRMATION NO. 4870

23581<br>KOLISCH HARTWELL, P.C.<br>520 SW YAMHILL STREET, Suite 200<br>PORTLAND, OR97204

Title: Children's ride-on vehicles having improved shifter assemblies
Publication No. US-2007-0246271-A1
Publication Date: 10/25/2007

## NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently http://www.uspto.gov/patft/.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently http://pair.uspto.gov/. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 11/410,568 | 04/24/2006 | Christopher F. Lucas | MPW 3L2 | 4870 |
| ${ }_{\text {KOLISCH }}^{23581}{ }^{\text {H590 }}$ HARTWELL, P.C. ${ }^{06 / 23 / 2008}$ | 06/23/2008 |  | EXAMINER |  |
| 520 SW YAMHILL STREET, Suite 200 PORTLAND, OR 97204 |  |  | COOLMAN, VAUGHN |  |
|  |  |  | ART UNIT | PAPER NUMBER |
|  |  |  | 3618 |  |
|  |  |  | MAIL DATE | DELIVERY MODE |
|  |  |  | 06/23/2008 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding. The time period for reply, if any, is set in the attached communication.

| Application No. <br> $11 / 410,568$ | Applicant(s) <br> LUCAS ET AL. |  |
| :--- | :--- | :--- |
| Examiner <br> VAUGHN T. COOLMAN | Art Unit <br> 3618 |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).


## Status

1) $\boxtimes$ Responsive to communication(s) filed on $\underline{24 \text { April } 2006 .}$

2a)
This action is FINAL. 2 b ) This action is non-final.
3) $\square$ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4) $\boxtimes$ Claim(s) $1-38$ is/are pending in the application.

4a) Of the above claim(s) $\qquad$ is/are withdrawn from consideration.
5) $\square$ Claim(s) $\qquad$ is/are allowed.
6) $\boxtimes$ Claim(s) $1-7,10-14,20-28,31,32,37$ and 38 is/are rejected.
7) Claim(s) $8,9,15-19,29,30$ and $33-36$ is/are objected to.
8) $\square$ Claim(s) $\qquad$ are subject to restriction and/or election requirement.

## Application Papers

9) $\boxtimes$ The specification is objected to by the Examiner.
10) $\square$ The drawing(s) filed on $\qquad$ is/are: a) $\square$ accepted or b) $\square$ objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) $\square$ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119
12) $\square$ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) $\square$ All b) $\square$ Some * c) $\square$ None of:

1. $\square$ Certified copies of the priority documents have been received.
2. $\square$ Certified copies of the priority documents have been received in Application No. $\qquad$ .
3. $\square$ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
$\begin{array}{ll}\text { 1) } \boxtimes & \text { Notice of References Cited (PTO-892) } \\ \text { 2) } \square & \text { Notice of Draftsperson's Patent Drawing Review (PTO-948) } \\ \text { 3) } \boxtimes & \text { Information Disclosure Statement(s) (PTO/SB/08) } \\ \text { Paper No(s)/Mail Date 20060424,20070809. }\end{array}$
4)Interview Summary (PTO-413) Paper No(s)/Mail Date.
5) $\square$Notice of Informal Patent Application
6)
$\square$ Other: $\qquad$ .

## DETAILED ACTION

## Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

## Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 4-7, 10-14, 20-22, 31, 37 , and 38 are rejected under 35 U.S.C. 103(a) as
being unpatentable over Lan et al (U.S. Patent No. 6,921,870 B2) in view of Perego (U.S. Patent No. 5,173,591).
[claim 1] Applicant admits the prior art of lines 1-19 of claim 1 in the background of the invention, and Examiner notes that such vehicles are extremely old and well known in the children's electric vehicle art. Lan states that his shifting assembly is for use in the type of vehicle described by applicant and further discloses the shifting mechanism (actuator assembly) including a shifter handle (21) adapted to be selectively moved by the child between a plurality of shift positions (shown in FIGS 8 and 11-17) along a plurality of shift paths, including between a first shift position (FIG $8-$ H location) and a second shift position (FIG 8 - current location of 2) along a first shift path (12), and a second shift position and a third shift position (FIG 8 - R
location) along a second shift path (13), wherein the first shift path is not co-linear (column 2, lines 40-46) with the second shift path. Furthermore, Lan discloses the actuator assembly configures the switch assembly to be in a first velocity setting (high speed forward) when the shifter handle is in the first shift position, a second velocity setting (low speed forward) when the shifter handle is in the second shift position, and a third velocity setting (low speed reverse) when the shifter handle is in the third shift position.

Lan does not disclose a biasing mechanism that urges the shifter handle towards a selected on of the shift positions. Perego teaches a shifter assembly for a children's electric vehicle wherein the shifter handle (12) is urged toward a selected shift position (column 2, lines $47-51$ ) by a biasing mechanism (20). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus shown by Lan with the biasing mechanism of Perego in order to provide the advantage of maintaining the vehicle velocity setting in low speed forward, which is obviously the safest.
[claims 2 and 22] Examiner notes that an old, well known, and common drive actuator in children's electric vehicles is an accelerator pedal (as evidenced by Perego - column 2, lines 6364), which would cause the drive assembly to operate in the drive configuration that is predetermined by the selected velocity setting.
[claim 4] Lan further discloses a guide assembly (11) adapted to guide the movement of the shifter handle between the plurality of shift positions along the plurality of shift paths.
[claim 5] Lan further discloses each of the shift paths being substantially linear.
[claim 6] Lan further shows an actuator (22) operatively coupled to the shifter handle wherein at least some movement of the shifter handle causes movement of the actuator.
[claim 7] Lan shows the rotational axis to be along the longitudinal axis of pin 4 and the shifter handle rotates the actuator about said rotational axis, with at least some rotational movement by the actuator causing the actuator to selectively engage at least a portion of a switch assembly in a manner that configures the switch assembly within the plurality of velocity settings.
[claim 10] Lan further shows at least one switch including a rocker switch (55) adapted to be selectively rotated about a rotational axis (see FIG 7) between a plurality of velocity settings, and wherein at least some movement of the actuator causes the actuator to engage and rotate the rocker switch between a plurality of velocity settings (high and low speed).
[claim 11] Lan further discloses a switch assembly that includes:
a direction switch adapted to be selectively configured between a reverse setting and a forward setting; and
a speed switch adapted to be selectively configured between at least a low-speed setting and a high-speed setting.
[claims 12 and 31] Lan shows in FIG 8 a configuration that can be described as positively recited by applicant in claims 12 and 31 .
[claim 13] Perego teaches the shifter handle to be biased into the low speed forward drive configuration which is non-neutral.
[claim 14] Lan discloses each of the plurality of velocity settings configuring the drive assembly to be in a non-neutral drive configuration.
[claims 20 and 38] Lan further discloses the first and second shift paths being oriented to restrict rapid reconfiguring of the actuator assembly between at least the first and third shift positions.
[claim 21] See rejections of claims 1 and 3, and Lan further discloses a housing assembly as shown in FIG 2 and the plurality of shift paths being defined by the housing.
[claim 37] Lan further discloses the housing being coupled to the body of the vehicle.

## Claims 3, 23-28, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lan in view of Perego and further in view of Bofias (U.S. Patent No. 6,718,842 B1).

[claims 3 and 23] Lan in view of Perego discloses all of the elements of the claimed invention as described above except for a disengageable restraining mechanism for the shifter handle. Bofias teaches a shift lever (1) for shifting an electric vehicle into multiple shift positions corresponding to multiple velocity settings and including a disengageable restraining mechanism (15) that prevents the shifter handle from engaging undesirable shift positions (changing into reverse at high speeds - column 4, lines 53-64). The combination would disclose the restraining mechanism preventing the shifter handle from moving from the second shift position to the third shift position when said restraining mechanism is engaged.
[claim 24] Bofias further teaches the restraining mechanism including a restraining member (15) wherein engaging the restraining mechanism includes disengageably securing the restraining member in a fixed position relative to the housing assembly.
[claim 25] Bofias further teaches the restraining member blocking (indirectly) the shifter handle from being moved to at least the selected one of the shift positions when the restraining mechanism is engaged.
[claim 26] Lan further shows an actuator (22) operatively coupled to the shifter handle and to the housing assembly wherein at least some movements of the shifter handle causes movement of the actuator between a plurality of actuator positions.
[claim 27] The combination would disclose the restraining member being adapted to prevent the actuator from moving to at least a selected one of the actuator positions when the restraining mechanism is engaged, and wherein preventing the actuator from moving to the selected one of the actuator positions in turn prevents the shifter handle from moving to the selected one of the shift positions. Examiner notes that preventing the actuator of Lan from moving would also prevent the shifter handle from moving. Furthermore, item 30 of Bofias acts in the capacity of an actuator and prevent movement of the actuator also prevents movement of the shifter handle (1).
[claim 28] Lan shows the rotational axis to be along the longitudinal axis of pin 4 and the shifter handle rotates the actuator about said rotational axis, with at least some rotational movement by the actuator causing the actuator to selectively engage at least a portion of a switch assembly in a manner that configures the switch assembly within the plurality of velocity settings.
[claim 32] The combination would disclose the restraining mechanism preventing the shifter handle from moving from the second shift position to the third shift position when said restraining mechanism is engaged.

