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APPLICATION NUMBER: *16/832,429*
FILING DATE: *March 27, 2020*

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PTO/AIA/82B (07-13)
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REMOVABLE SEAT ATTACHMENT FOR A STROLLER

RELATED APPLICATIONS

This application is a continuation of and claims priority under 35 U.S.C. §120 to U.S. Patent Application No. 15/912,901, filed March 6, 2018, and titled "Removable Seat Attachment for a Stroller," which is a continuation of and claims priority under 35 U.S.C. §120 to U.S. Patent Application No. 15/225,326 (now U.S. Patent No. 9,944,305), filed August 1, 2016, and titled "Removable Seat Attachment for a Stroller," which claims priority under 35 U.S.C. §119 to U.S. Provisional Patent Application No. 62/311,224 filed March 21, 2016, and titled "Removable Seat Attachment for a Stroller," the entire contents of each of which are hereby incorporated herein by reference for all purposes. This application is also a continuation of and claims priority under 35 U.S.C. §120 to U.S. Patent Application No. 15/912,901, filed March 6, 2018, and titled "Removable Seat Attachment for a Stroller," which is a continuation of and claims priority under 35 U.S.C. §120 to U.S. Patent Application No. 15/225,326 (now U.S. Patent No. 9,944,305), which is a continuation-in-part of and claims priority under 35 U.S.C. §120 to U.S. Patent Application No. 14/597,420 (now U.S. Patent No. 9,403,550), filed on January 15, 2015, which claims priority to U.S. Patent Application No. 14/261,558 (now U.S. Patent No. 8,955,869) filed on April 25, 2014, which claims priority to U.S. Patent Application No. 12/631,375 filed on December 4, 2009, which claims priority to U.S. Provisional Patent Application No. 61/119,920 filed on December 4, 2008, the entire contents of each of which are incorporated herein by reference for all purposes.

TECHNICAL FIELD

Embodiments disclosed herein are generally related to children's stroller systems and more particularly to apparatuses and methods for a removable seat attachment for a stroller that is capable of supporting a seat including, but not limited to, a stroller seat, a baby seat, a bassinet, a pram, a car seat, or a baby carrier.

BACKGROUND

Parents or guardians with multiple young children may have difficulty transporting their children from place to place. Children are slow, easily distracted and, therefore, may lag behind. In response, many parents and/or guardians have purchased double seat strollers allowing the

parent or guardian to push two children simultaneously and thus allow them to more efficiently run errands, take walks, or jog. As such, a double seat stroller allows the parent or guardian with multiple young children more freedom than they would have with only a single seat stroller.

However, permanently fixed double seat strollers also have certain disadvantages. Double seat strollers are substantially larger (wider and/or longer) than single seat strollers and are, therefore, more difficult to maneuver through doorways and down aisles in stores. While, the benefits of being able to accommodate two children at one time in a double seat stroller typically offset these disadvantages, when the parent or guardian has only one child with them, the benefits of the double seat stroller are not realized but the disadvantages still exist.

Stroller manufacturers have attempted to solve this problem by providing an adjustable stroller that can be modified from having a single seat to having two seats by providing attachments that provide a second seat for the second child that hangs under and slightly behind the seat of the single seat stroller. In other embodiments, the second seat can be attached to a seat attachment placed further forward in the stroller. The current attachment mechanisms can suffer from several drawbacks. These drawbacks include being permanently affixed to the stroller frame and taking up unnecessary space or creating a safety hazard for children not in the stroller when the second seat is not attached to the stroller. In addition, the covers for the seat attachments, for covering a portion of the seat attachment mechanism when not in use, are detachable and can be easily lost when the seat attachment is in use.

BRIEF DESCRIPTION OF THE EXAMPLE DRAWINGS

For a more complete understanding of the present disclosure and certain features thereof, reference is now made to the following description, in conjunction with the accompanying figures briefly described as follows:

Figure 1 presents a side elevation view of a single stroller apparatus according to one example embodiment of the disclosure.

Figure 2 presents a partial side elevation view of a seat attachment to convert a single stroller into a double stroller according to one example embodiment of the disclosure.

Figure 3 presents a side elevation view of a combination of the single stroller of Figure 1 attached to the seat attachment of Figure 2 according to one example embodiment of the disclosure.

Figure 4 presents a perspective view of a seat attachment capable of supporting a car seat on an attachment of Figure 2 according to one example embodiment of the disclosure.

Figure 5 presents a side elevation view of a combination of the single stroller of Figure 1 attached to an attachment in the form of a tricycle-like riding device according to one example embodiment of the disclosure.

Figure 6A presents a view of an accessory attachment for supporting an accessory on a stroller, while Figure 6B presents a view of a bag or purse for attaching to the accessory attachment of Figure 6A according to one example embodiment of the disclosure.

Figure 7 presents a perspective view of an attachment for supporting a seat comprising one wheel according to one example embodiment of the disclosure.

Figures 8A-H present multiple views of a stroller apparatus capable of being converted from a single seat stroller to a double seat stroller through the use of removable seat attachment adapters according to one example embodiment of the disclosure.

Figure 9 presents a perspective view of one version of a stroller with left and right attachment frame members for attaching a second seat according to one example embodiment of the disclosure.

Figure 10 presents a front elevation view of an attachment frame member according to one example embodiment of the disclosure.

Figure 11 is a partial perspective view of the stroller showing the seat attachment housing according to one example embodiment of the disclosure.

Figure 12 is a partial perspective view of the seat attachment housing according to one example embodiment of the disclosure.

Figures 13A-C are partial perspective views of the removable seat attachment adapter removably coupled to the seat attachment housing according to one example embodiment of the disclosure.

Figures 14A-C are partial perspective views of an alternative embodiment of the seat attachment housing according to another example embodiment of the disclosure.

DETAILED DESCRIPTION OF THE EXAMPLE EMBODIMENTS

Example embodiments of the invention now will be described more fully hereinafter with reference to the accompanying drawings, in which example embodiments are shown. The concept

disclosed herein may, however, be embodied in many different forms and should not be construed as limited to the exemplary embodiments set forth herein; rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Like numbers refer to like, but not necessarily the same, elements throughout.

The example embodiments described herein and shown in the figures is described with reference to an infant or child's stroller that can be configured to adjust from a single seat stroller to a multi-seat stroller. While the example embodiments will generally be described with reference to adding or removing seats from the stroller, the reference to seats is for example purposes only, as the seat or portion that can be added or removed from the stroller can include, but is not limited to, a stroller seat, a baby seat, a bassinet, a pram, a car seat, or a baby carrier. Each of the stroller seat, baby seat, bassinet, pram, car seat, and/or baby carrier should individually be read as an alternative embodiment to the removable/added infant or child's stroller seat described below.

Certain dimensions and features of the example adjustable stroller are described herein using the term "approximately." As used herein, the term "approximately" indicates that each of the described dimensions is not a strict boundary or parameter and does not exclude functionally similar variations therefrom. Unless context or the description indicates otherwise, the use of the term "approximately" in connection with a numerical parameter indicates that the numerical parameter includes variations that, using mathematical and industrial principles accepted in the art (*e.g.*, rounding, measurement or other systematic errors, manufacturing tolerances, etc.), would not vary the least significant digit.

In addition, certain relationships between dimensions of the adjustable stroller and between features of the adjustable stroller are described herein using the term "substantially." As used herein, the terms "substantially" and "substantially equal" indicates that the equal relationship is not a strict relationship and does not exclude functionally similar variations therefrom. Unless context or the description indicates otherwise, the use of the term "substantially" or "substantially equal" in connection with two or more described dimensions indicates that the equal relationship between the dimensions includes variations that, using mathematical and industrial principles accepted in the art (*e.g.*, rounding, measurement or other systematic errors, manufacturing tolerances, etc.), would not vary the least significant digit of the dimensions. As used herein, the term "substantially constant" indicates that the constant relationship is not a strict relationship and

does not exclude functionally similar variations therefrom. As used herein, the term "substantially parallel" indicates that the parallel relationship is not a strict relationship and does not exclude functionally similar variations therefrom.

As discussed above, parents or guardians may find themselves in a situation wherein it is more convenient to transport two children in a stroller, but at the same time find it inconvenient to have both a single stroller and double stroller. Embodiments of the seat attachment solve this problem. In one aspect, an embodiment of the seat attachment for a stroller is capable of converting a single stroller into a double stroller. The seat attachment may support a seat such as, but not limited to, a stroller seat, a baby seat, a bassinet, a pram, a baby carrier, or a car seat, for example. Therefore, the parent or guardian does not require both a single stroller and a double stroller. A stroller configured to receive a seat attachment for converting a single stroller into a double stroller provides convenience to the user. The single stroller may be connected to a double stroller by attaching the seat attachment to the single stroller and then attaching the second seat. As such, an embodiment of the seat attachment for converting a single stroller into a double stroller can include at least one connector portion capable of connecting to a stroller frame and a seat support element capable of supporting a seat.

Figure 1 presents a side elevation view of a single stroller apparatus 10 according to one example embodiment of the disclosure. Referring to Figure 1, it shows only one side of the single stroller 10, however, most components include a complementary component on the other side of the single stroller but are not shown in Figure 1. The example single stroller 10 includes a frame 12 that supports a seat 13. The frame 12 may optionally include at least one, and in certain embodiments preferably two, folding mechanisms 16 that allow the stroller 10 to be folded to a more convenient size for storing or transporting the stroller 10.

In the example embodiment of Figure 1, the seat 13 is shown as a typical stroller seat. However, other types of seats may be used in a single stroller. The seat 13 may be permanently affixed to the frame 12 or releasably connected, such that it is capable of being removed and substituted with a different seat. As used herein, "releasably connected" or "releasably attached" means the connection is not a permanent connection and that the connection is capable of being connected and disconnected by the user of the stroller 10 without requiring special tools or special skills. Releasable connections include, but are not limited to, buttons, snaps, friction fittings, interference fits, threaded connections, locking tabs, keyed connections, other fasteners, or the

like. The frame 12 is supported on a pair of back wheels 14 and a pair of front wheels 15. In this example embodiment, the back wheels 14 are fixed and do not swivel or pivot on the frame 12 while the pair of front wheels 15 pivot to make turning the single stroller 10 easier and more convenient. Though, pivoting wheels may be preferred in certain strollers, strollers with fixed non-pivoting wheels are also common and considered as an option as part of this disclosure. In certain example embodiments, the single stroller 10 does not require pairs of front 15 or rear 14 wheels and either the front pair of wheels 15 or the back pair of wheels 14 may be substituted with a single wheel. In certain example embodiments, the single stroller 10, including umbrella strollers, jogging strollers, all-terrain strollers, as well as other strollers may only include one front wheel 15.

The example single stroller 10 may also include one or more seat attachments that are capable of converting any style of single stroller to a double stroller, including strollers with one or two front wheels. In one example embodiment, the stroller 10 can include two attachment portions 17. In one example, the attachment portions 17 can be positioned on or near the front of the stroller 10 to allow the seat attachment and the seat to be connected to the front portion of the stroller 10. The attachment portions 17 can allow a seat attachment such as the seat attachment for converting the single stroller 10 to a double stroller, as shown in Figure 3, to be connected to the stroller. While only one seat attachment is shown in Figure 3, the stroller 10 could typically include two seat attachments as shown in Figure 3 or one seat attachment that can include two seat support elements. In certain example embodiments, the stroller 10 can include a left side and a right side attachment portion 17. The seat attachment for the stroller 10 can further include corresponding connector portions capable of connecting to the stroller frame at the attachment portions 17. Though the seat attachment for the stroller is described in relation to a single stroller, the attachment may similarly be attached to a double stroller. As such, example embodiments of the seat attachment may therefore be used to convert a double stroller into a triple stroller, if desired.

Figure 2 presents a partial side elevation view of a seat attachment to convert a single stroller into a double stroller according to one example embodiment of the disclosure. Now referring to Figures 1 and 2, the example seat attachment 20 is shown in an unlocked and folded configuration. The seat attachment 20 includes a one or more connector portions 21 capable of connecting to the attachment frame members 24, two seat attachment elements 22 capable of

supporting a seat; and a wheel 23. In this example embodiment, the connector portions 21 are connected to the rear of the seat attachment 20 allowing the seat attachment 20 to be connected to the front of a stroller, such as stroller 10 shown in Figure 1. In other example embodiments, the seat attachment 20 may include more than one wheel 23, one connector portion 21, one seat support element, or combinations of these elements. In example embodiments of the stroller with one wheel, the attachment frame member may be on the forks of the front wheel, for example.

The seat attachment 20 can include a wheel support frame 26 connecting the wheel 23 to the attachment frame member 24 of the attachment 20. Each attachment frame member 24 has a first and a second end. The first end is capable of connecting to a stroller frame and the second end can be connected to the seat support element 22. As shown in Figure 2, the seat attachment 20 can include a wheel support frame 26 that is pivotally connected to two attachment frame members 24. The wheel support frame 26 or the attachment frame 24 may span the width of the stroller between the two attachment portions 17. The pivotal connection 27 allows the seat attachment 20 to be folded and conveniently stored or transported but is not necessary for all example embodiments of the disclosure. The pivotal connection 27 can be optional and provide more convenience, however, other example embodiments of the seat attachment 20 can include a releasably connected wheel support frame or a rigid frame that may be incorporated to produce a seat attachment that has greater strength for use in situations where a stronger seat attachment may be desired, such as with all-terrain or jogging strollers, for example. The wheel support frame 26 may be connected at any point on the attachment frame 24. In certain example embodiments the wheel support frame 26 is connected to the attachment frame 24 near the connector portion 21 or near the middle of the attachment frame 24.

In certain example embodiments, the seat attachment without a wheel may include connector portion 21 or attachment frame member 24, and seat attachment member 22, for example. In this example embodiment, there may be no need for the pivotal connection 27, wheel support frame 26, sliding connector 25, or wheel 23.

The seat attachment 20 can also include a folding mechanism that includes a sliding connector 25 connected to a first end of a strut 28. A second end of the strut 28 can be pivotally connected to wheel support frame 26. In such an embodiment, the sliding connector 25 may be moved between a first position and a second position on the attachment frame member 24. As the sliding connector 25 is moved, the strut 28 pushes the wheel support frame 26 from an in-use

position to a storage position. The storage position is more compact as shown in Figure 2. In addition, certain example embodiments of the seat attachment 20 can also include a locking mechanism 29 that is capable of securing the seat attachment 20 to a stroller, such as stroller 10 shown in Figure 1. The locking mechanism 29 can be engaged by moving the sliding connector 25 to the in-use position, in which the wheel support frame 26 and wheel 23 are extended. In certain example embodiments, the wheel 23 of the seat attachment 20 is pivotally connected to the connector portion 21 and when the wheel 23 is in the in-use position the releasable connection is locked and when the wheel 23 is moved to the storage position, the releasable connection is unlocked allowing the seat attachment 20 to be removed from stroller 10. The seat attachment 20 may be stored and the stroller 10 may be conveniently used as a single stroller. As designed, the seat attachment 20 may be reconnected to the stroller 10 for use as a double stroller when needed. The seat attachment portion may be secured into position on the stroller frame and a locking mechanism may be used with an embodiment with or without the wheel. Either the seat attachment or the stroller frame can include a locking mechanism for securing the stroller and seat attachment together. The locking mechanism may be any mechanism capable of securing the components together during use and may be a friction locking device, threaded connection, peg in a hole, or an interference locking device such as a pin in a hole, for example. As shown in the example embodiment of Figure 2, the locking mechanism 29 pivots with wheel support frame 26 as the seat attachment 20 is moved from an unfolded position to a folded position. The locking mechanism 29 may slide into a hole or notch in the attachment frame member 24 of the stroller 10 shown in Figure 1. As such, the seat attachment 20 may be attached to the stroller 10 by positioning the attachment (connector) portion 21 of the seat attachment 20 in the slot 18 of the attachment portion 17 of the stroller 10. The sliding connector 25 may be moved to the in-use position, the wheel support frame is moved, and the locking mechanism 29 is positioned into the locking slot 19 of the stroller 10.

In certain example embodiments, the connector portion 21 of the seat attachment 20 has a cylindrical or substantially cylindrical shape. The connector portion 21 may be inserted into a cylindrical or substantially cylindrical slot 18 of the attachment portion 17 of the stroller 10 of Figure 1 to secure the seat attachment and convert the single stroller into a double stroller, as shown in Figure 3. In other example embodiments, the seat attachment 20 may include any type of connector portion having any geometric or non-geometric shape. The connector portion 21 may

be of a solid or tubular construction and may be any cross-sectional shape including, but not limited to, circular, polygonal, square, rectangular, and triangular, for example. Other attachment mechanisms may be utilized to connect the seat attachment to the stroller 10 such as, but not limited to, a U-shaped bracket, a U-bolt, a pipe clamp, O-shaped bracket, screw, bolt, or other clamping or attachment means. The attachment frame member 24 of the stroller 10 can have a complimentary and/or cooperating shape that allows the connector portion 21 to be secured to the attachment portion of the stroller.

Figure 3 presents a side elevation view of a combination of the single stroller 10 of Figure 1 attached to the seat attachment 20 of Figure 2 according to one example embodiment of the disclosure. Referring now to Figure 3, the seat attachment 20 removably coupled to the single stroller 10 to form a double stroller. The double stroller configuration is shown with two stroller seats 13 in an inline configuration, though the other configurations, such as a stroller seat and a bassinet or a pram may also be supported on the double stroller. Further, the seat support element 22 of the seat attachment 20 may be capable of supporting the front stroller seat 13 in either a forward-facing or backward-facing position.

The example embodiment of the stroller 10 in Figure 3 is shown only as an example of one type of stroller, the frame of the stroller 10 may be any of many possible configurations. Example embodiments of the seat attachment accessory may be configured to be used on any such configuration of a stroller. For example, in another example embodiment, the baby stroller may not include two front wheels, may not include a folding mechanism or may only include only one folding mechanism. In addition, the baby stroller may include additional features not included in baby stroller 10. For example, the stroller may optionally include fixed front wheels, an entirely different frame configuration, or a storage basket underneath the seat of the stroller.

The seat support member may be any configuration capable of supporting the seat on the seat attachment 20. Figure 4 presents another example embodiment of a seat support member 40 for use with a car seat or other baby seat according to one example embodiment of the disclosure. Now referring to Figure 4, the seat support member 40 can include a main support 41. The main support 41 can include a cradle for supporting a central portion of the seat. Another portion of the seat may rest against support bar 42. In this example, the support bar 42 may be adjusted to accommodate seats of different shapes and sizes. The support bar 42 may be slid within the aperture 43 and locked in place when the support bar 42 is in the desired position to support a

certain seat. The seat is, therefore, supported on two main supports 41 and the support bar 42. The seat may be further secured in the seat attachment member 40 by wrapping belts 44 and 45 around the seat and locking the belts in this position with a buckle or other securing means.

Figure 5 presents a side elevation view of a combination 50 of the single stroller 10 of Figure 1 attached to an attachment in the form of a tricycle-like riding device according to one example embodiment of the disclosure. Referring to Figure 5, the combination 50 includes the stroller 10 and the seat attachment 51. In one example, the seat attachment 51 is a tricycle-like attachment that includes a connector portion 52, a frame 53 with a seat support element 56, a seat 57, and a wheel 55. The tricycle-like attachment may be attached to stroller 10 to allow one child to be pushed in the stroller 10 and one child to ride the seat attachment 51. The seat attachment 51 may be other shapes also such as cars, trucks, or animal shapes, for example.

In certain example embodiments, the stroller 10 can include an additional accessory attachment portion 58. The accessory attachment portion 58 attaches to a frame member of the stroller 10. An embodiment of the accessory attachment portion 58 is shown on Figure 6A. This embodiment is particularly useful for attaching a bag or purse 64, as shown in Figure 6B, to the stroller 10.

When using a stroller, parents or guardians typically carry other items, such as purses, grocery bags, cell phones, diapers, cleaning wipes, or other personal or baby related items. Some strollers have bottom storage baskets for placing such items. However, these storage baskets can be inconvenient to access or some light weight strollers do not include such storage baskets. Therefore, users of the stroller may hang purses or shopping bags on the handle of the stroller. This is convenient in that the bag is easy to access, but the weight of the bag on the handle may cause the stroller to be unbalanced and increase the tendency of the stroller to topple backwards. A heavy bag hung from the handle of a stroller may cause the stroller to tip backwards even with a child in the seat. The problem is worse if the stroller is facing uphill, on uneven terrain, being pushed up a curb, or occupied by a small child. The accessory attachment 58 may be attached to the frame of the stroller 10 by any of the clamping or attachment methods described above, for example. Preferably, the accessory attachment 58 is attached near the center of gravity of the stroller 10 to avoid creating an unbalanced condition of the stroller 10. As shown in Figure 6A, the accessory attachment 58 is connected to stroller frame 12 of stroller 10 near the folding mechanism. Certain example embodiments of the accessory attachment 58 include a first end 61

for connecting to a stroller frame and a distal second end 62 for releasably connecting to the accessory 64. The first end 61 can include an aperture 64 that may be connected to frame 12 of the stroller 10. In certain example embodiments, the aperture 64 is on an angle, such that when the axis of the accessory attachment portion 58 is horizontal or substantially horizontal. The accessory attachment 58 may, optionally, include a rib 63 for securing the accessory 64 to the accessory attachment 58. The rib 63 may be replaced with any other locking element or securing means including a friction fitting, a screwed fitting, or interference fitting, for example.

One example of an accessory 64 for attaching to an accessory attachment 58 is shown in Figure 6B. The accessory 64 in this example is a bag or purse. The accessory 64 can include an attachment portion 65 that is capable of being secured to the attachment portion 62 on the accessory attachment 58. The accessory 64 may be secured on stroller 10 by securing attachment portion 65 to attachment portion 62. The attachment portion 65 can slide over the cylindrical attachment portion 62 of accessory attachment 58. The attachment portion 65 may include an interior annular recess that receives the rib 63 securing the accessory 58 to the stroller 10. The accessory 64 is thus removably coupled to the stroller 10 in a center portion of the stroller as viewed from the side. Therefore, the bag or purse 64 is conveniently secured to stroller 10 while not contributing to an unbalanced condition of the stroller 10.

Figure 7 presents a perspective view of an attachment 70 for supporting a seat comprising one wheel 73 according to one example embodiment of the disclosure. Referring now to Figure 7, the example seat attachment 70 can include two seat attachment members 71, two connector portions 72, and a wheel 73. The two seat attachment members 71 and the wheel 73 can be disposed or otherwise positioned in a triangular relationship. In certain example embodiments, the wheel 73 provides additional stability to a stroller 10 connected to the seat attachment 70 if a heavier child is placed in a seat attached to the seat attachment members 71.

Figures 8A-H present multiple views of a stroller apparatus capable of being converted from a single seat stroller to a double seat stroller through the use of removable seat attachment adapters, according to another example embodiment of the disclosure. Referring now to Figures 8A-H, the example stroller apparatus 80 can include a stroller frame 81 capable of supporting one or more stroller seats 85, 86. In one example embodiment, the stroller frame 81 can be made of one or more pieces fixedly coupled and/or removably coupled to one another. The stroller frame

81 can include portions that are hollow tubing and other portions that are solid core tubing and can be made from metal, plastic, or other materials known in the art.

In one example embodiment, the stroller frame 81 can include a pair of front wheel support frames 81a (only the left front wheel support frame is shown), a pair of back wheel support frames 81b (only the left back wheel support frame is shown), a pair of upper tube support frames 81c (only the left upper tube support frame is shown), a handle portion 81d having a first end coupled to the left upper tube support frame 81c and a distal second end coupled to the right upper tube support frame 81c, and foot rest support frame 81f having a first end coupled to the left front wheel support frame 81a (either directly or via the first seat attachment housing 1105 discussed below in Figure 11) and a distal second end coupled to the right front wheel support frame 81a (either directly of via the second seat attachment housing 1110 discussed below in Figure 11). In certain example embodiments, each front wheel support frame 81a can be fixedly coupled or rotatably coupled to its corresponding upper tube support frame 81c. Further, in certain example embodiments, the left upper tube support frame 81c, handle 81d, and right upper tube support frame 81c can be made from a single unitary piece of material, such as a single piece of bent, hollow-core metal or plastic tubing. Alternatively, each of the left upper tube support frame 81c, handle 81d, and right upper tube support frame 81c can be separate pieces of the same or different material that are coupled to one another.

The exemplary stroller frame 81 can also include a pair of folding mechanisms 81e (only the left folding mechanism is shown). In one example, each folding mechanism 81e can be coupled, either directly or indirectly to the corresponding front wheel support frame 81a, back wheel support frame 81b, and upper tube support frame 81c on the corresponding side (left and right) of the stroller 80. In certain example embodiments, one or more of the corresponding front wheel support frame 81a, back wheel support frame 81b, and upper tube support frame 81c are rotatably coupled and rotatably adjustable about one or more axes defined through the folding mechanism 81e. As such, in certain example embodiments, the folding mechanism 81e allows the stroller 80 to be folded into a more compact size for storing or transportation. Figure 8B shows the stroller 10 in a folded configuration.

The example stroller 80 can also include at least one front wheel 82 coupled directly or indirectly (*e.g.*, via one of the seat attachment housings 1105, 1110, as shown in Figure 11) to the stroller frame 81. Figure 8B presents an example embodiment wherein the stroller 80 can include

two front wheels 82, one front wheel 82 being coupled to the stroller 80 adjacent the left front wheel support frame 81a and the second front wheel 82 being coupled to the stroller 80 adjacent the right front wheel support frame 81a. The example stroller 80 can also include at least one rear wheel 83 coupled directly or indirectly to the stroller frame 81 (*e.g.*, a corresponding back wheel support frame 81b). Figure 8B presents an example embodiment wherein the stroller 80 can include two back wheels 83, one back wheel 83 being coupled to the left back wheel support frame 81b and the second back wheel 83 coupled to the right back wheel support frame 81b.

The stroller 80 can also include a first stroller seat 86 either fixedly or removably coupled to the stroller frame 81. For example, the first stroller seat 86 can include a left connector on the left side of the first stroller seat 86 and a right connector on the right side of the first stroller seat 86 to removably couple and decouple the first stroller seat from the stroller frame 81. In one example, each of the left connector and right connector can be cavities in the first stroller seat 86 and can be configured to receive at least a portion of a corresponding seat attachment adapter (*e.g.*, a bayonet connector) therein. In another example embodiment, the left connector and the right connector can each be tabs or slots that are configured to be coupled to corresponding slots or tabs along the stroller frame 81.

The stroller 80 can also include a removable seat attachment adapter 84 that is removably coupled to the frame 81 such that the seat attachment adapter 84 can be decoupled from the frame 81 and stored when a second stroller seat is not being used with the stroller 80. In one example embodiment, each removable seat attachment adapters can be coupled to the frame by coupling the adapter 84 into a seat attachment housing disposed along the frame 81. In one example, the seat attachment housing (such as that described in Figures 11-14C below) can be integrally formed with all or a portion of the stroller frame (*e.g.*, integrally formed with front wheel support frame 81a). Alternatively, the seat attachment housing can be a separate apparatus that is coupled to the frame 81 or incorporated into the frame 81 by coupling multiple pieces of the frame 81 together. The frame 81 and each seat attachment housing can be made from the same or different materials, including, metals and plastics.

Though it cannot be seen in the side view of Figure 8A, a typical embodiment of the stroller 80 will include at least two removable seat attachment adapters 84 (at least one along each left and right side of the stroller 80 along the stroller frame 81). For example, at least one removable seat attachment adapter can support each lateral side of the second stroller seat 85. In certain example

embodiments, each of the removable seat attachment adapters 84 may be made up of one piece or multiple parts. The removable seat attachment adapters 84 may be of any design capable of securely supporting a seat on the stroller. In one example, the removable seat attachment adapter 84 is configured to have a first end that is removably coupled to the frame 81 and/or seat attachment housing and a distal second end that is configured to be removably coupled to a second stroller seat 85. The removable seat attachment adapter 84 is designed to be capable of supporting the second stroller seat 85 in front of the first stroller seat 86. The stroller 80 may also include a storage basket 87.

In certain examples, each of the removable seat attachment adapters 84 removably couples to the second stroller seat 85 at a vertical height that is substantially below the vertical height that the first stroller seat 86 attaches to the stroller frame 81, thereby positioning the second stroller seat 85 at a vertical position that is substantially below the vertical position of the first stroller seat 86 when both the first stroller seat 86 and the second stroller seat 85 are coupled to the stroller 80. The difference in vertical positioning of the second stroller seat 85 as compared to the first stroller seat 86 provides improved access to the first stroller seat 86 from the front of the stroller 10 when both stroller seats 85, 86 are coupled to the stroller 80. Further, in certain example embodiments, the front stroller seat 85 can be positioned substantially over the front wheels 82 so that the stroller 80 remains stable. For example, the second stroller seat 85 can be located substantially over the front wheels 82 and the first stroller seat 86 can be located substantially over the rear wheels 83. In addition, the seats 85, 86 can be positioned such that the center of gravity of the stroller 80 is between the front 82 and rear 83 wheels.

In certain example embodiments, the removable seat attachment adapter 84 is capable of supporting a second stroller seat 85 such that a child in the second stroller seat 85 is substantially above the frame 81 of the stroller 80 that is substantially adjacent to the connection point of the second stroller seat 85. This positioning of the second stroller seat 85 with respect to the frame 81 provides easier access to the second stroller seat 85, does not block access to the storage basket 87, allows more versatile configurations of the seats 85, 86, allows more variety of seats 85, 86 to be attached to the frame 81, and allows the parent or guardian to more easily monitor and see the child in each stroller seat 85, 86.

The example stroller of Figure 8A can also include the first stroller seat 86. In certain example embodiments, the first stroller seat 86 can be located generally closer to the handle portion

81d than to the front wheels 82. The first stroller seat 86 may be fixedly coupled or removably coupled to the frame 81. In certain example embodiments wherein the first stroller seat 86 is removably coupled to frame 81, the first stroller seat 86 may be adjustable from a forward-facing configuration to a rearward-facing configuration and vice-versa, as shown, for example, in Figures 8B-8C. In addition, the second stroller seat 85, when coupled to the corresponding removable seat attachment adapters 84, can be adjustable from a forward-facing configuration to a rearward-facing configuration and vice-versa.

Figures 8C-8H present additional examples of combinations for a variety of types of stroller seats that can be removably coupled to the stroller 80. For example, in Figure 8D, the second stroller seat 86 can be replaced by an infant carrier 93 that can be removably coupled to each of the at least two removable seat attachment adapters 84 and the first stroller seat 86 can be coupled to the stroller in a forward-facing position. In another example, as shown in Figure 8E, the first stroller seat 86 can be replaced by a child carrier 91 that may be coupled to the frame 81 and positioned in the first seat position and the second stroller seat 85 can be coupled to the stroller 80 by way of the at least two removable seat attachment adapters 84 in a rearward-facing position. In yet another example, as shown in Figure 8F, the child carrier 91, of Figure 8E, can be replaced with a pram 92 that is removably coupled to the stroller 80 in the first seat position. In still another example configuration, as shown in Figure 8G, two child carriers 91 may be removably coupled to the stroller frame 81. For example, the front child carrier can be coupled to the stroller by way of each of the at least two removable seat attachment adapters 84. In another example configuration, one of the child carriers 91 may be replaced with a pram or bassinet 92, as shown in Figure 8H.

In certain example embodiments, the stroller 80 may also include a second set of removable seat attachment adapters 89 removably coupled to the frame 81 (or another pair of seat attachment housings substantially similar to those 1105, 1110 described below) along the upper tube support frame 81c. The second set of removable seat attachment adapters 89 may be substantially the same as or exactly the same as the removable seat attachment adapters 84 described herein and may be coupled to the frame 81 (or corresponding seat attachment housings) in substantially the same manner as the removable seat attachment adapters 84, as discussed in more detail below. The second set of removable seat attachment adapters 89 can include at least two adapters (at least one along each left and right side of the stroller 80) for removably coupling and decoupling the first

stroller seat 86 or any other form of seat described herein to the stroller frame 81 or corresponding seat attachment housing.

In one example embodiment, as shown in Figures 9-10, the stroller 80 can include one or more, and preferably two, seat support elements 84. The seat support element 84 is connected to and can be removably coupled to the stroller 80 front wheel support frame 81a. In certain example embodiments, the seat support element 84 is adjacent to the front wheel support portion 81a of frame 81. Alternatively, the seat support element 84 is simply forward of and positioned at a vertical level lower than the attachment point for the first stroller seat 86 (Figure 8A) on the stroller 80. The seat support element 84 is capable of supporting a second stroller seat 85 in front of the stroller seat 86 (see Figure 8A). This provides convenience and versatility to a user of the stroller 80. Seat support element 84 may be fixedly attached or removably attached to front wheel support portion 81a. In certain example embodiments, the front seat 85 may be positioned substantially over the front wheels 15 so the stroller 80 remains stable. Preferably, the seats 85, 86 should be positioned such that the center of gravity of the stroller 80 is between the front 15 and rear 14 wheels. If not an additional wheel may be placed on the attachment as previously described. The seat support element 84 can further include a seat connector 88. In one example, the seat connector 88 can be disposed along a top end of the seat support element 84. The example seat connector 88 may be a multipurpose general connector that allows different seats to be interchanged on the seat support element 84. Any style seat may be configured to connect to the seat connector 88, such as but not limited to, a stroller seat, a baby seat, a bassinet, a pram, a baby carrier, or a car seat, for example. As shown in Figure 9, the seat support element 84 can also include a connector portion 21. The connector portion 21 is capable of connecting the seat attachment to the frame 81 via the attachment portion 17 and the slot 18.

In certain example embodiments, the connector portion 21 of the seat attachment 20 has a cylindrical or substantially cylindrical shape. The connector portion 21 may be inserted into a cylindrical or substantially cylindrical slot 18 of the attachment portion 17 of the stroller 80 of Figure 9-10 to secure the seat attachment and convert the single stroller into a double stroller, as shown in Figure 8A. The connector portion 21 may be of a solid or tubular construction and may be any cross-sectional shape including, but not limited to, circular, polygonal, square, rectangular, and triangular, for example.

Figure 11 is a partial perspective view of the stroller 80 showing a seat attachment housing 1105 according to one example embodiment of the disclosure. Referring now to Figures 8A and 11, the example stroller 80 can include a first seat attachment housing 1105 and the second seat attachment housing 1110. The first seat attachment housing 1105 can include a first end 1105a having a cavity for slidably receiving and fixedly or slidably coupling the first end 1105a to a first end of the left front wheel support frame 81a. For example, the left front wheel support frame 81a can have a substantially circular or oval cross-section and the cavity of the first end 1105a can have a corresponding circular or oval cross-section to slidably receive a portion of the left front wheel support frame 81a into the cavity. In one example, the left front wheel support frame 81a can be held in the cavity of the first end 1105a by a press fit hold. Alternatively, a spring-loaded button on the left front wheel support frame 81a can be positioned into a corresponding opening along one of the sides of the first seat attachment housing 1105.

The first seat attachment housing 1105 can also include a second end 1105b that includes a second cavity for coupling one of the front wheels 82 to the first seat attachment housing 1105. The wheel 82 may be removably coupled to the second end 1105b of the first seat attachment housing 1105 by a press fit hold. Alternatively, a spring-loaded button 82a on the front wheel apparatus 82 can be positioned into the cavity of the second end 1105b and positioned into a corresponding opening 1115 along one of the sides of the first seat attachment housing 1105. In one example embodiment, the first seat attachment housing 1105 can include an attachment arm 1120 extending off of one side of the first seat attachment housing 1105 in a generally orthogonal direction to the longitudinal axis of the housing 1105. The attachment arm 1120 can include a free end 1105c that includes a cavity for receiving therein and fixedly coupling or slidably coupling the first seat attachment housing 1105 to a first end of the foot rest support frame 81f. The foot rest support frame 81f may be removably coupled to the free end 1105c of the attachment arm 1120 by a press fit hold. Alternatively, a spring-loaded button on the foot rest support frame 81f can be positioned into the cavity of the free end 1105c and positioned into a corresponding opening along one of the sides of the attachment arm 1120.

The second seat attachment housing 1110 can include a first end 1110a having a cavity for slidably receiving and fixedly or slidably coupling the first end 1110a to a first end of the right front wheel support frame 81a. For example, the right front wheel support frame 81a can have a substantially circular or oval cross-section and the cavity of the first end 1110a can have a

corresponding circular or oval cross-section to slidably receive a portion of the right front wheel support frame 81a into the cavity. In one example, the right front wheel support frame 81a can be held in the cavity of the first end 1110a by a press fit hold. Alternatively, a spring-loaded button on the right front wheel support frame 81a can be positioned into a corresponding opening along one of the sides of the second seat attachment housing 1110.