## Allowable Subject Matter

Claims $8,9,15-19,29,30$, and 33-36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

## Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Any inquiry concerning this communication or earlier communications from the examiner should be directed to VAUGHN T. COOLMAN whose telephone number is (571)2726014. The examiner can normally be reached on Monday thru Friday, 8am-6pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Ellis can be reached on (571) 272-6914. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Art Unit: 3618

Supervisory Patent Examiner, Art Unit 3618
Examiner
Art Unit 3618

## /V. T. C./

Examiner, Art Unit 3618

| Notice of References Cited | Application/Control No. <br> $11 / 410,568$ |  | Applicant(s)/Patent Under <br> Rexamination <br> LUCAS ET AL. |
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|  | Examiner <br> VAUGHN T. COOLMAN | Art Unit <br> 3618 | Page 1 of 1 |

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*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

| Index of Claims | Application/Control No. $11410568$ | Applicant(s)/Patent Under Reexamination <br> LUCAS ET AL. |
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|  | Examiner <br> VAUGHN T COOLMAN | Art Unit $3618$ |


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| $\square$ Claims renumbered in the same order as presented by applicant |  |  |  |  |  |  | $\square$ | CPA |  | T.D. | $\square$ | R.1.47 |
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| Index of Claims | Application/Control No. $11410568$ | Applicant(s)/Patent Under Reexamination <br> LUCAS ET AL. |
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| Search Notes | Application/Control No. $11410568$ | Applicant(s)/Patent Under Reexamination <br> LUCAS ET AL. |
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| Class | Subclass | Date | Examiner |
| 180 | $65.1,65.6,65.8,167,169,908$ | $06 / 17 / 2008$ | VTC |
| 74 | $469,471 R, 473.1,473.21,473.28,471 \times Y$ | $06 / 18 / 2008$ |  |
| 200 | $61.88,61.85$ |  |  |


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| Search Notes | Date | Examiner |  |
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DOCKET NUMBER

MPW 3L2
APPLICANTS
Christopher F. Lucas and John Rhein

| FILING DATE | GROUP ART UNIT |
| :--- | :--- | April 24, 20063682


| MPW 3L2 | $11 / 410,568$ |
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| APPLICANTS    <br> Christopher F. Lucas and John Rhein    <br> FILING DATE  GROUP ART UNIT <br> April 24, 2006 3682 |  |

INFORMATION DISCLOSURE CITATION IN AN APPLICATION
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| EXAMINER <br> INITIAL | DOCUMENT <br> NUMBER | DATE | NAME | CLASS | SUB <br> CLASS | FIL DATE <br> IF APPROP. |
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| EXAMINER | Naughn Cooman/ |  | DATE CONSIDERED | 06/10/2008 |  |  |  |




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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Christopher F. Lucas and John Rhein
Serial No. : 11/410,568
Filed : April 24, 2006

Date: September 23, 2008
Examiner V. Coolman
Group Art Unit 3618

## For : CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES

## Mail Stop AMENDMENT

Commissioner for Patents
P.O. Box 1450

Alexandria, Virginia 22313-1450
Sir:

## RESPONSE TO OFFICE ACTION

In response to the Office action dated June 23, 2008, please consider the following amendments and remarks:

| Amendments to the Specification | None |
| :--- | :--- |
| Amendments to the Claims | Begin on page 2 |
| Amendments to the Drawings | None |
| Remarks | Begin on page |

## Listing of Claims:

This listing of claims reflects all claim amendments and replaces all prior versions, and listings, of claims in the application. Material to be inserted is in bold and underline, and material to be deleted is in strikeout or (if the deletion is of five or fewer consecutive characters or would be difficult to see) in double brackets [[ ]].

Claim 1 (Currently amended). A children's ride-on vehicle, comprising: a body having at least one seat sized for a child;
a plurality of wheels rotatably coupled to the body, wherein the plurality of wheels includes at least one driven wheel and at least one steerable wheel;
a steering assembly comprising a steering mechanism adapted to receive steering inputs from a child sitting on the at least one seat, and a steering linkage adapted to convey the steering inputs to the at least one steerable wheel;
a drive assembly, comprising:
a motor assembly including at least one electric motor adapted to selectively drive the rotation of the at least one driven wheel;
a battery assembly adapted to selectively energize the motor assembly, and
a velocity control assembly adapted to selectively configure the drive assembly to be in a plurality of drive configurations, the velocity control assembly comprising:
a switch assembly including at least one switch, wherein the switch assembly is adapted to be selectively configured between a plurality of velocity settings,
and wherein each velocity setting in turn configures the drive assembly to be in a predetermined drive configuration;
an actuator assembly adapted to receive user inputs from the child sitting on the at least one seat, wherein the actuator assembly includes:
a shifter handle adapted to be selectively moved by the child between a plurality of shift positions along a plurality of shift paths, including between a first shift position and a second shift position along a first shift path, and a second shift position and a third shift position along a second shift path, wherein the first shift path is not co-linear with the second shift path; and
a biasing mechanism that urges the shifter handle towards a selected one of the shift positions; and

> wherein the actuator assembly includes an actuator
operatively coupled to the shifter handle, and less than all movements of the shifter handle cause movement of the actuator, and wherein the actuator assembly configures the switch assembly to be in a first velocity setting when the shifter handle is in the first shift position, a second velocity setting when the shifter handle is in the second shift position, and a third velocity setting when the shifter handle is in the third shift position.

Claim 2 (Original). The children's ride-on vehicle of claim 1, further comprising a drive actuator adapted to be selectively engaged by a child sitting on the at least one seat, wherein engagement of the drive actuator causes the drive assembly to operate in the drive configuration that is predetermined by the selected velocity setting.

Claim 3 (Original). The children's ride-on vehicle of claim 1, wherein the velocity control assembly further includes a disengageable restraining mechanism that prevents the shifter handle from moving from the second shift position to the third shift position when the restraining mechanism is engaged.

Claim 4 (Original). The children's ride-on vehicle of claim 1, wherein the actuator assembly further comprises a guide assembly adapted to guide the movement of the shifter handle between the plurality of shift positions along the plurality of shift paths.

Claim 5 (Original). The children's ride-on vehicle of claim 4, wherein each of the plurality of shift paths are at least substantially linear.

Claim 6 (Cancelled).

Claim 7 (Currently amended). The children's ride-on vehicle of claim 1 [ [6]], wherein the actuator is adapted to be selectively rotated by the shifter handle about a rotational axis, and wherein at least some rotational movement by the actuator causes the actuator to selectively engage at least a portion of the switch assembly in a manner that configures the switch assembly within the plurality of velocity settings.

[^2]Claim 8 (Original). The children's ride-on vehicle of claim 7, wherein the shifter handle is pivotally connected to the actuator along a pivot axis that is substantially perpendicular to the rotational axis of the actuator, and wherein the actuator does not rotate about the rotational axis when the shifter handle is pivoted about the pivot axis.

Claim 9 (Original). The children's ride-on vehicle of claim 8, wherein the biasing mechanism includes a spring that urges the shifter handle to pivot about the pivot axis.

Claim 10 (Currently amended). The children's ride-on vehicle of claim 1[[6]], wherein the at least one switch includes a rocker switch adapted to be selectively rotated about a rotational axis between a plurality of velocity settings, and wherein at least some movement of the actuator causes the actuator to engage and rotate the rocker switch between a plurality of velocity settings.

Claim 11 (Original). The children's ride-on vehicle of claim 1, wherein the switch assembly includes at least one of:
a direction switch adapted to be selectively configured between a reverse setting and a forward setting; and
a speed switch adapted to be selectively configured between at least a lowspeed setting and a high-speed setting.

Claim 12 (Original). The children's ride-on vehicle of claim 1, wherein the first velocity setting configures the drive assembly to be in a low-speed reverse drive configuration, the second velocity setting configures the drive assembly to be in a lowspeed forward drive configuration, and the third velocity setting configures the drive assembly to be in a high-speed forward drive configuration.

Claim 13 (Original). The children's ride-on vehicle of claim 1, wherein the actuator assembly is adapted to configure the switch assembly to be in a velocity setting that in turn configures the drive assembly to be in a non-neutral drive configuration, when the shifter handle is positioned in the selected one of the shift positions to which the biasing mechanism urges the shifter handle.

Claim 14 (Original). The children's ride-on vehicle of claim 1, wherein each of the plurality of velocity settings configures the drive assembly to be in a non-neutral drive configuration.

Claim 15 (Original). The children's ride-on vehicle of claim 1,'wherein the second velocity setting is the same as the third velocity setting.

Claim 16 (Original). The children's ride-on vehicle of claim 1, wherein the shifter handle is further adapted to be selectively moved between the third shift position and a fourth shift position. along a third shift path, and whereby the actuator assembly
configures the switch assembly to be in a fourth velocity setting when the shifter handle is in the fourth shift position.

Claim 17 (Original). The children's ride-on vehicle of claim 16, wherein the second velocity setting is the same as the third velocity setting.

Claim 18 (Original). The children's ride-on vehicle of claim 17, wherein the first velocity setting configures the drive assembly to be in a low-speed reverse drive configuration, the second and third velocity settings each configure the drive assembly to be in a low-speed forward drive configuration, and the fourth velocity setting configures the drive assembly to be in a high-speed forward drive configuration.

Claim 19 (Original). The children's ride-on vehicle of claim 16, wherein the biasing mechanism urges the shifter handle toward a selected one of the second or third shift positions when the shifter handle is in the second shift path.

Claim 20 (Original). The children's ride-on vehicle of claim 1, wherein the first and second shift paths are oriented to restrict rapid reconfiguring of the actuator assembly between at least the first and the third shift positions.

Claim 21 (Currently amended). A children's ride-on vehicle, comprising: a body having at least one seat for a child;
a plurality of wheels rotatably coupled to the body, wherein the plurality of wheels includes at least one driven wheel and at least one steerable wheel;
a steering assembly comprising a steering mechanism adapted to receive steering inputs from a child sitting on the at least one seat, and a steering linkage adapted to convey the steering inputs to the at least one steerable wheel;
a drive assembly, comprising:
a motor assembly including at least one electric motor adapted to selectively drive the rotation of the at least one driven wheel;
a battery assembly adapted to selectively energize the motor assembly, and
a velocity control assembly adapted to selectively configure the drive assembly to be in a plurality of drive configurations, comprising:
a housing assembly associated with the body;
a switch assembly coupled to the housing assembly, and including at least one switch, wherein the switch assembly is adapted to be selectively configured between a plurality of velocity settings, and wherein each velocity setting in turn configures the drive assembly to be in a predetermined drive configuration;
an actuator assembly operatively coupled to the housing assembly, and adapted to receive user inputs from the child sitting on the at least one seat, wherein the actuator assembly includes:
a shifter handle adapted to be selectively moved by the child between a plurality of shift positions along a plurality of shift paths, including between a first shift position and a second shift position along a first shift path, and a second shift
position and a third shift position along a second shift path, wherein the plurality of shift positions and the plurality of shift paths are defined at least in part by the housing assembly, and wherein the first shift path is not co-linear with the second shift path; and
a restraining mechanism adapted to be selectively engaged in a manner that prevents the shifter handle from being moved to at least a selected one of the shift positions, wherein the actuator assembly includes an actuator operatively coupled to the housing assembly, the shifter handle is operatively coupled to the actuator, and less than all movements of the shifter handle cause the actuator to move between a plurality of actuator positions;
whereby the actuator assembly-configures the switch assembly to be in a first velocity setting when the shifter handle is in the first shift position, a second velocity setting when the shifter handle is in the second shift position, and a third velocity setting when the shifter handle is in the third shift position.

Claim 22 (Original). The children's ride-on vehicle of claim 21, further comprising a drive actuator adapted to be selectively engaged by a child sitting on the at least one seat, wherein engagement of the drive actuator causes the drive assembly to operate in the drive configuration that is predetermined by the selected velocity, setting.