The second seat attachment housing 1110 can also include a second end 1110b that includes a second cavity for coupling one of the front wheels 82 to the second seat attachment housing 1110. The wheel 82 may be removably coupled to the second end 1110b of the second seat attachment housing 1110 by a press fit hold. Alternatively, a spring-loaded button on the front wheel apparatus 82 can be positioned into the cavity of the second end 1110b and positioned into a corresponding opening along one of the sides of the second seat attachment housing 1110. In one example embodiment, the second seat attachment housing 1110 can include an attachment arm 1125 extending off of one side of the second seat attachment housing 1110 in a generally orthogonal direction to the longitudinal axis of the housing 1110. The attachment arm 1125 can include a free end 1110c that includes a cavity for receiving therein and fixedly coupling or slidably coupling the second seat attachment housing 1110 to a second distal end of the foot rest support frame 81f. The second end of the foot rest support frame 81f may be removably coupled to the free end 1110c of the attachment arm 1125 by a press fit hold. Alternatively, a spring-loaded button on the foot rest support frame 81f can be positioned into the cavity of the free end 1110c and positioned into a corresponding opening along one of the sides of the attachment arm 1125.

In certain example embodiments, all or a portion of each of the seat attachment housings 1105, 1110 can be hollowed out with exterior sides. Each of the seat attachment housings 1105, 1110 can include an opening 1130 positioned along a top side of the respective seat attachment housings 1105, 1110. The opening 1130 can provide access to an adapter receiving cavity (see Figure 12) for receiving therein at least a portion of the removable seat attachment adapter 84 (see Figure 13A). Each seat attachment housing 1105, 1110 can also include a sliding door 1135. The sliding door 1135 is configured to be manually adjustable from a closed position to an open position by slidably opening the door 1135 along the top side of the seat attachment housing 1105, 1110 to provide access to the opening 1130 and adapter receiving cavity when the parent or guardian wants to insert and couple the removable seat attachment adapter 84 to the seat attachment housing 1105, 1110 and frame 81 in order to couple the second stroller seat 85 to the

stroller 80. In one example, each seat attachment housing 1105, 1110 can include one or more rails either disposed above or below a top surface of the seat attachment housing 1105, 1110 that provide a guide way for slidably opening and closing the door 1135. In one example, the door 1135 can include a tab 1140 extending upward from a top surface of the door 1135 to provide a gripping area to grip the door 1135 and slide it open and closed. For example, a parent or guardian can use a finger against the tab 1140 and apply pressure against the tab 1140 to open the door 1135 from a closed configuration to an open configuration.

The sliding door 1135 is also configured to be manually adjustable from an open configuration to a closed configuration by slidably closing the door 1135 along the top side of the seat attachment housing 1105, 1110 to prevent access to the opening 1130 and adapter receiving cavity when the second stroller seat 85 is not in use. In one example, the parent or guardian can press a finger against the tab 1140 and apply pressure against the tab 1140 to slide the door 1135 from the open configuration to the closed configuration.

Figure 12 is a partial perspective view of one of the seat attachment housings 1105, 1110 according to one example embodiment of the disclosure. Referring now to Figures 8A, 11, and 12, the door [[1130]]1135 of the seat attachment housing 1105, 1110 is shown having been slid into the open configuration exposing the opening 1130 and the adapter receiving cavity 1205. The adapter receiving cavity 1205 can have any size and shape for removably coupling a portion of a removable seat attachment adapter 84 therein. In one example embodiment, all or a portion of the cross-sectional shape of the adapter receiving cavity 1205 can be keyed or have a keyed shape 1210 and all or a portion of the removable seat attachment adapter 84 can have a corresponding outer perimeter shape such that the removable seat attachment adapter 84 can only be inserted into the adapter receiving cavity 1205 in one, proper orientation.

Figures 13A-C are partial perspective views of the removable seat attachment adapter 84 coupled to the seat attachment housing 1105 according to one example embodiment of the disclosure. Now referring to Figures 8A, 11, 12, and 13A-C, once the door 1135 has been moved into the open configuration exposing the opening 1130 and the adapter receiving cavity 1205, a first end 84a of the removable seat attachment adapter 84 can be inserted into the adapter receiving cavity 1205. In certain example embodiments, the adapter receiving cavity 1205 can include one or more stop flanges 1315, 1320 that extend out from an inner surface of the cavity 1205 and into the cavity area to abut against a bottom side of the first end 84a of the removable seat attachment

adapter 84 when the adapter 84 has penetrated a sufficient amount into the adapter receiving cavity 1205. Once the adapter 84 is inserted into the cavity 1205 and removably coupled to the seat attachment housing 1105, a stroller seat can be removable coupled to a seat connector disposed on or adjacent to the second end 84b of the removable seat attachment adapter 84. The seat connector on the second end 84b can be a multipurpose general connector that allows different seats to be interchangeably connected to the removable seat attachment adapter 84. Any style seat may be configured to connect to the seat connector including, but not limited to, a stroller seat, a baby seat, a bassinet, a pram, a baby carrier, or a car seat, for example.

The removable seat attachment adapter 84 can also include a stop collar 1335 disposed a predetermined distance up from the first end 84a of the adapter 84. In one example embodiment, the stop collar 1335 is sized and shaped so that it will not fit into the opening 1130 and will not fit into the adapter receiving cavity 1205 as the first end 84a of the adapter 84 is being inserted into the adapter receiving cavity 1205. The size and shape of the outer surface of the stop collar 1335, being greater than that of the outer surface of the previous portion of the first end 84a inserted into the adapter receiving cavity 1205 will contact and abut an outer surface of the seat attachment housing 1105 when the adapter 84 has penetrated a sufficient amount into the adapter receiving cavity 1205.

The removable seat attachment adapter 84 can also include a spring-loaded latching tab 1305 disposed along one side of the adapter 84 between the first end 84a and the stop collar 1335. In certain example embodiments, the spring-loaded latching tab 1305 can be spring biased into an extended position (as shown in Figure 13B) via, for example, a spring (not shown). As the adapter 84 is first being inserted into the adapter receiving cavity 1205, the width of the adapter 84 at the point of the spring-loaded latching tab 1305, is greater than the width of the cavity 1205, which causes one or more side walls of the cavity 1205 to apply a force to the spring-loaded latching tab 1305 and push it inward from the extended position towards a retracted position, thereby allowing the first end 84a of the adapter 84 to continue moving into the adapter receiving cavity 1205. When the adapter 84 is inserted into the adapter receiving cavity 1205 a sufficient distance (which can be configurable based on the design specifics on the stroller), the spring-loaded latching tab 1305 can be positioned adjacent a tab receiver 1307. The tab receiver 1307 can be a cut-out or opening along one of the side walls of the cavity 1205 that allows the tab 1305 to move back to the extended position. The tab receiver 1307 can include a tab retainer surface 1310 that abuts a top side of the

tab 1305 and prevents the removable seat attachment adapter 84 from being removed from the adapter receiving cavity 1205 while the spring-loaded latch tab 1305 is in the extended position.

The removable seat attachment adapter 84 can also include a tab release button 1330 that is operatively coupled to and configured to move the spring-loaded latching tab 1305 from the extended position to the retracted position via, for example, a guide wire 1325 or other attachment mechanism. For example, when the removable seat attachment adapter 84 is latched into the seat attachment housing 1105, a parent or guardian can grab the removable seat attachment adapter 84 and depress the tab release button 1330, causing the guide wire to pull the spring-loaded latching tab 1305 inward from the extended position to the retracted position with a force greater than the spring biasing force on the tab 1305 and allowing the parent or guardian to remove the removable seat attachment adapter 84 from the adapter receiving cavity 1205 using only a single hand. Thereby, the ease of decoupling the removable seat attachment adapter 84 from the stroller frame 81 is improved.

In addition, as shown in Figure 13B, in certain example embodiments, the bottom end of the adapter receiving cavity 1205 and corresponding bottom end of the seat attachment housing 1105 can be open 1340 to the environment. Leaving the bottom side of the cavity 1205 open 1340 to the environment helps to prevent liquid and material build-up in the cavity 1205 when the removable seat attachment adapter 84 is not coupled into the cavity 1205 by allowing the liquid and materials to pass through the cavity 1205 and out of the bottom of the seat attachment housing 1105. This is especially beneficial when the parent or guardian removes the removable seat attachment adapter 84 from the cavity 1205 but does slide the door 1135 into the closed position to close up the opening 1130.

Figures 14A-C are partial perspective views of an alternative embodiment of the seat attachment housing 1405, 1410 according to another example embodiment of the disclosure. Referring now to Figures 8A, 11, and 14A-C, the seat attachment housings 1405, 1410 are substantially the same as the seat attachment housings 1105, 1110 described in Figures 11-13C except for as described below. Therefore, the description of the seat attachment housings 1105, 1110 in Figures 11-13C above is incorporated herein for the alternative seat attachment housings 1405, 1410, except with regard to the distinctions described below.

As shown in Figure 14C, each seat attachment housing 1405, 1410 includes an opening or open end 1130 positioned along a top side of the respective seat attachment housings 1405, 1410.

The opening 1130 can provide access to an adapter receiving cavity 1205. Each seat attachment housing 1405, 1410 also includes one or more stop flanges 1315, 1320 that extend out from an interior wall 1411 of the cavity 1205 and into the cavity area. In addition, the bottom end of the adapter receiving cavity 1205 and corresponding bottom end of each seat attachment housing 1405, 1410 can have an opening or open end 1340 to the environment and with the cavity 1205 and opening 1130 provides a through-hole 1413 through the seat attachment housing 1405, 1410. Each seat attachment housing 1405, 1410 can include a rotating door 1415 rotatably coupled to the seat attachment housing 1405, 1410. For example, the rotating door 1415 can have a fixed end that is rotatably coupled to the top side of the seat attachment housing 1405, 1410 or an interior wall 1411 of the opening 1130 or adapter receiving cavity 1205 by way of or more hinges 1420. Alternatively, other devices may be used to allow the door 1415 to rotate from a closed configuration 1415a to an open configuration 1415b, as shown in Figure 14C. In certain example embodiments, the door 1415 and/or the rotating mechanism or hinge 1420 that the door 1415 is coupled to can be spring-biased into the closed configuration 1415a through the use of a spring or other biasing means. Spring-biasing the door 1415 into a closed configuration 1415a can help to prevent fluids and other material contaminants from entering the adapter receiving cavity 1205 when the removable seat attachment adapter 84 is not coupled into the adapter receiving cavity 1205.

When a parent or guardian wants to add a second stroller seat 85 to the stroller 80, they can insert the removable seat attachment adapter 84 into the adapter receiving cavity 1205 by pressing or applying a force with the first end 84a of the removable seat attachment adapter 84 against the top side of the rotating door 1415 with a force that is greater than the spring-biasing force. This will cause the door 1415 to rotate from the closed configuration 1415a towards the open configuration 1415b and allow the first end 84a of the removable seat attachment adapter to enter into the adapter receiving cavity 1205 and be coupled to the seat attachment housing 1405, 1410.

When the parent or guardian removes the removable seat attachment adapter 84, as described above with regard to Figures 13A-C, as the first end 84a of the removable seat attachment adapter 84 exits the adapter receiving cavity 1205 and opening 1130, the spring-bias of the hinge 1420 or door 1415 will cause the door 1415 to automatically rotate from the open configuration 1415b to the closed configuration 1415a, thereby limiting access to the opening 1130 and the adapter receiving cavity 1205 from the top side of the seat attachment housing 1405, 1410.

While the above description contains many specifics, these specifics should not be construed as limitations on the scope of the disclosure, but merely as exemplifications of the disclosed embodiments. Those skilled in the art will envision many other possible variations that are within the scope of the disclosure.

CLAIMS

What is claimed is:

1. A stroller, comprising:

a stroller frame comprising:

a first upper tube support frame;

a second upper tube support frame;

a first front wheel support frame adjustable with respect to the first upper tube support frame;

a second front wheel support frame adjustable with respect to the second upper tube support frame;

a first back wheel support frame rotatable with respect to the first upper tube support frame; and

a second back wheel support frame rotatable with respect to the second upper tube support frame;

a plurality of wheels comprising at least one front wheel and a plurality of back wheels;

a first seat coupled along the first upper tube support frame and the second upper tube support frame at a first vertical position of the stroller frame;

a first seat attachment adapter coupled the first front wheel support frame at a second vertical position of the stroller frame that is below the first vertical position;

a second seat attachment adapter coupled to the second front wheel support frame at a third vertical position of the stroller frame that is below the first vertical position;

wherein a second seat is removably coupled to the first seat attachment adapter and the second seat attachment adapter to position the second seat at a fourth vertical position that is below the first vertical position and wherein the second vertical position and the third vertical position are at a same vertical height.

2. The stroller of claim 1, further comprising:

a first seat attachment housing disposed adjacent the first front wheel support frame at the second vertical position;

a second seat attachment housing disposed adjacent the second front wheel support frame at the third vertical position;

wherein the first seat attachment adapter is coupled to the first seat attachment housing and the second seat attachment adapter is coupled to the second seat attachment housing.

3. The stroller of claim 2, wherein the first seat attachment housing extends into the first front wheel support frame and the second seat attachment housing extends into the second front wheel support frame.

4. The stroller of claim 2, wherein each of the first seat attachment adapter and the second seat attachment adapter has a first end and a distal second end.

5. The stroller of claim 4, wherein the first end comprises a connector portion and is coupled to one of the first seat attachment housing and the second seat attachment housing.

6. The stroller of claim 4, wherein the second seat is configured to be removably coupled to the second end.

7. The stroller of claim 1, wherein the first seat is one of a baby seat, a car seat, a stroller seat, a bassinet, a baby carrier, or a pram and the second seat is one of a second baby seat, a second car seat, a second stroller seat, a second bassinet, a second baby carrier, or a second pram.

8. The stroller of claim 1, further comprising:

a third seat attachment adapter coupled to the stroller frame at the first vertical position; and

a fourth seat attachment adapter coupled to the stroller frame at the first vertical position;

wherein the first seat is removably coupled to the third seat attachment adapter and the fourth seat attachment adapter.

9. The stroller of claim 1, further comprising a handle comprising a first end coupled

to the first upper tube support frame and a distal second end coupled to the second upper tube support frame.

10. A stroller, comprising:

a stroller frame comprising:

a first upper tube support frame;

a second upper tube support frame;

a front wheel support frame adjustable with respect to the first upper tube support frame;

a back wheel support frame rotatable with respect to the first upper tube support frame; and

a plurality of wheels comprising at least one front wheel and a plurality of back wheels;

a first seat coupled along the first upper tube support frame and the second upper tube support frame at a first vertical position of the stroller frame;

a first seat attachment adapter coupled the front wheel support frame at a second vertical position of the stroller frame that is below the first vertical position;

a second seat attachment adapter coupled to the front wheel support frame at a third vertical position of the stroller frame that is below the first vertical position;

wherein a second seat is removably coupled to the first seat attachment adapter and the second seat attachment adapter to position the second seat at a fourth vertical position that is below the first vertical position.

11. The stroller of claim 10, wherein the front wheel support frame comprises a first front wheel support frame member and a second front wheel support frame member.

12. The stroller of claim 10, wherein the back wheel support frame comprises a first back wheel support member and a second back wheel support member.

13. The stroller of claim 10, further comprising:

a first seat attachment housing disposed adjacent the front wheel support frame at the

second vertical position;

a second seat attachment housing disposed adjacent the front wheel support frame at the third vertical position;

wherein the first seat attachment adapter is coupled to the first seat attachment housing and the second seat attachment adapter is coupled to the second seat attachment housing.

14. The stroller of claim 13, wherein each of the first seat attachment adapter and the second seat attachment adapter comprises:

a first end comprising a connector portion configured to be coupled to one of the first seat attachment housing and the second seat attachment housing; and

a distal second end, wherein the second seat is configured to be removably coupled to the second end.

15. The stroller of claim 10, wherein the first seat is one of a baby seat, a car seat, a stroller seat, a bassinet, a baby carrier, or a pram and the second seat is one of a second baby seat, a second car seat, a second stroller seat, a second bassinet, a second baby carrier, or a second pram.

16. The stroller of claim 10, further comprising:

a third seat attachment adapter coupled to the first upper tube support frame at the first vertical position; and

a fourth seat attachment adapter coupled to the second upper tube support frame at the first vertical position;

wherein the first seat is removably coupled to the third seat attachment adapter and the fourth seat attachment adapter.

17. A stroller, comprising:

a stroller frame comprising:

a first upper tube support frame;

a second upper tube support frame;

a first back wheel support frame;

a second back wheel support frame;

a first front wheel support frame;

a second front wheel support frame;

a plurality of wheels comprising at least one front wheel and a plurality of back wheels;

a first seat coupled to the stroller frame at a first vertical position of the stroller frame;

a first seat attachment housing disposed adjacent the first front wheel support frame:

a second seat attachment housing disposed adjacent the second front wheel support frame;

a first seat attachment adapter coupled to the first seat attachment housing at a second vertical position of the stroller frame that is below the first vertical position;

a second seat attachment adapter coupled to the second seat attachment housing at a third vertical position of the stroller frame that is below the first vertical position;

wherein the first seat is coupled along the first upper tube support frame and the second upper tube support frame and wherein a second seat is removably coupled to the first seat attachment adapter and the second seat attachment adapter.

18. The stroller of claim 17, wherein each of the first seat attachment adapter and the second seat attachment adapter comprises:

a first end comprising a connector portion configured to be coupled to one of the first seat attachment housing and the second seat attachment housing; and

a distal second end, wherein the second seat is configured to be removably coupled to the second end.

19. The stroller of claim 17, further comprising a handle comprising a first end coupled to the first upper tube support frame and a distal second end coupled to the second upper tube support frame.

20. The stroller of claim 17, further comprising:

a third seat attachment adapter coupled to the first upper tube support frame; and

a fourth seat attachment adapter coupled to the second upper tube support frame;

wherein the first seat is removably coupled to the third seat attachment adapter and the

fourth seat attachment adapter.

REMOVABLE SEAT ATTACHMENT FOR A STROLLER

ABSTRACT

A stroller is provided with the ability to removably couple and decouple a seat from the stroller as needed. The stroller can include a stroller frame. The stroller can also include one or more front wheels attached to the stroller frame and one or more rear wheels attached to the stroller frame. The stroller can also include a first seat couple to the stroller frame. The stroller can include first and second seat attachment housings. Each of the seat attachment housings can include a cavity for receiving a corresponding one of the first and second seat attachment adapters. Each of the seat attachment housings can also include a door or cover to prevent access to the respective cavity when not in use. The seat attachment adapters can be coupled to the respective seat attachment housings and a second seat can be coupled to the seat attachment adapters.

PTO/AIA/14 (02-18)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76.
This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.

Secrecy Order 37 CFR 5.2:

☐ Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)

Inventor Information:

Inventor 1 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Jon	Hee	Lee	

Residence Information (Select One) ● US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Highwood	IL	US

Mailing Address of Inventor:

Address 1	228 S. Central Avenue
Address 2	
City	Highwood
State/Province	IL
Postal Code	60040
Country	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Megan		Roe	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Kalamazoo	MI	US

Mailing Address of Inventor:

Address 1	4029 Heights Lane
Address 2	
City	Kalamazoo
State/Province	MI
Postal Code	49008
Country	US

Inventor 3 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Stacy	Noel	Simpson	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

City	Portage	State/Province	MI	Country of Residence	US

Mailing Address of Inventor:

Address 1	6035 Chablis Lane
Address 2	

City	Portage	State/Province	MI
Postal Code	49024	Country	US

Inventor 4 — Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
	Mark		Zehfuss	

Residence Information (Select One) ◉ US Residency ○ Non US Residency ○ Active US Military Service

City	Glen Allen	State/Province	VA	Country of Residence	US

Mailing Address of Inventor:

Address 1	10804 Cherry Hill Drive
Address 2	

City	Glen Allen	State/Province	VA
Postal Code	23059	Country	US

All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the **Add** button. Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below.
For further information see 37 CFR 1.33(a).

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	134811		
Email Address	patentdocket@eversheds-sutherland.com	Add Email	Remove Email

Application Information:

Title of the Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER		
Attorney Docket Number	34757-2430	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	18	Suggested Figure for Publication (if any)	

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32).
Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	● Customer Number	US Patent Practitioner	○ Limited Recognition (37 CFR 11.9)
Customer Number	134811		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.
When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	15912901	2018-03-06

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

Prior Application Status	Patented	Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15912901	Continuation of	15225326	2016-08-01	9944305	2018-04-17

Prior Application Status	Expired	Remove

Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
15225326	Claims benefit of provisional	62311224	2016-03-21

Prior Application Status	Patented	Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15225326	Continuation in part of	14597420	2015-01-15	9403550	2016-08-02

Prior Application Status	Patented	Remove

Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
14597420	Continuation of	14261558	2014-04-25	8955869	2015-02-07

Prior Application Status	Abandoned	Remove

Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
14261558	Continuation of	12631375	2009-12-04

Prior Application Status	Expired	Remove

Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
12631375	Claims benefit of provisional	61119920	2008-12-04

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country[i]	Filing Date (YYYY-MM-DD)	Access Code[i] (if applicable)

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button. Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.
NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Applicant 1 — Remove

If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.

Clear

● Assignee	Legal Representative under 35 U.S.C. 117	Joint Inventor
Person to whom the inventor is obligated to assign.	Person who shows sufficient proprietary interest	

If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:

Name of the Deceased or Legally Incapacitated Inventor:

If the Applicant is an Organization check here. ☒

Organization Name	BABY JOGGER, LLC		
Mailing Address Information For Applicant:			
Address 1	8575 Magellan Parkway		
Address 2	Suite 1000		
City	Richmond	**State/Province**	VA
Country	US	Postal Code	23227
Phone Number		Fax Number	
Email Address			

Additional Applicant Data may be generated within this form by selecting the Add button. Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

Remove

If the Assignee or Non-Applicant Assignee is an Organization check here. ☒

Organization Name	

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		**State/Province**	
Country i		Postal Code	
Phone Number		Fax Number	
Email Address			

Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/James M. Hannon/			Date (YYYY-MM-DD)	2020-03-27
First Name	James	Last Name	Hannon	Registration Number	48565

Additional Signature may be generated within this form by selecting the Add button. Add

PTO/AIA/14 (02-18)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-2430
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

This collection of information is required by 37 CFR 1.76. 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 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet 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.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent CooperationTreaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	REMOVABLE SEAT ATTACHMENT FOR A STROLLER
First Named Inventor/Applicant Name:	Jon Hee Lee
Filer:	James Michael Hannon/LaYonda Prue
Attorney Docket Number:	34757-2430

Filed as Large Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY APPLICATION FILING	1011	1	300	300
UTILITY SEARCH FEE	1111	1	660	660
UTILITY EXAMINATION FEE	1311	1	760	760
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	1720

Electronic Acknowledgement Receipt

EFS ID:	38990476
Application Number:	16832429
International Application Number:	
Confirmation Number:	8948
Title of Invention:	REMOVABLE SEAT ATTACHMENT FOR A STROLLER
First Named Inventor/Applicant Name:	Jon Hee Lee
Customer Number:	134811
Filer:	James Michael Hannon
Filer Authorized By:	
Attorney Docket Number:	34757-2430
Receipt Date:	27-MAR-2020
Filing Date:	
Time Stamp:	14:17:59
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$1720
RAM confirmation Number	E20203QE18556146
Deposit Account	195029
Authorized User	JAMES HANNON

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.16 (National application filing, search, and examination fees)

37 CFR 1.17 (Patent application and reexamination processing fees)

37 CFR 1.19 (Document supply fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Oath or Declaration filed	34757-2430_Declaration.pdf	443771 24eb4193ed05a8f1a1e0522eb0239a3aa179754a	no	7
Warnings:					
Information:					
2	Drawings-only black and white line drawings	34757-2430_Drawings.pdf	1043652 2e5a434e75500b1d57245ad85b360a52df8df976	no	18
Warnings:					
Information:					
3		34757-2430_POA.pdf	253649 5e779346aacac3511019ab084f759d353410cde1	yes	2

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Transmittal Letter	1	1
Power of Attorney	2	2

Warnings:					
Information:					
4		34757-2430_Specification.pdf	162029 6c55b1ea5b782b7eaaab0af4f63dab3a09e34610	yes	30

Multipart Description/PDF files in .zip description		
Document Description	**Start**	**End**
Specification	1	23
Claims	24	29

	Abstract		30		30
Warnings:					
Information:					
5	Application Data Sheet	34757-2430_ADS.pdf	1256775 015c8d5f5e10d535a96a62871c8c59570f72b1df	no	10
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	34832 aacfe9c2354397c0f07f9445921cba9400e9c273	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	3194708		

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.

PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)

U.S. Patent Appln. No. 15/225,326 Attorney Docket No. 34757-1526
Filed: August 1, 2016

PARTIES TO THE ASSIGNMENT

Assignor(s):

JON HEE LEE
228 S. Central Ave
Highwood, IL 60040

MEGAN ROE
4029 Heights Lane
Kalamazoo, MI 49008

STACY NOEL SIMPSON
6035 Chablis Lane
Portage, MI 49024

MARK ZEHFUSS
10804 Cherry Hill Drive
Glen Allen, VA 23059

Assignee:

BABY JOGGER, LLC
8575 Magellan Parkway, Suite 1000
Richmond, VA 23227

AGREEMENT

WHEREAS, ASSIGNOR(S) (listed above) are inventor(s) of an invention entitled **"REMOVABLE SEAT ATTACHMENT FOR A STROLLER"** (Invention) for which a non-provisional application for United States Letters Patent

☒ was filed on August 1, 2016, and accorded U.S. Application No. 15/225,326 ; or

☐ will be filed concurrently with the submission of this executed PATENT ASSIGNMENT for recordation.

ASSIGNOR(S) hereby authorizes and requests ASSIGNEE'S legal representatives, of Sutherland Asbill and Brennan LLP, associated with Customer No. 134811, to insert in the header above and here in

parentheses (U.S. Application No. 15/225,326 , filed August 1, 2016), this application's U.S. application number and filing date, when known.

WHEREAS, ASSIGNEE, a corporation of the State of Virginia, is desirous of acquiring the entire right, title and interest in and to the Invention and in and to any letters patent that may be granted therefor in the United States and in any and all foreign countries;

NOW, THEREFORE, in exchange for good and valuable consideration, the receipt of which is hereby acknowledged, ASSIGNOR(S) hereby sell, assign and transfer unto ASSIGNEE its successors and assigns, the entire right, title and interest in and to said Invention and any improvements thereto, said Application and any and all letters patent which may be granted for said Invention in the United States of America and its territorial possessions and in any and all foreign countries, and in any and all provisional, divisions, reissues, re-examinations and continuations thereof, including the right to file foreign applications directly in the name of ASSIGNEE and to claim priority rights deriving from said application to which said foreign applications are entitled by virtue of international convention, treaty or otherwise, said Invention, application and all letters patent on said Invention to be held and enjoyed by ASSIGNEE and its successors and assigns for their use and benefit and of their successors and assigns as fully and entirely as the same would have been held and enjoyed by ASSIGNOR(S) had this assignment, transfer and sale not been made. ASSIGNOR(S) hereby authorize and request the Commissioner of Patents and Trademarks to issue all letters patent on said Invention to ASSIGNEE. ASSIGNOR(S) agree to execute all instruments and documents required for the making and prosecution of applications for United States and foreign letters patent on said Invention, for litigation regarding said letters patent, or for the purpose of protecting title to said Invention or letters patent therefor.

AND ASSIGNOR(S) DOES HEREBY sell, assign, transfer, and convey to ASSIGNEE, its successors, legal representatives, and assigns all claims for damages and all remedies arising out of any

violation of the rights assigned hereby that may have accrued prior to the date of assignment to ASSIGNEE, or may accrue hereafter, including, but not limited to, the right to sue for, collect, and retain damages for past infringements of said letters patent before or after issuance.

AND ASSIGNOR(S) DOES HEREBY covenant and agree that ASSIGNOR(S) will communicate to said ASSIGNEE, its successors, legal representatives and assigns, any facts known to ASSIGNOR respecting the Invention or said application, and testify in any legal proceeding, assist in the preparation of any other patent property relating to the application and the Invention or any improvements made thereto, sign/execute all lawful papers, provide all requested documents, execute and make all rightful oaths and/or declarations in connection with the application and the Invention including any improvements made thereto, any patent applications filed therefrom, and any continuing application filed from any of the aforementioned applications, and generally do everything possible to aid the ASSIGNEE, its successors, legal representatives and assigns, to obtain and enforce proper patent protection for the Invention in all countries. These provisions are binding upon our heirs, legal representatives, administrators, and assigns.

CORRESPONDENCE ADDRESS

I hereby direct all correspondence and telephone calls in connection with this application be addressed to the number associated with the customer number listed below, which is:

134811

PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)

U.S. Patent Appln. No. 15/225,326
Filed: August 1, 2016

Attorney Docket No. 34757-1526

DECLARATION

As a below named inventor, I hereby declare that this declaration is directed to:

- ☐ the attached application; or
- ☒ United States application number 15/225,326 filed on August 1, 2016; or
- ☐ PCT international application number _____ filed on _____.
  (We hereby authorize and request the Company or its delegated attorneys or agents to insert above the application number and filing date of the application when known)

The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal name of inventor: **JON HEE LEE**

Jon Hee Lee

07/28/16
Date

STATE OF Illinois
ss.
COUNTY OF Cook

This 28 day of July, 2016 before me personally came the above-named **Jon Hee Lee**, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

(Notary Public)

OFFICIAL SEAL
ANTHONY KEITH WINSTON
Notary Public - State of Illinois
My Commission Expires 08/21/2018

37061224.1

PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)

Attorney Docket No. 34757-1526

U.S. Patent Appln. No. 15/225,326
Filed: August 1, 2016

X United States application number 15/225,326 filed on August 1, 2016; or

PCT international application number _____ filed on _____.
(We hereby authorize and request the Company or its delegated attorneys or agents to insert above the application number and filing date of the application when known)

The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed Invention in the application.

I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal name of inventor: **MEGAN ROE**

Megan Roe

07.28.16
Date

STATE OF Michigan
ss.
COUNTY OF Kalamazoo

This 28th day of July, 2016 before me personally came the above-named **Megan Roe**, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

Diane L. Martin
(Notary Public)

DIANE L. MARTIN, Notary Public
State of Michigan, County of Cass
My Commission Expires 09/18/2022
Acting in the County of Kalamazoo

37061224.1

PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)

Attorney Docket No. 34757-1526

U.S. Patent Appln. No. 15/225,326
Filed: August 1, 2016

DECLARATION

As a below named inventor, I hereby declare that this declaration is directed to:

- ☐ the attached application; or
- ☒ United States application number 15/225,326 filed on August 1, 2016; or
- ☐ PCT international application number _____ filed on _____
  (We hereby authorize and request the Company or its delegated attorneys or agents to insert above the application number and filing date of the application when known)

The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed Invention in the application.

I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal name of inventor: **STACY NOEL SIMPSON**

Stacy Noel Simpson

7/25/2016
Date

STATE OF
ss.
COUNTY OF

This 25th day of July, 2016 before me personally came the above-named **Stacy Noel Simpson**, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

Diane L Martin
(Notary Public)

DIANE L. MARTIN, Notary Public
State of Michigan, County of Cass
My Commission Expires 09/16/2022
Acting in the County of Kalamazoo

37061224.1

PATENT ASSIGNMENT AND DECLARATION (37 CFR 1.63)

U.S. Patent Appln. No. 15/225,326
Filed: August 1, 2016

Attorney Docket No 34757-1526

DECLARATION

As a below named inventor, I hereby declare that this declaration is directed to:

☐ the attached application; or

☒ United States application number 15/225,326 filed on August 1, 2016; or

☐ PCT international application number _____ filed on _____.
(We hereby authorize and request the Company or its delegated attorneys or agents to insert above the application number and filing date of the application when known)

The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

I have reviewed and understand the contents of the above-identified application, and acknowledge the duty to disclose to the US Patent & Trademark Office all information known to me to be material to the patentability as defined in 37 CFR 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 USC 1001 by fine or imprisonment of not more than five (5) years, or both.

Legal name of inventor: MARK ZEHFUSS

Mark Zehfuss

8/2/16
Date

STATE OF Virginia
ss.
COUNTY OF Henrico

This 2nd day of August, 2016 before me personally came the above-named **Mark Zehfuss**, to me personally known as the individual who executed the foregoing assignment, who acknowledged to me that he/she executed the same of his/her own free will for the purposes therein set forth.

Seal

DARNELL TREVON TAYLOR
COMMONWEALTH OF VIRGINIA
REG. NO. 7508517 EXP. 8-31-18
NOTARY PUBLIC

Darnell Trevon Taylor
(Notary Public)

37061224.1

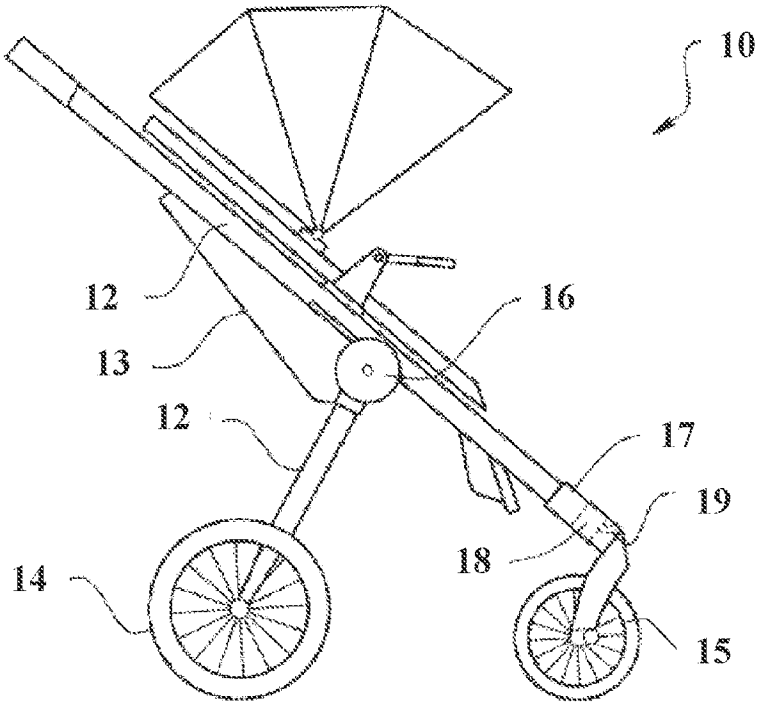


FIGURE 1

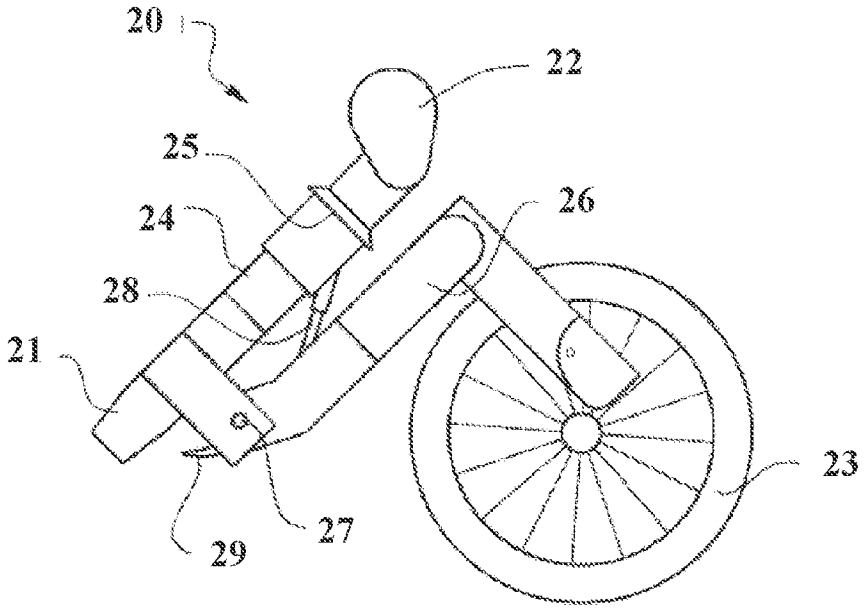


FIGURE 2

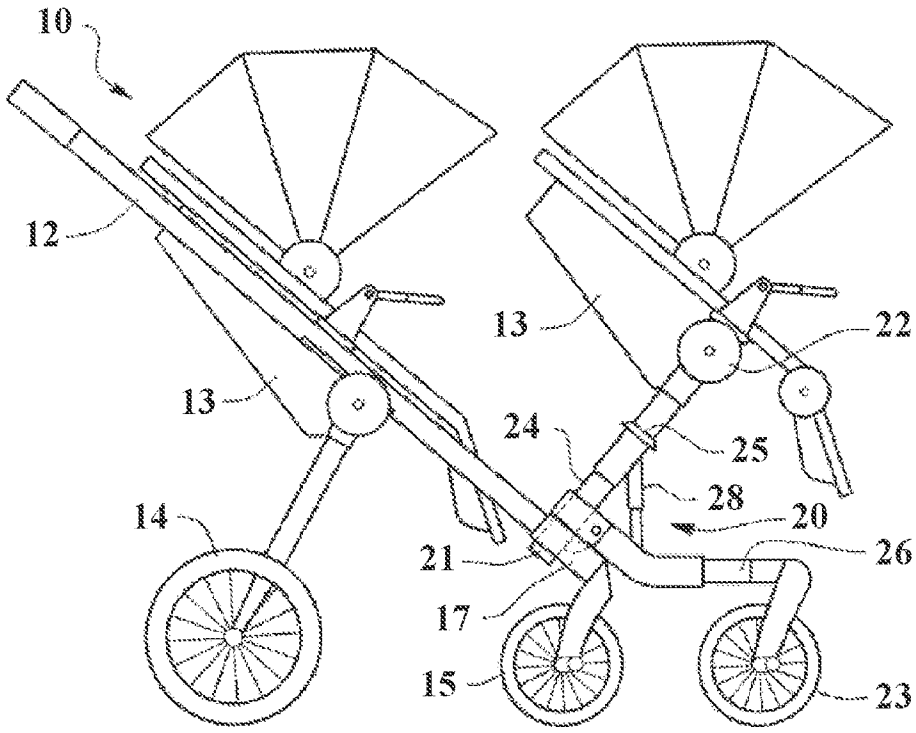


FIGURE 3

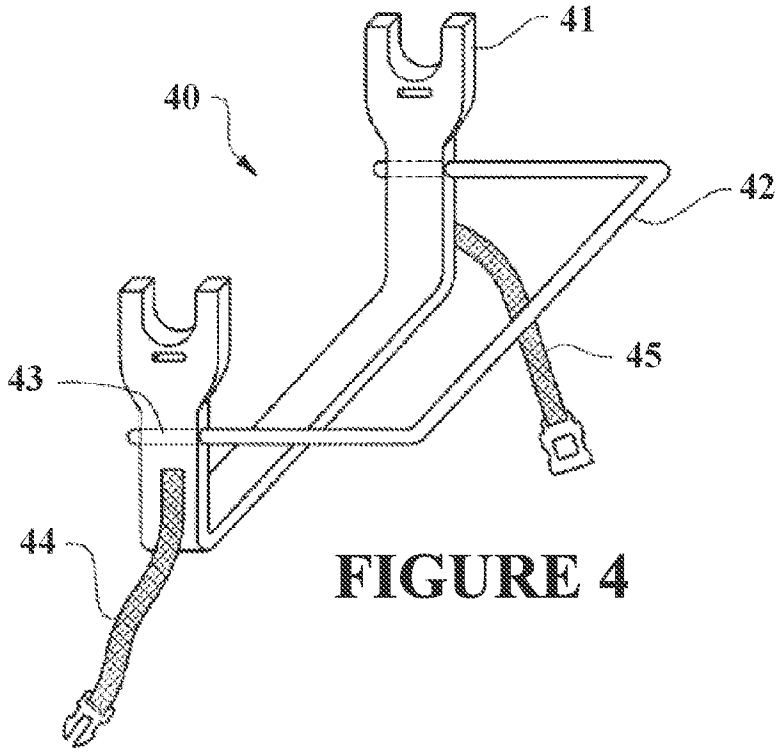


FIGURE 4

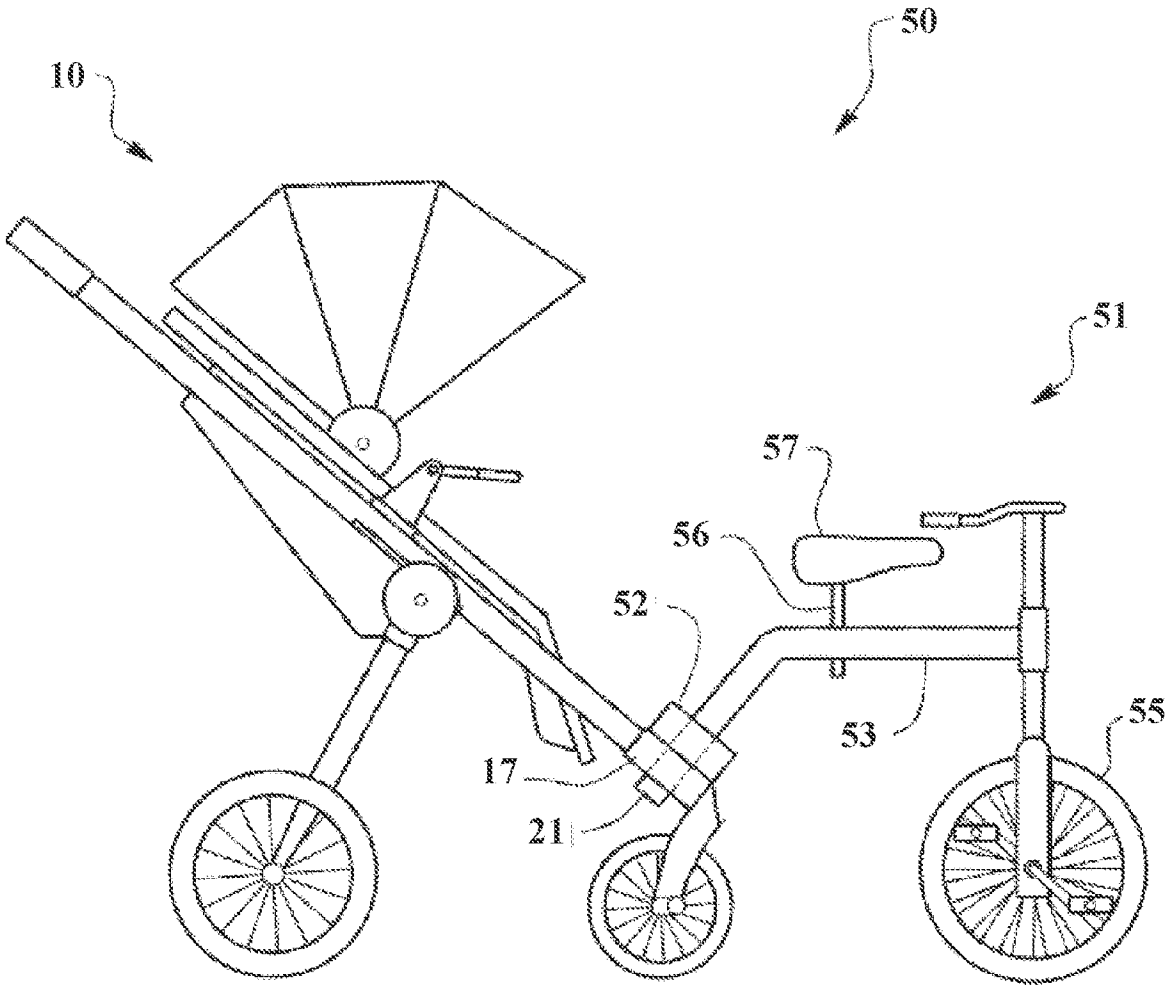


FIGURE 5

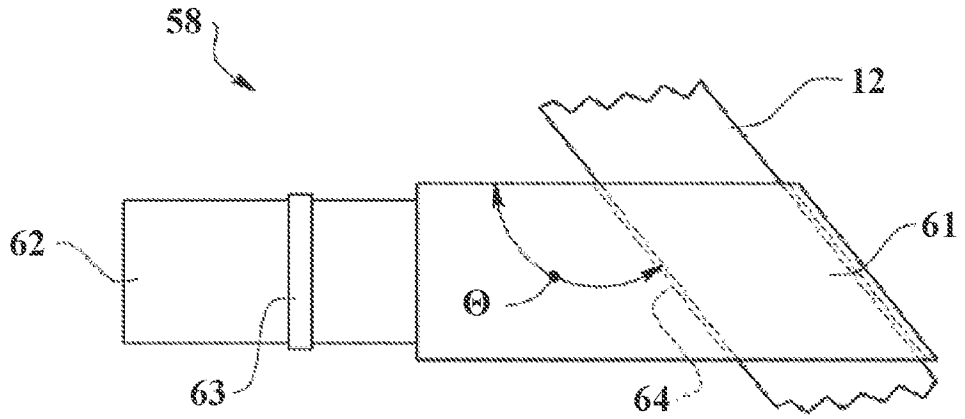


FIGURE 6A

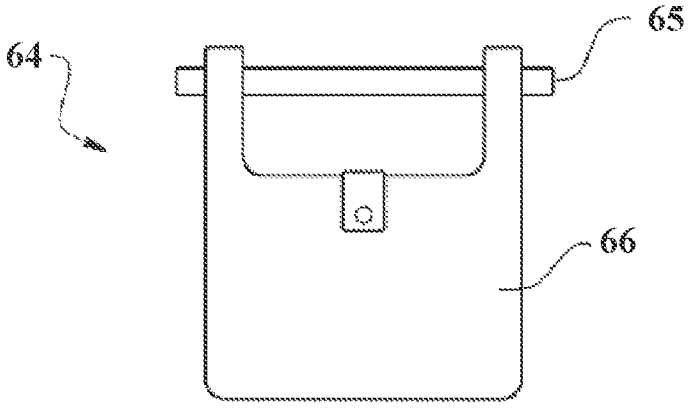


FIGURE 6B

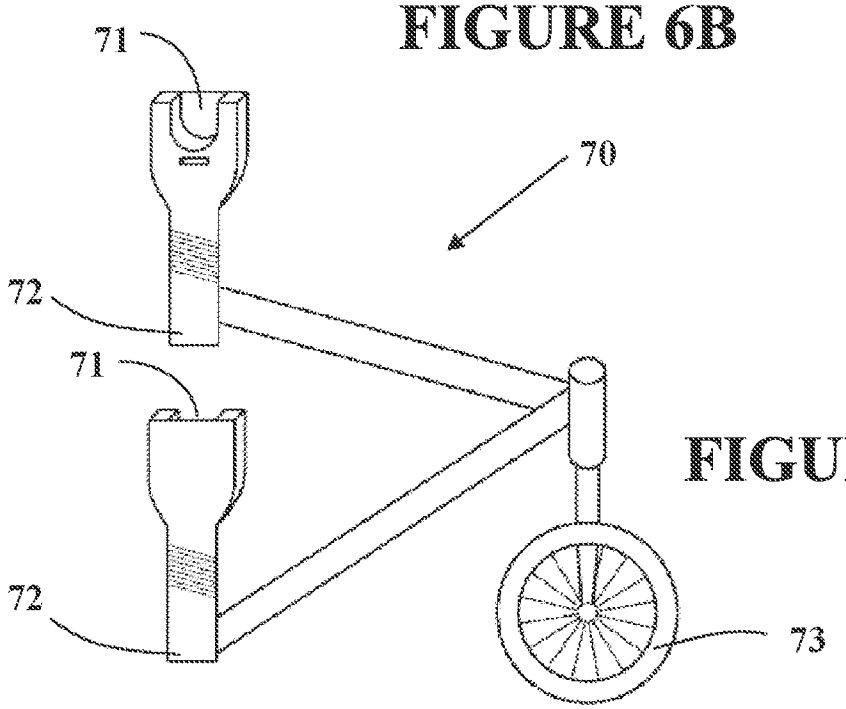


FIGURE 7

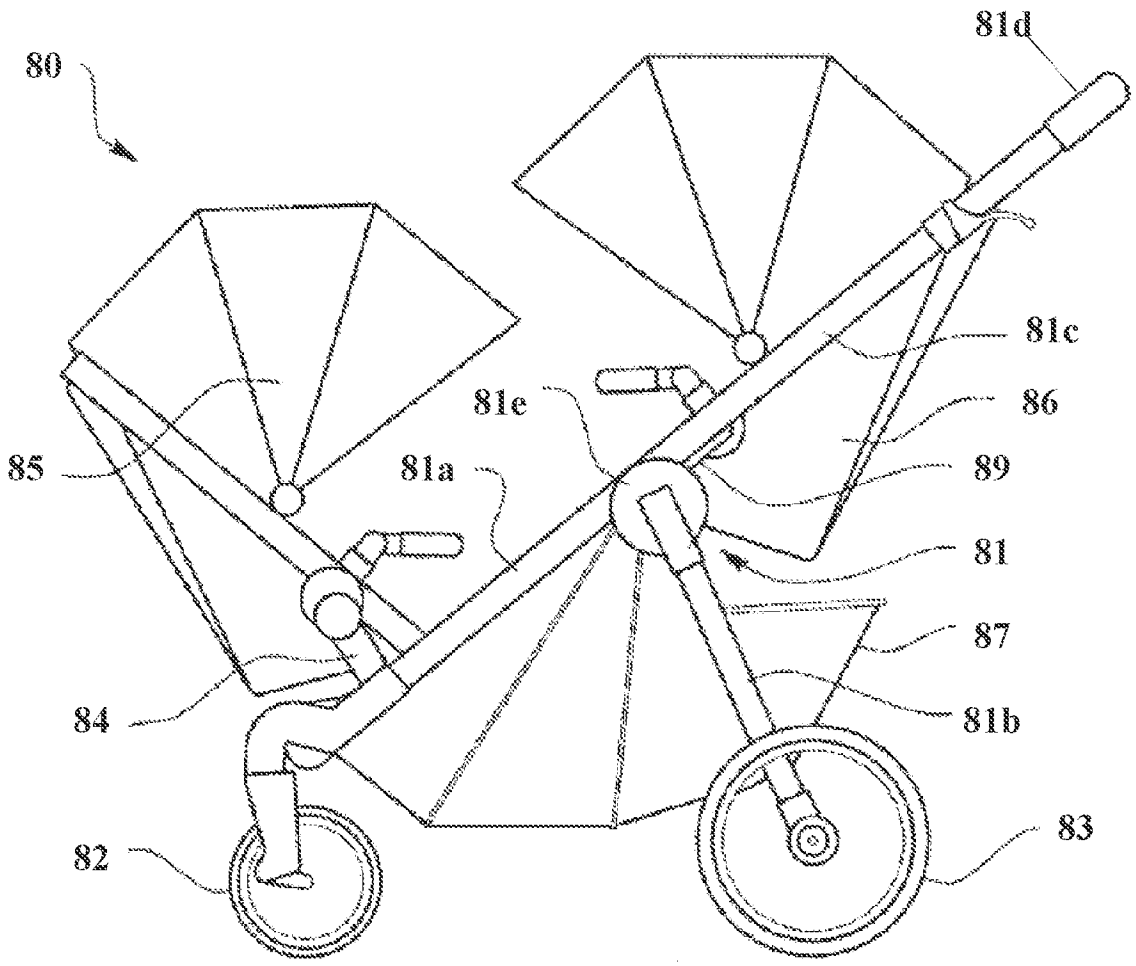


FIGURE 8A

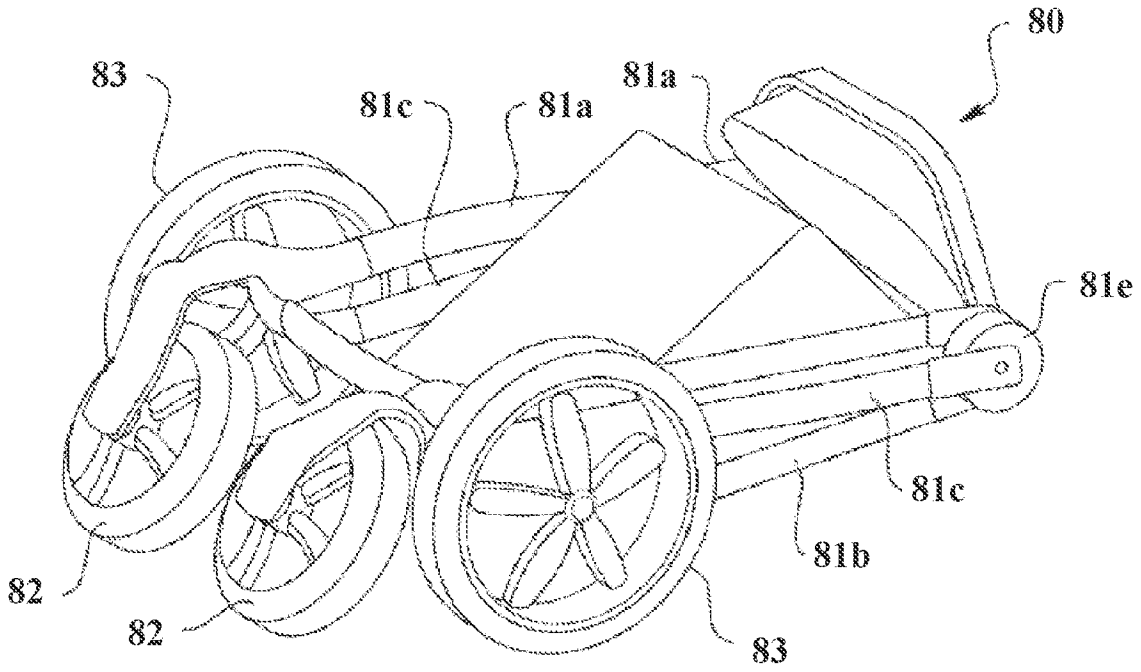


FIGURE 8B

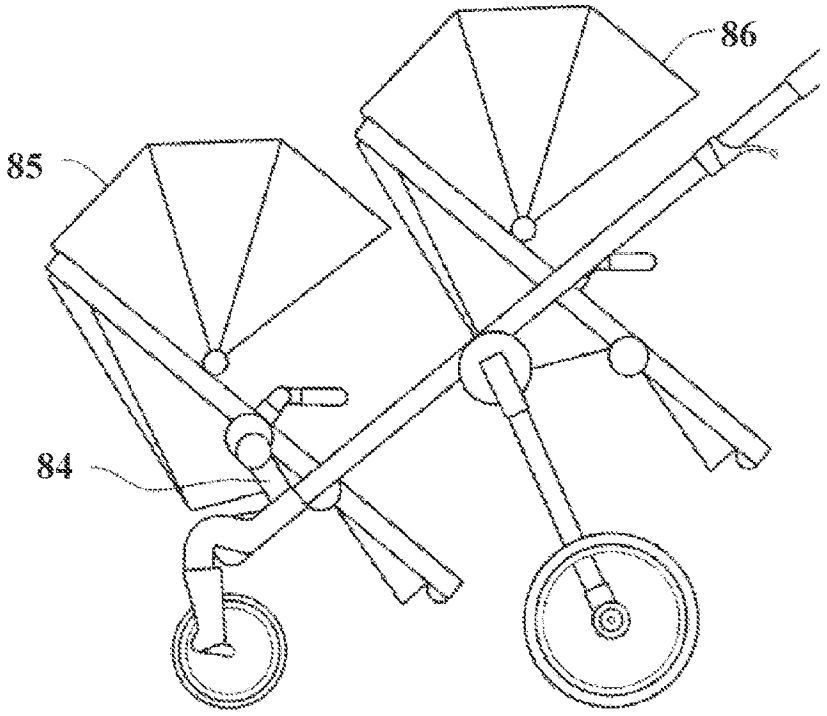


FIGURE 8C

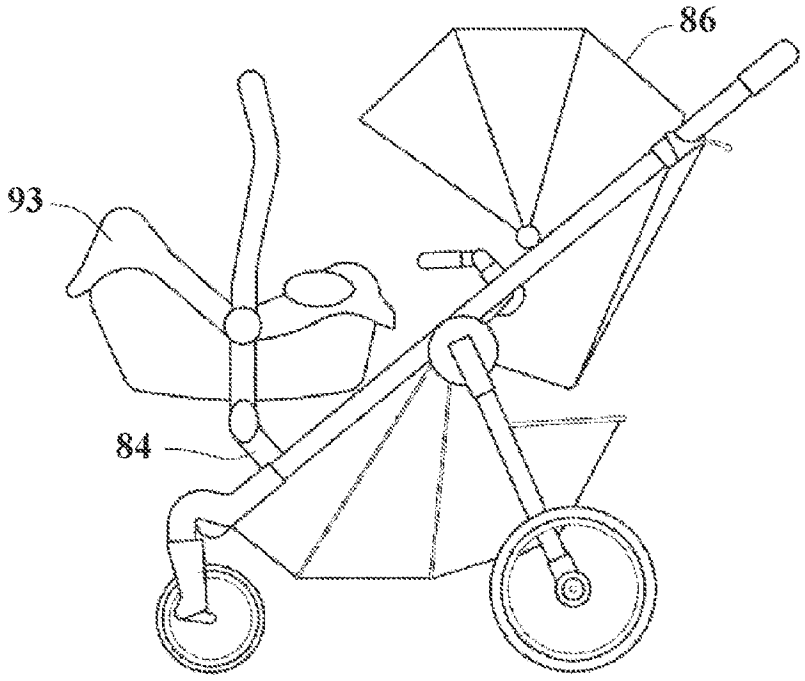


FIGURE 8D

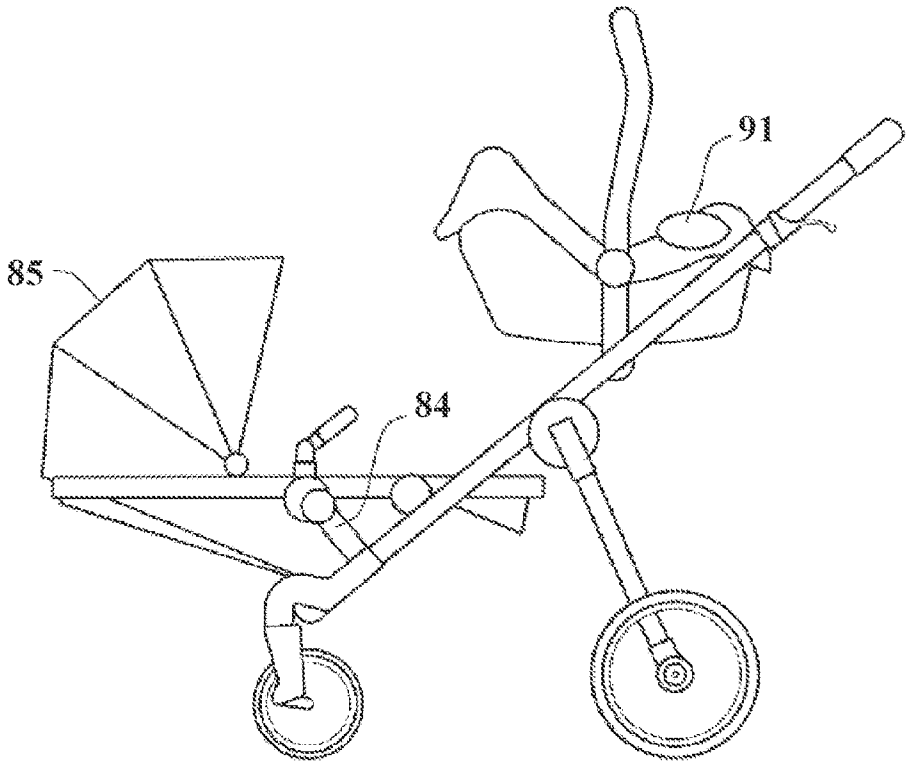


FIGURE 8E

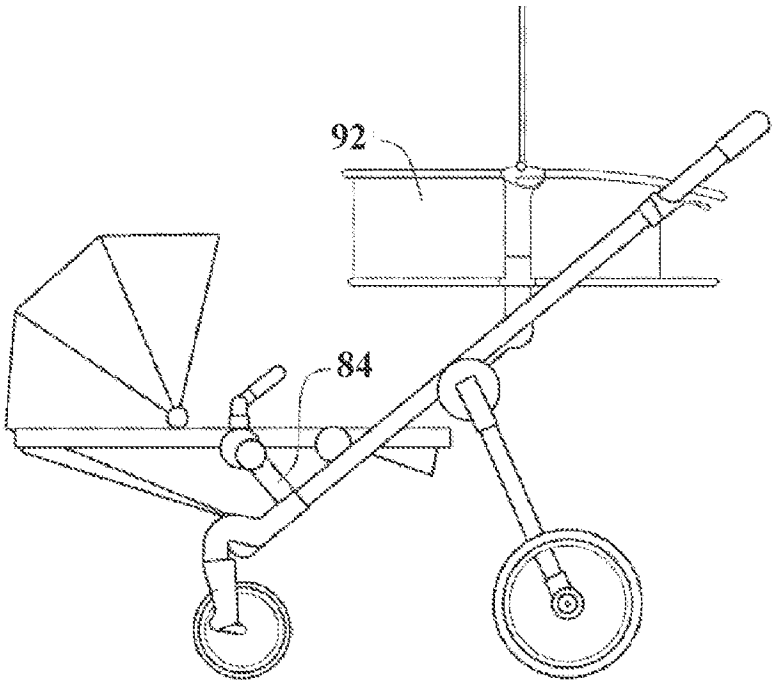


FIGURE 8F

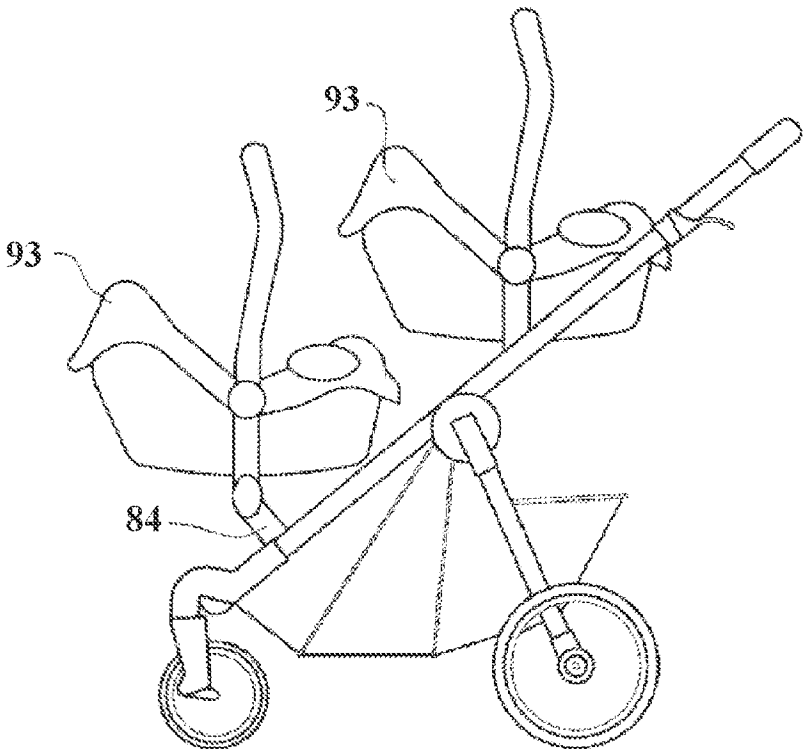


FIGURE 8G

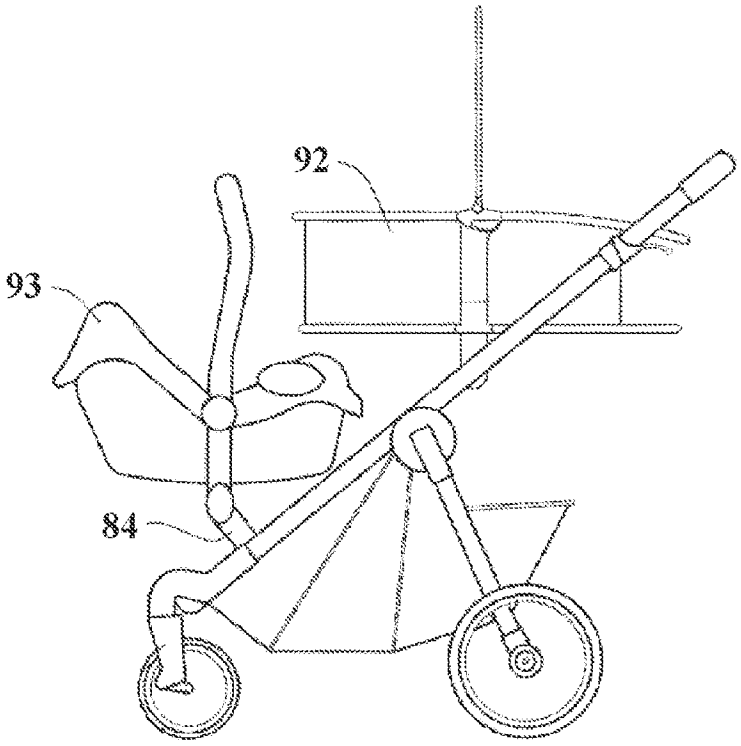


FIGURE 8H

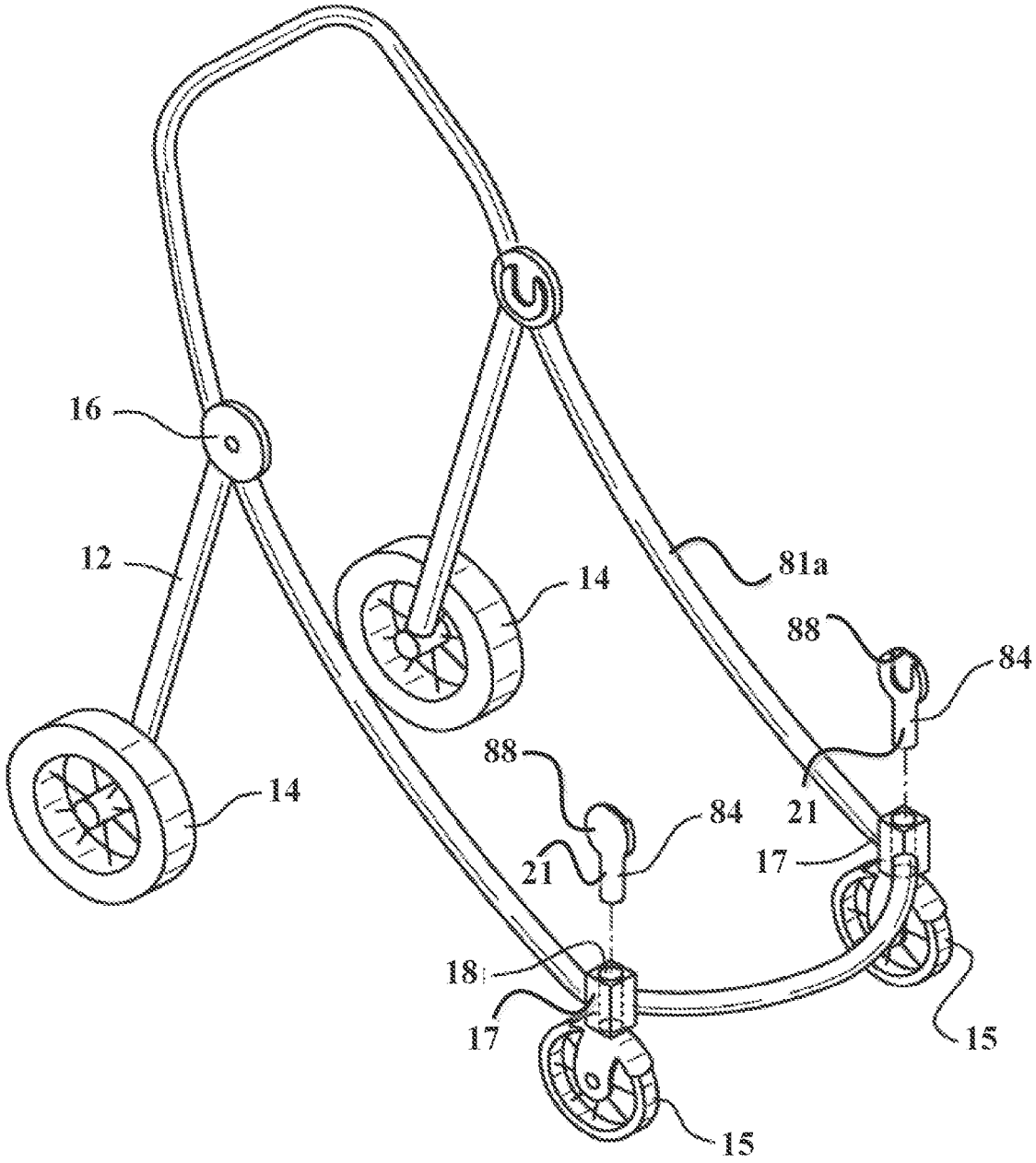


FIGURE 9

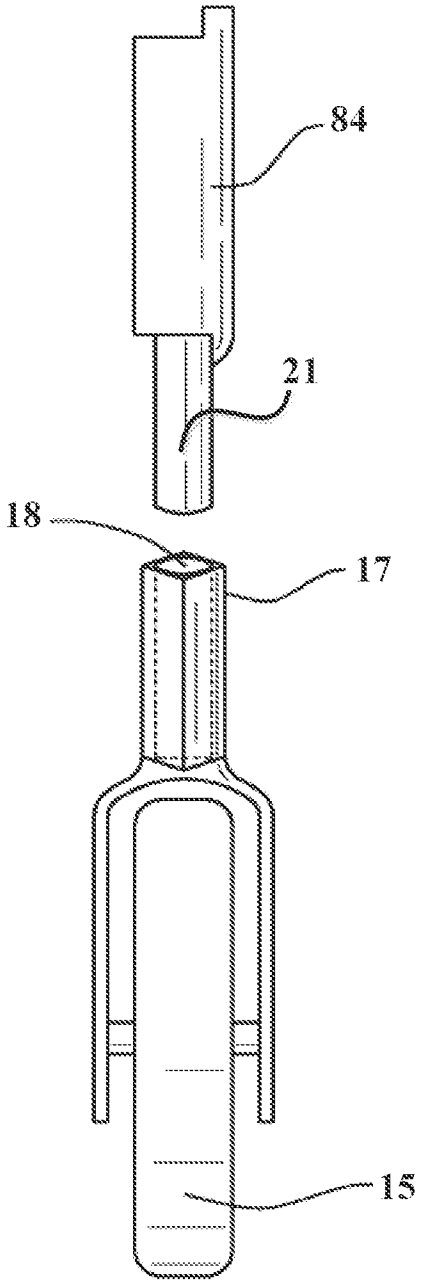


FIGURE 10

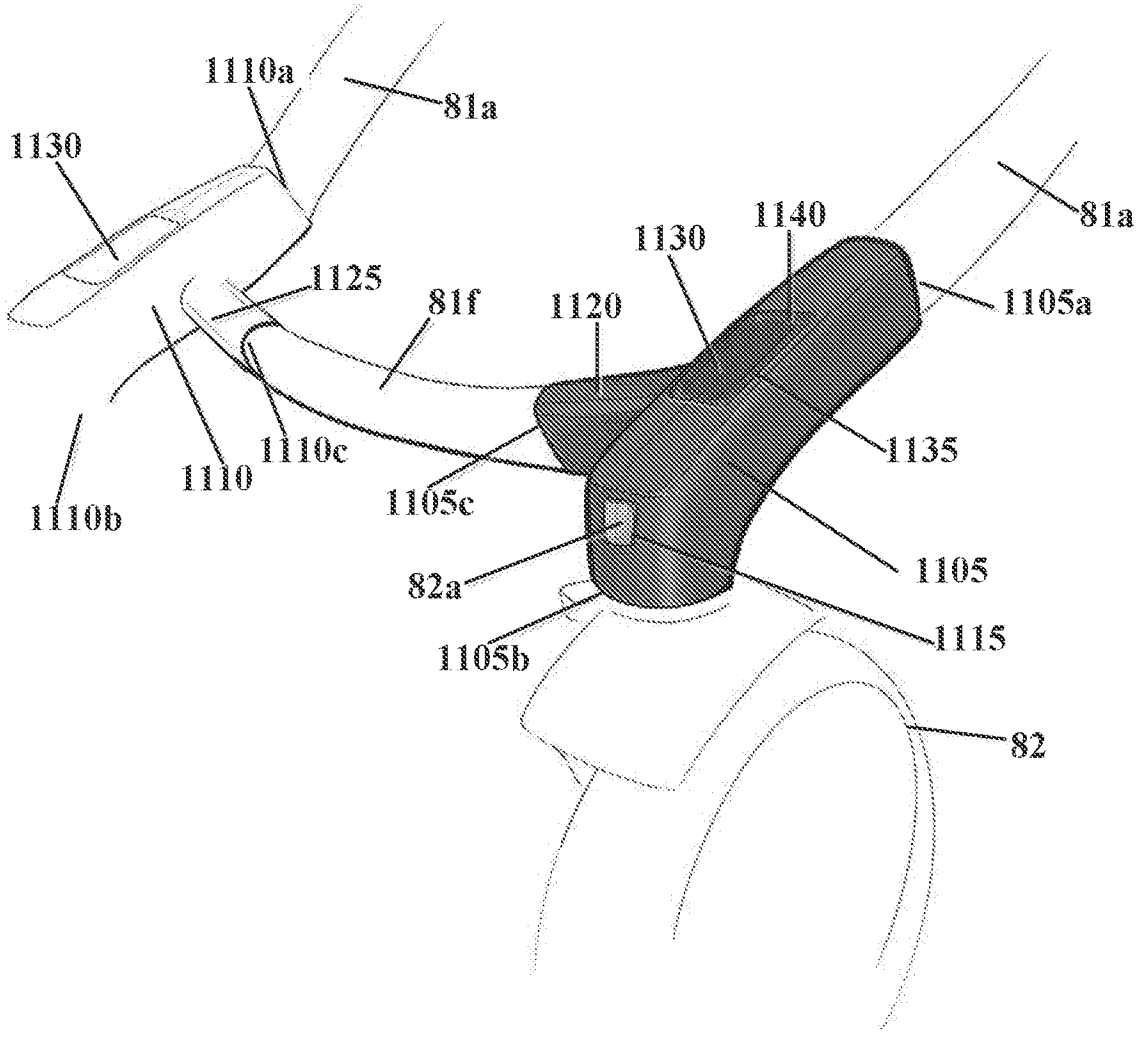

80
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FIGURE 11

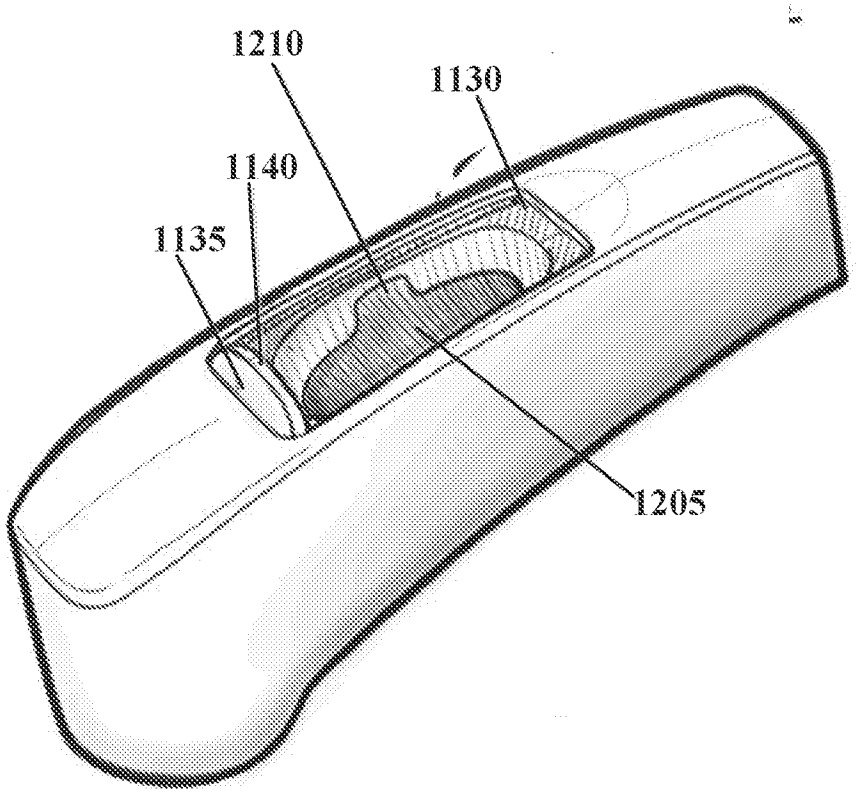


FIGURE 12

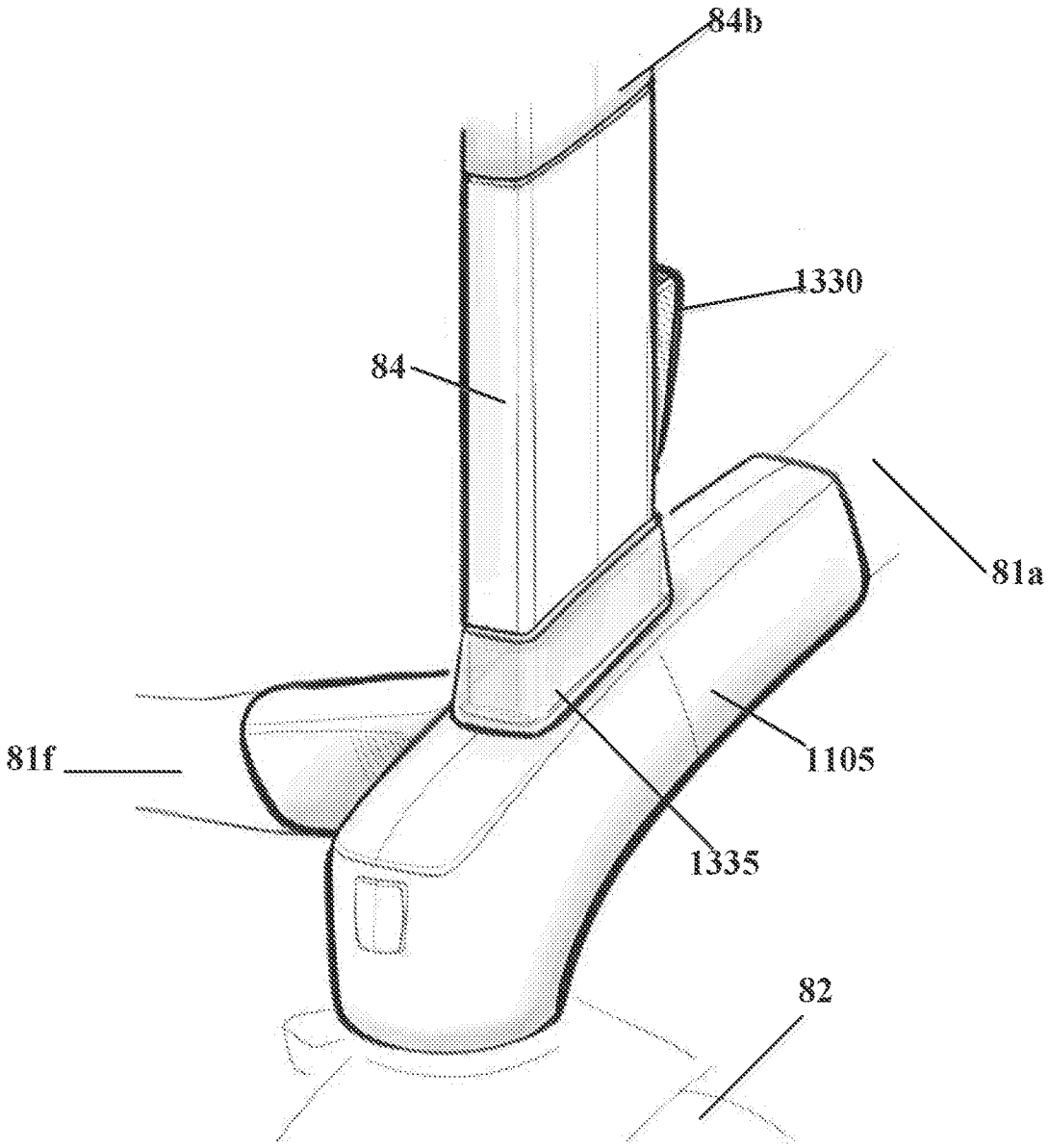


FIGURE 13A

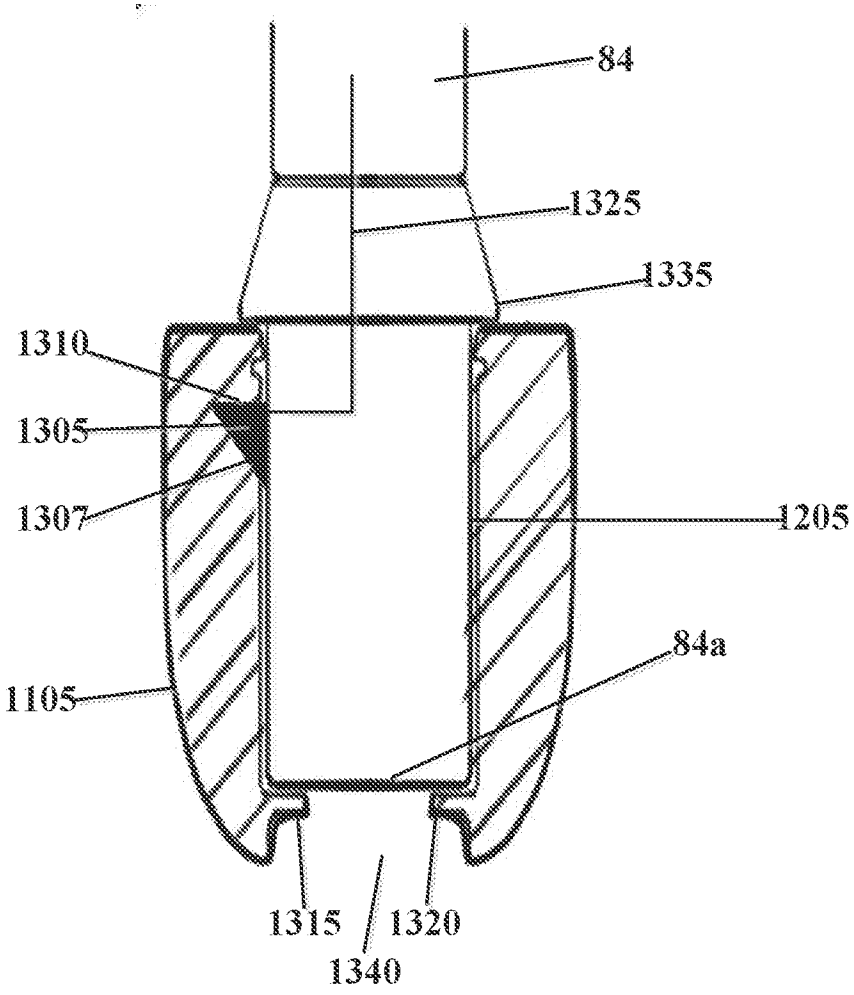


FIGURE 13B

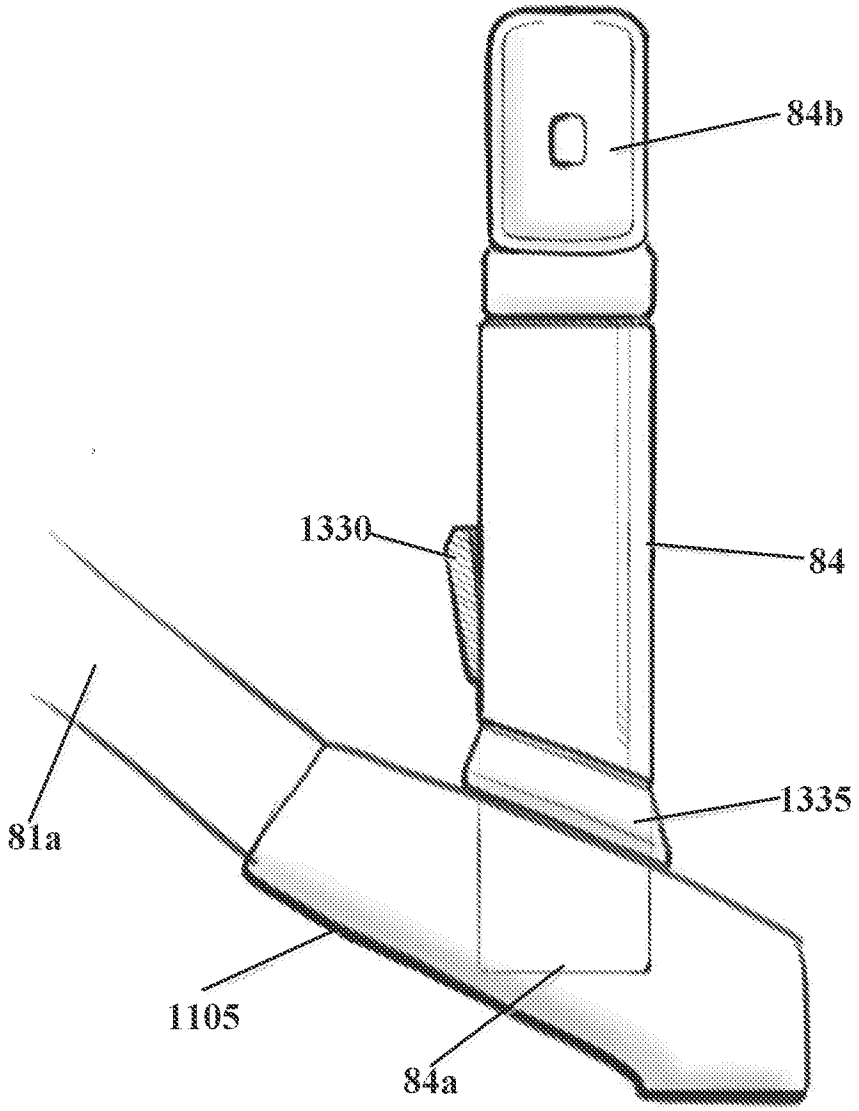


FIGURE 13C

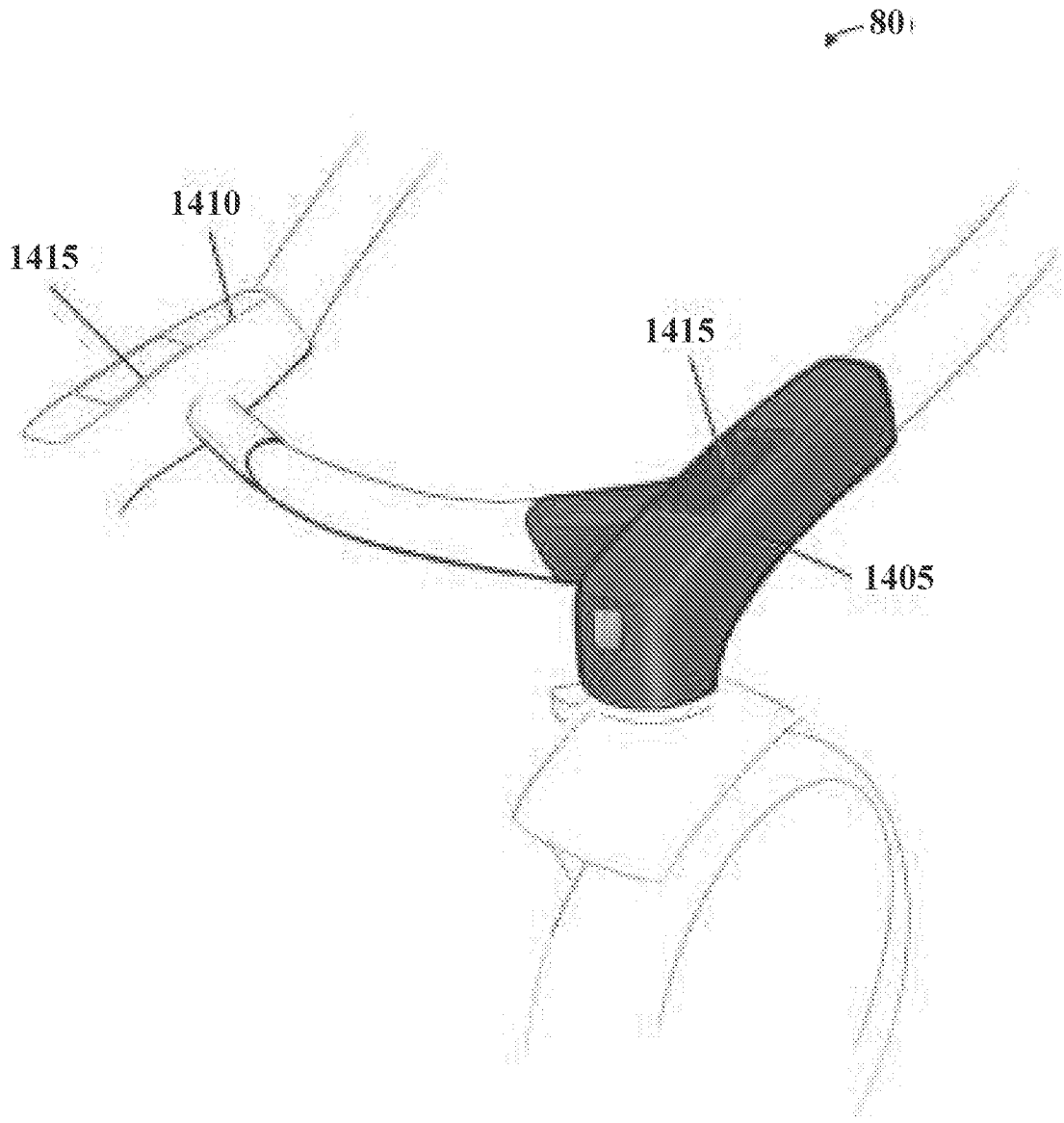


FIGURE 14A

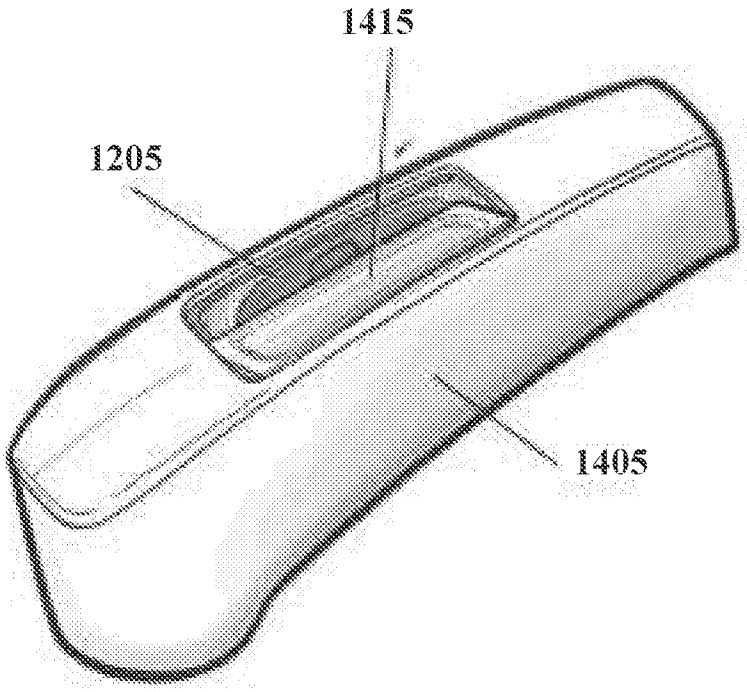


FIGURE 14B

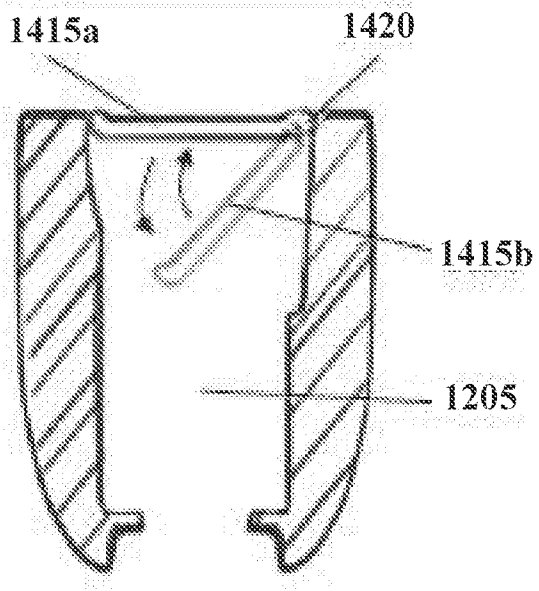


FIGURE 14C

PTO/AIA/82A (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	New Application
Filing Date	March 27, 2020
First Named Inventor	Jon Hee Lee
Title	REMOVABLE SEAT ATTACHMENT FOR A STROLLER
Art Unit	Unassigned
Examiner Name	Unassigned
Attorney Docket Number	34757-2430

SIGNATURE of Applicant or Patent Practitioner

Signature	/James M. Hannon/	Date (Optional)	2020-03-27
Name	James M. Hannon	Registration Number	48,565
Title (if Applicant is a juristic entity)	Attorney of Record		
Applicant Name (if Applicant is a juristic entity)	BABY JOGGER, LLC		

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. 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 3 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.**

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

CD Submission Review Results

Internal Worksheet Only - Do Not Scan

Application Number	16832429	Receipt Date	Mar 27, 2020

X	New Application		Response To Notice	Date Of Response

[ ] Jumbo – Large tables are included on the CD

[X] **There are no problems with the CDs in the submission.**

Items checked below are to be selected in the PALM Pre-Exam CD problem list.

Omitted Items

	Files on compact disc are unreadable:
	Disc(s) of either set not readable:
	Disc(s) do not contain file names listed:
	Amended CD missing unamended files
	Missing compact discs

Missing Parts

	Disc(s) do not contain file names listed
	Discs contains files that are non-ASCII files:
	Only one copy of the CD, no duplicate:
	Wrong media type, e.g., CD-RW:
	The transmittal letter and specification do not list information:
	Both disc(s) contain unreadable files:
	One disc(s) contain unreadable files:
	Compact disc(s) contain viruses, but are still readable:
	EFS/Paper Submission:
	Table does not maintain data in proper alignment:
	Not proper subject matter for CD's:

Informality

	No statement in transmittal letter that CD's are the same:
	No incorporation by reference statement for the CD's:
	CD's not labeled "Copy 1" and "Copy 2":
	Deficient CD packaging:
	Deficient Labeling on CD's:
	The transmittal letter does not list information:
	The specification does not list information:
	Table less than 51 pages submitted on CD:

File Directory Attachment

	Copy of file directory listing is attached and should be mailed to applicant
	Copy of file directory listing is not attached
	Copy of file directory listing is not attached because it is over one page long

Additional Comments

Internal Worksheet Only - Do Not Scan

SCORE Placeholder Sheet for IFW Content

Application Number: 16832429 Document Date: 03/27/2020

The presence of this form in the IFW record indicates that the following document type was received in electronic format on the date identified above. This content is stored in the SCORE database.

Since this was an electronic submission, there is no physical artifact folder, no artifact folder is recorded in PALM, and no paper documents or physical media exist. The TIFF images in the IFW record were created from the original documents that are stored in SCORE.

- Drawing

At the time of document entry (noted above):

- USPTO employees may access SCORE content via DAV or via the SCORE web page.
- External customers may access SCORE content via PAIR using the Supplemental Content tab.

Form Revision Date: March 1, 2019

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
16/832,429	03/27/2020	3618	1720	34757-2430	20	3

CONFIRMATION NO. 8948

134811
Eversheds Sutherland (US) LLP/NWL
999 Peachtree Street
Suite 2300
Atlanta, GA 30309

FILING RECEIPT

OC000000118039552

Date Mailed: 04/08/2020

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please submit a written request for a corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections provided that the request is grantable.

Inventor(s)

Jon Hee Lee, Highwood, IL;
Megan Roe, Kalamazoo, MI;
Stacy Noel Simpson, Portage, MI;
Mark Zehfuss, Glen Allen, VA;

Applicant(s)

BABY JOGGER, LLC, Richmond, VA;

Power of Attorney: The patent practitioners associated with Customer Number 134811

Domestic Priority data as claimed by applicant

This application is a CON of 15/912,901 03/06/2018
which is a CON of 15/225,326 08/01/2016 PAT 9944305
which claims benefit of 62/311,224 03/21/2016
and is a CIP of 14/597,420 01/15/2015 PAT 9403550
which is a CON of 14/261,558 04/25/2014 PAT 8955869
which is a CON of 12/631,375 12/04/2009 ABN
which claims benefit of 61/119,920 12/04/2008

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

If Required, Foreign Filing License Granted: 04/07/2020

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 16/832,429**

Projected Publication Date: 07/16/2020

Non-Publication Request: No

Early Publication Request: No

Title

REMOVABLE SEAT ATTACHMENT FOR A STROLLER

Preliminary Class

280

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

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Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

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PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 16/832,429

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A			N/A	300
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A			N/A	660
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A			N/A	760
TOTAL CLAIMS (37 CFR 1.16(i))	20 minus 20 =	*			OR	x 100 =	0.00
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*				x 460 =	0.00
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is $310 ($155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).						0.00
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))							0.00
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL			TOTAL	1720

APPLICATION AS AMENDED - PART II

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

		(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	Total (37 CFR 1.16(i))	*	Minus	**	=	x =		OR	x =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x =		OR	x =	
	Application Size Fee (37 CFR 1.16(s))									
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".
The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.

To: patentdocket@eversheds-sutherland.com,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 134811

Apr 08, 2020 04:12:31 AM

Dear PAIR Customer:

Eversheds Sutherland (US) LLP/NWL
999 Peachtree Street
Suite 2300
Atlanta, GA 30309
UNITED STATES

The following USPTO patent application(s) associated with your Customer Number, 134811 , have new outgoing correspondence. This correspondence is now available for viewing in Private PAIR.

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Application	Document	Mailroom Date	Attorney Docket No.
16832429	APP.FILE.REC	04/08/2020	34757-2430

To view your correspondence online or update your email addresses, please visit us anytime at https://sportal.uspto.gov/secure/myportal/privatepair.

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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
16/832,429	03/27/2020	Jon Hee Lee	34757-2430	8948

134811 7590 05/15/2020

Eversheds Sutherland (US) LLP/NWL
999 Peachtree Street
Suite 2300
Atlanta, GA 30309

EXAMINER	
DOLAK, JAMES M	

ART UNIT	PAPER NUMBER
3618	

NOTIFICATION DATE	DELIVERY MODE
05/15/2020	ELECTRONIC

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.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@eversheds-sutherland.com

Office Action Summary	Application No. 16/832,429	Applicant(s) Lee et al.	
	Examiner JAMES M DOLAK	Art Unit 3618	AIA (FITF) Status No

-- 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 2 MONTHS 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)☑ Responsive to communication(s) filed on 3/27/2020.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

2a)☐ This action is **FINAL.** 2b) ☑ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ 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*

5) ☑ Claim(s) 1-20 is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6) ☐ Claim(s) _____ is/are allowed.

7) ☐ Claim(s) _____ is/are rejected.

8) ☐ Claim(s) _____ is/are objected to.

9) ☑ Claim(s) 1-20 are subject to restriction and/or election requirement

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to **PPHfeedback@uspto.gov.**

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ 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).

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ 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)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b) Paper No(s)/Mail Date _____.

3) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.

4) ☑ Other: Restriction requirement.

2DETAILED ACTION

Notice of Pre-AIA or AIA Status

1. The present application is being examined under the pre-AIA first to invent provisions.

Election/Restrictions

2. This application contains the following patentably distinct species (not all of which currently have claims directed thereto):

a. **Species A – directed to the embodiment of Fig.1-3 (single stroller with seat attachment);**

b. **Species B – directed to the embodiment of Fig.4 (seat attachment capable of supporting a car seat);**

c. **Species C – directed to the embodiment of Fig.5 (single stroller attached to an embodiment of the attachment in the form of a tricycle-like riding device);**

d. **Species D – directed to the embodiment of Fig.6A-6B (accessory attachment for supporting an accessory on a stroller);**

e. **Species E – directed to the embodiment of Fig.7 (attachment for supporting a seat comprising one wheel);**

f. **Species F – directed to the embodiment of Fig.8A-8H (stroller apparatus capable of being converted from a single seat stroller to a double seat stroller through the use of removable seat attachment adapters);**

g. **Species G – directed to the embodiment of Fig.9&10 (double seat stroller with two removable seat attachment adapters 84 for first seat and separate upper second seat attachment portion);**

h. **Species H – directed to the embodiment of Fig.11-13C (stroller with seat attachment housing according to one example embodiment of the disclosure and removable seat attachment adapter removably coupled to the seat attachment housing according to one example embodiment of the disclosure);**

i. **Species I – directed to the embodiment of Fig.14A-C (an alternative embodiment of the seat attachment housing according to another example embodiment of the disclosure).**

3. The species are independent or distinct because each of Species A-I are directed to a various different strollers and/or stroller attachments. The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed are materially different in design. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species, or a single grouping of patentably indistinct species, for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently,