Claim 23 (Original). The children's ride-on vehicle of claim 21, wherein engaging the restraining mechanism prevents the shifter handle from being moved from the second shift position to the third shift position.

## Page 9 - RESPONSE TO OFFICE ACTION

Serial No. 11/410,568

Claim 24 (Original). The children's ride-on vehicle of claim 21, wherein the restraining mechanism includes a restraining member, and wherein engaging the restraining mechanism includes disengageably securing the restraining member in a fixed position relative to the housing assembly.

Claim 25 (Original). The children's ride-on vehicle of claim 24, wherein the restraining member blocks the shifter handle from being moved to at least the selected one of the shift positions when the restraining mechanism is engaged.

Claim 26 (Cancelled).

Claim 27 (Currently amended). The children's ride-on vehicle of claim 21_[[26]], wherein the restraining member is adapted to prevent the actuator from moving to at least a selected one of the actuator positions when the restraining mechanism is engaged, and wherein preventing the actuator from moving to the selected one of the actuator positions in turn prevents the shifter handle from moving to the selected one of the shift positions.

Claim 28 (Currently amended). The children's ride-on vehicle of claim $\underline{21][26]], ~}$ wherein the actuator is adapted to be selectively rotated by the shifter handle about a rotational axis, and wherein at least some rotational movement by the actuator causes the actuator to selectively engage the at least one switch in a manner that configures the switch between a plurality of velocity settings.

[^3]Claim 29 (Original). The children's ride-on vehicle of claim 28, wherein the shifter handle is pivotally connected to the actuator along a pivot axis that is substantially perpendicular to the rotational axis of the actuator, and wherein the actuator does not rotate when the shifter handle is pivoted about the pivot axis.

Claim 30 (Original). The children's ride-on vehicle of claim 29, wherein the restraining member is adapted to prevent the actuator from rotating to at least a selected one of the actuator positions when the restraining mechanism is engaged, and wherein preventing the actuator from moving to the selected one of the actuator positions in turn prevents the shifter handle from moving to the selected one of the shift positions.

Claim 31 (Original). The children's ride-on vehicle of claim 21, wherein the first velocity setting configures the drive assembly to be in a low-speed reverse drive configuration, the second velocity setting configures the drive assembly to be in a lowspeed forward drive configuration, and the third velocity setting configures the drive assembly to be in a high-speed forward drive configuration.

Claim 32 (Original). The children's ride-on vehicle of claim 31, wherein the restraining mechanism prevents the shifter handle from being moved from the second shift position to the third shift position.

Claim 33 (Original). The children's ride-on vehicle of claim 21, wherein the shifter handle is also adapted to be selectively moved between the third shift position and a fourth shift position along a third shift path, and whereby the actuator assembly configures the switch assembly to be in a fourth velocity setting when the shifter handle is in the fourth shift position.

Claim 34 (Original). The children's ride-on vehicle of claim 33, wherein the second velocity setting is the same as the third velocity setting.

Claim 35 (Original). The children's ride-on vehicle of claim 33, wherein the first velocity setting configures the drive assembly to be in a low-speed reverse drive configuration, the second and third velocity settings each configure the drive assembly to be in a low-speed forward drive configuration, and the fourth velocity setting configures the drive assembly to be in a high-speed forward drive configuration.

Claim 36 (Original). The children's ride-on vehicle of claim 35, wherein the restraining mechanism prevents the shifter handle from being moved from the third shift position to the fourth shift position.

Claim 37 (Original). The children's ride-on vehicle of claim 21, wherein the housing assembly is coupled to the body.

Claim 38 (Original). The children's ride-on vehicle of claim 21, wherein the first and second shift paths are oriented to restrict rapid reconfiguring of the actuator assembly between at least the first and the third shift positions.

Claim 39 (New). A children's ride-on vehicle, comprising: a body having at least one seat sized for a child;
a plurality of wheels rotatably coupled to the body, wherein the plurality of wheels includes at least one driven wheel and at least one steerable wheel;
a steering assembly comprising a steering mechanism adapted to receive steering inputs from a child sitting on the at least one seat, and a steering linkage adapted to convey the steering inputs to the at least one steerable wheel;
a drive assembly, comprising:
a motor assembly including at least one electric motor adapted to selectively drive the rotation of the at least one driven wheel;
a battery assembly adapted to selectively energize the motor assembly, and
a velocity control assembly adapted to selectively configure the drive assembly to be in a plurality of drive configurations, the velocity control assembly comprising:
a switch assembly including at least one switch, wherein the switch assembly is adapted to be selectively configured between a plurality of velocity settings, and wherein each velocity setting in turn configures the drive assembly to be in a predetermined drive configuration; and
an actuator assembly adapted to receive user inputs from the child sitting on the at least one seat, wherein the actuator assembly includes a shifter handle adapted to be selectively moved by the child between a plurality of shift positions along a plurality of shift paths, including between a first shift position and a second shift position along a first shift path, and a second shift position and a third shift position along a second shift path, wherein the first shift path is not co-linear with the second shift path,
wherein the actuator assembly includes an actuator that is adapted to be selectively rotated by the shifter handle about a rotational axis, and the shifter handle is pivotally connected to the actuator along a pivot axis that is different from, and not parallel to, the rotational axis, and wherein at least some movements of the actuator configures the switch assembly within the plurality of velocity settings.

Claim 40 (New). The children's ride-on vehicle of claim 39, wherein the pivot axis is at least substantially perpendicular to the rotational axis.

## REMARKS

In the Office action mailed June 23, 2008, claims 1-2, 4-7, 10-14, 20-22, 31, and 37-38 were rejected under 35 U.S.C. § 103(a) based on Lan et al. (U.S. Patent No. $6,921,870$ ) in view of Perego (U.S. Patent No. 5,173,591). Additionally, claims 3, 23-28, and 32 were rejected under 35 U.S.C. § 103(a) based on Lan et al. in view of Perego and Bofias (U.S. Patent No. 6,718,842). Finally, claims 8-9, 15-19, 29-3́0, and 33-36 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants have amended claims 1, 7, 10, 21, and 27-28, and have cancelled claims 6 and 26 without prejudice. Additionally, applicants have added new claims 3940, which are fully supported in the specification as originally filed. Please reconsider the application in view of the above amendments and the remarks below.

## Allowable Subject Matter

Applicants thank the Examiner for indicating the claims 8-9, 15-19, 29-30, and 33-36 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

## Specification

Applicants' cooperation was requested in correcting any errors in the specification. Applicants currently are not aware of any errors in the specification.

Claim Rejections - 35 U.S.C. § 103
Claims 1-2, 4-7, 10-14, 20-22, 31, and 37-38 were rejected under 35 U.S.C. § 103(a) based on Lan et al. in view of Perego. Additionally, claims 3, 23-28, and 32 were
rejected under 35 U.S.C. § 103(a) based on Lan et al. in view of Perego and Bofias. Lan et al. discloses a shifting mechanism for electric vehicles. The shifting mechanism includes an operation bar 2 having a handgrip section 21 and a free end 22 . The operation bar is received in guiding slot 11. Free end 22 of the operation bar engages speed switch 55 and direction switch 56 (Lan et al.; Fig. 2; col. 2, Ins. 35-67).


FIG. 2

Lan et al. does not, however, disclose or suggest all of the subject matter recited in amended independent claims 1 and 21. For example, Lan et al. does not disclose or suggest an actuator operatively coupled to the shifter handle where less than all movements of the shifter handle cause movement of the actuator, as recited in amended independent claims 1 and 21. Instead, Lan et al. discloses an operation bar where movement of the handgrip section always cause movement of the free end. There is no disclosure or suggestion in Lan et al. of an operation bar where less than all
movements of the handgrip section cause movement of the free end. Thus, Lan et al. fails to disclose or suggest all of the subject matter recited in independent claims 1 and 21.

Perego discloses an electric gearshift for children's cars. The gearshift devices includes a control lever 12 connected to an actuating element 14. The actuating element includes a fixed portion 17, a yield portion 18, and a thrust spring 20 disposed between those two portions. The fixed and yield portions engage switches 15 and 16 (Perego; Figs. 1-2; col. 1, In. 58 to col. 2, In. 6).


Fig. 2

Perego does not, however, disclose or suggest all of the subject matter recited in amended independent claims 1 and 21. For example, Perego does not disclose or suggest an actuator operatively coupled to the shifter handle where less than all movements of the shifter handle cause movement of the actuator, as recited in amended independent claims 1 and 21. Instead, Perego discloses a gearshift device where movement of the control lever always causes movement of the actuating element. There is no disclosure or suggestion in Perego of a gearshift device where less than all movements of the control lever cause movement of the actuating element.

## Page 17 - RESPONSE TO OFFICE ACTION

Additionally, there is no disclosure or suggestion in Lan et al. or Perego to combine the teachings of those references. Moreover, even if the references are improperly combined, the improper combination would not disclose all of the subject matter recited in amended independent claims 1 and 21. For example, the improper combination would not disclose or suggest an actuator operatively coupled to the shifter handle where less than all movements of the shifter handle cause movement of the actuator. Thus, Perego, either alone or in combination with Lan et al., fails to disclose or suggest all of the subject matter recited in independent claims 1 and 21.

Bofias discloses a shift lever unit. The shift lever unit includes a shift lever 1 and a disk 30. The disk is rotated around its axis in response to movement of shift lever 1. An angular position of disk 30 is "unambiguously assigned to each position of the shift lever." The disk includes a contact element 32 that forms an electrical contact with several contact areas of a printed circuit board. The shift lever unit also includes a pin 15 that blocks rotation of disk 30, which then blocks shift lever 1 (Bofias; Fig. 2; col. 3, Ins. 34-64; col. 4, Ins. 52-64).


Bofias does not, however, disclose or suggest all of the subject matter recited in amended independent claims 1 and 21. For example, Bofias does not disclose or suggest an actuator operatively coupled to the shifter handle where less than all movements of the shifter handle cause movement of the actuator, as recited in amended independent claims 1 and 21. Instead, Bofias discloses a shift lever that rotates a disk, with an angular position of the disk unambiguously assigned to each position of the shift lever.

Additionally, there is no disclosure or suggestion in Lan et al., Perego, or Bofias to combine the teachings of those references. Moreover, even if the references are improperly combined, the improper combination would not disclose all of the subject matter recited in amended independent claims 1 and 21 . For example, the improper combination would not disclose or suggest an actuator operatively coupled to the shifter handle where less than all movements of the shifter handle cause movement of the actuator. Thus, Bofias, either alone or in combination with Lan et al. and/or Perego, fails to disclose or suggest all of the subject matter recited in independent claims 1 and 21.

For at least the above reasons, the rejections of independent claims 1 and 21 under 35 U.S.C. § 103(a) should be withdrawn. Claims 2-5, 7-20, 22-25, and 27-38 depend from independent claims 1 and 31 , and thus are allowable for at least the same reasons as those independent claims. New claims 39-40 also are allowable for at least the same reasons as independent claims 1 and 21.

## Conclusion

Applicants believe that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

## CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, to: Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on September 23, 2008.

Heidi Dutro

Respectfully submitted,
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This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450. Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Date: October 8, 2008
Christopher F. Lucas and John Rhein
Serial No. : 11/410568
Filed : April 24, 2006
Group Art Unit 3618

For : CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES

Mail Stop AMENDMENT
Commissioner for Patents
P.O. Box 1450

Alexandria, Virginia 22313-1450
Sir:

## INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. $\$ \S$ 1.56, 1.97, and 1.98

Applicants are submitting this Information Disclosure Statement pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98 to disclose to the U.S. Patent and Trademark Office the patents, publications, applications, and/or other references listed on the enclosed, completed PTO-1449 form(s). The filing of this Information Disclosure Statement should not be construed as a representation that a search has been made or as an admission that the listed references are prior art for this application. Applicants respectfully request that the listed references be expressly considered during prosecution of the application, and that the references be made of record therein and appear among the "references cited" on any patents issuing therefrom.

## CONTENT OF DISCLOSURE

This Information Disclosure Statement includes (1) one page of PTO-1449 forms, and (2) a legible copy of each foreign and non-patent reference, if any, listed on the form(s). However, because this application was filed on or after July 1, 2003, no copies of U.S. patents or published U.S. patent applications are included.

## TIMING OF DISCLOSURE I STATEMENT I FEE INFORMATION

This Information Disclosure Statement is being filed more than three months after the filing date of a national application or the date of entry of the national stage in an international application and after the mailing of a first Office action but, to the best of the undersigned's knowledge, before the mailing date of any of a final action under 37 C.F.R. § 1.113, a notice of allowance under 37 C.F.R. § 1.311, or an action that otherwise closes prosecution in the application. In accordance with 37 C.F.R. § $1.97(e)(2)$, the undersigned states that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. Therefore, in accordance with 37 C.F.R. §§ 1.97(c)(1), no fee is required.

Please contact the undersigned with any questions or comments regarding this Information Disclosure Statement.

## CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on October 8, 2009.


Heidi Duro

Respectfully submitted,


# NOTICE OF ALLOWANCE AND FEE(S) DUE 

$23581 \quad 7590$ 11/04/2008



| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| :---: | :---: | :---: | :---: | :---: |
| $11 / 410,568$ | $04 / 24 / 2006$ | Christopher F. Lucas | MPW 3L2 |  |

TITLE OF INVENTION: CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| nonprovisional | NO | $\$ 1510$ | $\$ 300$ | $\$ 0$ | $\$ 1810$ | $02 / 04 / 2009$ |

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THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

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III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

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## PART B - FEE(S) TRANSMITTAL

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|  | (Depositor's name) |
| ---: | ---: |
|  | (Signature) |
|  | (Date) |


| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| :---: | :---: | :---: | :---: | :---: |
| $11 / 410,568$ | $04 / 24 / 2006$ | Christopher F. Lucas | MPW 3L2 |  |

TITLE OF INVENTION: CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES

| APPLN. TYPE | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| nonprovisional | NO | \$1510 | \$300 | \$0 | \$1810 | 02/04/2009 |
| EXAMINER |  | ART UNIT | CLASS-SUBCLASS |  |  |  |
| COOLMAN, VAUGHN |  | 3618 | 180-065100 |  |  |  |

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
$\square$ Change of correspondence address (or Change of Correspondence Address form $\mathrm{PTO} / \mathrm{SB} / 122$ ) attached.
$\square$ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a Customer Number is required.
2. For printing on the patent front page, list
(1) the names of up to 3 registered patent attorneys or agents OR, alternatively,
(2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

1

2

3
3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.
(A) NAME OF ASSIGNEE
(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : $\quad$ Individual $\square$ Corporation or other private group entity $\square$ Government
4a. The following fee(s) are submitted:
Issue Fee
Publication Fee (No small entity discount permitted)
Advance Order - \# of Copies
5. Change in Entity Status (from status indicated above)
$\square$ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. interest as shown by the records of the United States Patent and Trademark Office

## Authorized Signature

Typed or printed name

Date
Registration No.

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450 , Alexandria, Virginia 22313-1450.
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.


Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 363 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 363 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

| Notice of Allowability | Application No. | Applicant(s) |
| :--- | :--- | :--- |
|  | $11 / 410,568$ | LUCAS ET AL. |
|  | Examiner | Art Unit |
|  | VAUGHN T. COOLMAN | 3618 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS. This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. $\boxtimes$ This communication is responsive to applicant's amendment submitted 10/14/2008.
2. $\boxtimes$ The allowed claim(s) is/are 1-5,7-25 and 27-40.
3. $\square$ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) $\square$ All
b) $\square$ Some*
c) $\square$ None
of the:
4. $\square$ Certified copies of the priority documents have been received.Certified copies of the priority documents have been received in Application No. $\qquad$ .Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: $\qquad$ _.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.
4. $\square$ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5.CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
(a) $\square$ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached 1) $\square$ hereto or 2) $\square$ to Paper No./Mail Date $\qquad$ -
(b) $\square$ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date $\qquad$ .
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. $\square$ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## Attachment(s)

1. $\square$ Notice of References Cited (PTO-892)
2. $\square$ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. $\boxtimes$ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date 20081014
4.Examiner's Comment Regarding Requirement for Deposit of Biological Material
5.Notice of Informal Patent Application
6.Interview Summary (PTO-413), Paper No./Mail Date $\qquad$ .
7.Examiner's Amendment/Comment
8.Examiner's Statement of Reasons for Allowance
4. $\qquad$
$\qquad$ .
/Christopher P Ellis/
Supervisory Patent Examiner, Art Unit 3618

| Index of Claims | Application/Control No. $11410568$ | Applicant(s)/Patent Under Reexamination <br> LUCAS ET AL. |
| :---: | :---: | :---: |
|  | Examiner <br> VAUGHN T COOLMAN | Art Unit $3618$ |


| $\checkmark$ | Rejected |
| :---: | :---: |
| $=$ | Allowed |
| - | Cancelled |
| $\div$ | Restricted |


| $\mathbf{N}$ | Non-Elected |
| :---: | :--- |
| $\mathbf{I}$ | Interference |


| A | Appeal |
| :---: | :---: |
| $\mathbf{O}$ | Objected |



| Index of Claims | Application/Control No. $11410568$ | Applicant(s)/Patent Under Reexamination <br> LUCAS ET AL. |
| :---: | :---: | :---: |
|  | Examiner <br> VAUGHN T COOLMAN | Art Unit $3618$ |


| $\checkmark$ | Rejected |
| :---: | :---: |
| $=$ | Allowed |


| - | Cancelled |
| :---: | :--- |
| $\div$ | Restricted |


| $\mathbf{N}$ | Non-Elected |
| :---: | :--- |
| $\mathbf{I}$ | Interference |


| A | Appeal |
| :---: | :---: |
| $\mathbf{O}$ | Objected |





| $\square$ | Claims renumbered in the same order as presented by applicant |  |  |  |  |  |  | $\square$ | CPA |  | $\square$ T.D. | $\square \quad \mathrm{R}$ |  | R.1.47 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original | Final | Original |
| 1 | 1 | 17 | 17 | 33 | 33 |  |  |  |  |  |  |  |  |  |  |
| 2 | 2 | 18 | 18 | 34 | 34 |  |  |  |  |  |  |  |  |  |  |
| 3 | 3 | 19 | 19 | 35 | 35 |  |  |  |  |  |  |  |  |  |  |
| 4 | 4 | 6 | 20 | 36 | 36 |  |  |  |  |  |  |  |  |  |  |
| 5 | 5 | 20 | 21 | 21 | 37 |  |  |  |  |  |  |  |  |  |  |
|  | 6 | 22 | 22 | 26 | 38 |  |  |  |  |  |  |  |  |  |  |
| 7 | 7 | 23 | 23 | 37 | 39 |  |  |  |  |  |  |  |  |  |  |
| 8 | 8 | 24 | 24 | 38 | 40 |  |  |  |  |  |  |  |  |  |  |
| 9 | 9 | 25 | 25 |  |  |  |  |  |  |  |  |  |  |  |  |
| 10 | 10 |  | 26 |  |  |  |  |  |  |  |  |  |  |  |  |
| 11 | 11 | 27 | 27 |  |  |  |  |  |  |  |  |  |  |  |  |
| 12 | 12 | 28 | 28 |  |  |  |  |  |  |  |  |  |  |  |  |
| 13 | 13 | 29 | 29 |  |  |  |  |  |  |  |  |  |  |  |  |
| 14 | 14 | 30 | 30 |  |  |  |  |  |  |  |  |  |  |  |  |
| 15 | 15 | 31 | 31 |  |  |  |  |  |  |  |  |  |  |  |  |
| 16 | 16 | 32 | 32 |  |  |  |  |  |  |  |  |  |  |  |  |


| N. T. C./ <br> Examiner.Art Unit 3618 <br> (Assistant Examiner) | $10 / 27 / 2008$ | Total Claims Allowed: |  |
| :--- | :---: | :---: | :---: |
| CHRISTOPHER P ELLIS/ <br> Supervisory Patent Examiner.Art Unit 3618 <br> (Primary Examiner) | (Date) |  |  |


| Search Notes | Application/Control No. $11410568$ | Applicant(s)/Patent Under Reexamination <br> LUCAS ET AL. |
| :---: | :---: | :---: |
|  | Examiner <br> VAUGHN T COOLMAN | Art Unit 3618 |


| SEARCHED |  |  |  |
| :--- | :--- | ---: | ---: |
| Class | Subclass | Date | Examiner |
| 180 | $65.1,65.6,65.8,167,169,908$ | $06 / 17 / 2008$ | VTC |
| 74 | $469,471 R, 473.1,473.21,473.28,471 \times Y$ | $06 / 18 / 2008$ |  |
| 200 | $61.88,61.85$ |  |  |


| SEARCH NOTES |  |  |  |
| :--- | :---: | :---: | :---: |
| Search Notes | Date | Examiner |  |
| Citation search, text search, inventor name search in eDan, reviewed IDS <br> submitted by applicant | $06 / 17 / 2008$ | VTC |  |
| Updated Search, interference search, allowance conference with SPE Ellis | $10 / 25 / 2008$ | VTC |  |


| INTERFERENCE SEARCH |  |  |  |
| :---: | :---: | :---: | :---: |
| Class | Subclass | Date | Examiner |
|  | See attached EAST history | $10 / 25 / 2008$ | VTC |