as best understood, **no claims appear generic**. However, Applicant is advised to also determine whether any of the claims appear generic to all of the above species.

There is a search and/or examination burden for the patentably distinct species as set forth above because at least the following reason(s) apply: the species of patentably distinct inventions require a different field of search (e.g., searching different classes/subclasses or electronic resources, or employing different search strategies or search queries). **For example, the currently species of invention contain claims which would require complex text searching based on the numbers of seats and attachment points on the stroller of the various options disclosed**.

Applicant is advised that the reply to this requirement to be complete must include (i) an election of a species or a grouping of patentably indistinct species to be examined even though the requirement may be traversed (37 CFR 1.143) **and (ii) identification of the claims encompassing the elected species or grouping of patentably indistinct species**, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

The election may be made with or without traverse. To preserve a right to petition, the election must be made with traverse. If the reply does not distinctly and specifically point out supposed errors in the election of species requirement, the election shall be treated as an election without traverse. Traversal must be presented at the time of election in order to be considered timely. Failure to timely traverse the requirement will result in the loss of right to petition under 37 CFR 1.144. If claims are added after

the election, applicant must indicate which of these claims are readable on the elected species or grouping of patentably indistinct species.

Should applicant traverse on the ground that the species, or groupings of patentably indistinct species from which election is required, are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing them to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the species unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other species.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 CFR 1.141.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M DOLAK whose telephone number is (571)270-7757. The examiner can normally be reached on 9-530 EST Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J ALLEN SHRIVER can be reached on 303-297-4337. 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.

/JAMES M DOLAK/
Primary Examiner, Art Unit 3618

To: patentdocket@eversheds-sutherland.com,,
From: PAIR_eOfficeAction@uspto.gov
Cc: PAIR_eOfficeAction@uspto.gov
Subject: Private PAIR Correspondence Notification for Customer Number 134811

May 15, 2020 04:32:23 AM

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UNITED STATES

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Application	Document	Mailroom Date	Attorney Docket No.
16832429	CTRS	05/15/2020	34757-2430

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Monday - Friday 6:00 a.m. to 12:00 a.m.

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PATENT APPLICATION INFORMATION RETRIEVAL SYSTEM

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
John Hee Lee, et al.	)	Confirmation No.: **8948**
	)	
Application No.: **16/832,429**	)	Art Unit: **3618**
	)	
Filed: **March 27, 2020**	)	Examiner: **James M. Dolak**
	)	
For: **Removable Seat Attachment for a Stroller**	)	
	)	
	)	
	)	

RESPONSE TO SPECIES RESTRICTION REQUIREMENT

Via EFS-Web
Mail Stop Amendment
Commissioner for Patents
Alexandria, VA 22313-1450

Dear Examiner Dolak:

This Response is submitted in response to the Species Restriction Requirement with a Notification Date of May 15, 2020. In light of the amendments and remarks included herein, it is respectfully asserted that all pending claims are patentable, and it is respectfully requested that this application be allowed.

Amendments to the Claims are reflected in the listing of claims, which begins on page 2 of this paper.

Remarks begin on page 8 of this paper.

I hereby certify that this correspondence is being electronically filed via EFS-WEB to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Attn: Examiner Dolak, GAU 3618, on July 15, 2020.

/Christopher J. Chan/
Christopher J. Chan
Reg. No. 44,070

AMENDMENTS TO THE CLAIMS

Please amend the claims as shown below. This listing of claims will replace all prior versions and listing of claims for this application.

1. (Original) A stroller, comprising:

a stroller frame comprising:

a first upper tube support frame;

a second upper tube support frame;

a first front wheel support frame adjustable with respect to the first upper tube support frame;

a second front wheel support frame adjustable with respect to the second upper tube support frame;

a first back wheel support frame rotatable with respect to the first upper tube support frame; and

a second back wheel support frame rotatable with respect to the second upper tube support frame;

a plurality of wheels comprising at least one front wheel and a plurality of back wheels;

a first seat coupled along the first upper tube support frame and the second upper tube support frame at a first vertical position of the stroller frame;

a first seat attachment adapter coupled the first front wheel support frame at a second vertical position of the stroller frame that is below the first vertical position;

a second seat attachment adapter coupled to the second front wheel support frame at a third vertical position of the stroller frame that is below the first vertical position;

wherein a second seat is removably coupled to the first seat attachment adapter and the second seat attachment adapter to position the second seat at a fourth vertical position that is below the first vertical position and wherein the second vertical position and the third vertical position are at a same vertical height.

2. (Original) The stroller of claim 1, further comprising:

a first seat attachment housing disposed adjacent the first front wheel support frame at the second vertical position;

a second seat attachment housing disposed adjacent the second front wheel support frame at the third vertical position;

wherein the first seat attachment adapter is coupled to the first seat attachment housing and the second seat attachment adapter is coupled to the second seat attachment housing.

3. (Original) The stroller of claim 2, wherein the first seat attachment housing extends into the first front wheel support frame and the second seat attachment housing extends into the second front wheel support frame.

4. (Original) The stroller of claim 2, wherein each of the first seat attachment adapter and the second seat attachment adapter has a first end and a distal second end.

5. (Original) The stroller of claim 4, wherein the first end comprises a connector portion and is coupled to one of the first seat attachment housing and the second seat attachment housing.

6. (Original) The stroller of claim 4, wherein the second seat is configured to be removably coupled to the second end.

7. (Original) The stroller of claim 1, wherein the first seat is one of a baby seat, a car seat, a stroller seat, a bassinet, a baby carrier, or a pram and the second seat is one of a second baby seat, a second car seat, a second stroller seat, a second bassinet, a second baby carrier, or a second pram.

8. (Original) The stroller of claim 1, further comprising:

a third seat attachment adapter coupled to the stroller frame at the first vertical position; and

a fourth seat attachment adapter coupled to the stroller frame at the first vertical position;

wherein the first seat is removably coupled to the third seat attachment adapter and the fourth seat attachment adapter.

9. (Original) The stroller of claim 1, further comprising a handle comprising a first end coupled to the first upper tube support frame and a distal second end coupled to the second upper tube support frame.

10. (Original) A stroller, comprising:

a stroller frame comprising:

a first upper tube support frame;

a second upper tube support frame;

a front wheel support frame adjustable with respect to the first upper tube support frame;

a back wheel support frame rotatable with respect to the first upper tube support frame; and

a plurality of wheels comprising at least one front wheel and a plurality of back wheels;

a first seat coupled along the first upper tube support frame and the second upper tube support frame at a first vertical position of the stroller frame;

a first seat attachment adapter coupled the front wheel support frame at a second vertical position of the stroller frame that is below the first vertical position;

a second seat attachment adapter coupled to the front wheel support frame at a third vertical position of the stroller frame that is below the first vertical position;

wherein a second seat is removably coupled to the first seat attachment adapter and the second seat attachment adapter to position the second seat at a fourth vertical position that is below the first vertical position.

11. (Original) The stroller of claim 10, wherein the front wheel support frame comprises a first front wheel support frame member and a second front wheel support frame member.

12. (Original) The stroller of claim 10, wherein the back wheel support frame comprises a first back wheel support member and a second back wheel support member.

13. (Original) The stroller of claim 10, further comprising:

a first seat attachment housing disposed adjacent the front wheel support frame at the second vertical position;

a second seat attachment housing disposed adjacent the front wheel support frame at the third vertical position;

wherein the first seat attachment adapter is coupled to the first seat attachment housing and the second seat attachment adapter is coupled to the second seat attachment housing.

14. (Original) The stroller of claim 13, wherein each of the first seat attachment adapter and the second seat attachment adapter comprises:

a first end comprising a connector portion configured to be coupled to one of the first seat attachment housing and the second seat attachment housing; and

a distal second end, wherein the second seat is configured to be removably coupled to the second end.

15. (Original) The stroller of claim 10, wherein the first seat is one of a baby seat, a car seat, a stroller seat, a bassinet, a baby carrier, or a pram and the second seat is one of a second baby seat, a second car seat, a second stroller seat, a second bassinet, a second baby carrier, or a second pram.

16. (Original) The stroller of claim 10, further comprising:

a third seat attachment adapter coupled to the first upper tube support frame at the first vertical position; and

a fourth seat attachment adapter coupled to the second upper tube support frame at the first vertical position;

wherein the first seat is removably coupled to the third seat attachment adapter and the fourth seat attachment adapter.

17. (Original) A stroller, comprising:

a stroller frame comprising:

a first upper tube support frame;

a second upper tube support frame;

a first back wheel support frame;

a second back wheel support frame;

a first front wheel support frame;

a second front wheel support frame;

a plurality of wheels comprising at least one front wheel and a plurality of back wheels;

a first seat coupled to the stroller frame at a first vertical position of the stroller frame;

a first seat attachment housing disposed adjacent the first front wheel support frame:

a second seat attachment housing disposed adjacent the second front wheel support frame;

a first seat attachment adapter coupled to the first seat attachment housing at a second vertical position of the stroller frame that is below the first vertical position;

a second seat attachment adapter coupled to the second seat attachment housing at a third vertical position of the stroller frame that is below the first vertical position;

wherein the first seat is coupled along the first upper tube support frame and the second upper tube support frame and wherein a second seat is removably coupled to the first seat attachment adapter and the second seat attachment adapter.

18. (Original) The stroller of claim 17, wherein each of the first seat attachment adapter and the second seat attachment adapter comprises:

a first end comprising a connector portion configured to be coupled to one of the first seat attachment housing and the second seat attachment housing; and

a distal second end, wherein the second seat is configured to be removably coupled to the second end.

19. (Original) The stroller of claim 17, further comprising a handle comprising a first end coupled to the first upper tube support frame and a distal second end coupled to the second upper tube support frame.

20. (Original) The stroller of claim 17, further comprising:

a third seat attachment adapter coupled to the first upper tube support frame; and

a fourth seat attachment adapter coupled to the second upper tube support frame;

wherein the first seat is removably coupled to the third seat attachment adapter and the fourth seat attachment adapter.

REMARKS

Claims 1-20 were subject to a species restriction imposed in the Office Action on May 15, 2020. After entry of this Response, claims 1-20 remain pending. This Response elects a species restriction is traversed Allowance of the application and pending claims is respectfully requested.

I. Species Restriction Requirement

The Examiner has identified the following species based on the figures as follows:

Species A: Figures 1-3, single stroller with seat attachment;

Species B: Figure 4, seat attachment capable of supporting a car seat;

Species C: Figure 5, single stroller attached to an embodiment of the attachment in the form of a tricycle-like riding device;

Species D: Figures 6A-6B, accessory attachment for supporting an accessory on a stroller;

Species E: Figure 7, attachment for supporting a seat comprising one wheel;

Species F: Figures 8A-8H, stroller apparatus capable of being converted from a single seat stroller to a double seat stroller through the use of removable seat attachment adapters;

Species G: Figures 9-10, double seat stroller with two removable seat attachment adapters 84 for first seat and separate upper second seat attachment portion;

Species H: Figures 11-13C, stroller with seat attachment housing according to one example embodiment of the disclosure and removable seat attachment adapter removably couples to the seat attachment housing according to one example embodiment of the disclosure; and

Species I: Figures 14A-C, an alternative embodiment on the seat attachment housing according to another example.

A. Election of Species

Applicant elects, without traverse, Species F, Figures 8A-8H. Claims 1-20 are at least directed to Species F, Figures 8A-8H.

Applicant reserves the right to file a divisional application directed to any unelected species at a later date if so desired. Upon entry of this response, claims 1-20 remain pending and not withdrawn in this application with claims 1, 10, and 17 being the independent claims.

CONCLUSION

The foregoing is submitted as a full and complete response to the Species Restriction Requirement with a Notification Date of May 15, 2020. Applicant and the undersigned thank Examiner Dolak for the consideration of these amendments and remarks. Applicant has made a proper election in response to the Examiner's restriction requirement. Examination of claims 1-20 is hereby courteously solicited.

It is not believed that extensions of time or fees for addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 19-5029.

If the Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any formalities that can be corrected by an Examiner's amendment, please contact the undersigned at 404-853-8049.

Respectfully submitted,

/Christopher J. Chan/

Christopher J. Chan
Reg. No. 44,070

DATE: **July 15, 2020**

EVERSHEDS SUTHERLAND (US) LLP
999 Peachtree Street NE
Atlanta, Georgia 30309-3996
Telephone: (404) 853-8049
Facsimile: (404) 853-8806

Attorney Docket No.: **34757-2430**

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Art Unit	3618
Examiner Name	James M. Dolak
Attorney Docket Number	34757-2430

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
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	Examiner Name	James M. Dolak
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Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Christopher J. Chan/	Date (YYYY-MM-DD)	2020-07-15
Name/Print	Christopher J. Chan	Registration Number	44070

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First Named Inventor	John Hee Lee
Art Unit	3618
Examiner Name	James M. Dolak
Attorney Docket Number	34757-2430

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	Application Number	16832439
	Filing Date	2020-03-27
	First Named Inventor	John Hee Lee
	Art Unit	3618
	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2430

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1	102256856	CN	A	2011-11-23	DYNAMIC BRANDS LLC	Corresponds to US 2014/0333039 A1.	
	2	103909960	CN	A	2014-07-09	KOLCRAFT ENTPR INC	Corresponds to US 2014/0191483 A1 (previoulsy submitted).	
	3	103921830	CN	A	2014-07-16	DYNAMIC BRANDS LLC	Corresponds to US 2010/0140902 A1.	
	4	201626448	CN	U	2010-11-10	GE LUO		
	5	201646823	CN	U	2010-11-24	GOODBABY CHILD PRODUCTS CO LTD		

If you wish to add additional Foreign Patent Document citation information please click the Add button Add

NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc), date, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	OFFICE ACTION issued in Chinese Application No. 201710169826.4, dated October 31, 2018, 11 pages.	

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16832439
	Filing Date	2020-03-27
	First Named Inventor	John Hee Lee
	Art Unit	3618
	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2430

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	16832439
	Filing Date	2020-03-27
	First Named Inventor	John Hee Lee
	Art Unit	3618
	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2430

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

A signature of the applicant or representative is required in accordance with CFR 1.33, 10.18. Please see CFR 1.4(d) for the form of the signature.

Signature	/Christopher J. Chan/	Date (YYYY-MM-DD)	2020-07-15
Name/Print	Christopher J. Chan	Registration Number	44070

This collection of information is required by 37 CFR 1.97 and 1.98. 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 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: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Australian Government
IP Australia

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Australia

Date of issue: 1 April 2014

Patent Examination Report No. 1

Application Details

Patent Application No.: 2009322149

Applicant/s: DYNAMIC BRANDS, LLC

Your reference: PNF:NJA:P87221.AU

Earliest Priority Date: 04 December 2008

Examination Request Date: 08 March 2013

Your application has been examined under Section 45 of the *Patents Act 1990*. I consider that the application does not meet the requirements of the Act for the reasons indicated below.

Actions you can take

NOTE: There is a current postponement of acceptance in place. If you overcome all other objections before the expiration of that postponement, the Commissioner will only accept the application at that time if you have filed a clear and unambiguous statement requesting the withdrawal of that postponement. Otherwise, a further adverse report will be issued.

You have **21 months** from the date of this report to overcome all my objection(s) otherwise your application will lapse.

You will need to pay a monthly fee for any response you file after 12 months from the date of the first report.

You will also need to pay any annual continuation fees that apply. Information about fees may be obtained by phoning 1300 651 010 or by visiting www.ipaustralia.gov.au.

Basis of the report

Last amendment item no. 2 .

In examining your application I have taken into account:

- the PCT pamphlet as originally filed
- the proposed amendments under S104 filed on 08 March 2013

Statement of Novelty, Inventive Step and Patentable Subject Matter

Novelty/Inventive Step	Claim No. NONE	**Yes**
	Claim No. 1-15, 16-18, 27-29, 30-50, 56	**No**
Patentable Subject Matter	Claim No. 1-15, 16-18, 27-29, 30-50, 56	**Yes**
	Claim No. NONE	**No**

Section 40 (Fair Basis, Full Description, Clarity, Lack of Unity)

1 The specification does not comply with Section 40(4) because the claims do not relate to one invention only. I have found different inventions based on the following features that separate the claims into distinct groups:

- Claims 1 to 15, and 56 (in part) are directed to a seat attachment for a stroller. The feature of "a seat support element capable of supporting a seat in either a forward or backward position" is specific to this group of claims.
- Claims 16 to 18 and 56 (in part) are directed to a double stroller. The feature of "the second seat is attached in front of the first seat" is specific to this group of claims.
- Claims 19 to 26 and 56 (in part) are directed to a double stroller. The feature of "a second seat attachment capable of supporting a child seat" is specific to this group of claims.
- Claims 27 to 29 and 56 (in part) are directed to a stroller. The feature of "the seat attachment comprises a connector portion and a seat support element" is specific to this group of claims.
- Claims 30 to 50 and 56 (in part) are directed to a stroller. The feature of "a seat attachment for converting the stroller into a double stroller, the seat attachment comprising: a connector... and a seat attachment element capable of supporting a second seat in either a forward or backward position" is specific to this group of claims.
- Claims 51 to 55 and 56 (in part) are directed to a stroller capable of being converted to a double stroller. The feature of "a releasably connected first seat...in a forward or backward facing position" and "a releasably connected second seat... in a forward or backward facing position" is specific to this group of claims.

Unity of invention is only fulfilled when there is at least one "special technical feature" present in the claims that both:

- provides a technical relationship among all the claims; and,
- makes a contribution over the prior art.

When there is no special technical feature common to all the claimed inventions there is no unity of invention.

In the above groups of claims, the identified features may have the potential to make a contribution over the prior art but are not common to all the claimed inventions and therefore

cannot provide the required technical relationship. The only feature common to all of the claimed inventions and which provides a technical relationship among them is a stroller with a seat. However it is considered that this feature is generic in this particular art. Therefore this common feature cannot be a special technical feature. Hence there is no special technical feature common to all the claimed inventions and the requirements for unity of invention are consequently not satisfied *a priori*.

As a consequence of this I have restricted the examination to the first (Claims 1-15 and 56 in part), second (Claims 16-18 and 56 in part), fourth (Claims 27-29 and 56 in part) and fifth (Claims 30-50 and 56 in part) inventions which are referring to a stroller and the mechanical arrangement of its seat attachment and connector portion. While regarding the third (Claims 19-26 and 56 in part) and sixth inventions (Claims 51-55 and 56 in part), which mainly refer to a stroller with seat attachments supporting a child seat and a stroller with seats being one of a stroller seat, car seat, bassinet seat are not examined in this report, and any comment on the validity of any claims relating to the third and sixth inventions is withheld pending the applicant's response to this report.

Documents Cited or Considered Relevant

D1 : US 2007/0085303 A1 (CHENG) 19 April 2007 ^
Category: X Claims: 27-40, 44, 45, 47-50, 56
Category: Y Claims: 1-18, 41-43, 46

D2 : US 2007/0252352 A1 (ROHL) 01 November 2007 ^
Category: Y Claims: 1-18, 41-43, 46

^ D1 and D2 are earlier publications of US 7475900 and US 7877585, respectively, which were raised in US Exam Report (Final Rejection) dated 28 March 2013 for US Application No. US 12/631,375

Special categories of cited documents:

X: The claimed invention cannot be considered novel under subsection 7(1) in light of the document and/or cannot be considered to involve an inventive step under subsection 7(2) of the Act in light of the common general knowledge considered together with the document.
Y: The claimed invention cannot be considered to involve an inventive step under subsection 7(2) of the Act in light of the common general knowledge when considered together with a combination of the document and one or more other such documents.

Novelty and Inventive Step

2 Claims 27-29, 30-40, 44 and 45 are not novel and lack an inventive step in light of D1 as discussed in item 17 pages 6-9 of the US Exam Report on US 12/631, 375 dated 28 March 2013.

Note that, D1 (US 2007/0085303 A1) is an earlier publication of US 7475900 discussed in above US exam report.

Also note that, above Australian Claims 27, 28, 29, 30-37, 38-40, 44 and 45 are having substantially the same scope as US Claims 28, 32, 33, 35-42, 44-46, 50 and 51 (dated 07 Jan 2013),respectively.

While the objection regarding these documents was not made under Australian law, I agree with the reasons given in that report and consider that they support a corresponding objection against the Australian claims.

3 Claims 1-15, 16-18, 41-43 and 46 lack an inventive step in light of the prior art documents (D1 and D2) as discussed in items 19-22 pages 9-17 of the US Exam Report on US 12/631, 375 dated 28 March 2013.

Note that, D1 (US 2007/0252352 A1) is an earlier publication of US 7677585 B2 discussed in above US exam report.

Also note that, above Australian Claims 1-15, 16, 17, 18, 41-43 and 46 are having substantially the same scope as US Claims 1-15, 16, 18, 19, 47-49 and 53 (dated 07 Jan 2013), respectively.

While the objection regarding these documents was not made under Australian law, I agree with the reasons given in that report and consider that they support a corresponding objection against the Australian claims. It is considered that a person skilled in the art, in view of the problem to be solved and the general state of the art at the time, would have ascertained, understood and regarded these documents as relevant. It is also considered that in seeking a solution to the problem a person skilled in the art would be motivated to combine the disclosures of these documents and arrive at a solution that is the same as the claimed invention.

4 Furthermore, appended claims 47-50 add only features that are either common in the art or mere design choices and which therefore cannot contribute to providing a patentable invention.

5 Omnibus claim 56, when refers to the broadest form of the accompany drawings, the differences are only resides in common general knowledge or mere design choices and therefore do not contribute to provide and inventive step.

Formalities

6 The Commissioner is not satisfied that the applicant is entitled to the grant of a patent under Section 15. You are required to file a Notice of Entitlement before the application can be accepted.

Additional Comments

Attorney's attention is further drawn to US exam report for US application No. 12/631,375 dated 02 August 2013.

I apologise for any inconvenience resulting from your application not being considered within the time limit set out in our Customer Service Charter.

How to contact us

Examiner: Aisha Qi
A4 - Mechanical
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(9am-5pm Mon- Fri)

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Mail: IP Australia
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Woden, ACT 2606

Website QR code

View your application in AusPat by going to http://www.ipaustralia.gov.au/auspat/ and entering your application number.

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Date of issue: 2 December 2014

Patent Examination Report No. 2

Application Details

Patent Application No.:	2009322149
Applicant/s:	DYNAMIC BRANDS, LLC
Your reference:	P87221.AU
Earliest Priority Date:	04 December 2008
Examination Request Date:	08 March 2013

Your application has been examined under Section 45 of the *Patents Act 1990*. I consider that the application does not meet the requirements of the Act for the reasons indicated below.

Actions you can take

You have until **01 January 2016** to overcome all my objection(s) otherwise your application will lapse.

You will need to pay a monthly fee for any response you file after 12 months from the date of the first report.

You will also need to pay any annual continuation fees that apply. Information about fees may be obtained by phoning 1300 651 010 or by visiting www.ipaustralia.gov.au.

Basis of the report

In examining your application I have considered:

- the PCT pamphlet as originally filed
- allowed and/or proposed amendment/s under S104 up to and including amendment item number 4, filed on 6 November 2014.

Statement of Novelty, Inventive Step and Patentable Subject Matter

Novelty/Inventive Step	Claim No. 1-5, 9-29 Claim No. 6-8	**Yes** **No**
Patentable Subject Matter	Claim No. 1-29 Claim No. NONE	**Yes** **No**

Section 40 (Fair Basis, Full Description, Clarity, Lack of Unity)

7 Claim 9 is not clear with regard to "separate left and right seat attachment portions..." and "the seat attachment portions comprising: a connector portion..., and a seat support element...".

First, it is indeterminate whether the term "separate" means the two seat attachment portions are "separate" to each other, or they are (as together) separate from the first stroller seat and the two attachment frame members.

Therefore, if it means 'the left and right seat attachments are separate from the first stroller and two attachment members', then "the seat attachment portions comprising: a connector portion..., and a seat support element..." may have a meaning of the (separate left and right) seat attachments together comprising a single (joint) connector portion and a single (joint) seat support element---if the left and right seat attachments are in some way joint together.

But, if it means 'the left and right seat attachment portions are "separate" to each other', then above feature may be construed as the separate left and right seat attachments each respectively comprises a connector portion and a seat support element---since they are separate to each other, they can't have a joint single connector and seat support element.

For the purpose of this report, the above feature is considered as a separate left seat attachment portion and a separate right seat attachment portion, and each of the seat attachment portions comprising a connector portion and a seat support element respectively (eg. similar to the attachment portion defined in claims 1 and 23). However, if the feature is to be construed in a different way (eg. a joint left and right seat attachments together having a connector portion and a seat support element), the novelty/Inventive step of the said feature will be further considered accordingly.

(please also note, at the 5th line of claim 9, "left from wheel" seems to be an error/typo of "left front wheel").

8 The specification does not comply with Section 40(4) because the claims do not relate to one invention only. I have found different inventions based on the following features that separate the claims into distinct groups:

- Claims 1-5 and 23-29 are directed to a seat attachment for a stroller. The feature of the seat attachment with separate left and right attachment frame members which respectively further comprise a connector portion to removably connect to a stroller frame and a seat support element for removably connecting a seat is specific to this

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group of claims.

- Claims 6-8 are directed to a stroller. The feature of the stroller with two attachment frame members capable of removably receiving and supporting separate right and left seat attachment portions is specific to this group of claims. It is noted that, the claim *per se* is only directed to a stroller attachment frame capable of receiving/supporting separate seat attachment, and such that, the seat attachment *per se*, as relating to the connector portion and seat support element, is not considered as part of the defined features of the claim.

- Claims 9-22 are directed to a stroller. The feature of the stroller comprising separate left and right seat attachment portions for converting the stroller to a double stroller is specific to this group of claims.

Unity of invention is only fulfilled when there is at least one "special technical feature" present in the claims that both:

- provides a technical relationship among all the claims; and,

- makes a contribution over the prior art.

When there is no special technical feature common to all the claimed inventions there is no unity of invention.

In the above groups of claims, the identified features may have the potential to make a contribution over the prior art but are not common to all the claimed inventions and therefore cannot provide the required technical relationship. The only feature common to all of the claimed inventions is a stroller frame. However it is considered that this feature is generic in this particular art. Therefore there is no special technical feature common to all the claimed inventions and the requirements for unity of invention are consequently not satisfied *a priori*.

Documents Cited or Considered Relevant

D1 : US 2007/0085303 A1 (CHENG) 19 April 2007 ^
Category: **A**

D2 : US 2007/0252352 A1 (ROHL) 01 November 2007 ^
Category: **A**

D3 : WO 2008/135974 A2 (KATZ, GEVA et al.) 13 November 2008 **
Category: **X** Claims: 6-8

** Cited in the EP European search opinion dated 15 November 2013 for Application No. 09831215.0.
^ Cited in the previous examination report.

New Documents

Document D3 brought to my attention from EP examination reports in light of the amended claims.

I apologise for any inconvenience that raising new citation/s at this stage may have caused.

Special categories of cited documents:

X: The claimed invention cannot be considered novel under subsection 7(1) in light of the document and/or cannot be considered to involve an inventive step under subsection 7(2) of the Act in light of the common general knowledge considered together with the document.
A: Document defining the general state of the art which is not considered to be of particular relevance.

Novelty and Inventive Step

9 Claim 6 is not novel and also lacks an inventive step in light of the disclosures in D3.

D3, in Figs 18-19 and accompanying texts in [00108]-[00109] discloses a stroller (200) with a stroller seat (as from Figs 18-19), two front wheels and two rear wheels attached to its frame (206).

In particular to the stroller 200 at the back (Fig 19), feature regarding "two attachment frame members ... capable removably receiving and supporting right and left seat attachment portions" is disclosed as the left and right parallel bars 202 & 204, which adjacent the two front wheels (small wheels) and capable of removably receiving and supporting the other left and right parallel bars (202 & 204) of the front stroller.

Note that, although D3 in Figs 18-19 does not explicitly disclose feature regarding "a separate right and left seat attachment portions, wherein each of the seat attachment portions ... for removably connecting a stroller seat between the seat attachment portions", it is considered that, the claim *per se*, only defines the attachment frame members capable of removably receiving and supporting separate right and left seat attachment portions with such given features, wherein "capable" only directs to a capability. In another word, according to the claim, the two attachment frame members only need to have the capability to removably receive and support the separate right and left seat attachments with features given in the claim. Since there is no further definition in limiting the type/shape of the connector portions, for example, for not being in the shape of parallel bars as shown in Figs 18-19, the attachment frame members 202 & 204 of the stroller at back would be capable of removably receiving and supporting a separate right and left seat attachment wherein their connector portions are also parallel bars for connecting into the attachment frame members 202 & 204.

However, if the claim is directed to the two attachment frame members removably connecting (receiving and supporting) separate right and left seat attachment portions with given features in the claim, wherein the removable left and right seat attachments are part of the defined features of the claim, then the claims should be amended accordingly.

Further, appended claims 7-8 add features regarding "frame members comprise a slot for removably receiving the connector portion", or "a second seat being selected from stroller seat, infant carrier... or a car seat" which are either disclosed in D3 or common in the art that represent mere design choice and therefore do not contribute to provide a patentable invention.

How to contact us

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17 December 2015 (17-12-2015)

RIDOUT & MAYBEE LLP
250 University Avenue
5TH Floor
TORONTO Ontario
M5H 3E5

Application No.	:	**2,745,914**
PCT No.	:	**US2009066817**
Owner	:	BABY JOGGER, LLC
Title	:	**SEAT ATTACHMENT FOR A STROLLER**
Classification	:	B62B 9/28 (2006.01)
Your File No.	:	**49127-3012**
Examiner	:	Matthew Chisholm

YOU ARE HEREBY NOTIFIED OF A REQUISITION BY THE EXAMINER IN ACCORDANCE WITH SUBSECTION 30(2) OF THE *PATENT RULES*. IN ORDER TO AVOID ABANDONMENT UNDER PARAGRAPH 73(1)(a) OF THE *PATENT ACT*, A WRITTEN REPLY MUST BE RECEIVED WITHIN THE **SIX (6)** MONTH PERIOD AFTER THE ABOVE DATE.

This application has been examined taking into account the:

Description,	as originally filed;
Claims,	1-30, as received on 9 December 2014 (09-12-2014) during the national phase; and
Drawings,	as originally filed.

The number of claims in this application is 30.

A search of the prior art has thus far failed to reveal any pertinent references.

The examiner has identified the following defects in the application:

Claims 1, 24, 27 are indefinite and do not comply with subsection 27(4) of the *Patent Act*. The element "a stroller frame", is defined with an indefinite article, causing a lack of clarity as to whether it is intended to refer to the same element "a stroller frame" as was previously defined in the claims or an additional element thereto.

The description does not correctly and fully describe the invention and does not comply with subsection 27(3) of the *Patent Act*. Statements such as those found at page 13, line 12 indicating that the claims are to be viewed as broader than the teachings of the description do not correctly describe the invention and should be removed.

In view of the foregoing defects, the applicant is requisitioned, under subsection 30(2) of the *Patent Rules*, to amend the application in order to comply with the *Patent Act* and the *Patent Rules* or to provide arguments as to why the application does comply.

Under section 34 of the *Patent Rules*, any amendment made in response to this requisition must be accompanied by a statement explaining the nature thereof, and how it corrects each of the above identified defects.

Matthew Chisholm
Senior Patent Examiner
819-639-7839

As per CIPO Client Service Standards, a response to a telephone enquiry or voice mail should be provided by the end of the next business day. In the event that attempts to reach the examiner are unsuccessful, the examiner's Section Head, David Kerr, can be reached at 819-639-7866.

CIPO values your feedback and invites you to complete a short and anonymous ongoing survey on patent examination products and services. You can access the survey at the following link: http://ic.sondages-surveys.ca/s/SCB-OPS/langeng.

2745914A_misc.docm

The Examination Search Report is provided for reference only and is not part of any requisition made by the examiner in accordance with the *Patent Act* or *Rules*. The applicant is not required to respond to the information contained in the Examination Search Report.

Examination Search Report

Box I: General Information			
Application No.	2,745,914	Search Report Date	16-12-2015
Title	SEAT ATTACHMENT FOR A STROLLER		
Examiner	Matthew Chisholm	Search Conducted?	Yes

Box II: Family Prosecution		
Family Member	File Wrapper Reviewed	Status of Prosecution
PCT/US2009/066817	16-12-2015	Completed
US8955869	16-12-2015	Completed

Box III: Prior Art Submissions	
Type of submissions	Reviewed?

Box IV: Search History			
Claims Searched	1-30	Date of Search	16-12-2015
Type of Search Conducted (select all that apply):			
Canadian first to file search	■	Supplemental/top up search	☐
Inventor/applicant search	☐	Non laid open search	☐
Comprehensive search	☐	In-house searcher	☐

Search History from Databases Consulted:

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##### CANADIAN PATENT DATABASE ##########