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N. T. C./
Examiner.Art Unit 3618
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EAST Search History

| Ref | Hits | Search Query | DBs | Default <br> Operator | Plurals | Time Stamp |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 51 | 138 | (childS5 or kid or todiler) same (shits53 and gear) | $\begin{aligned} & \text { UG } \\ & \text { PCPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\begin{aligned} & 2008106 / 103 \\ & 23: 51 \end{aligned}$ |
| 2 | 9 | US20040069557-S).did. or (US66771034-Sor US55388477. \$ or US6422330-S or US $4643355-\$$ or US $4565338-\$$ or US 6921870-\$ or US $3639705-\$$ or US5934694-S. did. | $\begin{aligned} & G P \\ & \text { PPPBB; } \\ & \text { ISPaAT } \end{aligned}$ | OR | OFF | 2008060109 10:43 |
| 3 | 1331 |  | $\begin{aligned} & \text { US } \\ & \text { PCGPB; } \\ & \text { USPAT; } \\ & \text { USOCR } \end{aligned}$ | OR | OFF | $200810609$ $10: 43$ |


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| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S4 | 15 |  | USG PGPUB; USPA; USOCR | OR | OFF | $\begin{aligned} & \text { 2008/06/09 } \\ & 10: 53 \end{aligned}$ |
| S5 | 33 |  | $\begin{aligned} & \text { US } \\ & \text { PCPVB; } \\ & \text { USPAT } \end{aligned}$ | OR | Off | $\begin{aligned} & \text { 2008006009 } \\ & 11: 35 \end{aligned}$ |
| 8 | 1704 | (1806651,008).COS | $\begin{aligned} & U S \\ & \text { PGPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | OfF | $\begin{aligned} & \text { 2008006/09 } \\ & 18: 40 \end{aligned}$ |
| S7 | 138 | (chioss5 or kid or t ododeler) same (shitis3 and gear) | $\begin{aligned} & U S \\ & \text { PCPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\begin{aligned} & 200806609 \\ & 18: 40 \end{aligned}$ |



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| S10 | $15$ |  | $\begin{aligned} & \text { US } \\ & \text { PCPRB; } \\ & \text { USPT; } ; \\ & \text { USCOR } \end{aligned}$ | OR | Of | $\begin{aligned} & \text { 2008:06/09 } \\ & 18: 40 \end{aligned}$ |
| S11 | $32$ |  | $\begin{aligned} & \text { GS } \\ & \text { CGPU; } \\ & \text { SSPAT } \end{aligned}$ | OR | OF | $\begin{aligned} & 2008 / 06 / 109 \\ & 18: 40 \end{aligned}$ |
| S12 | 1676 | S6 not (S7 or 980 or 99 or 510 or 811 ) | $\begin{aligned} & \text { UG } \\ & \text { PGPBE; } \\ & \text { USPAT } \end{aligned}$ | OR | iff | $\begin{aligned} & 2008106109 \\ & : 18: 40 \end{aligned}$ |
| 813 | 2695 | (speed o r velocity same (Shitif3 and gear) | $\begin{aligned} & \text { US } \\ & \text { PCPYB; } \end{aligned}$ | OR | ON | $\begin{aligned} & \text { 2008006/10" } \\ & 17: 24 \end{aligned}$ |
| S14 | 13370 | (speed of velocity) same (shitis3 near 5 gear) | $\begin{aligned} & \text { GS } \\ & \text { PGPB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\begin{aligned} & 2008: 06 / 10 \\ & 17: 24 \end{aligned}$ |
| 815 | \%642 | S4 and motor | $\begin{aligned} & G G \\ & \text { PGPVB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\begin{aligned} & 200806610 \\ & 17: 24 \end{aligned}$ |


| S16 | 7447 | S15 and (vehicle or toy or automobile or truck or car) | US PCGPB; USPAT | OR | ON | $\begin{aligned} & \text { 2008) } 006110 \\ & 17: 25 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S17 | 3897 | S16 and switch | US <br> PCPUB; <br> USPAT | OR | ON | $\begin{aligned} & \text { 2008/006/10 } \\ & 17: 42 \end{aligned}$ |
| S18 | 1705 | (180/65.1,908).COS | US PGPUB; USPAT | OR | OFF | $\begin{aligned} & \text { 2008/006/10 } \\ & 17: 43 \end{aligned}$ |
| S19 | 138 | (childs5 or kid or toddler) same (shitits3 and gear) | $\begin{aligned} & \text { US: } \\ & \text { PGPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\begin{aligned} & \text { 2008/066/10 } \\ & 17: 43 \end{aligned}$ |
| S20 | 9 | (US-20040069557-\$). did. or (US.6771034-S or US-5388477\$ or US $6422330-\$$ or US-4643695-\$ or US4565538-S or US 6921870-\$ or US-3639705-\$ or US.5934694-S). did. | $\begin{aligned} & \text { US } \\ & \text { PGPB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | 2008/06/10 |
| 321 | 331 |  | US <br> PGPUB; <br> USPAT: <br> USOCR | OR | OFF | $\begin{aligned} & \text { 2008/006/10 } \\ & 17: 43 \end{aligned}$ |


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| 522 | 15 |  | US PGPMB USPAT; USOCR | OR | OFF | $\begin{aligned} & 20080061 / 10 \\ & 17: 43 \end{aligned}$ |
| 523 | 32 |  | $\begin{aligned} & \text { US } \\ & \text { PGPBB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $200806110$ |


| 524 | 3836 | S17 not (S18 or S19 or S20 or S21 or S22 or S23) | US PGCPB; USPAT | OR | OFF | $\begin{aligned} & \text { 2008/06/10 } \\ & 17: 43 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S25 | 1336 | (180/167,169).CaS | $\begin{aligned} & \text { US } \\ & \text { PGPB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $\begin{aligned} & \text { 2008/06/10 } \\ & \text { 21:03 } \end{aligned}$ |
| S26 | 1705 | (180/65.1,008).CaS. | $\begin{aligned} & \text { US } \\ & \text { PGPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $\begin{aligned} & \text { 2008/06/10 } \\ & 21: 10 \end{aligned}$ |
| S27 | 138 |  | US PGGPB; USPAT | OR | ON' | $\begin{aligned} & \text { 2008/06/10 } \\ & 21: 10 \end{aligned}$ |
| 528 | 9 | (US-20040069557-S). did. or (US-6771034-\$ or US 53888477 . \$ or US. $6422330-\$$ or US.4643695-\$ or US-4565538-\$ or US 6921870-S or US-3639705-\$ or US-5934694-S). did. | US <br> PGPUB; <br> USPAT | OR | OFF' | $\begin{aligned} & \text { 2008/06/10 } \\ & 21: 10 \end{aligned}$ |
| S29 | 331 |  | US <br> PGPUB; <br> USPAT; <br> USOCR | OR | OFF | $\begin{aligned} & \text { 2008/06/10 } \\ & 21: 10 \end{aligned}$ |


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| 330 | 15 |  | US PGPUB USPAT; USOCR | OR | OFF | $\begin{aligned} & \text { 2008006/10 } \\ & 21: 10 \end{aligned}$ |
| 31 | 32 |  | $\begin{aligned} & \text { US } \\ & \text { PGPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $\begin{aligned} & 20800610 \\ & 21: 10 \end{aligned}$ |


| 332 | 1318 | 25 not (S26 or 527 or 228 or 529 or 330 or 331$)$ | $\begin{aligned} & \text { CGPPB; } \\ & \text { CaSPAT } \end{aligned}$ | OR | OFF | $200806610$ 21:10 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 933 | 1257 | (180665.,008,65.6.65.8).009. | $\begin{aligned} & \text { US } \\ & \text { PAPYB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2008106 / 100 \\ & 23: 09 \end{aligned}$ |
| 34 | 84 | S33 not (S25 or 226 or 527 or 288 or 2920 or 330 or 5311$)$ | $\begin{aligned} & U S \\ & \text { PCPIB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $\begin{aligned} & \text { 2008006/10 } \\ & 23: 09 \end{aligned}$ |
| 35 | 910 | jossick near5 (speed o o velocity) | $\begin{aligned} & \text { UCP } \\ & \text { PCPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $\begin{aligned} & \text { 2008006/10 } \\ & 23: 15 \end{aligned}$ |
| 36 | 982 | josstiok near5 (speed o ivelocity) | US | OR | ON | $\begin{aligned} & 200806 / 10 \\ & 23: 15 \end{aligned}$ |
| 337 | 177 | S36and swich | $\begin{aligned} & U G \\ & \text { PCPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | O | $\begin{aligned} & 200810610 \\ & 23: 15 \end{aligned}$ |
| 388 | 468 | S37 and vericice or car or a autombobie o t truck or wheechair) | $\begin{aligned} & \text { UG } \\ & \text { Par BB; } \\ & \text { USPRT } \end{aligned}$ | OR | ON | $\begin{aligned} & 200810610 \\ & 23: 16 \end{aligned}$ |
| 339 | 668 |  | $\begin{aligned} & \angle S \\ & \text { PCPUB; } \\ & \text { ISPAT; } \\ & \text { ISOR } \end{aligned}$ | OR | OFF | $\begin{aligned} & 200806611 \\ & 18: 40 \end{aligned}$ |