(filing-date <= 2010-12-04 <AND> filing-date > 1000-01-01 ) <AND> (filing-date
>=2004-12-04) <AND> ((B62B 9/28 <OR> B62B 7/00) <IN> ipc)
```

Version 8

国家知识产权局

100005

北京市东城区建国门南大街7号万豪中心A座2202室 北京律盟知识产权代理有限责任公司
张世俊(10-85187141-17)

发文日：

2018年10月31日

申请号或专利号：201710169826.4　　发文序号：2018102601342040

申请人或专利权人：贝贝漫步有限责任公司

发明创造名称：用于手推童车的可拆卸式座椅附接件

第一次审查意见通知书

1. ☒应申请人提出的实质审查请求，根据专利法第35条第1款的规定，国家知识产权局对上述发明专利申请进行实质审查。
   ☐根据专利法第35条第2款的规定，国家知识产权局决定自行对上述发明专利申请进行审查。
2. ☒申请人要求以其在：
   US专利局的申请日2016年03月21日为优先权日，
   US专利局的申请日2016年08月01日为优先权日。
   ☒申请人已经提交了经原受理机构证明的第一次提出的在先申请文件的副本。
   ☐申请人尚未提交经原受理机构证明的第一次提出的在先申请文件的副本，根据专利法第30条的规定视为未要求优先权要求。
3. ☐经审查，申请人于_____提交的修改文件，不符合专利法实施细则第51条第1款的规定，不予接受。
4. 审查针对的申请文件：
   ☒原始申请文件。☐分案申请递交日提交的文件。☐下列申请文件：

5. ☐本通知书是在未进行检索的情况下作出的。
   ☒本通知书是在进行了检索的情况下作出的。
   ☒本通知书引用下列对比文件(其编号在今后的审查过程中继续沿用)：

编号	文件号或名称	公开日期（或抵触申请的申请日）
1	CN 103909960A	20140709
2	CN 201626448U	20101110
3	CN 201646823U	20101124

6. 审查的结论性意见：
   关于说明书：
   ☐申请的内容属于专利法第5条规定的不授予专利权的范围。
   ☐说明书不符合专利法第26条第3款的规定。
   ☐说明书不符合专利法第33条的规定。

210401 2018.8　纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路6号 国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

MOCKINGBIRD ET AL. EX1019

☐说明书的撰写不符合专利法实施细则第 17 条的规定。

☐_____

关于权利要求书：

☐权利要求_____不符合专利法第 2 条第 2 款的规定。

☐权利要求_____不符合专利法第 9 条第 1 款的规定。

☒权利要求 1, 13 不具备专利法第 22 条第 2 款规定的新颖性。

☒权利要求 2-12, 14-20 不具备专利法第 22 条第 3 款规定的创造性。

☐权利要求_____不具备专利法第 22 条第 4 款规定的实用性。

☐权利要求_____属于专利法第 25 条规定的不授予专利权的范围。

☐权利要求_____不符合专利法第 26 条第 4 款的规定。

☐权利要求_____不符合专利法第 31 条第 1 款的规定。

☐权利要求_____不符合专利法第 33 条的规定。

☐权利要求_____不符合专利法实施细则第 19 条的规定。

☐权利要求_____不符合专利法实施细则第 20 条的规定。

☐权利要求_____不符合专利法实施细则第 21 条的规定。

☐权利要求_____不符合专利法实施细则第 22 条的规定。

☐_____

☐申请不符合专利法第 26 条第 5 款或者实施细则第 26 条的规定。

☐申请不符合专利法第 20 条第 1 款的规定。

☐分案申请不符合专利法实施细则第 43 条第 1 款的规定。

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见，审查员认为：

☐申请人应当按照通知书正文部分提出的要求，对申请文件进行修改。

☐申请人应当在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。

☒专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。

☐_____

8. 申请人应注意下列事项：

(1) 根据专利法第 37 条的规定，申请人应在收到本通知之日起的 4 个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。

(2) 申请人对其申请的修改应当符合专利法第 33 条的规定，不得超出原说明书和权利要求书记载的范围，同时申请人对专利申请文件进行的修改应当符合专利法实施细则第 51 条第 3 款的规定，按照本通知书的要求进行修改。

(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。

(4) 未经预约，申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

(5) 对进入实质审查阶段的发明专利申请，在第一次审查意见通知书答复期限届满前（已提交答复意见的除外），主动申请撤回的，可以请求退还 50%的专利申请实质审查费。

9. 本通知书正文部分共有 6 页，并附有下述附件：

☐引用的对比文件的复印件共_____份_____页。

☐_____

审查员：曾婧　　联系电话：020-28958768　　审查部门：专利审查协作广东中心机械发明审查部

第一次审查意见通知书

申请号:2017101698264

本申请涉及一种用于手推童车的可拆卸式座椅附接件，经审查，现提出如下审查意见。

1、权利要求1要求保护一种手推童车，对比文件1（CN103909960A）公开了一种容易操纵的婴儿车，其实质上公开了一种手推童车，并具体公开了如下技术特征（参见对比文件1说明书第41-42,73段、说明书附图1-3,10）：说明书附图10公开的实施例包括：手推童车框架102；耦合到所述手推童车框架的多个车轮110,114；耦合到所述手推童车框架的第一座椅106；沿着所述手推童车框架的第一部分安置的第一座椅附接件外壳（参见说明书附图1,3,10，未给出附图标记）；沿着所述手推童车框架的第二部分安置的第二座椅附接件外壳（参见说明书附图1,3,10，未给出附图标记）；第一可拆卸式座椅附接件配接器108（参见附图10，婴儿座椅安装件108），其经配置以可拆卸方式耦合到所述第一座椅附接件外壳；和第二可拆卸式座椅附接件配接器108，其经配置以可拆卸方式耦合到所述第二座椅附接件外壳。由此可见，对比文件1已经公开了该权利要求的全部技术特征，且对比文件1所公开的技术方案与该权利要求所要求保护的技术方案属于同一技术领域，并能产生相同的技术效果，因此该权利要求所要求保护的技术方案不具备专利法第二十二条第二款规定的新颖性。

2、权利要求2是对权利要求1的进一步限定，对于其附加技术特征，对比文件1还公开了如下技术特征（参见说明书第73段、说明书附图10）：其中所述第一座椅附接件外壳和所述第二座椅附接件外壳中的每一个包括：配接器接纳空腔（第73段记载“从凹口1002移除座椅安装件108”，即公开了配接器接纳空腔），其经配置以接纳所述第一和所述第二可拆卸式座椅附接件配接器中的相应一个的至少一部分。至于剩余的附加技术特征，其构成了本申请与对比文件1的区别技术特征。基于上述区别技术特征，可以确定本申请相对于对比文件1实际解决的技术问题是：如何根据实际的工作状态而对配接器接纳空腔进行遮盖保护。然而，对比文件2（CN201626448U）公开了一种多功能童车，并具体公开了如下技术特征（参见对比文件2说明书第12段、说明书附图1-3）：该多功能童车具有车架，车架上设置侧扶手1，侧扶手具有外壳（其相当于座椅附接件外壳），侧扶手上设置有凹槽1（其相当于配接器接纳空腔），另设有连接座5（相当于座椅附接件配接器）；此外，设置有扶手盖4（相当于门），其邻近所述相应侧扶手外壳的顶面安置，且经配置以从防止所述相应连接座从所述顶面进出所述凹槽的关闭配置移动到允许所述相应连接座从所述顶面进出所述凹槽的打开配置，而且该特征在对比文件2中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过在座椅附接件外壳的顶面设置门，从而在座椅被拆卸后，通过门对配接器接纳空腔进行遮盖保护，也就是说对比文件2给出了将该技术特征用于该对比文件1以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件1进行修改，在凹口1002的顶部位置设置门，并根据需要进行关闭配置或打开配置。因此，当其引用的权利要求1不具备新颖性时，该权利要求不具备专利法第二十二条第三款规定的创造性。

3、权利要求3是对权利要求2的进一步限定，对于其附加技术特征，具体限定了门的打开方式，然而，门通过滑动方式打开为现有的一种开门方式，门具体通过滑动方式耦合到相应座椅附接件外壳，且经配置以从所述关闭配置滑动到所述打开配置属于本领域的一种常规选择，上述设置方式并不需要付出创造性的劳动，也没有带来预料不到的技术效果。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

4、权利要求4是对权利要求2的进一步限定，对于其附加技术特征，对比文件2还公开了如下技术特征（参见说明书第12段、说明书附图1）：所述扶手盖4可旋转地耦合到所述相应侧扶手外壳，且其中所述扶手盖经配置以从所述关闭配置旋转到所述打开配置。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

5、权利要求5是对权利要求4的进一步限定，对于其附加技术特征，对比文件2还公开了如下技术特征

（参见说明书附图 1）：进一步包括铰链，所述铰链具有耦合到所述扶手盖的第一部分和耦合到所述相应侧扶手外壳的第二部分，其中所述铰链将所述扶手盖可旋转地耦合到所述相应侧扶手外壳。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

6、权利要求 6 是对权利要求 2 的进一步限定，对于其附加技术特征，对比文件 1 还公开了如下技术特征（参见对比文件 1 说明书附图 10）：所述配接器接纳空腔包括：第一开口端 1002（参见附图 10 的凹口 1002）。至于剩余的附加技术特征，本领域技术人员在面对配接器接纳空腔的具体结构设置时，将配接器容纳腔设置为具有两个开口的穿孔属于本领域的一种现有技术（具体可参见检索报告中给出的现有技术 CN103921830A、CN102256856A），其仅仅是容纳腔形式的一种简单变换，并未带来预料不到的技术效果。对应地，在配接器接纳空腔设置第二开口远端，并使配接器接纳空腔提供穿过相应第一或第二座椅附接件外壳的穿孔是一种适应性设置，并不需要付出创造性的劳动。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

7、权利要求 7 是对权利要求 2 的进一步限定，对于其附加技术特征，对比文件 1 还公开了如下技术特征（参见对比文件 1 说明书第 73 段、说明书附图 10）：所述配接器接纳空腔包括：至少一个侧壁，其从所述空腔的第一端延伸到所述空腔的第二远端。至于剩余的附加技术特征，为了使可拆卸式座椅附接件配接器能够在配接器接纳空腔内限位，防止可拆卸式座椅附接件配接器从第二远端中穿出，具体设置至少一个止挡凸缘，并使止挡凸缘从所述至少一个侧壁向外延伸到所述空腔中，其属于本领域的一种常规设置，而且采用止挡凸缘这一形式的限位机构并不需要付出创造性的劳动，也没有带来预料不到的技术效果。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

8、权利要求 8 是对权利要求 1 的进一下限定，对于其附加技术特征，对比文件 1 还公开了如下技术特征（参见对比文件 1 说明书第 73 段、说明书附图 10）：其中每个所述第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个包括：第一端；第二远端；外表面。至于剩余的附加技术特征，其构成了本申请与对比文件 1 之间的区别技术特征。基于上述区别技术特征，可以确定本申请相对于对比文件 1 实际解决的技术问题是：如何实现可拆卸式座椅附接件配接器的锁定。然而，对比文件 3（CN201646823U）公开了一种可坐兜换向的儿童推车，并具体公开了如下技术特征（参见对比文件 3 说明书第 19-20 段、说明书附图 1-3）：坐兜框架 1 的围框管上设有两个插件 13（相当于可拆卸式座椅附接件配接器），插件 13 包括：第一端；第二远端；外表面；弹性突起 131（相当于闩锁突片），其沿着所述外表面安置于所述第一端与所述第二远端之间，而且该特征在对比文件 3 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过设置闩锁突片，从而使可拆卸式座椅附接件配接器通过闩锁突片实现卡接锁定，也就是说对比文件 3 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在对比文件 1 的可拆卸式座椅附接件配接器 108 的外表面设置闩锁突片，从而实现可拆卸式座椅附接件配接器 108 与座椅附接件外壳卡接锁定。因此，当其引用的权利要求不具备新颖性，该权利要求不具备专利法第二十二条第三款规定的创造性。

9、权利要求 9 是对权利要求 8 的进一步限定，对于其附加技术特征，对比文件 3 进一步公开了通过按压弹性突起 131 进行解锁（参见说明书第 20 段）。至于附加技术特征限定手动可调式突片释放按钮，然而，本领域技术人员为了使闩锁突片进行解锁，具体设置手动可调式突片释放按钮，并使其沿着所述相应可拆卸式座椅附接件配接器的所述外表面安置，且以可操作方式耦合到所述闩锁突片为本领域的一种常规选择，其仅仅是解锁位置的一种简单变换，而且通过按钮和联动机构实现闩锁突片的致动并不存在技术上的困难和跨越。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

10、权利要求 10 是对权利要求 9 的进一步限定，对于其附加技术特征，为了实现闩锁突片的解锁，对应地使所述突片释放按钮经配置以在按压所述突片释放按钮时将所述闩锁突片以从延伸位置移动到缩回位置，

其属于本领域的一种适应性设置，而且并不需要付出创造性的劳动。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

11、权利要求 11 是对权利要求 9 的进一步限定，对于其附加技术特征，本领域技术人员为了限制可拆卸式座椅附接件配接器的插入深度，对应于座椅附接件外壳的开口，具体使第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个进一步包括安置于所述第一端与所述第二远端之间的止挡环管，其中所述止挡环管的外表面从所述相应可拆卸式座椅附接件配接器的所述外表面向外延伸，从而通过止挡环管改变可拆卸式座椅附接件配接器的径向尺寸进行限位，上述设置方式属于本领域的一种常规设置，且其技术效果是可以预期的。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

12、权利要求 12 是对权利要求 1 的进一步限定，对于其附加技术特征，为了使可拆卸式座椅附接件配接器锁定在座椅附接件外壳中，具体使所述闩锁突片安置于所述止挡环管与所述相应可拆卸式座椅附接件配接器的所述第一端之间，其属于本领域的一种常规设置。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

13、权利要求 13 要求保护一种将第二手推童车座椅附接到手推车的方法，对比文件 1（CN103909960A）公开了一种容易操纵的婴儿车，其涉及一种将第二手推童车座椅附接到手推车的方法，并具体公开了如下技术特征（参见对比文件 1 说明书第 41-42, 73 段、说明书附图 1-3, 10）：所述方法包括：提供手推童车，所述手推童车，所述手推童车包括：手推童车框架 102；耦合到所述手推童车框架的多个车轮 110, 114；耦合到所述手推童车框架的第一手推童车座椅 106；沿着所述手推童车框架的第一部分安置的第一座椅附接件外壳（参见说明书附图 1, 3, 10，未给出附图标记）；沿着所述手推童车框架的第二部分安置的第二座椅附接件外壳（参见说明书附图 1, 3, 10，未给出附图标记）；第一可拆卸式座椅附接件配接器 108（参见附图 10，婴儿座椅安装件 108）；和第二可拆卸式座椅附接件配接器 108；其中所述第一和所述第二可拆卸式座椅附接件配接器中的每一个包括第一端和第二端，所述第二端包括座椅连接器（参见说明书附图 10）；将所述第一可拆卸式座椅附接件配接器的所述第一端插入到第一座椅附接件外壳中；将所述第二可拆卸式座椅附接件配接器的所述第一端插入到所述第二座椅附接件外壳中；和将所述第二手推童车座椅耦合到所述第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个的所述座椅连接器。由此可见，对比文件 1 已经公开了该权利要求的全部技术特征，且对比文件 1 所公开的技术方案与该权利要求所要求保护的技术方案属于同一技术领域，并能产生相同的技术效果，因此该权利要求所要求保护的技术方案不具备专利法第二十二条第二款规定的新颖性。

14、权利要求 14 是对权利要求 13 的进一步限定，其附加技术特征构成了本申请与对比文件 1 之间的区别技术特征。基于上述区别技术特征，可以确定本申请相对于对比文件 1 实际解决的技术问题是：如何根据实际的工作状态而对座椅附接件外壳中的连接结构进行遮盖保护。然而，对比文件 2（CN201626448U）公开了一种多功能童车，并具体公开了如下技术特征（参见对比文件 2 说明书第 12 段、说明书附图 1-3）：该多功能童车具有车架，车架上设置侧扶手 1，侧扶手具有外壳（其相当于座椅附接件外壳），并且设置有侧扶手盖 4（相当于门），即其公开了本申请的手推童车包括邻近所述第一座椅附接件外壳的顶面安置的第一门，和邻近所述第二座椅附接件外壳的顶面安置的第二门；此外，进一步公开了：另设有连接座 5（相当于座椅附接件配接器），翻转的扶手盖 4 能盖住在凹槽上，连接座与接收装置组成侧的可拆卸装置，实现汽车座椅或提篮的固定或拆卸，即其公开了本申请的在将所述第一可拆卸式座椅附接件配接器的所述第一端插入到第一座椅附接件外壳中之前，将所述第一门从防止进出第一座椅附接件外壳的关闭配置调整到允许进出所述第一座椅附接件外壳的打开配置；在将所述第二可拆卸式座椅附接件配接器的所述第一端插入到所述第二座椅附接件外壳中之前，将所述第二门从所述关闭配置调整到所述打开配置，而且该特征在对比文件 2 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过在座椅附接件外壳的顶面设置门，从而在座椅

被拆卸后，通过门对配接器接纳空腔进行遮盖保护，并能在座椅安装前打开该门，也就是说对比文件 2 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在凹口 1002 的顶部位置设置门，并根据需要进行关闭配置或打开配置。因此，当其引用的权利要求不具备新颖性时，该权利要求不具备专利法第二十二条第三款规定的创造性。

15、权利要求 15 是对权利要求 13 的进一步限定，对于其附加技术特征，对比文件 3（CN201646823U）公开了一种可坐兜换向的儿童推车，并具体公开了如下技术特征（参见对比文件 3 说明书第 19-20 段、说明书附图 1-3）：坐兜框架 1 的围框管上设有两个插件 13（相当于可拆卸式座椅附接件配接器），插件 13 包括：第一端；第二远端；外表面；弹性突起 131（相当于闩锁突片），其沿着插件 13 的外表面安置于所述第一端与所述第二远端之间，而且该特征在对比文件 3 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过设置闩锁突片，从而使可拆卸式座椅附接件配接器通过闩锁突片实现卡接锁定，也就是说对比文件 3 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在对比文件 1 的可拆卸式座椅附接件配接器 108 的外表面设置闩锁突片，从而实现可拆卸式座椅附接件配接器 108 与座椅附接件外壳卡接锁定。至于剩余的附加技术特征，对比文件 3 进一步公开了通过按压弹性突起 131 进行解锁（参见说明书第 20 段）。对于附加技术特征具体限定的手动可调式突片释放按钮，然而，本领域技术人员为了使闩锁突片进行解锁，具体设置手动可调式突片释放按钮，并使其沿着所述第一可拆卸式座椅附接件配接器的所述外表面安置，且以可操作方式耦合到所述闩锁突片为本领域的一种常规选择，其仅仅是解锁位置的一种简单变换，而且通过按钮和联动机构实现闩锁突片的致动并不存在技术上的困难和跨越。在此基础上，为了实现闩锁突片的致动，所述方法进一步包括：按压所述突片释放按钮以将所述闩锁突片从延伸位置移动到缩回位置；和从所述第一座椅附接件外壳移除所述第一可拆卸式座椅附接件配接器，这对本领域技术人员而言是一种容易想到的操作方式。因此，当其引用的权利要求不具备新颖性时，该权利要求不具备专利法第二十二条第三款规定的创造性。

16、权利要求 16 要求保护一种手推童车，对比文件 1（CN103909960A）公开了一种容易操纵的婴儿车，其实质上公开了一种手推童车，并具体公开了如下技术特征（参见对比文件 1 说明书第 41-42, 73 段、说明书附图 1-3, 10）：说明书附图 10 公开的实施例包括：手推童车框架 102；第一座椅附接件外壳（参见说明书附图 1, 3, 10，未给出附图标记），其沿着所述手推童车框架的第一部分安置，且包括第一配接器接纳空腔；第二座椅附接件外壳（参见说明书附图 1, 3, 10，未给出附图标记），其沿着所述手推童车框架的第二部分安置，且包括第二配接器接纳空腔；第一可拆卸式座椅附接件配接器 108（参见附图 10，婴儿座椅安装件 108），其经配置以可拆卸方式耦合到所述第一座椅附接件外壳；和第二可拆卸式座椅附接件配接器 108，其经配置以可拆卸方式耦合到所述第二座椅附接件外壳；其中所述第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个包括：第一端；第二远端；外表面。因此，权利要求 1 所要求保护的内容与对比文件 1 所公开的内容相比，其区别在于：闩锁突片，其沿着所述外表面安置于所述第一端与所述第二端之间。

基于上述区别技术特征，可以确定本申请相对于对比文件 1 实际解决的技术问题是：如何实现可拆卸式座椅附接件配接器的锁定。然而，对比文件 3（CN201646823U）公开了一种可坐兜换向的儿童推车，并具体公开了如下技术特征（参见对比文件 3 说明书第 19-20 段、说明书附图 1-3）：坐兜框架 1 的围框管上设有两个插件 13（相当于可拆卸式座椅附接件配接器），插件 13 包括：第一端；第二远端；外表面；弹性突起 131（相当于闩锁突片），其沿着所述外表面安置于所述第一端与所述第二远端之间，而且该特征在对比文件 3 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过设置闩锁突片，从而使可拆卸式座椅附接件配接器通过闩锁突片实现卡接锁定，也就是说对比文件 3 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在对比文件 1 的可拆卸式座椅附接件配接器 108 的外表面设置闩锁突片，从而实现可拆卸式座椅附接件配接器 108 与座椅附接件外壳卡接锁定。

由此可知，在对比文件 1 的基础上结合对比文件 3 得出该权利要求所要求保护的技术方案，对本领域的

技术人员来说是显而易见的，因此该权利要求所要求保护的技术方案不具有突出的实质性特点和显著的进步，因而不具备专利法第二十二条第三款规定的创造性。

17、权利要求 17 是对权利要求 16 的进一步限定，对于其附加技术特征，对比文件 2（CN201626448U）公开了一种多功能童车，并具体公开了如下技术特征（参见对比文件 2 说明书第 12 段、说明书附图 1-3）：该多功能童车具有车架，车架上设置两个侧扶手 1，侧扶手具有外壳（其相当于座椅附接件外壳），扶手上设置有凹槽 1（其相当于配接器接纳空腔），并且设置有扶手盖 4（相当于门），此外，进一步公开了：另设有连接座 5（相当于座椅附接件配接器），翻转的扶手盖 4 能盖住在凹槽上，连接座与接收装置组成侧扶手的可拆卸装置，实现汽车座椅或提篮的固定或拆卸；即其公开了其中所述第一座椅附接件外壳和所述第二座椅附接件外壳中的每一个进一步包括门，所述门邻近所述相应第一及第二座椅附接件外壳中的每一个的顶面安置，且经配置以防止所述相应座椅附接件配接器从所述顶面进出所述第一和第二配接器接纳空腔中的所述相应一个的关闭配置移动到允许所述相应座椅附接件配接器从所述顶面进出所述第一和第二配接器接纳空腔中的所述相应一个的打开配置，而且该特征在对比文件 2 中所起的作用与其在本申请中为解决其技术问题所起的作用相同，都是通过在座椅附接件外壳的顶面设置门，从而在座椅被拆卸后，通过门对配接器接纳空腔进行遮盖保护，并能在座椅安装前打开该门，也就是说对比文件 2 给出了将该技术特征用于该对比文件 1 以解决其技术问题的启示。在这一技术启示下，本领域技术人员有动机对对比文件 1 进行修改，在凹口 1002 的顶部位置设置门，并根据需要进行关闭配置或打开配置。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

18、权利要求 18 是对权利要求 17 的进一步限定，对于其附加技术特征，具体限定了门的打开方式，然而，门通过滑动方式打开为现有的一种开门方式，每一门具体通过滑动方式耦合且可旋转地耦合到所述第一和第二座椅附接件外壳中的所述相应一个中的至少一个，且经配置以从所述关闭配置移动到所述打开配置属于本领域的一种常规选择，上述设置方式并不需要付出创造性的劳动，也没有带来预料不到的技术效果。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

19、权利要求 19 是对权利要求 17 的进一步限定，对比文件 2 还公开了如下技术特征（参见说明书第 12 段、说明书附图 1）：进一步包括铰链，所述铰链具有耦合到所述扶手盖的第一部分和耦合到所述相应侧扶手外壳的第二部分，其中所述铰链将所述扶手盖可旋转地耦合到所述相应侧扶手外壳。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

20、权利要求 20 是对权利要求 16 的进一步限定，对于其附加技术特征，对比文件 3 进一步公开了通过按压弹性突起 131 进行解锁（参见说明书第 20 段）。对于附加技术特征具体限定的手动可调式突片释放按钮，然而，本领域技术人员为了使闩锁突片进行解锁，具体设置手动可调式突片释放按钮，并使其沿着所述第一可拆卸式座椅附接件配接器和所述第二可拆卸式座椅附接件配接器中的每一个的所述外表面安置，且以可操作方式耦合到所述相应闩锁突片为本领域的一种常规选择，其仅仅是解锁位置的一种简单变换，而且通过按钮和联动机构实现闩锁突片的致动并不存在技术上的困难和跨越。在此基础上，为了实现闩锁突片的致动，其中所述突片释放按钮经配置以在按压所述突片释放按钮时将所述闩锁突片从延伸位置移动到缩回位置这对本领域技术人员而言是一种容易想到常规设置。因此，当其引用的权利要求不具备创造性时，该权利要求也不具备专利法第二十二条第三款规定的创造性。

基于上述理由，本申请的独立权利要求及从属权利要求都不具备新颖性或创造性，同时说明书中也没有记载其他任何可以授予专利权的实质性内容，因而即使申请人对权利要求进行重新组合和/或根据说明书记载的内容作进一步的限定，本申请也不具备被授予专利权的前景。如果申请人不能在本通知书规定的答复期限内提出表明本申请具有创造性的充分理由，本申请将被驳回。

另根据国家知识产权局《关于停征和调整部分专利收费的公告》（第 272 号）规定，对进入实质审查的发

明专利申请，在第一次审查意见通知书答复期限前（已提交答复意见的除外）主动申请撤回的，可以请求退还50%的专利申请实质审查费。

审查员姓名：曾靖

审查员代码：343015

检索报告

申请号：2017101698264	申请日：20170321	首次检索
申请人：贝贝漫步有限责任公司	最早的优先权日：20160321	
权利要求项数：20	说明书段数：76	
审查员确定的 IPC 分类号：B62B7/06,B62B7/00,B62B9/12,B62B7/12		

检索记录信息：CN103909960A: 131 CNTXT, (B62B7/+/ic) and ((座椅 or 篮 or 兜) s (拆 or 装) s (按压 or 按钮)), 转库至 CNABS

CNABS, 转库结果 1

CN201626448U: 68 CNABS, (B62B7/+/ic) and (((座椅 or 篮 or 兜) s (拆 or 装)) s (车架 or 框架) s (腔 or 槽))

CN201646823U: 178 CNTXT, (B62B9/+/ic) and ((座椅 or 篮 or 兜) s (拆 or 装) s (按压 or 按钮)), 转库至 CNABS

CNABS, 转库结果 1

US6286844B1: 1 VEN, us6286844/pn 获自欧局同族审查过程

WO2014042524A1: 获自欧局同族审查过程

CN103921830A: 5 CNABS, 策富斯/pa/in 追踪发明人

CN102256856A: 5 CNABS, 策富斯/pa/in 追踪发明人

相关专利文献

类型	国别以及代码[11]给出的文献号	代码[43]或[45]给出的日期	IPC 分类号	相关的段落和/或图号	涉及的权利要求
X	CN103909960A	20140709	B62B7/10	说明书第41-42,73 段、说明书附图 1-3,10	1,13

Y	CN103909960A	20140709	B62B7/10	说明书第41-42,73段、说明书附图1-3,10	2-12,14-20
Y	CN201626448U	20101110	B62B7/04	说明书第73段、说明书附图10	2-7,14,17-19
Y	CN201646823U	20101124	B62B9/12	说明书第19-20段、说明书附图1-3	8-12,15-20
X	US6286844B1	20010911	B62B7/08	全文	1-2,4-6,13-14
X	WO2014042524A1	20140320	B62B9/28	全文	1,13
A	CN103921830A	20140716	B62B9/12	全文	1-20
A	CN102256856A	20111123	B62B7/00	全文	1-20

相关非专利文献					
类型	书名（包括版本号和卷号）	出版日期	作者姓名和出版者名称	相关页数	涉及的权利要求
类型	期刊或文摘名称（包括卷号和期号）	发行日期	作者姓名和文章标题	相关页数	涉及的权利要求

表格填写说明事项：

1. 审查员实际检索领域的 IPC 分类号应当填写到大组和/或小组所在的分类位置。
2. 期刊或其它定期出版物的名称可以使用符合一般公认的国际惯例的缩写名称。
3. 相关文件的类型说明：

X：一篇文件影响新颖性或创造性；

Y：与本报告中的另外的 Y 类文件组合而影响创造性；

A：背景技术文件；

R：任何单位或个人在申请日向专利局提交的、属于同样的发明创造的专利或专利申请文件。

P：中间文件，其公开日在申请的申请日与所要求的优先权日之间的文件；

E：抵触申请。

审 查 员：曾靖　　审查部门：专利审查协作广东中心机械发明审查部

2018 年 10 月 21 日

(TRANSLATION)

SECOND OFFICE ACTION OF CHINA STATE INTELLECTUAL PROPERTY OFFICE

Date of Issuance: 8 June 2013

Application No.: 200980148829.3

The applicant filed a response and amended application documents on 15 March 2013. After reviewing the above documents, the examiner continued examination of the subject application and had the following comments:

I. Claims 1-18 lack inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

1. Claim 1 seeks to protect a seat attachment for a stroller. Citation 1 (WO2005/105546A1) discloses a seat attachment 1 for a stroller 2, which comprises: two separate attachment frame members 1, 18, and 19, in which each attachment frame member comprises: a connector portion 4, 5, 6, 18, and 19 capable of reversibly connecting to a stroller frame adjacent a front wheel of the stroller; and a seat support element 16 (*see* pages 7-11 of the specification and Figs. 1-7).

   In view of the above, the distinguishing technical feature of Claim 1 over Citation 1 is that: the seat support element of each attachment member together are capable of supporting a seat between the seat support elements in either a forward or backward position.

   However, Citation 2 discloses that (*see* page 2 of the specification and Figs. 4-8) the seat support elements 410, 420 are capable of supporting a seat between the seat support elements in either a forward or backward position. Given this, the above distinguishing technical feature of Claim 1 is disclosed in Citation 2, and it plays the same role in Citation 2 as in this invention for solving the technical problem to be solved. Thus, persons skilled in the art would be motivated to incorporate the above distinguishing technical feature into Citation 1 so as to arrive at the technical solution claimed in Claim 1, which needs no creative effort. Therefore, Claim 1 lacks prominent substantive features and does not represent notable progress, and thus it lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

2. Claim 2 depends upon Claim 1. Citation 1 (*see* Fig.6) discloses that the seat attachment comprises a wheel 30. Given this, the dependent technical feature of Claim 2 is disclosed in Citation 1. Since Claim 1 upon which Claim 2 depends lacks an inventive step, Claim 2 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

3. Claim 3 depends upon Claim 2. Citation 1 (*see* pages 7-11 of the specification and Figs. 1-7) discloses (the seat attachment) comprising a wheel support frame 10, 12, and 12a connecting the wheel 30 to the attachment frame member 1. Given this, the

dependent technical feature of Claim 3 is disclosed in Citation 1. Since Claim 2 upon which Claim 3 depends lacks an inventive step, Claim 3 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

4. Claim 4 depends upon Claim 3. Citation 1 (*see* pages 7-11 of the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is pivotally connected to the attachment frame member 1. Given this, the dependent technical feature of Claim 4 is disclosed in Citation 1. Since Claim 3 upon which Claim 4 depends lacks an inventive step, Claim 4 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

5. Claim 5 depends upon Claim 4. Citation 1 (*see* pages 7-11 of the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is pivotally connected near the middle of the attachment frame member 1. Given this, the dependent technical feature of Claim 5 is disclosed in Citation 1. Since Claim 4 upon which Claim 5 depends lacks an inventive step, Claim 5 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

6. Claim 6 depends upon Claim 5. Citation 1 (*see* Figs. 6 and 7) discloses (the seat attachment) further comprising a folding mechanism. Given this, the dependent technical feature of Claim 6 is disclosed in Citation 1. Since Claim 5 upon which Claim 6 depends lacks an inventive step, Claim 6 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

7. Claim 7 depends upon Claim 6. Citation 1 (*see* pages 12-14 on the specification and Figs. 8-31) discloses that the folding mechanism comprises a sliding connector 143, 144 slidingly connected to the attachment frame member and a strut 142 having a first end connected to the sliding member and a second end connected to the wheel support frame. Given this, the dependent technical feature of Claim 7 is disclosed in Citation 1. Since the above features are disclosed in an embodiment of Citation 1, persons skilled in the art may combine these features with the technical solution disclosed in other parts of Citation 1 so as to arrive at the technical solution claimed in Claim 7, which needs no creative effort. Therefore, since Claim 6 upon which Claim 7 depends lacks an inventive step, Claim 7 lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

8. Claim 8 depends upon Claim 4. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is capable of pivoting from a first position to a second position. Given this, the dependent technical feature of Claim 8 is disclosed in Citation 1. Since Claim 4 upon which Claim 8 depends lacks an inventive step, Claim 8 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

9. Claim 9 depends upon Claim 8. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the first position is a locked and in-use position and the second position is an unlocked and folded position. Given this, the dependent technical feature of Claim 9 is disclosed in Citation 1. Since Claim 8 upon which Claim 9 depends lacks an inventive step, Claim 9 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

10. Claim 10 depends upon Claim 1. Citation 1 (*see* Fig. 6) discloses that the seat is a baby seat. Given this, the dependent technical feature of Claim 10 is disclosed in Citation 1. Since Claim 1 upon which Claim 10 depends lacks an inventive step, Claim 10 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

11. Claim 11 depends upon Claim 1. Citation 1 (*see* Figs. 2 and 6) discloses that the attachment frame member 1 has a first end and a second end. Given this, the dependent technical feature of Claim 11 is disclosed in Citation 1. Since Claim 1 upon which Claim 11 depends lacks an inventive step, Claim 11 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

12. Claim 12 depends upon Claim 11. Citation 1 (*see* Fig. 6) discloses that the first end is capable of connecting to a stroller frame. Given this, the dependent technical feature of Claim 12 is disclosed in Citation 1. Since Claim 11 upon which Claim 12 depends lacks an inventive step, Claim 12 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

13. Claim 13 depends upon Claim 12. Citation 1 (*see* Fig. 5) discloses that the second end is connected to the seat attachment member 1. Given this, the dependent technical feature of Claim 13 is disclosed in Citation 1. Since Claim 1 upon which Claim 13 depends lacks an inventive step, Claim 13 also lacks inventiveness as stipulated in Paragraph 2, Article 22 of the Patent Law.

14. Claim 14 depends upon Claim 1, but its dependent technical feature has been limited in Claim 1. Thus, Claim 14 also lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

15. Claim 15 depends upon Claim 1. Citation 2 discloses (*see* page 2 of the specification and Figs. 4-8) that (the seat attachment) further comprises a stroller seat 71, 72, 8, and 9, wherein the seat support element 410, 420 is capable of supporting the stroller seat 71, 72, 8, and 9 in either a forward or backward position. Given this, the dependent technical feature of Claim 15 is disclosed in Citation 2, and persons skilled in the art can incorporate these features into Citation 1 so as to obtain the technical solution claimed in Claim 15, which needs no creative effort. Therefore, since Claim 1 upon which Claim 15 depends lacks an inventive step, Claim 15 also lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

16. Claim 16 claims a double stroller. Citation 1 discloses a double stroller (*see* pages 7-11 of the specification and Figs. 1-7), which comprises: a stroller frame 2 comprising two front wheels 3, a frame 4, a first seat 2 and two attachment portions 1, 18, and 19 connected to the frame 4; wherein one attachment portion is connected adjacent to one front wheel; a seat attachment 16, two seat support elements 23, 16, a second seat 20, 21, and 22, and two connector portions 4, 5, 6, 18, and 19, each connector portion 4, 5, 6, 18, and 19 capable of releasably connecting to the attachment portion 1, 18, and 19, wherein the second seat 20, 21, and 22 is attached in front of the first seat 2 between the two front wheels 3.

The distinguishing technical feature of Claim 16 over Citation 1 is that: the other attachment portion is connected to the frame adjacent to the other front wheel.

However, Citation 2 discloses that (*see* page 2 of the specification and Figs. 4-8) the seat support elements 410, 420 are connected to the frame adjacent to the two front wheels 33. Moreover, such a feature plays the same role in Citation 2 as in this invention for solving the technical problem to be solved. Persons skilled in the art would be motivated to incorporate the above distinguishing technical feature into Citation 1 so as to render the other attachment portion connected to the frame adjacent to the other front wheel, thereby arriving at the technical solution claimed in Claim 16, which needs no creative effort. Therefore, Claim 16 lacks prominent substantive features and does not represent notable progress, and thus it lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

17. Claim 17 depends upon Claim 16. Citation 2 discloses (*see* page 2 of the specification and Figs. 4-8) that the second seat is releasably connected to the seat support element 410, 420. Given this, the dependent technical feature of Claim 17 is disclosed in Citation 2. Therefore, since Claim 16 upon which Claim 17 depends lacks an inventive step, Claim 17 lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

18. Claim 18 depends upon Claim 17. Citation 2 discloses (*see* page 2 of the specification and Figs. 4-8) that the seat support elements 410, 420 are capable of supporting a seat between the seat support elements 410, 420 in either a forward or backward position. Given this, the dependent technical feature of Claim 18 is disclosed in Citation 2. Therefore, since Claim 17 upon which Claim 18 depends lacks inventiveness, Claim 18 also lacks an inventive step as stipulated in Paragraph 3, Article 22 of the Patent Law.

In view of the above, all of the independent and dependent claims of this application lack an inventive step. Moreover, no substantial contents which can be granted a patent right were disclosed in the specification. Thus, even if the applicant rearranges the claims and/or further defines the claims based on the description in the specification, the present application still cannot be granted a patent right. If the applicant cannot provide convincing reasons why the present application possesses novelty and inventiveness, this application will be rejected.

Examiner: Anle Wei
Code: 193214

THE RELEVANT PROVISIONS

THE PRC PATENT LAW

Article 22

Any invention or utility model for which patent right may be granted must possess novelty, inventiveness and practical applicability.

Novelty means that an invention or utility model is not an existing technology, and before the date of filing, no identical invention or utility model has been filed by any entity or individual with the Patent Administration Department under the State Council and will be disclosed in the patent application documents or patent documents published after the said date of filing.

Inventiveness means that, in comparison with the existing technology, the invention has prominent substantive features and represents notable progress and that the utility model has substantive features and represents progress.

Practical applicability means that the invention or utility model can be made or used and can produce effective results.

The term "existing technology" used in this Law refers to any technology known to the public in China and abroad before the date of filing.

中华人民共和国国家知识产权局

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北京市东长安街一号东方广场东方经贸城西一办公楼十层 1008 室 北京律盟知识产权代理有限责任公司
刘国伟

发文日：

2013 年 06 月 08 日

申请号或专利号：200980148829.3　　发文序号：2013060500760670

申请人或专利权人：戴那米克品牌股份有限公司

发明创造名称：用于手推童车的座椅附接件

第二次审查意见通知书

1. ☒审查员已经收到申请人于 2013 年 03 月 15 日提交的意见陈述书，在此基础上审查员对上述专利申请继续进行实质审查。

☐根据国家知识产权局专利复审委员会于_____年_____月_____日作出的复审决定，审查员对上述专利申请继续进行实质审查。

☐_____

2. ☐经审查，申请人于_____提交的修改文件，不符合专利法实施细则第 51 条第 3 款的规定，不予接受。

3. 继续审查是针对下列申请文件进行的：

☐上述意见陈述书中所附的经修改的申请文件。

☒前次审查意见通知书所针对的申请文件以及上述意见陈述书中所附的经修改的申请文件替换文件。

☐前次审查意见通知书所针对的申请文件。

☐上述复审决定所确定的申请文件。

☐_____

4. ☒本通知书未引用新的对比文件。

☐本通知书引用下列对比文件(其编号续前，并在今后的审查过程中继续沿用)：

编号	文件号或名称	公开日期（或抵触申请的申请日）

5. 审查的结论性意见：

关于说明书：

☐申请的内容属于专利法第 5 条规定的不授予专利权的范围。

☐说明书不符合专利法第 26 条第 3 款的规定。

☐说明书的修改不符合专利法第 33 条的规定。

☐说明书的撰写不符合专利法实施细则第 17 条的规定。

☐_____

关于权利要求书：

☐权利要求_____不符合专利法第 2 条第 2 款的规定。

☐权利要求_____不符合专利法第 9 条第 1 款的规定。

中华人民共和国国家知识产权局 专利审查业务章

210403
2010.2

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收 收件人
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

05H

☐权利要求_____不具备专利法第 22 条第 2 款规定的新颖性。
☒权利要求 1-18 不具备专利法第 22 条第 3 款规定的创造性。
☐权利要求_____不具备专利法第 22 条第 4 款规定的实用性。
☐权利要求_____属于专利法第 25 条规定的不授予专利权的范围。
☐权利要求_____不符合专利法第 26 条第 4 款的规定。
☐权利要求_____不符合专利法第 31 条第 1 款的规定。
☐权利要求_____的修改不符合专利法第 33 条的规定。
☐权利要求_____不符合专利法实施细则第 19 条的规定。
☐权利要求_____不符合专利法实施细则第 20 条的规定。
☐权利要求_____不符合专利法实施细则第 21 条的规定。
☐权利要求_____不符合专利法实施细则第 22 条的规定。
☐_____

☐申请不符合专利法第 26 条第 5 款或者实施细则第 26 条的规定。
☐申请不符合专利法第 20 条第 1 款的规定。
☐分案申请不符合专利法实施细则第 43 条第 1 款的规定。

上述结论性意见的具体分析见本通知书的正文部分。

6.基于上述结论性意见，审查员认为：

☐申请人应当按照通知书正文部分提出的要求，对申请文件进行修改。
☐申请人应当在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。
☒专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。
☐_____

7. 申请人应注意下列事项：

（1）根据专利法第 37 条的规定，申请人应当在收到本通知书之日起的 2 个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。

（2）申请人对其申请的修改应当符合专利法第 33 条的规定，不得超出原说明书和权利要求书记载的范围，同时申请人对专利申请文件进行的修改应当符合专利法实施细则第 51 条第 3 款的规定，按照本通知书的要求进行修改。

（3）申请人的意见陈述书和/或修改文本应当邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。

（4）未经预约，申请人和/或代理人不得前来国家知识产权局与审查员举行会晤。

8. 本通知书正文部分共有 4 页，并附有下列附件：

☐引用的对比文件的复印件共_____份_____页。
☐_____

审查员：卫安乐　　联系电话：62413143　　审查部门：专利审查[illegible]北京中[illegible]发明审查[illegible]

中华人民共和国国家知识产权局 专利审查业务章

第二次审查意见通知书

申请号:2009801488293

申请人于2013年03月15日提交了意见陈述书和经过修改的申请文件，对该申请的权利要求书进行了修改。审查员在阅读了上述文件后，对该申请继续进行审查，针对此次修改的申请文件提出如下审查意见。

1. 权利要求1-18不具备专利法第22条第3款规定的创造性。

1) 权利要求1要求保护一种用于手推童车的座椅附接件，对比文件1（参见说明书第7-11页、附图1-7）公开了一种用于手推童车的座椅附接件，包括两个分离的附接框架部件1，18，19，其中每一附接框架部件包括：连接器部分4，5，6，18，19，其能够以可逆方式连接到邻近于手推童车的前车轮的手推童车框架；及座椅支撑元件16。

权利要求1与对比文件1的区别技术特征在于：每一附接框架部件的座椅支撑元件能够共同将位于座椅支撑元件之间的座椅支撑于前向或后向的位置中。

然而对比文件2（参见说明书第2页、附图4-8）公开了座椅支撑元件410，420能够共同将位于座椅支撑元件410，420之间的座椅支撑于向前或向后的位置中。可见上述区别技术特征已经被对比文件2公开，并且其所起的作用和本发明为解决其技术问题所起的作用，由此本领域技术人员可以从中得到技术启示，将上述区别技术特征应用于对比文件1从而得到权利要求1要求保护的技术方案，这不需要付出创造性劳动，因此权利要求1不具备突出的实质性特点，不具备专利法第22条第3款规定的创造性。

2) 权利要求2对权利要求1做了进一步限定，对比文件1（参见附图6）公开了座椅附接件包括车轮30。可见权利要求2的附加技术特征已经被对比文件1公开，因此在引用的权利要求1不具备创造性的基础上，权利要求2也不具备专利法第22条第3款规定的创造性。

3) 权利要求3对权利要求2做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了包括将车轮30连接到所述附接框架部件1的车轮支撑框架10，12，12a。可见权利要求3的附加技术特征已经被对比文件1公开，因此在引用的权利要求2不具备创造性的基础上，权利要求3也不具备专利法第22条第3款规定的创造性。

4) 权利要求4对权利要求3做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了车轮支撑框架10，12，12a以枢转方式连接到附接框架部件1。可见权利要求4的附加技术特征已经被对比文件1公开，因此在引用的权利要求3不具备创造性的基础上，权利要求4也不具备专利法第22条第3款规定的创造性。

5) 权利要求5对权利要求4做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了车轮支撑框架10，12，12a以枢转方式连接于接近附接框架部件1的中间处。可见权利要求5的附加技术特征

已经被对比文件1公开，因此在引用的权利要求4不具备创造性的基础上，权利要求5也不具备专利法第22条第3款规定的创造性。

6) 权利要求6对权利要求5做了进一步限定，对比文件1（参见附图6-7）公开了进一步包括折叠机构。可见权利要求6的附加技术特征已经被对比文件1公开，因此在引用的权利要求5不具备创造性的基础上，权利要求6也不具备专利法第22条第3款规定的创造性。

7) 权利要求7对权利要求6做了进一步限定，对比文件1（参见说明书第12-14页、附图8-31）公开了折叠机构包括以滑动方式连接到附接框架部件的滑动连接器144，143以及具有连接到滑动部件的第一端及连接到车轮支撑框架的第二端的斜撑142。可见权利要求7的附加技术特征已经被对比文件1公开，由于其是在对比文件1的一个实施例中公开，本领域技术人员可以和对比文件1其它部分公开的技术方案项结合从而得到权利要求7要求保护的技术方案，这不需要付出创造性劳动，因此在引用的权利要求6不具备创造性的基础上，权利要求7也不具备专利法第22条第3款规定的创造性。

8) 权利要求8对权利要求4做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了车轮支撑框架10，12，12a能够从第一位置枢转到第二位置。可见权利要求8的附加技术特征已经被对比文件1公开，因此在引用的权利要求4不具备创造性的基础上，权利要求8也不具备专利法第22条第3款规定的创造性。

9) 权利要求9对权利要求8做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了第一位置为锁定及使用中位置且第二位置为解锁及折叠位置。可见权利要求9的附加技术特征已经被对比文件1公开，因此在引用的权利要求8不具备创造性的基础上，权利要求9也不具备专利法第22条第3款规定的创造性。

10) 权利要求10对权利要求1做了进一步限定，对比文件1（参见附图6）公开了座椅为婴儿座椅。可见权利要求10的附加技术特征已经被对比文件1公开，因此在引用的权利要求1不具备创造性的基础上，权利要求10也不具备专利法第22条第3款规定的创造性。

11) 权利要求11对权利要求1做了进一步限定，对比文件1（参见附图2，6）公开了附接框架部件1具有第一端及第二端。可见权利要求11的附加技术特征已经被对比文件1公开，因此在引用的权利要求1不具备创造性的基础上，权利要求11也不具备专利法第22条第3款规定的创造性。

12) 权利要求12对权利要求11做了进一步限定，对比文件1（参见附图6）公开了第一端能够连接到手推童车框架。可见权利要求12的附加技术特征已经被对比文件1公开，因此在引用的权利要求11不具备创造性的基础上，权利要求12也不具备专利法第22条第3款规定的创造性。

中华人民共和国国家知识产权局 专利审查业务章

13) 权利要求 13 对权利要求 12 做了进一步限定，对比文件 1（参见附图 5）公开了第二端连接到座椅附接部件 1。可见权利要求 13 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 12 不具备创造性的基础上，权利要求 13 也不具备专利法第 22 条第 3 款规定的创造性。

14) 权利要求 14 对权利要求 1 做了进一步限定，然而其附加技术特征已经在权利要求 1 中被限定过，因此权利要求 14 也不具备专利法第 22 条第 3 款规定的创造性。

15) 权利要求 15 对权利要求 1 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了进一步包括手推童车座椅 71，72，8，9，其中座椅支撑元件 410，420 能够将手推童车座椅 71，72，8，9 支撑在前向或后向位置中。可见权利要求 15 的附加技术特征已经被对比文件 2 公开，本领域技术人员可以将其应用于对比文件 1 从而得到权利要求 15 要求保护的技术方案，这不需要付出创造性劳动，因此在引用的权利要求 1 不具备新颖性的基础上，权利要求 15 不具备专利法第 22 条第 3 款规定的创造性。

16) 权利要求 16 要求保护一种双人手推童车，对比文件 1（参见说明书第 7-11 页、附图 1-7）公开了一种双人手推童车，包括手推童车框架 2，其包括两个前车轮 3、框架 4、第一座椅 2 及连接到框架 4 的两个附接部分 1，18，19，其中一个附接部分连接到邻近于一个前车轮，座椅附接件 16、两个座椅支撑元件 23，16，第二座椅 20，21，22 及两个连接器部分 4，5，6，18，19，每一连接器部分 4，5，6，18，19 能够以可释放方式连接到附接部分 1，18，19，其中第二座椅 20，21，22 附接至位于两个前车轮 3 之间的第一座椅 2 的前方。

权利要求 16 与对比文件 1 的区别技术特征在于：另一个附接部分连接到邻近于另一前车轮的框架。

然而，对比文件 2（参见说明书第 2 页、附图 4-8）公开了附接件部分 410，420 连接到邻近于两个前车轮 33 的框架。并且其所起的作用和本发明为解决其技术问题所起的作用相同，本领域技术人员可以从中得到技术启示，将上述特征应用于对比文件 1 使得另一个附接部分连接到邻近于另一前车轮的框架。从而得到权利要求 16 要求保护的技术方案，这不需要付出创造性劳动，因此权利要求 16 不具备突出的实质性特点，不具备专利法第 22 条第 3 款规定的创造性。

17) 权利要求 17 对权利要求 16 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了第二座椅以可释放方式连接到座椅支撑元件 410，420。可见权利要求 17 的附加技术特征已经被对比文件 2 公开，因此在引用的权利要求 16 不具备创造性的基础上，权利要求 17 也不具备专利法第 22 条第 3 款规定的创造性。

18) 权利要求 18 对权利要求 17 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了座椅支撑元件 410，420 能够共同将位于座椅支撑元件 410，420 之间的座椅支撑于向前或向后的位置中。可见权利要求 18 的附加技术特征已经被对比文件 2 公开，因此在引用的权利要求 17 不具备创造性的基础上，权利要求 18 也不具备专利法第 22 条第 3 款规定的创造性。

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基于上述理由，本申请的独立权利要求以及从属权利要求都不具备创造性，同时说明书中也没有记载其它任何可以授予专利权的实质性内容，因而即使申请人对权利要求进行重新组合或根据说明书记载的内容作进一步的限定，本申请也不具备被授予专利权的前景。如果申请人不能在本通知书指定的答复期限内提出表明本申请具有创造性的充分理由，本申请将被驳回。

审查员姓名：卫安乐　　审查员代码：1[illegible]

210403
2010.2
纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路6号 国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

中华人民共和国国家知识产权局

100005

北京市东城区建国门南大街7号万豪中心A座2202室 北京律盟知识产权代理有限责任公司
曹晓斐

发文日：

2015年09月06日

申请号或专利号：201410187239.4　　发文序号：20150831014360 80

申请人或专利权人：戴那米克品牌股份有限公司

发明创造名称：用于手推童车的座椅附接件

第一次审查意见通知书

1. ☒应申请人提出的实质审查请求，根据专利法第35条第1款的规定，国家知识产权局对上述发明专利申请进行实质审查。
   ☐根据专利法第35条第2款的规定，国家知识产权局决定自行对上述发明专利申请进行审查。
2. ☒申请人要求以其在：
   US 专利局的申请日 2008 年 12 月 04 日为优先权日。
   ☒申请人已经提交了经原受理机构证明的第一次提出的在先申请文件的副本。
   ☐申请人尚未提交经原受理机构证明的第一次提出的在先申请文件的副本，根据专利法第30条的规定视为未要求优先权要求。
3. ☐经审查，申请人于_____提交的修改文件，不符合专利法实施细则第51条第1款的规定，不予接受。
4. 审查针对的申请文件：
   ☐原始申请文件。☒分案申请递交日提交的文件。☐下列申请文件：

5. ☐本通知书是在未进行检索的情况下作出的。
   ☒本通知书是在进行了检索的情况下作出的。
   ☐本通知书引用下列对比文件(其编号在今后的审查过程中继续沿用)：

编号	文件号或名称	公开日期（或抵触申请的申请日）

6. 审查的结论性意见：
   关于说明书：
   ☐申请的内容属于专利法第5条规定的不授予专利权的范围。
   ☐说明书不符合专利法第26条第3款的规定。
   ☐说明书不符合专利法第33条的规定。
   ☐说明书的撰写不符合专利法实施细则第17条的规定。
   ☐_____
   关于权利要求书：
   ☐权利要求_____不符合专利法第2条第2款的规定。

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路6号 国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

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☐权利要求_____不符合专利法第 9 条第 1 款的规定。
☐权利要求_____不具备专利法第 22 条第 2 款规定的新颖性。
☐权利要求_____不具备专利法第 22 条第 3 款规定的创造性。
☐权利要求_____不具备专利法第 22 条第 4 款规定的实用性。
☐权利要求_____属于专利法第 25 条规定的不授予专利权的范围。
☒权利要求 1 不符合专利法第 26 条第 4 款的规定。
☐权利要求_____不符合专利法第 31 条第 1 款的规定。
☐权利要求_____不符合专利法第 33 条的规定。
☐权利要求_____不符合专利法实施细则第 19 条的规定。
☐权利要求_____不符合专利法实施细则第 20 条的规定。
☐权利要求_____不符合专利法实施细则第 21 条的规定。
☐权利要求_____不符合专利法实施细则第 22 条的规定。
☐_____

☐申请不符合专利法第 26 条第 5 款或者实施细则第 26 条的规定。
☐申请不符合专利法第 20 条第 1 款的规定。
☐分案申请不符合专利法实施细则第 43 条第 1 款的规定。
上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见，审查员认为：
☐申请人应当按照通知书正文部分提出的要求，对申请文件进行修改。
☒申请人应当在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。
☐专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。
☐_____

8. 申请人应注意下列事项：

(1) 根据专利法第 37 条的规定，申请人应在收到本通知之日起的 4 个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。

(2) 申请人对其申请的修改应当符合专利法第 33 条的规定，不得超出原说明书和权利要求书记载的范围，同时申请人对专利申请文件进行的修改应当符合专利法实施细则第 51 条第 3 款的规定，按照本通知书的要求进行修改。

(3) 申请人的意见陈述书和/或修改文本应邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。

(4) 未经预约，申请人和/或代理人不得前来国家知识产权局专利局与审查员举行会晤。

9. 本通知书正文部分共有 1 页，并附有下述附件：
☐引用的对比文件的复印件共_____份_____页。
☐_____

审查员：陈引　　联系电话：020-28958324　　审查部门：专利审查协作广东中心机械发明审查部

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路 6 号　国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

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第一次审查意见通知书

申请号:201410187239.4

本申请涉及一种用于手推童车的座椅附接件，经审查，现提出如下审查意见：

1、权利要求 1 中记载有“其中所述左侧附接框架部件包括：连接器部分……”、“其中所述右侧附接框架部件包括：连接器部分……”，存在两个“连接器部分”，不清楚两者是否指代同一部件，导致该权利要求存在不清楚之处，不符合专利法第 26 条第 4 款的规定。建议修改为“第一连接器部分”、“第二连接器部分”或“左连接器部分”、“右连接器部分”。

基于上述理由，本申请按照目前的文本还不能被授予专利权。如果申请人按照本通知书提出的审查意见对申请文件进行修改，克服所存在的缺陷，则本申请可望被授予专利权。对申请文件的修改应当符合专利法第三十三条的规定，不得超出原说明书和权利要求书记载的范围。

审查员姓名:陈引

审查员代码:709483

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路 6 号 国家知识产权局专利局受理处收

电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

检索报告

申请号：2014101872394	申请日：20091204	首次检索
申请人：戴那米克品牌股份有限公司	最早的优先权日：20081204	
权利要求项数：7	说明书段数：50+16	
审查员确定的 IPC 分类号：B62B 9/12		
检索记录信息：CNTXT,CNABS,VEN,CNKI;B62B9/+,B62B7/+,B62D63/+;婴儿 OR 幼儿 OR 儿童,推车，双人 OR 两人，可拆卸 OR 可逆，附接 OR 附加 OR 额外，支撑，连接,CHILD+ OR BABY OR INFANT,add or attach+ or extra,double or two,SUPPORT+,FRAME,connect+ or link+,dismountable or knockdown.		

相关专利文献

类型	国别以及代码[11]给出的文献号	代码[43]或[45]给出的日期	IPC 分类号	相关的段落和/或图号	涉及的权利要求
A	WO2005105545A1	20051110	B62B9/00	全文	1-7
A	CN2784272Y	20060531	B62B7/00	全文	1-7
A	US2007085303A1	20070419	B62B7/00	全文	1-7
A	US2007114738A1	20070524	B62D63/00	全文	1-7
A	CN1978264A	20070613	B62B7/14	全文	1-7
A	CN2918181Y	20070704	B62B7/06	全文	1-7

相关非专利文献					
类型	书名（包括版本号和卷号）	出版日期	作者姓名和出版者名称	相关页数	涉及的权利要求
类型	期刊或文摘名称（包括卷号和期号）	发行日期	作者姓名和文章标题	相关页数	涉及的权利要求

表格填写说明事项：

1、审查员实际检索领域的 IPC 分类号应当填写到大组和 / 或小组所在的分类位置。

2、期刊或其它定期出版物的名称可以使用符合一般公认的国际惯例的缩写名称。

3、相关文件的类型说明：

X：一篇文件影响新颖性或创造性；

Y：与本报告中的另外的 Y 类文件组合而影响创造性；

A：背景技术文件；

R：任何单位或个人在申请日向专利局提交的、属于同样的发明创造的专利或专利申请文件。

P：中间文件，其公开日在申请的申请日与所要求的优先权日之间的文件；

E：抵触申请。

审 查 员：陈引　　审查部门：专利审查协作广东中心机械发明审查部

2015 年 08 月 23 日

(TRANSLATION)

FIRST OFFICE ACTION ISSUED BY STATE INTELLECTUAL PROPERTY OFFICE

Date of Issuance: 6 September 2015

Application No.: 201410187239.4

This application relates to a seat attachment for a stroller. After examination, the examiner made the following comments:

1. Claim 1 recites "wherein the left attachment frame member comprises: a connector portion..." and "wherein the right attachment frame member comprises: a connector portion...." Since there are two references to the term "connector portion," it is unclear whether they refer to the same element, which causes Claim 1 to be indefinite in scope and to not comply with Paragraph 4, Article 26 of the Patent Law. It is suggested that the applicant amend them to be "a first connector portion" and "a second connector portion" or to be "a left connector portion" and "a right connector portion."

For the reasons stated above, the present application cannot be granted a patent right based on the present document. If the applicant amends the application document according to the examination comments raised in this office action so as to overcome the existing defects, this application has a strong possibility of being granted a patent right. The amendment to the application documents should comply with Article 33 of the Patent Law, i.e., not exceeding the scope of the original specification and claims.

Examiner: Chen Yin
Code: 709483

SEARCH REPORT
(TRANSLATION)

Application No.: 201410187239.4	**Filing Date:** 4 December 2009	First Retrieval
Applicant: DYNAMIC BRANDS, LLC	**Earliest Priority Date:** 4 December 2008	
Number of claims: 7	**Paragraphs of the specification:** 50+16	
IPC number assigned by the examiner: B62B 9/12		
Search Record Information: CNTXT, CNABS, VEN, CNKI: B62B9/+, B62B7/+, B62D63/+, baby (婴儿) or infant (幼儿) or child (儿童), stroller (推车), double (双人) or two (两人), dismountable (可拆卸) or reversible (可逆), attach (附接) or add (附加) or extra (额外), support (支撑), connect (连接), CHILD+, OR BABY OR INFANT, add or attach + or extra, double or two, SUPPORT+, FRAME, connect+ or link+, dismountable or knockdown.		

PATENT DOCUMENTS

Category	Country and code [11] Document No.	Code [43] or [45] Publication Date	IPC	Relevant paragraphs and/or drawings:	Relevant to Claim No.
A	WO2005105545A1	10 November 2005	B62B9/00	Full text	1-7
A	CN2784272Y	31 May 2006	B62B7/00	Full text	1-7
A	US2007085303A1	19 April 2007	B62B7/00	Full text	1-7
A	US2007114738A1	24 May 2007	B62B63/00	Full text	1-7
A	CN1978264A	13 June 2007	B62B7/14	Full text	1-7
A	CN2918181Y	4 July 2007	B62B9/06	Full text	1-7

NON-PATENT DOCUMENTS

Type	Book Title (including the edition number and volume number)	Publication Date	Author Name and Publisher Name	Relevant Page Number	Relevant to claim No.

Type	Journal or Digest Title (including the volume number and issue number)	Issuance Date	Author Name and Article Title	Relevant Page Number	Relevant to claim No.

Notes for filling in the above form:

1. The IPC number used by the examiner in the search shall be filled in down to the main group and the subgroup of the technical subject-matter.
2. Internationally acceptable journal title abbreviations can be filled in the form.
3. Categories of cited documents:

X: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone;

Y: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents;

A: document defining the general state of the art

R: patent or patent application document belonging to the same invention submitted by any group or individual to the Patent Office on the filing date of this application;

P: intermediate document published prior to the filing date but later than the priority date claimed;

E: conflicting application.

Examiner: Chen Yin

Examination Department:

Mechanics Invention Examination Department, Guangdong Patent Examination Cooperation Center

Date: 23 August 2015

RELEVANT PROVISIONS:

PRC PATENT LAW

Paragraph 4, Article 26

The claims shall be supported by the description and shall clearly and concisely define the scope of protection.

100738

XQ01569346711

北京市东长安街一号东方广场东方经贸城西一办公楼十层 1008 室 北京律盟知识产权代理有限责任公司
刘国伟

发文日：

2012 年 10 月 31 日

申请号或专利号：200980148829.3　　发文序号：2012102600798410

申请人或专利权人：戴那米克品牌股份有限公司

发明创造名称：用于手推童车的座椅附接件

第一次审查意见通知书

（进入国家阶段的 PCT 申请）

1. ☒应申请人提出的实质审查请求，根据专利法第 35 条第 1 款的规定，国家知识产权局对上述发明专利申请进行实质审查。
   ☐根据专利法第 35 条第 2 款的规定，国家知识产权局决定自行对上述发明专利申请进行实质审查。
2. ☒申请人要求以其在：
   US 专利局的申请日 2008 年 12 月 04 日为优先权日。
3. ☐经审查，申请人于_____提交的修改文件，不符合专利法实施细则第 51 条第 1 款的规定，不予接受。
4. ☒审查是针对原始提交的国际申请的中文文本或中文译文进行的。
   ☐审查是针对下列申请文件进行的：

5. ☒本通知书引用下列对比文献（其编号在今后的审查过程中继续沿用）

编号	文件号或名称	公开日期（或抵触申请的申请日）
1	WO 2005/105546A1	20051110
2	US 2007/0085303A1	20070419
3	US 2007/0114738A1	20070527
4	US 2007/0001429A1	20070104
5	US 5338096A	

6. 审查的结论性意见：
   关于说明书：

中华人民共和国国家知识产权局 专利局受理处收讫章

□ 申请的内容属于专利法第 5 条规定的不授予专利权的范围。
□ 说明书不符合专利法第 26 条第 3 款的规定。
□ 说明书不符合专利法第 33 条的规定。
□ 说明书的撰写不符合专利法实施细则第 17 条的规定。
□ _____

关于权利要求书：

□ 权利要求_____不符合专利法第 2 条第 2 款的规定。
□ 权利要求_____不符合专利法第 9 条第 1 款的规定。
☒ 权利要求 1-6, 8-13, 16 不具备专利法第 22 条第 2 款规定的新颖性。
☒ 权利要求 7, 14, 15 不具备专利法第 22 条第 3 款规定的创造性。
□ 权利要求_____不具备专利法第 22 条第 4 款规定的实用性。
□ 权利要求_____属于专利法第 25 条规定的不授予专利权的范围。
☒ 权利要求_____不符合专利法第 26 条第 4 款的规定。
☒ 权利要求组(1, 16)与权利要求组（20, 28）不符合专利法第 31 条第 1 款的规定。
□ 权利要求_____不符合专利法第 33 条的规定。
□ 权利要求_____不符合专利法实施细则第 19 条的规定。
□ 权利要求_____不符合专利法实施细则第 20 条的规定。
□ 权利要求_____不符合专利法实施细则第 21 条的规定。
□ 权利要求_____不符合专利法实施细则第 22 条的规定。
□ _____

□ 申请不符合专利法第 26 条第 5 款或者实施细则第 26 条的规定。
□ 申请不符合专利法第 20 条第 1 款的规定。
□ 分案申请不符合专利法实施细则第 43 条第 1 款的规定。

上述结论性意见的具体分析见本通知书的正文部分。

7. 基于上述结论性意见，审查员认为：

□ 申请人应当按照通知书正文部分提出的要求，对申请文件进行修改。

□ 申请人应当在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。

☒ 专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。

□ _____

8. 申请人应注意下列事项：

（1）根据专利法第 37 条的规定，申请人应当在收到本通知书之日起的 4 个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。

（2）申请人对其申请的修改应当符合专利法第 33 条的规定，不得超出原说明书和权利要求书记载的范围，同时申请人对专利申请文件进行的修改应当符合专利法实施细则第 51 条第 3 款的规定，按照本通知书的要求进行修改。

（3）申请人的意见陈述书和／或修改文本应当邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。

（4）未经预约，申请人和／或代理人不得前来国家知识产权局与审查员举行会晤。

9. 本通知书正文部分共有 4 页，并附有下列附件：

□ 引用的对比文件的复印件共_____份_____页。

□ _____

审查员：卫安乐　　联系电话：62413143　　审查部门：专利审查协作北京中心发明审查部

第一次审查意见通知书

（进入国家阶段的PCT申请）

申请号：200980148293

本申请涉及一种用于手推童车的座椅附接件，经审查，提出如下审查意见。

1. 权利要求组（1，16）与权利要求组（20，28）不具有单一性，不符合专利法第31条第1款的规定。

由于手推童车及座椅附接件或座椅附接部分是公知常识的装置，权利要求（1，16）和权利要求（20，28）之间除了这些技术特征外没有其它的相同的或相应的技术特征，因此可以明显看出权利要求组（1，16）与权利要求组（20，28）之间没有相同的或相应的技术特征，因此不具有单一性，不符合专利法第31条第1款规定的单一性。

2. 权利要求1-6，8-13，16不具备专利法第22条第2款规定的新颖性，权利要求7，14，15不具备专利法第22条第3款规定的创造性。

1) 权利要求1要求保护用于手推童车的座椅附接件，对比文件1（WO2005/105546A1）公开了（参见说明书第7-11页、附图1-7）一种用于手推童车2的座椅附接件1，包括：附接框架部件1，其包括连接到手推童车框架的连接器部分4，5，6，18，19；及座椅支撑元件16，其能够支撑座椅20。

由此可见，权利要求1的全部技术特征已经被对比文件1公开，两者属于相同的技术领域，采用相同的技术方案，解决相同的技术问题，并达到了相同的技术效果。因此权利要求1不具备专利法第22条第2款规定的新颖性。

2) 权利要求2对权利要求1做了进一步限定，对比文件1（参见附图6）公开了座椅附接件包括车轮30。可见权利要求2的附加技术特征已经被对比文件1公开，因此在引用的权利要求1不具备新颖性的基础上，权利要求2也不具备专利法第22条第2款规定的新颖性。

3) 权利要求3对权利要求2做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了包括将车轮30连接到所述附接框架部件1的车轮支撑框架10，12，12a。可见权利要求3的附加技术特征已经被对比文件1公开，因此在引用的权利要求2不具备新颖性的基础上，权利要求3也不具备专利法第22条第2款规定的新颖性。

4) 权利要求4对权利要求3做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了车轮支撑框架10，12，12a以枢转方式连接到附接框架部件1。可见权利要求4的附加技术特征已经被对比文件1公开，因此在引用的权利要求3不具备新颖性的基础上，权利要求4也不具备专利法第22条第2款规定的新颖性。

5) 权利要求5对权利要求4做了进一步限定，对比文件1（参见说明书第7-11页、附图1-7）公开了车轮支撑框架10，12，12a以枢转方式连接于接近附接框架部件1的中间处。可见权利要求5的附加技术特征

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已经被对比文件 1 公开，因此在引用的权利要求 4 不具备新颖性的基础上，权利要求 5 也不具备专利法第 22 条第 2 款规定的新颖性。

6) 权利要求 6 对权利要求 5 做了进一步限定，对比文件 1（参见附图 6-7）公开了进一步包括折叠机构。可见权利要求 6 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 5 不具备新颖性的基础上，权利要求 6 也不具备专利法第 22 条第 2 款规定的新颖性。

7) 权利要求 7 对权利要求 6 做了进一步限定，对比文件 1（参见说明书第 12-14 页、附图 8-31）公开了折叠机构包括以滑动方式连接到附接框架部件的滑动连接器 144，143 以及具有连接到滑动部件的第一端及连接到车轮支撑框架的第二端的斜撑 142。可见权利要求 7 的附加技术特征已经被对比文件 1 公开，由于其是在对比文件 1 的一个实施例中公开，本领域技术人员可以和对比文件 1 其它部分公开的技术方案项结合从而得到权利要求 7 要求保护的技术方案，这不需要付出创造性劳动，因此在引用的权利要求 6 不具备新颖性的基础上，权利要求 7 不具备专利法第 22 条第 3 款规定的创造性。

8) 权利要求 8 对权利要求 4 做了进一步限定，对比文件 1（参见说明书第 7-11 页、附图 1-7）公开了车轮支撑框架 10，12，12a 能够从第一位置枢转到第二位置。可见权利要求 8 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 4 不具备新颖性的基础上，权利要求 8 也不具备专利法第 22 条第 2 款规定的新颖性。

9) 权利要求 9 对权利要求 8 做了进一步限定，对比文件 1（参见说明书第 7-11 页、附图 1-7）公开了第一位置为锁定及使用中位置且第二位置为解锁及折叠位置。可见权利要求 9 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 8 不具备新颖性的基础上，权利要求 9 也不具备专利法第 22 条第 2 款规定的新颖性。

10) 权利要求 10 对权利要求 1 做了进一步限定，对比文件 1（参见附图 6）公开了座椅为婴儿座椅。可见权利要求 10 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 1 不具备新颖性的基础上，权利要求 10 也不具备专利法第 22 条第 2 款规定的新颖性。

11) 权利要求 11 对权利要求 1 做了进一步限定，对比文件 1（参见附图 2，6）公开了附接框架部件 1 具有第一端及第二端。可见权利要求 11 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 1 不具备新颖性的基础上，权利要求 11 也不具备专利法第 22 条第 2 款规定的新颖性。

12) 权利要求 12 对权利要求 11 做了进一步限定，对比文件 1（参见附图 6）公开了第一端能够连接到手推童车框架。可见权利要求 12 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 11 不具备新颖性的基础上，权利要求 12 也不具备专利法第 22 条第 2 款规定的新颖性。

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13) 权利要求 13 对权利要求 12 做了进一步限定，对比文件 1（参见附图 5）公开了第二端连接到座椅附接部件 1。可见权利要求 13 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 12 不具备新颖性的基础上，权利要求 13 也不具备专利法第 22 条第 2 款规定的新颖性。

14) 权利要求 14 对权利要求 1 做了进一步限定，对比文件 2（US2007/0085303A1）公开了（参见说明书第 2 页、附图 4-8）座椅支撑元件 410，420 能够将座椅支撑在前向或后向位置中。可见权利要求 14 的附加技术特征已经被对比文件 2 公开，本领域技术人员可以将其应用于对比文件 1 从而得到权利要求 14 要求保护的技术方案，这不需要付出创造性劳动，因此在引用的权利要求 1 不具备新颖性的基础上，权利要求 14 不具备专利法第 22 条第 3 款规定的创造性。

15) 权利要求 15 对权利要求 1 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了进一步包括手推童车座椅 71，72，8，9，其中座椅支撑元件 410，420 能够将手推童车座椅 71，72，8，9 支撑在前向或后向位置中。可见权利要求 15 的附加技术特征已经被对比文件 2 公开，本领域技术人员可以将其应用于对比文件 1 从而得到权利要求 15 要求保护的技术方案，这不需要付出创造性劳动，因此在引用的权利要求 1 不具备新颖性的基础上，权利要求 15 不具备专利法第 22 条第 3 款规定的创造性。

16) 权利要求 16 要求保护一种双人手推童车，对比文件 1（参见说明书第 4-8 栏、附图 1-7）公开了一种双人手推童车，包括手推童车框架 2，，其包括车轮 3、框架 4、第一座椅 2 及连接到框架 4 的附接框架部件 1；座椅附接件 16，其包括车轮 30、第二座椅 20 及能够连接到附接框架部件 1 的连接器部分 4，5，6，18，19。

由此可见，权利要求 16 的全部技术特征已经被对比文件 1 公开，两者属于相同的技术领域，采用相同的技术方案，解决相同的技术问题，并达到了相同的技术效果。因此权利要求 16 不具备专利法第 22 条第 2 款规定的新颖性。

申请人可能笔误将权利要求 17，18 引用权利要求 16 写成了引用权利要求 12，以下基于假设权利要求 17，18 引用权利要求 16 进行评述。

17) 权利要求 17 对权利要求 16 做了进一步限定，对比文件 1（参见说明书第 7-11 页、附图 1-7）公开了连接器部分 4，5，6，18，19 能够以可释放方式连接到附接框架部件 1。可见权利要求 17 的附加技术特征已经被对比文件 1 公开，因此在引用的权利要求 16 不具备新颖性的基础上，权利要求 17 也不具备专利法第 22 条第 2 款规定的新颖性。

18) 权利要求 18 对权利要求 16 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了第二座椅以可释放方式连接到座椅支撑元件 410，420。可见权利要求 18 的附加技术特征已经被对比文件 2 公开，本领域技术人员可以将其应用于对比文件 1 从而得到权利要求 18 要求保护的技术方案，这不需要付出创造性劳动，因此在引用的权利要求 16 不具备新颖性的基础上，权利要求 18 不具备专利法第 22 条第 3 款规定的创造性。

专利审查业务章

19) 权利要求 19 对权利要求 18 做了进一步限定，对比文件 2（参见说明书第 2 页、附图 4-8）公开了座椅支撑元件 410，420 能够将座椅支撑在前向或后向位置中。可见权利要求 19 的附加技术特征已经被对比文件 2 公开，因此在引用的权利要求 18 不具备创造性的基础上，权利要求 19 也不具备专利法第 22 条第 3 款规定的创造性。

另外，对比文件 3（US 2007/0114738A1）公开的内容（参见说明书第 2-3 页、附图 1-13），对比文件 4（US 2007/0001429A1）公开的内容（参见说明书第 2-3 页、附图 1-11）以及对比文件（US 5338096A）公开的内容（参见说明书第 1-2 栏、附图 1-6）或其结合也与本申请密切相关。

审查员已对权利要求 1 及其从属权利要求进行了检索和审查，申请人应当删除与之不具有单一性且未经检索的权利要求 20-34，以使本申请符合专利法第 31 条第 1 款的规定。需要提醒申请人注意的是，对申请文件的修改如果只是删除已经检索过和评述过的权利要求，而保留与该权利要求 1 不具有单一性的权利要求 20，28 及其从属权利要求，这种修改是不符合专利法实施细则第 51 条第 3 款规定的，审查员将基于目前审查的申请文本，以本申请不符合专利法第 31 条第 1 款的规定为由做出驳回决定。

基于上述理由，本申请的独立权利要求以及从属权利要求都不具备新颖性/创造性，同时说明书中也没有记载其它任何可以授予专利权的实质性内容，因而即使申请人对权利要求进行重新组合或根据说明书记载的内容作进一步的限定，本申请也不具备被授予专利权的前景。如果申请人不能在本通知书指定的答复期限内提出表明本申请具有新颖性和创造性的充分理由，本申请将被驳回。

中华人民共和国国家知识产权局 专利审查业务章

审查员姓名：卫宏
审查员代码：1982

检索报告

申请号：2009801488293	申请日：20091204	首次检索
申请人：戴那米克品牌股份有限公司	最早的优先权日：20081204	
权利要求项数：34	说明书段数：49	
审查员确定的 IPC 分类号：B62B 7/00		
检索记录信息：IPC:B62B 7/00,B62B 9/00,B62D 63/00,B62B 9/10 CNKI CNPAT WPI EPODOC 手推车,婴儿,幼儿,儿童,座椅,支撑 stroller,infant,child,seat?,support		

相关专利文献

类型	国别以及代码[11]给出的文献号	代码[43]或[45]给出的日期	IPC 分类号	相关的段落和/或图号	涉及的权利要求
X	WO2005/105546A1	20051110	B62B 9/00	参见说明书第 7-14 页、附图 1-31	1-13,16
Y	WO2005/105546A1	20051110	B62B 9/00	参见说明书第 7-14 页、附图 1-31	14,15
Y	US2007/0085303A1	20070419	B62B 7/00	说明书第 2 页、附图 4-8	14,15
	WO2005/105546A1	20051110	B62B 9/00	参见说明书第 7-14 页、附图 1-31	17-19
	US2007/0085303A1	20070419	B62B 7/00	说明书第 2 页、附图 4-8	17-19
X	US2007/0114738A1	20070527	B62D 63/00	说明书第 2-3 页、附图 1-13	1-5,8,11-14
Y	US2007/0114738A1	20070527	B62D 63/00	说明书第 2-3 页、附图 1-13	6,7,9,10,15,16
Y	US2007/0001429A1	20070104	B62B 7/00	说明书第 2-3 页、附图 1-11	6,7,9,10,15
Y	US5338096A	19940816	B62B 9/10	说明书第 1-2 栏、附图 1-6	16
	US2007/0114738A1	20070527	B62D 63/00	说明书第 2-3 页、附图 1-13	17-19
	US5338096A	19940816	B62B 9/10	说明书第 1-2 栏、附图 1-6	17-19

华人民共和国国家知识产权局

A	CN2194313Y	19950412	B62B 7/00	全文	1-19

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相关非专利文献					
类型	书名（包括版本号和卷号）	出版日期	作者姓名和出版者名称	相关页数	涉及的权利要求
类型	期刊或文摘名称（包括卷号和期号）	发行日期	作者姓名和文章标题	相关页数	涉及的权利要求

表格填写说明事项：

1. 审查员实际检索领域的 IPC 分类号应当填写到大组和 / 或小组所在的分类位置。
2. 期刊或其它定期出版物的名称可以使用符合一般公认的国际惯例的缩写名称。
3. 相关文件的类型说明：

X：一篇文件影响新颖性或创造性；

Y：与本报告中的另外的 Y 类文件组合而影响创造性；

A：背景技术文件；

R：任何单位或个人在申请日向专利局提交的、属于同样的发明创造的专利或专利申请文件。

P：中间文件，其公开日在申请的申请日与所要求的优先权日之间的文件；

E：抵触申请。

审 查 员：卫安乐　　审查部门：专利审查协作北京中心机械发明审查部
2012 年 10 月 23 日

(TRANSLATION)

FIRST OFFICE ACTION OF CHINA STATE INTELLECTUAL PROPERTY OFFICE

(PCT Application Entering into China National Phase)

Date of Issuance: 26 November 2012

Application No.: 200980148829.3

The present invention relates to a seat attachment for a stroller. After examination, the examiner had the following comments:

I. The group of Claims 1 and 16 and the group of Claims 20 and 28 lack unity, which violates Paragraph 1, Article 31 of the Patent Law.

The stroller, seat attachment, and seat attachment portion are common devices in the art, and Claims 1 and 16 and Claims 20 and 28 have no other same or corresponding technical features except for the above. Given this, obviously there are no identical or corresponding technical features between Claims 1 and 16 and Claims 20 and 28, and thus they lack unity of invention, which violates the provision of unity provided in Paragraph 1, Article 31 of the Patent Law.

II. Claims 1-6, 8-13, and 16 lack novelty as stipulated in Paragraph 2, Article 22 of the Patent Law, and Claims 7, 14, and 15 lack inventive step as stipulated by Paragraph 3, Article 22 of the Patent Law.

1. Claim 1 seeks to protect a seat attachment for a stroller. Citation 1 (WO2005/105546A1) discloses a seat attachment 1 for a stroller 2, which comprises: an attachment frame member 1 comprising a connector portion 4, 5, 6, 18, and 19 capable of connecting to a stroller frame; and a seat support element 16 capable of supporting a seat 20 (*see* pages 7-11 of the specification and Figs. 1-7).

   In view of the above, Citation 1 discloses all technical features of Claim 1. Citation 1 and (the invention claimed in) Claim 1 belong to the same technical field, adopt the same technical solution to solve the same technical problem, and can produce the same technical effects. Thus, Claim 1 lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

2. Claim 2 depends upon Claim 1. Citation 1 (*see* Fig.6) discloses that the seat attachment comprises a wheel 30. Given this, the dependent technical feature of Claim 2 is disclosed in Citation 1. Since Claim 1 upon which Claim 2 depends lacks novelty, Claim 2 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

3. Claim 3 depends upon Claim 2. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses (the seat attachment) comprising a wheel support frame 10, 12, and 12a connecting the wheel 30 to the attachment frame member 1. Given this, the dependent technical feature of Claim 3 is disclosed in Citation 1. Since Claim 2 upon which Claim 3 depends lacks novelty, Claim 3 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

4. Claim 4 depends upon Claim 3. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is pivotally connected to the attachment frame member 1. Given this, the dependent technical feature of Claim 4 is disclosed in Citation 1. Since Claim 3 upon which Claim 4 depends lacks novelty, Claim 4 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

5. Claim 5 depends upon Claim 4. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is pivotally connected near the middle of the attachment frame member 1. Given this, the dependent technical feature of Claim 5 is disclosed in Citation 1. Since Claim 4 upon which Claim 5 depends lacks novelty, Claim 5 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

6. Claim 6 depends upon Claim 5. Citation 1 (*see* Figs. 6 and 7) discloses (the seat attachment) further comprising a folding mechanism. Given this, the dependent technical feature of Claim 6 is disclosed in Citation 1. Since Claim 5 upon which Claim 6 depends lacks novelty, Claim 6 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

7. Claim 7 depends upon Claim 6. Citation 1 (*see* pages 12-14 on the specification and Figs. 8-31) discloses that the folding mechanism comprises a sliding connector 143, 144 slidingly connected to the attachment frame member and a strut 142 having a first end connected to the sliding member and a second end connected to the wheel support frame. Given this, the dependent technical feature of Claim 7 is disclosed in Citation 1. Since the above features are disclosed in an embodiment of Citation 1, persons skilled in the art may combine these features with the technical solution disclosed in other part of Citation 1 so as to arrive at the technical solution claimed in Claim 7, which needs no creative effort. Therefore, since Claim 6 upon which Claim 7 depends lacks novelty, Claim 7 lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