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| 840 | 1336 | (180/167,169).CaS. | $\begin{aligned} & \text { UG } \\ & \text { PCPBB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2008 / 06 / 11 \\ & 18: 42 \end{aligned}$ |
| 841 | 1705 | (1806651,008).CaS. | $\begin{aligned} & \text { US: } \\ & \text { PCPIB; } \\ & \text { USPAT } \end{aligned}$ | OR | Off | 2008/06/11 |
| S42 | 138 | (chics5 or ikid or todedele) same (shitis3 and gear) | $\begin{aligned} & G G \\ & \text { PCPYB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\begin{aligned} & 2008 / 06 / 11 \\ & 18: 42 \end{aligned}$ |



|  |  | " 56441144 " \| "5694017" | " 5742014 " | "5886352" <br>  "6105507" \| "6120345" |"6165044" |"6179331" | " 66422330 " | "6470982" | "RE36225").PN. OR ("20040069557" | $2006 / 0231303$ " \|"3639705" | " $38499980^{\prime \prime}$ \| "4521204" | "4565538" | "4643695" "4677055" | "4688021"| | "5014038" |"5388477" | <br>  "6422330" \| "6771034" | "6921870").URPN. |  |  |  |  |
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| 45 | 15 |  | US PGPUB; USPAT; USOCR | OR | OfF | $\begin{aligned} & \text { 2008/06/11 } \\ & 18: 42 \end{aligned}$ |
| 846 | 32 |  | $\begin{aligned} & \text { GG } \\ & \text { ParpB; } \\ & \text { USPRT } \end{aligned}$ | OR | OFF | $\begin{aligned} & \text { 2008006/11 } \\ & 18: 42 \end{aligned}$ |
| S47 | 255 | [1801651,008,65.6,65.8).003. | $\begin{aligned} & \text { US } \\ & \text { PCPBE; } \\ & \text { USPAT } \end{aligned}$ | OR | OF | 18:42 |
| 488 | 982 |  | $\begin{aligned} & \text { US- } \\ & \text { PCaUB; } \\ & \text { USPRT } \end{aligned}$ | OR | ON | 2008106/11 |
| 49 | 177 | S48 and swich | $\begin{aligned} & \angle S \\ & \text { PCPIB; } \\ & \text { USPT } \end{aligned}$ | OR | ON | $\begin{aligned} & 200806611 \\ & 18: 42 \end{aligned}$ |
| S50 | 468 | St9 and (venicle or car or or automombile or truck or wheechair) | $\begin{aligned} & \text { Gf } \\ & \text { PCPIB; } \\ & \text { USPAT } \end{aligned}$ | OR | ON | $\frac{200806611}{18: 42}$ |


| 551 | 294 | S39 not (S50 or S47 or S40 or S41 or S42 or S43 or S44 or S45 or S46) | US PCPPB; USPAT | OR | OFF | $\begin{aligned} & \text { 2008/06/11 } \\ & 18: 42 \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| S52 | 4 |  | US <br> PCPPU; <br> USPAT; <br> USOCR | OR | OFF | $\begin{aligned} & \text { 20080060111 } \\ & 19: 00 \end{aligned}$ |
| 553 | 506 | (200/61.85,61.88).COS | US. PCPUB; USPAT | OR | OFF | $\begin{aligned} & 2008 / 106 / 19 \\ & 00: 40 \end{aligned}$ |
| S54 | 3676 |  | US PGPUB; USPAT | OR | OFF | 2008/06/19 <br> :00:41 |
| 855 | 0 | ("200553,57,560").PN. | US PGPUB; USPAT | OR | OFF | $\begin{aligned} & 2008 / 06 / 19 \\ & 23: 13 \end{aligned}$ |
| S56 | 751 | (2001553,557,560).CCLS | $\begin{aligned} & \text { US } \\ & \text { PGPUB; } \\ & \text { USPAT } \end{aligned}$ | OR | OFF | $\begin{aligned} & 2008106 / 19 \\ & 23: 13 \end{aligned}$ |

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C:I Documents and Settingsl vcoolmanl My Documentsl EAST Workspaces 11410568 SHI FT ASSEMBLY FOR CHILDREN'S RI DE-ON VEHI CLENON-LI NEAR SHIFT PATTERN FOR VARYING VELOCI TIES.wsp

## BIB DATA SHEET

CONFIRMATION NO. 4870





ALL REFERENCES CONSIDERED EXCEPT WHERE LINED $14969 \nmid f G H . N . C . I$


ALL REFERENCES CONSIDERED EXCEPT WHERE LINED $1548946 G H . ~ N . C . / ~$

Electronic Patent Application Fee Transmittal


|  | Description | Fee Code | Quantity | Amount |
| :--- | :---: | :---: | :---: | :---: |
| Extension-of-Time: | Sub-Total in <br> USD(\$) |  |  |  |
| Miscellaneous: |  |  |  |  |
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| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 4545901 |
| Application Number: | 11410568 |
| International Application Number: |  |
| Confirmation Number: | 4870 |
| Title of Invention: | CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES |
| First Named Inventor/Applicant Name: | Christopher F. Lucas |
| Customer Number: | 23581 |
| Filer: | Charles H. DeVoe |
| Filer Authorized By: |  |
| Attorney Docket Number: | MPW 3L2 |
| Receipt Date: | 31-DEC-2008 |
| Filing Date: | 24-APR-2006 |
| Time Stamp: | 18:06:23 |
| Application Type: | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with | ent | yes |  |  |
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| Payment was | fully received in RAM | \$1810 |  |  |
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| Deposit Acco |  | 111540 |  |  |
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| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest |  |


| 1 | Issue Fee Payment (PTO-85B) | 20081231_Issue_Fee_Transmitt al_MPW3L2.pdf |  | no | 1 |
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| Information: |  |  |  |  |  |
| 2 | Fee Worksheet (PTO-06) | fee-info.pdf |  | no | 2 |
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| Information: |  |  |  |  |  |
| Total Files Size (in bytes): |  |  | 1456203 |  |  |
| This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. |  |  |  |  |  |
| New Applications Under 35 U.S.C. 111 |  |  |  |  |  |
| If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. |  |  |  |  |  |
| National Stage of an International Application under 35 U.S.C. 371 |  |  |  |  |  |
| If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. |  |  |  |  |  |
| New International Application Filed with the USPTO as a Receiving Office |  |  |  |  |  |
| If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application. |  |  |  |  |  |

## PART B - FEE(S) TRANSMITTAL

## Complete and send this form, together with applicable fee(s), to: Mail Mail Stup ISSUE FEE Commissioner for Patents P.O. Box 1450 <br> Alexandria, Virginia 22313-1450 <br> or Eax (571)-273-2885

INSTRUCTIONS: This form should be used for Iransmilling the ISSUE FEE And PUBLICATION FEE (if required). Blocks 1 through $S$ should be completed where appropriale. All further correspondence including the Patent, advance orders and notificalion of maintenance ficers will be mailed to the current eorrespondence address as indiested unless carrected below or directed atherwise in Block I, by (a) specirying a new correspondence oddress; end/or (b) indicating a separaic "FEE AODRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Wule: Ube Block: I (or acy chacge of caderesi)
$23581 \quad 7590 \quad 1104 / 2008$
KOLISCH HARTWELL, P.C.
200 PACIFIC BUILDING 520 SW YAMHILL STREET PORTLAND, OR 97204

Nore: A cerificate of mailing can only be uscd Tar domestie mailings of the Fee(s) Transmilual. This cerificate cannol be used for any ouher accompanying papers. Each addilionnl paper, such as an assignment or formal drawing, musi have it own ecrificate of maling or transmission.

## Cerificate of Malling or Transmission

1 hereby ecerify that this Feefs) Tramsmiteat is boing deposited with the United Shates Postal Scrvice wilh suificienm possage for first class mail in an cnvclope addressed to the Mail Stop ISSUE FEE address above, or bcing focsimile transmilted to the USPTO (571) 273-2885, on the datc indicated below.

| Merissa R. Anderson | [Depornote names) |
| :---: | :---: |
| Merissa R Andudersoń | (Sypanimit |
| December 31, 2008 | (oat |


| APPLICATION NO. | FILING DATE | FIRST NAMED NVENTOR | ATTORNEY DOCKETNO. | CONFIRMATION NO. |
| :---: | :---: | :---: | :---: | :---: |
| $11 / 410,568$ | $04 / 24 / 2006$ | Chrislapher F. LuGAS | MPW 3L2 | 4870 |

TTTLE OF INVENTION:CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline APFLN. TYPE \& SMALL ENTITY \& ISSUE FEE OUE \& PUBLICATION PEE DUE \& PREV, PAID ISSUE FEE \& TOTAL FEE(S) DUE \& DATE DUE \\
\hline \multicolumn{2}{|l|}{nonprovisional NO} \& \$1510 \& \$300 \& 50 \& 51810 \& 02/04/2009 \\
\hline \multicolumn{2}{|c|}{EXAMTNER} \& ART UNTT \& CLASS-SUBCLASS \& \& \& \\
\hline \multicolumn{2}{|r|}{COOLMAN, VAUGHN} \& 3618 \& 180-065100 \& \& \& \\
\hline \multicolumn{3}{|l|}{\begin{tabular}{l}
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"Fee Address" indication (or "Fee Address" Indicalion form PT'USB'47; Rer 01. U2 of more resent) allached Ust of 1 Customer Number is required.
\end{tabular}} \& \multicolumn{2}{|l|}{\begin{tabular}{l}
2. For printing on the patent front page, list \\
(1) the names of up to 3 registered patent altomeys or agents \(O R\), allemalively. \\
(2) the wame of a single firm (baving as a meinber a tegistered allomey or agent) and the names of up to Irgisered patert attorseys ur agents. If no name is listed. no name will be printed.
\end{tabular}} \& ys

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to
is \& vell, P.C. <br>
\hline
\end{tabular}

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignec is identified below, no assibnce data will appear on the pateat. If an ossignee is identilied below, the document has been filed for recondalion as set forth in 37 CFR 3.11. Completion or this form is NOT a subslituce for filing an assignneatit.
(A) NAME OF ASSIGNEE
(B) RESIDENCE: (CITY andSTATE OR COUNTRY)

Mattel, Inc.
El Segundo, California
Please check the appropriate essignec category or categories (will not be printed on the patent) :
$\square$ Individuel
Coppration or other privale group entily
Oovernment
40. The following feeds) are submilled:

Issuc Fec
( Publication Fee (No small endity diseount permilled)
$\square$ Advance Order - \# of Copics $\qquad$
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4b. Paymenl of Fee(s): (Please first reapply any previously pald issue fee shown above) $\square$ A check is enelosed.
D Payment by eredit card. Form PTO-2038 is allached.
The Director is hereby authorized to charge the require
俗 overpayment, to Deposil Account Number _11:1540_ (enclose an axtra copy of fhis form).
5. Change In Entity Status (from stalus indicated above)

NOTE. The [ssuce Fee and Publication Fec if required) will not be acepped fiom anyone other than the applicant: a refisiered allomey or agent; or the assignee or other pary in interest as shown by the records of lire United Satacs Patem and Trademark Oifice:

Auhorized Signature $\qquad$ ICharles H. DeVoe/

Datc $\qquad$
Registration No. $\qquad$ 37,305
$\qquad$ Charles H. DeVoe

This collection of informition is required by 37 CFR T. 3 )I. The information is required 10 obsaln of relain a benefit by the public which is 10 filc (and by ithe USPTO io process) an application. Confidentiality is govemed by 35 U.S.C. 122 and 37 CFR . 14 . This collection is estimated to cake 12 minutes to complete, including gothering, preparing, ond submiting the compleicd applicetion form to the USPYO. Time will vary depending upon the individual case. Any comments on tho emount of time you reguire to complete this form and/or suggestions for reducing this burden, should be sent to the chief Information Orficer, U.S. Patent and Tridemark Office, U.S. Department of Commerce, P.O. Box 1450 , Nexand Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner far Palents, P.O. BOX 1450, Alexondria, Virginia $22315-1450$.
Under the Paperwork Reduction Act of 1995, no porsons are required to respond to a collection of informotion unless it displays a valid OMB contral number.


## ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)
The Patent Term Adjustment is 363 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (http://pair.uspto.gov).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site http://pair.uspto.gov for additional applicants):
Christopher F. Lucas, Cheektowaga, NY;
John Rhein, Hamburg, NY;

## REVOCATION AND REAPPOINTMENT OF POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Mattel, Inc. hereby revokes all previous powers of attorney for any and all of its intellectual property matters for which the practitioners of Kolisch Hartwell, P.C. (USPTO Customer No. 23581) were the practitioners of record as of March 6, 2009. In their place, Mattel, Inc. hereby appoints the attorneys at DASCENZO INTELLECTUAL PROPERTY LAW, P.C. (USPTO Customer No. 78569) as its attorneys for each of these matters. As of the date listed below, these practitioners include: David S. D'Ascenzo, Reg. No. 39,952, and Ian D. Gates, Reg. No. 51,722.

Attached with this document, and incorporated herein, is a Schedule of U.S. patent applications, U.S. patents, and PCT patent applications, as applicable, for which this revocation and reappointment applies. Mattel, Inc. is the applicant and/or assignee of the entire right, title, and interest in the intellectual property matters listed on the attached Schedule.

Please change the correspondence address for all of the applications, patents, and registrations on the attached Schedule to the address below, which is associated with USPTO Customer Number 78569.

DASCENZO INTELLECTUAL PROPERTY LAW, P.C.
522 S.W. $5^{\text {th }}$ Avenue, Suite 925
Portland, Oregon 97204
Telephone: (503) 224-7529
Facsimile: (503) 224-7329

Date:


Name: __ Dennis M. Wesolowski
Title: $\qquad$

## SCHEDULE OF INTELLECTUAL PROPERTY MATTERS OF MATTEL, INC.

## PATENT MATTERS

U.S. Patent Application Serial Nos.:

11/344,651
11/509,421
11/509,439
11/510,226
11/728,049
11/784,861
11/789,780
11/900,869
12/355,588
12/361,832
12/389,775
12/419,270
29/334,738
61/058,164
61/115,830
61/133,759
61/137,500
61/137,704
U.S. Patent Nos.:

| D366071 | $5,931,524$ |
| :--- | :--- |
| D393,888 | $5,947,795$ |
| D397,737 | $6,042,148$ |
| D399,270 | $6,095,268$ |
| D410,047 | $6,105,982$ |
| D410,258 | $6,120,345$ |
| D410,502 | $6,155,833$ |
| D414,221 | $6,179,331$ |
| D415,214 | $6,186,256$ |
| D418,546 | $6,345,676$ |
| D422,320 | $6,347,679$ |
| D426,861 | $6,377,026$ |
| D428,068 | $6,405,817$ |
| D429,774 | $6,408,967$ |
| D431,845 | $6,412,787$ |
| D436,141 | $6,470,982$ |
| D436,386 | $6,508,320$ |
| D436,387 | $6,508,322$ |
| D437,005 | $6,509,719$ |
| D437,006 | $6,52,244$ |
| D437,007 | $6,554,087$ |
| D440,260 | $6,651,528$ |
| D441,808 | $6,656,010$ |
| D443,316 | $6,771,034$ |
| D443,658 | $6,755,265$ |
| D447189 | $6,973,987$ |
| D456,858 | $6,994,179$ |
| D503,661 | $7,007,767$ |
| D505,364 | $7,195,271$ |
| D507,993 | $7,207,588$ |
| $4,988,143$ | $7,216,878$ |
| $5,031,942$ | $7,413,041$ |
| $5,237,302$ | $7,487,850$ |
| $5,319,996$ | $7,513,324$ |
| $5,497,844$ | $7,530,411$ |
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| $5,571,999$ |  |
| $5,644,114$ |  |
| $5,671,934$ |  |
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| $5,718,454$ |  |
| $5,845,724$ |  |
| $5,859,509$ |  |
| $5,928,020$ |  |

PCT Patent Application No.:
PCT/US08/60122

## STATEMENT UNDER 37 CFR 3.73(b)

## Applicant/Patent Owner: <br> Christopher F. Lucas and John Rhein

Application No.IPatent No.: 7,487,850
Filed/Issue Date: February 10, 2009
Titled:
CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES
Mattel, Inc.

## , a Delaware corporation

(Name of Assignee)
(Type of Assignee, e.g., corporation, partnership, university, government agency, etc. states that it is:

1. $\boxtimes$ the assignee of the entire right, title, and interest in;
2. $\square$ an assignee of less than the entire right, title, and interest in
(The extent (by percentage) of its ownership interest is $\qquad$ $\%$ ); or
3. $\square$ the assignee of an undivided interest in the entirety of (a complete assignment from one of the joint inventors was made) the patent application/patent identified above, by virtue of either:
A. $\triangle$ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 017607 , Frame $\underline{0726}$ , or for which a copy therefore is attached.
OR
B.

A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From:

To: $\qquad$
The document was recorded in the United States Patent and Trademark Office at
$\qquad$ , Frame $\qquad$ , or for which a copy thereof is attached.
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The document was recorded in the United States Patent and Trademark Office at
Reel $\qquad$ , Frame $\qquad$ or for which a copy thereof is attached.
$\square$ Additional documents in the chain of title are listed on a supplemental sheet(s).

As required by 37 CFR 3.73 (b)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.
[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3 , to record the assignment in the records of the USPTO. See MPEP 302.08]
The undersigned (whose titleds-sutpotionelow) is authorized to act on behalf of the assignee.

Signature
David S. D'Ascenzo
June 10, 2009
Date
Attorney for Assignee

Printed or Typed Name
This collection of information is required by 37 CFR $3.73(\mathrm{~b})$. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14 . This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 5493925 |
| Application Number: | 11410568 |
| International Application Number: |  |
| Confirmation Number: | 4870 |
| Title of Invention: | CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES |
| First Named Inventor/Applicant Name: | Christopher F. Lucas |
| Customer Number: | 23581 |
| Filer: | David S. D'Ascenzo/Robin Davin |
| Filer Authorized By: | David S. D'Ascenzo |
| Attorney Docket Number: | MPW 3L2 |
| Receipt Date: | 10-JUN-2009 |
| Filing Date: | 24-APR-2006 |
| Time Stamp: | 18:25:21 |
| Application Type: | Utility under 35 USC 111(a) |

## Payment information:

| Submitted with Payment |  | no |  |  |  |
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| File Listing: |  |  |  |  |  |
| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
| 1 | Power of Attorney | Revocation_and_Reappointme nt_POA_MPW.pdf |  | no | 4 |
| Warnings: |  |  |  |  |  |
| Information: 162 of |  |  |  |  |  |


| 2 | Assignee showing of ownership per 37 CFR 3.73(b). | MPW3L2_Statement_Under_37 <br> CFR3_73b.pdf | 129369 <br> 27506c3dd0 3 Sbe2a2774fdd 220 eee 345588cb <br> 416ef | no |  |
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| This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. |  |  |  |  |  |
| New Applications Under 35 U.S.C. 111 |  |  |  |  |  |
| If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. |  |  |  |  |  |
| National Stage of an International Application under 35 U.S.C. 371 |  |  |  |  |  |
| If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. |  |  |  |  |  |
| New International Application Filed with the USPTO as a Receiving Office |  |  |  |  |  |
| If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application. |  |  |  |  |  |

United States Patent and Trademark Office


CONFIRMATION NO. 4870
78569
POA ACCEPTANCE LETTER
Dascenzo Intellectual Property Law, P.C.
522 SW 5th Ave
Suite 925
Portland, OR 97204-2126
Date Mailed: 06/19/2009

## NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/10/2009.
The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33 .
/nmohammed/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

United States Patent and Trademark Office


APPLICATION NUMBER
11/410,568

FILING OR 371(C) DATE
04/24/2006
FIRST NAMED APPLICANT
Christopher F. Lucas

23581
KOLISCH HARTWELL, P.C.
200 PACIFIC BUILDING
520 SW YAMHILL STREET
PORTLAND, OR 97204
Date Mailed: 06/19/2009

## NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/10/2009.

- The Power of Attorney to you in this application has been revoked by the assignee who has intervened as provided by 37 CFR 3.71. Future correspondence will be mailed to the new address of record(37 CFR 1.33).
/nmohammed/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

September 9, 2011
In re Patent of:
CHRISTOPHER F. LUCAS and JOHN RHEIN
Serial No. : 11/410,568
Filed : April 24, 2006
Patent No. : 7,487,850
Issued : February 10, 2009
For : CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED
SHIFTER ASSEMBLIES

## Attn: Certificate of Corrections Branch

Commissioner for Patents
P.O. Box 1450

Alexandria, Virginia 22313-1450

## REQUEST FOR CERTIFICATE OF CORRECTION

Enclosed for entry in connection with the above-identified patent is a Certificate of Correction to correct a typographical error made by the U.S. Patent and Trademark Office. The undersigned requests that the correction be made on the patent and that a copy of the Certificate of Correction be sent to the undersigned at the address listed below.

The undersigned may be reached at the number listed below if there are any remaining issues or questions.

## CERTIFICATE OF E-FILING

I hereby certify that this correspondence and the accompanying Certificate of Correction form are being transmitted electronically via the United States Patent and Trademark Office's EFS -Web System on September 9, 2011.

David S. D'Ascenzo

Respectfully submitted,
DASCENZO INTELLECTUAL PROPERTY LAW, P.C.


David S. D'Ascenzo
Registration No. 39,952
Customer No. 78569
DASCENZO INTELLECTUAL
PROPERTY LAW, P.C.
522 S.W. $5^{\text {th }}$ Ave, Suite 925
Portland, Oregon 97204
Telephone: (503) 224-7529
Facsimile: (503) 224-7329

# UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION 

PATENT NO. : 7,487,850
APPLICATION NO.: 11/410,568
ISSUE DATE : February 10, 2009
INVENTOR(S) : Christopher F. Lucas and John Rhein
It is certified that an error appears or errors appear in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On page 21 , Column 17, Line 52, after "from the child" please delete "sifting" and insert - - sitting - .

MAILING ADDRESS OF SENDER (Please do not use customer number below):
DASCENZO Intellectual Property Law, P.C.
522 SW 5th Avenue, Suite 925
Portland, Oregon 97204
This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 10912828 |
| Application Number: | 11410568 |
| International Application Number: |  |
| Confirmation Number: | 4870 |
| Title of Invention: | CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES |
| First Named Inventor/Applicant Name: | Christopher F. Lucas |
| Customer Number: | 78569 |
| Filer: | David S. D'Ascenzo/Robin Davin |
| Filer Authorized By: | David S. D'Ascenzo |
| Attorney Docket Number: | MPW 3L2 |
| Receipt Date: | 09-SEP-2011 |
| Filing Date: | 24-APR-2006 |
| Time Stamp: | 13:14:19 |
| Application Type: | Utility under 35 USC 111(a) |

## Payment information:

| Submitted w | Payment | no |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| File Listing: |  |  |  |  |  |
| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
| 1 | Request for Certificate of Correction | Request_for_Certificate_of_Cor rection_MPW3L2_9-9-11.pdf | $\frac{62080}{\substack{\text { 75ea62ce6586aal 128882as } 16885635 \text { e000 } \\ \text { 4daec }}}$ | no | 2 |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  | 168 of 176 |  |

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New Applications Under 35 U.S.C. 111
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

## New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

# UNITED STATES PATENT AND TRADEMARK OFFICE <br> CERTIFICATE OF CORRECTION 

| PATENT NO. | $: 7,487,850 \mathrm{~B} 2$ | Page 1 of 1 |
| :--- | :--- | :---: |
| APPLICATION NO. | $: 11 / 410568$ |  |
| DATED | $:$ February 10,2009 |  |
| INVENTOR(S) | $:$ Christopher F. Lucas and John Rein |  |

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 17, Line 52, after "from the child" please delete "sifting" and insert -- sitting --.

Signed and Sealed this Fourth Day of October, 2011


David J. Kappos
Director of the United States Patent and Trademark Office

# IN THE UNITED STATES PATENT AND TRADEMARK OFFICE 

April 1,2013

| In re Patent of: MATTEL, INC. |  |  |
| :---: | :---: | :---: |
| Inventors | : | CHRISTOPHER F. LUCAS and JOHN RHEN |
| Serial No. | : | 11/410,568 |
| Filed | : | April 24, 2006 |
| Patent No. | : | 7,487,850 |
| Issued | : | February 10, 2009 |
| For | : | CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES |

Commissioner for Patents
P.O. Box 1450

Alexandria, Virginia 22313-1450

## REQUEST FOR STATUS OF U.S. PATENT NO. 7,487,850

Mattel, Inc., the owner and assignee of the above-identified patent, as recorded in the records of the U.S. Patent and Trademark Office, respectfully requests to be informed of the current status of the above-identified patent. On March 11, 2013, the U.S. Patent and Trademark Office issued a Notice of Patent Expiration for this patent; however, the four-year maintenance fee for this patent was timely paid on August 10, 2012, as indicated by the attached Maintenance Fee Statement from the records of the U.S. Patent and Trademark Office. A copy of the Notice of Patent Expiration also is attached for your reference.

The Notice states that the patent has expired because payment of the four-year maintenance fee was not received timely prior to the end of the six-month grace period. Patentee believes that the Notice of Patent Expiration was issued in error. Accordingly, it would be appreciated if the

USPTO would confirm the status of the above-identified patent and, if necessary, correct the status of the patent in the records of the U.S. Patent and Trademark Office.

## CERTIFICATE OF E-FILING

I hereby certify that this correspondence and is being transmitted electronically via the United States Patent and Trademark Office's EFS-Web System on April 1, 2013.


David S. D'Ascenzo

Respectfully submitted,
DASCENZO INTELLECTUAL PROPERTY LAW, P.C.


David S. D'Ascenzo
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Customer No. 78569
DASCENZO INTELLECTUAL PROPERTY LAW, P.C.
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Portland, Oregon 97205
Telephone: (503) 224-7529
Facsimile: (503) 224-7329

## MAINTENANCE FEE STATEMENT

According to the records of the U.S.Patent and Trademark Office (USPTO), the maintenance fee and any necessary surcharge have been timely paid for the patent listed below. The "PYMT DATE" column indicates the payment date (i.e., the date the payment was filed).

The payment shown below is subject to actual collection. If the payment is refused or charged back by a financial institution, the payment will be void and the maintenance fee and any necessary surcharge unpaid.

Direct any questions about this statement to: Mail Stop M Correspondence, Director of the USPTO, P.O.Box 1450, Alexandria, VA 22313-1450.

| PATENT |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  | U.S. | PATENT | APPL. |  | PAR | PYMT |
| NUMBER | FEE AMT | CHARGE | APATE | NUMATION | ISSUE | FILING | PAYMENT | ENTITY | ATTY DKT |
| $\mathbf{7 4 8 7 8 5 0}$ | $\mathbf{\$ 1 , 1 3 0 . 0 0}$ | $\mathbf{\$ 0 . 0 0}$ | $\mathbf{0 8 / 1 0 / 1 2}$ | $\mathbf{1 1 4 1 0 5 6 8}$ | $\mathbf{0 2 / 1 0 / 0 9}$ | $\mathbf{0 4 / 2 4 / 0 6}$ | $\mathbf{0 4}$ | LARGE | MPW 3L2 |

## NOTICE OF PATENT EXPIRATION

According to the records of the U.S. Patent and Trademark Office (USPTO), payment of the maintenance fee for the paterint(s) listed below has not becin received timely prior to the end of the six-month grace period in accordance with 37 CFR 1.362(e). THE PATENT(S) LISTED BELOW HAS THEREFORE EXPIRED AS OF THE END OF THE GRACE PERIOD. 35 U.S.C. 41(b). Notice of the expiration will be published in the USPTO Official Gazette.

Expired patents may be reinstated in accordance with 37 CFR 1.378 if upon petition, the maintenance fee and the surcharge set forth in 37 CFR 1.20(i) are paid, AND the delay in payment of the maintenance fee is shown to the satisfaction of the Director to have been unavoidable or unintentional. 35 U.S.C. 41(c)(1).

If the Director accepts payment of the maintenance fee and surcharge upon petition under 37 CFR 1.378, the patent shall be considered as not having expired but would be subject to the intervening rights and conditions set forth in 35 U.S.C. 41(c)(2).

For instructions on filing a petition under 37 CFR 1.378 to reinstate an expired patent, customers should call the Office of Petitions Help Desk at 571-272-3282 or refer to the USPTO Web site at www.uspto.gov/web/offices/pac/dapp/petitionspractice.html. The USPTO also permits reinstatement under 37 CFR 1.378 (c) by electronic petition (e-petition) using EFS-Web; e-petitions may be automatically granted if all the eligibility requirements are met. For further information on filing an e-petition, please call the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 571-272-4100 or refer to the EBC's e-petition guide at www.uspto.gov/ebc/portal/efs/petition_quickstart.pdf.

|  | U.S. |  |  |  |  |
| :--- | :--- | :--- | :---: | :---: | :---: |
| PATENT | APPLICATION | PATENT | APPLICATION | EXPIRATION | ATTORNEY |
| NUMBER | NUMBER | ISSUE DATE | FILING DATE | DATE | DOCKET NUMBER |
| 7487850 | 11410568 | $02 / 10 / 09$ | $04 / 24 / 06$ | $02 / 10 / 13$ | MPW $3 L 2$ |

NOTE: This notice was automatically generated based on the amount of time that elapsed since the date a patent was granted. It is possible that the patent term may have ended or been shortened due to a terminal disclaimer that was filed in the application. Also, for any patent that issued from an application filed on or after June 8, 1995 containing a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121, or 365(c), the patent term ends 20 years from the datepep which the earliest such application was filed, unless the term was adjusted or extended under. 35 U.S.C. 154 or 156.

| Electronic Acknowledgement Receipt |  |
| :---: | :---: |
| EFS ID: | 15398039 |
| Application Number: | 11410568 |
| International Application Number: |  |
| Confirmation Number: | 4870 |
| Title of Invention: | CHILDREN'S RIDE-ON VEHICLES HAVING IMPROVED SHIFTER ASSEMBLIES |
| First Named Inventor/Applicant Name: | Christopher F. Lucas |
| Customer Number: | 78569 |
| Filer: | David S. D'Ascenzo/Robin Davin |
| Filer Authorized By: | David S. D'Ascenzo |
| Attorney Docket Number: | MPW 3L2 |
| Receipt Date: | 01-APR-2013 |
| Filing Date: | 24-APR-2006 |
| Time Stamp: | 13:10:51 |
| Application Type: | Utility under 35 USC 111(a) |

## Payment information:

| Submitted w | ment | no |  |  |  |
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| File Listing: |  |  |  |  |  |
| Document Number | Document Description | File Name | File Size(Bytes)/ Message Digest | Multi Part /.zip | Pages (if appl.) |
| 1 | Miscellaneous Incoming Letter | Request_for_Status_of_US_Pat ent_No_7487850_MPW3L2_4-1 -13.pdf |  | no | 2 |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  | 175 of 176 |  |


| 2 | Miscellaneous Incoming Letter | Maintenance_Fee_Statement MPW3L2.pdf |  | no | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
| 3 | Miscellaneous Incoming Letter | Notice_of_Patent_Expiration_ MPW3L2.pdf | $\qquad$ <br> e0079234044f266bf2f99d 197478a5f7e085 <br> 841b | no | 1 |
| Warnings: |  |  |  |  |  |
| Information: |  |  |  |  |  |
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| New Applications Under 35 U.S.C. 111 |  |  |  |  |  |
| If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. |  |  |  |  |  |
| National Stage of an International Application under 35 U.S.C. 371 |  |  |  |  |  |
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| New International Application Filed with the USPTO as a Receiving Office |  |  |  |  |  |
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[^2]:    Page 4 - RESPONSE TO OFFICE ACTION Serial No. 11/410,568

[^3]:    Page 10 - RESPONSE TO OFFICE ACTION
    Serial No. 11/410,568