8. Claim 8 depends upon Claim 4. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the wheel support frame 10, 12, and 12a is capable of pivoting from a first position to a second position. Given this, the dependent technical feature of Claim 8 is disclosed in Citation 1. Since Claim 4 upon which Claim 8 depends lacks novelty, Claim 8 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

9. Claim 9 depends upon Claim 8. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the first position is a locked and in-use position and the second position is an unlocked and folded position. Given this, the dependent technical feature of Claim 9 is disclosed in Citation 1. Since Claim 8 upon which Claim 9 depends lacks novelty, Claim 9 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

10. Claim 10 depends upon Claim 1. Citation 1 (*see* Fig. 6) discloses that the seat is a baby seat. Given this, the dependent technical feature of Claim 10 is disclosed in Citation 1. Since Claim 1 upon which Claim 10 depends lacks novelty, Claim 10 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

11. Claim 11 depends upon Claim 1. Citation 1 (*see* Figs. 2 and 6) discloses that the attachment frame member 1 has a first end and a second end. Given this, the dependent technical feature of Claim 11 is disclosed in Citation 1. Since Claim 1 upon which Claim 11 depends lacks novelty, Claim 11 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

12. Claim 12 depends upon Claim 11. Citation 1 (*see* Fig. 6) discloses that the first end is capable of connecting to a stroller frame. Given this, the dependent technical feature of Claim 12 is disclosed in Citation 1. Since Claim 11 upon which Claim 12 depends lacks novelty, Claim 12 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

13. Claim 13 depends upon Claim 12. Citation 1 (*see* Fig. 5) discloses that the second end is connected to the seat attachment member 1. Given this, the dependent technical feature of Claim 13 is disclosed in Citation 1. Since Claim 1 upon which Claim 13 depends lacks novelty, Claim 13 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

14. Claim 14 depends upon Claim 1. Citation 2 (US2007/0085303A1) discloses that (*see* page 2 of the specification and Figs. 4-8) the seat support element 410, 420 is capable of supporting a seat in either a forward or backward position. Given this, the dependent technical feature of Claim 14 is disclosed in Citation 2, and persons skilled in the art can incorporate this feature into Citation 1 so as to arrive at the technical solution claimed in Claim 14, which needs no creative effort. Therefore, since Claim 1 upon which Claim 14 depends lacks novelty, Claim 14 lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

15. Claim 15 depends upon Claim 1. Citation 2 (*see* page 2 of the specification and Figs. 4-8) discloses that (the seat attachment) further comprises a stroller seat 71, 72, 8, and 9, wherein the seat support element 410, 420 is capable of supporting the stroller seat 71, 72, 8, and 9 in either a forward or backward position. Given this, the dependent technical feature of Claim 15 is disclosed in Citation 2, and persons skilled in the art can incorporate this feature into Citation 1 so as to obtain the technical solution claimed in Claim 15, which needs no creative effort. Therefore,

since Claim 1 upon which Claim 15 depends lacks novelty, Claim 15 lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

16. Claim 16 claims a double stroller. Citation 1 (*see* col. 4-8 on the specification and Figs. 1-7) discloses a double stroller, which comprises: a stroller frame 2 comprising wheels 3, a frame 4, a first seat 2 and an attachment frame member 1 connected to the frame 4; a seat attachment 16 comprising a wheel 30, a second seat 20, and a connector portion 4, 5, 6, 18, and 19 capable of connecting to the attachment frame member 1.

    In view of the above, all technical features of Claim 16 are disclosed in Citation 1. Citation 1 and (the invention claimed in) Claim 16 belong to the same technical field, adopt the same technical solution to solve the same technical problem, and can produce the same technical effects. Thus, Claim 16 lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

[Translator's note: Claims 17 and 18 depend upon Claim 12, which may be an error; they should depend upon Claim 16. Given this, the examiner provides the following comments based on the presumption that Claims 17 and 18 depend upon Claim 16.]

17. Claim 17 depends upon Claim 16. Citation 1 (*see* pages 7-11 on the specification and Figs. 1-7) discloses that the connector portion 4, 5, 6, 18, and 19 is capable of being releasably connected to the attachment frame member 1. Given this, the dependent technical feature of Claim 17 is disclosed in Citation 1. Since Claim 16 upon which Claim 17 depends lacks novelty, Claim 17 also lacks novelty as stipulated in Paragraph 2, Article 22 of the Patent Law.

18. Claim 18 depends upon Claim 16. Citation 2 (*see* page 2 of the specification and Figs. 4-8) discloses that the second seat is releasably connected to the seat support element 410, 420. Given this, the dependent technical feature of Claim 18 is disclosed in Citation 2, and persons skilled in the art can incorporate this feature into Citation 1 so as to obtain the technical solution claimed in Claim 18, which needs no creative effort. Therefore, since Claim 16 upon which Claim 18 depends lacks novelty, Claim 18 lacks inventiveness as stipulated in Paragraph 3, Article 22 of the Patent Law.

19. Claim 19 depends upon Claim 18. Citation 2 (*see* page 2 of the specification and Figs. 4-8) discloses that the seat support element 410, 420 is capable of supporting the second seat in either a forward or backward position. Given this, the dependent technical feature of Claim 19 is disclosed in Citation 2. Therefore, since Claim 18 upon which Claim 19 depends lacks inventiveness, Claim 19 also lacks an inventive step stipulated in Paragraph 3, Article 22 of the Patent Law.

In addition, the contents disclosed in Citation 3 (US2007/0114738A1, *see* pages 2 and 3 of the specification and Figs. 1-13), in Citation 4 (US2007/0001429A1, *see* pages 2 and 3

of the specification and Figs. 1-11), and in Citation 5 (US5338096A, *see* col. 1-2 of the specification and Figs. 1-6) as well as their combination are also very close to this application.

The examiner has conducted a search on and examined Claim 1 and its dependent claims. The applicant should cancel Claims 20-34 which do not have unity with Claim 1 and on which a search has not been conducted, so as to make this application comply with Paragraph 1, Article 31 of the Patent Law. The applicant should note that if he amends application documents by cancelling the claims on which the search has been conducted and which have been commented on, while retaining Claims 20 and 28 and their dependent claims, which do not have unity with Claim 1 and on which no search has been conducted, the amendment will violate Paragraph 3, Rule 51 of the Implementing Regulations of the Patent Law. In that case, the examiner will reject this application based on the present application documents and on the ground that it does not comply with Paragraph 1, Article 31 of the Patent Law.

In view of the above, all of the independent and dependent claims of this application lack novelty/an inventive step. Moreover, no substantial contents which can be granted a patent right were recited in the specification. Thus, even if the applicant rearranges the claims and/or further defines the claims based on the description in the specification, the present application still cannot be granted a patent right. If the applicant cannot provide convincing reasons why the present application possesses novelty and inventiveness, this application will be rejected.

Examiner: Anle Wei
Code: 193214

SEARCH REPORT
(TRANSLATION)

Application No.: 200980148829.3	Filing Date: 4 December 2009	First Retrieval
Applicant: DYNAMIC BRANDS, LLC	Earliest Priority Date: 4 December 2008	
Number of claims: 34	Paragraphs of the specification: 49	
IPC number assigned by the examiner: B62B 7/00		
Search Record Information: IPC: B62B 7/00, B62B 9/00, B62D 63/00, B62B 9/10 CNKI, CNPAT, WPI, EPODC, stroller (手推车), infant (婴儿), child (儿童), seat (座椅), support (支撑), stroller, infant, child, seat?, support		

Patent Documents

Category	Country and code [11] Document No.	Code [43] or [45] Publication Date	IPC	Relevant paragraphs and/or drawings:	Relevant to claim No.
X	WO2005/105546A1	10 November 2005	B62B 9/00	pages 7-14 on the specification and Figs. 1-31	1-13, 16
Y	WO2005/105546A1	10 November 2005	B62B 9/00	pages 7-14 on the specification and Figs. 1-31	14, 15
Y	US2007/0085303A1	19 April 2007	B62B 7/00	page 2 of the specification and Figs. 4-8	14, 15
	WO2005/105546A1	10 November 2005	B62B 9/00	pages 7-14 on the specification and Figs. 1-31	17-19
	US2007/0085303A1	19 April 2007	B62B 7/00	page 2 of the specification and Figs. 4-8	17-19
X	US2007/0114738A1	27 May 2007	B62D 63/00	pages 2 and 3 of the specification and Figs. 1-13	1-5, 8, 11-14
Y	US2007/0114738A1	27 May 2007	B62D 63/00	pages 2 and 3 of the specification and Figs. 1-13	6, 7, 9, 10, 15, 16
Y	US2007/0001429A1	4 January 2007	B62B 7/00	pages 2 and 3 of the specification and Figs. 1-11	6, 7, 9, 10, 15
Y	US5338096A	16 August 1994	B62B 9/10	pages 1 and 2 of the specification and Figs. 1-6	16
	US2007/0114738A1	27 May 2007	B62D 63/00	pages 2 and 3 of the specification and Figs. 1-13	17-19
	US5338096A	16 August 1994	B62B 9/10	pages 1 and 2 of the specification and Figs. 1-6	17-19
	CN2194313Y	12 April 1995	B62B 7/00	Full texts	1-19

Non-Patent Documents					
Type	Book Title (including the edition number and volume number)	Publication Date	Author Name and Publisher Name	Relevant Page Number	Relevant to claim No.
Type	Journal or Digest Title (including the volume number and issue number)	Issuance Date	Author Name and Article Title	Relevant Page Number	Relevant to claim No.

Notes for filling in the form:

1. The IPC number used by the examiner in search shall be filled in down to the main group and the subgroup of the technical subject-matter.

2. Internationally acceptable journal title abbreviations can be filled in the form.

3. Categories of cited documents:

   X: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone;

   Y: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents;

   A: document defining the general state of the art

   R: patent or patent application document belonging to the same invention submitted by any group or individual to the Patent Office on the filing date of this application;

   P: intermediate document published prior to the filing date but later than the priority date claimed;

   E: conflicting application.

Examiner: Anle Wei

Examination Department: Mechanics Department, Beijing Patent Examination Cooperation Center

Date: 23 October 2012

THE RELEVANT PROVISIONS

THE PRC PATENT LAW

Article 22

Any invention or utility model for which patent right may be granted must possess novelty, inventiveness and practical applicability.

Novelty means that an invention or utility model is not an existing technology, and before the date of filing, no identical invention or utility model has been filed by any entity or individual with the Patent Administration Department under the State Council and will be disclosed in the patent application documents or patent documents published after the said date of filing.

Inventiveness means that, in comparison with the existing technology, the invention has prominent substantive features and represents notable progress and that the utility model has substantive features and represents progress.

Practical applicability means that the invention or utility model can be made or used and can produce effective results.

The term "existing technology" used in this Law refers to any technology known to the public in China and abroad before the date of filing.

Paragraph 1, Article 31

An application for a patent for invention or utility model shall be limited to one invention or utility model. Two or more inventions or utility models belonging to a single general inventive concept may be filed as one application.

中华人民共和国国家知识产权局

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北京市东长安街一号东方广场东方经贸城西一办公楼十层1008室 北京律盟知识产权代理有限责任公司
刘国伟

发文日：

2013年11月18日

申请号或专利号：200980148829.3　　发文序号：20131113011115310

申请人或专利权人：戴那米克品牌股份有限公司

发明创造名称：用于手推童车的座椅附接件

第三次审查意见通知书

1. ☒审查员已经收到申请人于2013年08月23日提交的意见陈述书，在此基础上审查员对上述专利申请继续进行实质审查。

☐根据国家知识产权局专利复审委员会于_____年_____月_____日作出的复审决定，审查员对上述专利申请继续进行实质审查。

☐_____

2. ☐经审查，申请人于_____提交的修改文件，不符合专利法实施细则第51条第3款的规定，不予接受。

3. 继续审查是针对下列申请文件进行的：

☐上述意见陈述书中所附的经修改的申请文件。

☒前次审查意见通知书所针对的申请文件以及上述意见陈述书中所附的经修改的申请文件替换文件。

☐前次审查意见通知书所针对的申请文件。

☐上述复审决定所确定的申请文件。

☐_____

4. ☒本通知书未引用新的对比文件。

☐本通知书引用下列对比文件（其编号续前，并在今后的审查过程中继续沿用）：

编号	文件号或名称	公开日期（或抵触申请的申请日）

5. 审查的结论性意见：

关于说明书：

☐申请的内容属于专利法第5条规定的不授予专利权的范围。

☐说明书不符合专利法第26条第3款的规定。

☐说明书的修改不符合专利法第33条的规定。

☐说明书的撰写不符合专利法实施细则第17条的规定。

☐_____

关于权利要求书：

☐权利要求_____不符合专利法第2条第2款的规定。

☐权利要求_____不符合专利法第9条第1款的规定。

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路6号 国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

MOCKINGBIRD ET AL. EX1019

☐权利要求_____不具备专利法第 22 条第 2 款规定的新颖性。
☐权利要求_____不具备专利法第 22 条第 3 款规定的创造性。
☐权利要求_____不具备专利法第 22 条第 4 款规定的实用性。
☐权利要求_____属于专利法第 25 条规定的不授予专利权的范围。
☒权利要求 1-3, 7, 11 不符合专利法第 26 条第 4 款的规定。
☐权利要求_____不符合专利法第 31 条第 1 款的规定。
☐权利要求_____的修改不符合专利法第 33 条的规定。
☐权利要求_____不符合专利法实施细则第 19 条的规定。
☐权利要求_____不符合专利法实施细则第 20 条的规定。
☐权利要求_____不符合专利法实施细则第 21 条的规定。
☐权利要求_____不符合专利法实施细则第 22 条的规定。
☐_____

☐申请不符合专利法第 26 条第 5 款或者实施细则第 26 条的规定。
☐申请不符合专利法第 20 条第 1 款的规定。
☐分案申请不符合专利法实施细则第 43 条第 1 款的规定。
上述结论性意见的具体分析见本通知书的正文部分。

6.基于上述结论性意见，审查员认为：
☐申请人应当按照通知书正文部分提出的要求，对申请文件进行修改。
☒申请人应当在意见陈述书中论述其专利申请可以被授予专利权的理由，并对通知书正文部分中指出的不符合规定之处进行修改，否则将不能授予专利权。
☐专利申请中没有可以被授予专利权的实质性内容，如果申请人没有陈述理由或者陈述理由不充分，其申请将被驳回。
☐_____

7. 申请人应注意下列事项：

（1）根据专利法第 37 条的规定，申请人应当在收到本通知书之日起的 2 个月内陈述意见，如果申请人无正当理由逾期不答复，其申请将被视为撤回。

（2）申请人对其申请的修改应当符合专利法第 33 条的规定，不得超出原说明书和权利要求书记载的范围，同时申请人对专利申请文件进行的修改应当符合专利法实施细则第 51 条第 3 款的规定，按照本通知书的要求进行修改。

（3）申请人的意见陈述书和/或修改文本应当邮寄或递交国家知识产权局专利局受理处，凡未邮寄或递交给受理处的文件不具备法律效力。

（4）未经预约，申请人和/或代理人不得前来国家知识产权局与审查员举行会晤。

8. 本通知书正文部分共有 1 页，并附有下列附件：
☐引用的对比文件的复印件共_____份_____页。
☐_____

审查员：卫安乐　　联系电话：62412851　　审查部门：专利审查协作北京中心机械发明审查部

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路 6 号　国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

第三次审查意见通知书

申请号:2009801488293

申请人于 2013 年 08 月 23 日提交了意见陈述书和经过修改的申请文件，对该申请的权利要求书进行了修改。审查员在阅读了上述文件后，对该申请继续进行审查，针对此次修改的申请文件提出如下审查意见。

1. 权利要求 1-3，7，11 不符合专利法第 26 条第 4 款的规定。

1) 权利要求 1 中出现了“其中每一所述左侧附接框架部件”，而之前出现的是“一个分离的左侧附接框架部件”，可见出现了矛盾，由此造成权利要求不清楚。

2) 权利要求 1 中出现了“所述座位”，而“座位”并未出现在之前，因此缺乏引用的基础，造成权利要求不清楚。

3) 权利要求 3-5，7，11 中出现的“所述附接框架部件”是指引用的权利要求中出现的“左侧附接框架部件”还是“右侧附接框架部件”不能为本领域技术人员所知，造成权利要求不清楚。

4) 权利要求 16 中出现了“每一连接器部分能够以可释放方式连接到所述附接部分”，其中“所述附接部分”是指之前出现的“一个附接部分”、“另一个附接部分”还是“两个附接部分”不能为本领域技术人员所知，造成权利要求不清楚。

基于上述理由，本申请目前不能被授予专利权。

请提交修改部分的替换页和标注的修改参考页，以方便审查的进行。

审查员姓名:卫安乐　　审查员代码:193214

纸件申请，回函请寄：100088 北京市海淀区蓟门桥西土城路 6 号　国家知识产权局专利局受理处收
电子申请，应当通过电子专利申请系统以电子文件形式提交相关文件。除另有规定外，以纸件等其他形式提交的文件视为未提交。

(TRANSLATION)

THIRD OFFICE ACTION ISSUED BY STATE INTELLECTUAL PROPERTY OFFICE

Date of Issuance: 18 November 2013

Application No.: 200980148829.3

The applicant filed a response and amended application documents on 23 August 2013. After reviewing the above documents, the examiner continued examination of the subject application and had the following comments:

1. Claims 1-3, 7, and 11 violate Paragraph 4, Article 26 of the Patent Law

1) Claim 1 mentions "wherein ***each*** *the left attachment frame member*" and "***a separate*** *left attachment frame member*." which contradict each other. Thus, Claim 1 is indefinite.

2) [Omitted in translation - concerns a translation defect in Chinese Claim 1; we will correct it free of charge.]

3) Persons skilled in the art do not know whether "the attachment frame member" in Claims 3-5, 7, and 11 refers to the "left attachment frame member" or "right attachment frame member" in the claim upon which they depend, which causes the above claims indefinite.

4) Claim 16 recites "each connector portion capable of releasably connecting to the attachment portion," in which it is unclear to persons skilled in the art whether "the attachment portion" refers to the "one attachment portion," "other attachment portion," or the "two attachment portions" mentioned previously, which causes Claim 16 to be indefinite.

Based on the reasons as mentioned above, the present application cannot be granted a patent right at the present.

Please submit replacement sheets and marked-up sheets for the amended parts so as to facilitate the examination.

Examiner: Anle Wang
Code: 193214

RELEVANT PROVISIONS:

PRC PATENT LAW

Paragraph 4, Article 26

The claims shall be supported by the description and shall clearly and concisely define the scope of protection.

Espacenet

Bibliographic data: CN1978264 (A) — 2007-06-13

Children's bicycle

Inventor(s): SONG ZHENGHUAN WANG [CN] ± (ZHENGHUAN,WANG SONG, ; SONG ZHENGHUAN, ; WANG JUNMA)

Applicant(s): HAOHAIZI CHILDREN S ARTICLES C [CN] ± (HAOHAIZI CHILDREN'S ARTICLES CO., LTD, ; GOODBABY CHILD PRODUCTS CO., LTD)

Classification: **- international:** ***B62B7/14; B62B9/18***
- cooperative:

Application number: CN20061107155 20060719

Priority number(s): CN2005275842U 20050922 ; CN20061107155 20060719

Also published as: CN100463826 (C)

Abstract of CN1978264 (A)

A baby carrier includes a primary carriage frame containing a master front wheel bracket, a master back wheel bracket, a master seat unit and a master seat set in the primary seat unit, and the carrier also includes a sub-frame containing a sub-wheel bracket, a sub-seat unit and a sub-seat on the unit, in which, the bottom of the sub-wheel bracket is set with a sub-wheel component, the primary frame and the sub-one can be connected and knocked down, so that they have a first working state of separation and a second working state of connection, the master frame forms an independent single carriage under the first state and they are connected to form an independent two carrier. When needing to carry two babies, one can connect the primary and the sub-carriers to form a two-carrier, and when carrying one baby, one can separate them to use the primary one to form a single-carrier.

[19] 中华人民共和国国家知识产权局

[51] Int. Cl.
B62B 7/14 (2006.01)
B62B 9/18 (2006.01)

[12] 发明专利申请公布说明书

[21] 申请号 200610107155.0

[43] 公开日 2007 年 6 月 13 日

[11] 公开号 CN 1978264A

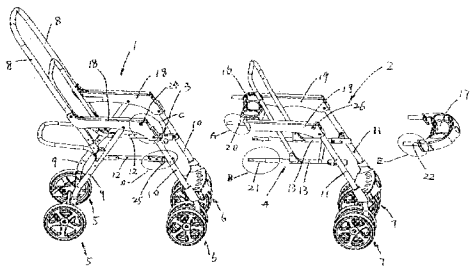
[22] 申请日 2006.7.19
[21] 申请号 200610107155.0
[30] 优先权
[32] 2005.9.22 [33] CN [31] 200520075842.X
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[74] 专利代理机构 苏州创元专利商标事务所有限公司
代理人 孙仿卫
权利要求书 4 页 说明书 8 页 附图 8 页

[54] 发明名称

童车

[57] 摘要

一种童车，包括主推车架，主推车架包括主前轮支架、主后轮支架、主座位机构、设置于主座位机构上的主座位，童车还包括附推车架，附推车架包括附轮支架、附座位机构、设置于附座位机构上的附座位，附轮支架的下端部设置有附轮组件，主推车架与附推车架相可拆卸地连接，使得附推车架与主推车架具有相分离的第一工作状态，以及相连接的第二工作状态，在第一工作状态下，主推车架构成独立的单人推车；在第二工作状态下，主推车架与附推车架构成独立的双人推车。由于当需要把两个小孩推行时，将主推车架与附推车架相连接组装成双人童车，当只需要把一个小孩推行时，将主推车架与附推车架相分离，从而使主推车架组装成单人童车，因而使用范围较广。



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1、一种童车，包括主推车架（1），所述的主推车架（1）包括主前轮支架（10）、主后轮支架（9）、主座位机构（3）、设置于所述的主座位机构（3）上的供婴儿乘坐用的主座位，其特征在于：所述的童车还包括附推车架（2），所述的附推车架（2）包括附轮支架（11）、附座位机构（4）、设置于所述的附座位机构（4）上的供婴儿乘坐用的附座位，所述的附轮支架（11）的下端部设置有附轮组件（7），所述的主推车架（1）与所述的附推车架（2）相可拆卸地连接，使得所述的附推车架（2）与所述的主推车架（1）具有相分离的第一工作状态，以及所述的附推车架（2）与所述的主推车架（1）具有相连接的第二工作状态，在所述的附推车架（2）与所述的主推车架（1）处于第一工作状态下，所述的主前轮支架（10）的下端部设置有主前轮组件（6），所述的主后轮支架（9）的下端部设置有主后轮组件（5），所述的主推车架（1）上设置有推把杆（8），所述的主推车架（1）构成独立的单人推车；在所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的主前轮支架（10）的下端部、所述的主后轮支架（9）的下端部中的至少一个部件上设置有轮组件，所述的主推车架（1）或所述的附推车架（2）上设置有推把杆（8），所述的附座位位于所述的主座位的前方或者位于所述的主座位的后方，所述的主推车架（1）与所述的附推车架（2）构成独立的双人推车。

2、根据权利要求 1 所述的童车，其特征在于：当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的主前轮支架（10）的下端部设置有主前轮组件(6)，所述的主后轮支架(9)的下端部设置有主后轮组件(5)。

3、根据权利要求 1 所述的童车，其特征在于：当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附座位位于所述的主座位的前方，所述的附推车架（2）的后部与所述的主推车架（1）的前部相可拆卸地连接，所述的主推车架（1）上设置有推把杆（8），所述的主后轮支架（9）的下端部设置有主后轮组件（5）。

4、根据权利要求 3 所述的童车，其特征在于：当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附推车架（2）的前部可拆卸地连接有附餐盘（17）或附前扶手，当所述的附推车架（2）与所述的主推车架（1）处于第一工作状态下，所述的附餐盘（17）或附前扶手与所述的主推车架（1）的前部相可拆卸地连接。

5、根据权利要求 3 所述的童车，其特征在于：所述的附推车架（2）的后

部连接有主餐盘（16）或主前扶手，当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的主餐盘（16）或主前扶手位于所述的主座位的前上方。

6、根据权利要求 3 所述的童车，其特征在于：所述的附推车架（2）还包括前端部与所述的附轮支架（11）的上端部相连接的附侧扶手（19），所述的附座位机构（4）包括附座连杆（13），所述的附座连杆（13）的前端部与所述的附轮支架（11）相连接，当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附侧扶手（19）的后部与所述的主推车架（1）相连接，并且两者之间具有第一锁定机构（27），当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附座连杆（13）的后部与所述的主推车架（1）相连接，并且两者之间具有第二锁定机构（28）。

7、根据权利要求 6 所述的童车，其特征在于：所述的主推车架（1）还包括前端部与所述的主前轮支架（10）的上端部相连接的主侧扶手（18）、与所述的主侧扶手（18）的后端部相连接的推把杆（8），所述的主后轮支架（9）的上端部与所述的主侧扶手（18）相连接，所述的主座位机构（3）包括位于所述的主前轮支架（10）与所述的主后轮支架（9）之间的主座连杆（12），当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下时，所述的附侧扶手（19）的后部与所述的主侧扶手（18）的前部相连接，所述的附座连杆（13）的后部与所述的主座连杆（12）的前部相连接。

8、根据权利要求 7 所述的童车，其特征在于：当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附侧扶手（19）的前部可拆卸地连接有附餐盘（17）或附前扶手，当所述的附推车架（2）与所述的主推车架（1）处于第一工作状态下，所述的附餐盘（17）或附前扶手与所述的主侧扶手（18）的前部相可拆卸地连接。

9、根据权利要求 1 所述的童车，其特征在于：当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附座位位于所述的主座位的后方，所述的附推车架（2）的前部与所述的主推车架（1）的后部相可拆卸地连接，所述的附推车架（2）上设置有推把杆（8），所述的主前轮支架（10）的下端部设置有主前轮组件（6）。

10、根据权利要求 9 所述的童车，其特征在于：当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的推把杆（8）可拆卸地连接

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在所述的附推车架（2）的后部，当所述的附推车架（2）与所述的主推车架（1）处于第一工作状态下，所述的推把杆（8）与所述的主推车架（1）的后部相可拆卸地连接。

11、根据权利要求 9 所述的童车，其特征在于：所述的主推车架（1）的前部连接有主餐盘（16）或主前扶手。

12、根据权利要求 9 所述的童车，其特征在于：所述的主推车架（1）的后部连接有附餐盘或附前扶手。

13、根据权利要求 9 所述的童车，其特征在于：所述的附推车架（2）还包括前部与所述的附轮支架（11）的上端部相连接的附侧扶手（19）、上端部与所述的附侧扶手（19）的后端部相连接的附推把杆连杆（32），所述的附座位机构（4）包括附座连杆（13），所述的附座连杆（13）的后端部与所述的附轮支架（11）相连接，当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附侧扶手（19）的前部与所述的主推车架（1）的后部相连接，并且两者之间具有第一锁定机构（27），当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附座连杆（13）的前部与所述的主推车架（1）的后部相连接，并且两者之间具有第二锁定机构（28）。

14、根据权利要求 13 所述的童车，其特征在于：所述的主推车架（1）还包括前端部与所述的主前轮支架（10）的上端部相连接的主侧扶手（18）、上端部与所述的主侧扶手（18）的后端部相连接的主推杆连杆（31），所述的主后轮支架（9）的上端部与所述的主侧扶手（18）相连接，所述的主座位机构（3）包括位于所述的主前轮支架(10)与所述的主后轮支架(9)之间的主座连杆(12)，当所述的附推车架（2）与所述的主推车架（1）处于第二工作状态下，所述的附侧扶手（19）的前部与所述的主侧扶手（18）的后部相连接，所述的附座连杆（13）的前部与所述的主座连杆（12）的后部相连接。

15、根据权利要求 14 所述的童车，其特征在于：当所述的主推车架（1）与所述的附推车架（2）处于第二工作状态下，所述的推把杆（8）可拆卸地连接在所述的附推把杆连杆（32）上，当所述的主推车架（1）与所述的附推车架（2）处于第一工作状态下，所述的推把杆（8）与所述的主推杆连杆（31）相可拆卸地连接。

16、根据权利要求 14 所述的童车，其特征在于：所述的主餐盘（16）或主前扶手连接在所述的主侧扶手（18）的前部，所述的主侧扶手（18）的后部连

接有附餐盘或附前扶手。

童车

技术领域

本发明涉及一种童车。

背景技术

现有技术中，童车，有的是单人童车，这种单人童车通常包括推车架，所述的推车架包括前轮支架、后轮支架、一个座位机构、设置于所述的座位机构上的一个座位，这种单人童车只可供一个小孩坐，需将两个小孩推行时，这种单人童车则无法使用；还有的是双人童车，这种双人童车通常包括推车架，所述的推车架包括前轮支架、后轮支架、设置于前轮支架与所述的后轮支架之间的两个座位机构、分别设置于两个座位机构上的两个座位，这种双人童车可供两个小孩坐，但是当只需将一个小孩推行时，操作者通常会选择单人童车，原因是双人童车体积较大，较单人童车难推行。可见，以单人童车及双人童车两种单一的形式出现的童车在使用范围上都有局限性。

发明内容

本发明目的是提供一种童车，其使用范围较广，童车操作者可根据需要将童车组装成单人童车或双人童车。

本发明的技术方案是：一种童车，包括主推车架，所述的主推车架包括主前轮支架、主后轮支架、主座位机构、设置于所述的主座位机构上的供婴儿乘坐用的主座位，所述的童车还包括附推车架，所述的附推车架包括附轮支架、附座位机构、设置于所述的附座位机构上的供婴儿乘坐用的附座位，所述的附轮支架的下端部设置有附轮组件，所述的主推车架与所述的附推车架相可拆卸地连接，使得所述的附推车架与所述的主推车架具有相分离的第一工作状态，以及所述的附推车架与所述的主推车架具有相连接的第二工作状态，在所述的附推车架与所述的主推车架处于第一工作状态下，所述的主前轮支架的下端部设置有主前轮组件，所述的主后轮支架的下端部设置有主后轮组件，所述的主推车架上设置有推把杆，所述的主推车架构成独立的单人推车；在所述的附推车架与所述的主推车架处于第二工作状态下，所述的主前轮支架的下端部、所述的主后轮支架的下端部中的至少一个部件上设置有轮组件，所述的主推车架或所述的附推车架上设置有推把杆，所述的附座位位于所述的主座位的前方或者位于所述的主座位的后方，所述的主推车架与所述的附推车架构成独立的双人推车。

当所述的附推车架与所述的主推车架处于第二工作状态下，所述的主前轮支架的下端部设置有主前轮组件，所述的主后轮支架的下端部设置有主后轮组件。

当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附座位位于所述的主座位的前方，所述的附推车架的后部与所述的主推车架的前部相可拆卸地连接，所述的主推车架上设置有推把杆，所述的主后轮支架的下端部设置有主后轮组件。

当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附推车架的前部可拆卸地连接有附餐盘或附前扶手，当所述的附推车架与所述的主推车架处于第一工作状态下，所述的附餐盘或附前扶手与所述的主推车架的前部相可拆卸地连接。

所述的附推车架的后部连接有主餐盘或主前扶手，当所述的附推车架与所述的主推车架处于第二工作状态下，所述的主餐盘或主前扶手位于所述的主座位的前上方。

所述的附推车架还包括前端部与所述的附轮支架的上端部相连接的附侧扶手，所述的附座位机构包括附座连杆，所述的附座连杆的前端部与所述的附轮支架相连接，当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附侧扶手的后部与所述的主推车架相连接，并且两者之间具有第一锁定机构，当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附座连杆的后部与所述的主推车架相连接，并且两者之间具有第二锁定机构。

所述的主推车架还包括前端部与所述的主前轮支架的上端部相连接的主侧扶手、与所述的主侧扶手的后端部相连接的推把杆，所述的主后轮支架的上端部与所述的主侧扶手相连接，所述的主座位机构包括位于所述的主前轮支架与所述的主后轮支架之间的主座连杆，当所述的附推车架与所述的主推车架处于第二工作状态下时，所述的附侧扶手的后部与所述的主侧扶手的前部相连接，所述的附座连杆的后部与所述的主座连杆的前部相连接。

当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附侧扶手的前部可拆卸地连接有附餐盘或附前扶手，当所述的附推车架与所述的主推车架处于第一工作状态下，所述的附餐盘或附前扶手与所述的主侧扶手的前部相可拆卸地连接。

当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附座位

位于所述的主座位的后方，所述的附推车架的前部与所述的主推车架的后部相可拆卸地连接，所述的附推车架上设置有推把杆，所述的主前轮支架的下端部设置有主前轮组件。

当所述的附推车架与所述的主推车架处于第二工作状态下，所述的推把杆可拆卸地连接在所述的附推车架的后部，当所述的附推车架与所述的主推车架处于第一工作状态下，所述的推把杆与所述的主推车架的后部相可拆卸地连接。

所述的主推车架的前部连接有主餐盘或主前扶手。

所述的主推车架的后部连接有附餐盘或附前扶手。

所述的附推车架还包括前部与所述的附轮支架的上端部相连接的附侧扶手、上端部与所述的附侧扶手的后端部相连接的附推把杆连杆，所述的附座位机构包括附座连杆，所述的附座连杆的后端部与所述的附轮支架相连接，当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附侧扶手的前部与所述的主推车架的后部相连接，并且两者之间具有第一锁定机构，当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附座连杆的前部与所述的主推车架的后部相连接，并且两者之间具有第二锁定机构。

所述的主推车架还包括前端部与所述的主前轮支架的上端部相连接的主侧扶手、上端部与所述的主侧扶手的后端部相连接的主推杆连杆，所述的主后轮支架的上端部与所述的主侧扶手相连接，所述的主座位机构包括位于所述的主前轮支架与所述的主后轮支架之间的主座连杆，当所述的附推车架与所述的主推车架处于第二工作状态下，所述的附侧扶手的前部与所述的主侧扶手的后部相连接，所述的附座连杆的前部与所述的主座连杆的后部相连接。

当所述的主推车架与所述的附推车架处于第二工作状态下，所述的推把杆可拆卸地连接在所述的附推把杆连杆上，当所述的主推车架与所述的附推车架处于第一工作状态下，所述的推把杆与所述的主推杆连杆相可拆卸地连接。

所述的主餐盘或主前扶手连接在所述的主侧扶手的前部，所述的主侧扶手的后部连接有附餐盘或附前扶手。

本发明与现有技术相比，具有下列优点：由于所述的童车包括具有主座位的主推车架、具有附座位的附推车架，所述的主推车架与所述的附推车架之间可拆卸地连接，当需要把两个小孩推行时，将所述的主推车架与所述的附推车架相连接组装成双人童车，当只需要把一个小孩推行时，将主推车架与所述的附推车架相分离，从而使主推车架组装成单人童车，因而使用范围较广。

附图说明

附图 1 为本发明的立体图（第一实施例处于第二工作状态下）；

附图 2 为主推车架构成独立的单人推车的立体图（第一实施例）；

附图 3 为本发明的分解图（第一实施例）；

附图 4 为附图 3 的 A 处放大图；

附图 5 为附图 3 的 B 处放大图；

附图 6 为附图 3 的 C 处放大图；

附图 7 为附图 3 的 D 处放大图；

附图 8 为附图 3 的 E 处放大图；

附图 9 为本发明的示意图（第一实施例处于第二工作状态下）；

附图 10 为附图 9 的 N-N 处剖视图；

附图 11 为附图 9 的 M 处放大图；

附图 12 为本发明的示意图（第二实施例处于第二工作状态下）；

附图 13 为双人童车转换成单人推车的示意图（第二实施例）；

其中：1、主推车架；2、附推车架；3、主座位机构；4、附座位机构；5、主后轮组件；6、主前轮组件；7、附轮组件；8、推把杆；9、主后轮支架；10、主前轮支架；11、附轮支架；12、主座连杆；13、附座连杆；16、主餐盘；17、附餐盘；18、主侧扶手；19、附侧扶手；20、第一弹销；21、第二弹销；22、第三弹销；24、第一按钮；25、第二按钮；26、第三按钮；27、第一锁定机构；28、第二锁定机构；29、第一锁孔；30、第二锁孔；31、主推杆连杆；32、附推把杆连杆；

具体实施方式

一种童车，包括主推车架 1，所述的主推车架 1 包括主前轮支架 10、主后轮支架 9、主座位机构 3、设置于所述的主座位机构 3 上的供婴儿乘坐用的主座位，所述的童车还包括附推车架 2，所述的附推车架 2 包括附轮支架 11、附座位机构 4、设置于所述的附座位机构 4 上的供婴儿乘坐用的附座位，所述的附轮支架 11 的下端部设置有附轮组件 7，所述的主推车架 1 与所述的附推车架 2 相可拆卸地连接，使得所述的附推车架 2 与所述的主推车架 1 具有相分离的第一工作状态，以及所述的附推车架 2 与所述的主推车架 1 具有相连接的第二工作状态，在所述的附推车架 2 与所述的主推车架 1 处于第一工作状态下，所述的主前轮支架 10 的下端部设置有主前轮组件 6，所述的主后轮支架 9 的下端部

设置有主后轮组件 5，所述的主推车架 1 上设置有推把杆 8，所述的主推车架 1 构成独立的单人推车；在所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的主前轮支架 10 的下端部、所述的主后轮支架 9 的下端部中的至少一个部件上设置有轮组件，所述的主推车架 1 或所述的附推车架 2 上设置有推把杆 8，所述的附座位位于所述的主座位的前方或者位于所述的主座位的后方，所述的主推车架 1 与所述的附推车架 2 构成独立的双人推车。

第一实施例，如附图 1-附图 11 所示，一种童车，包括主推车架 1，所述的主推车架 1 包括主前轮支架 10、主后轮支架 9、主座位机构 3、设置于所述的主座位机构 3 上的供婴儿乘坐用的主座位，所述的童车还包括附推车架 2，所述的附推车架 2 包括附轮支架 11、附座位机构 4、设置于所述的附座位机构 4 上的供婴儿乘坐用的附座位，所述的附轮支架 11 的下端部设置有附轮组件 7，所述的主推车架 1 与所述的附推车架 2 相可拆卸地连接，使得所述的附推车架 2 与所述的主推车架 1 具有相分离的第一工作状态，以及所述的附推车架 2 与所述的主推车架 1 具有相连接的第二工作状态，在所述的附推车架 2 与所述的主推车架 1 处于第一工作状态下，所述的主前轮支架 10 的下端部设置有主前轮组件 6，所述的主后轮支架 9 的下端部设置有主后轮组件 5，所述的主推车架 1 上设置有推把杆 8，所述的主推车架 1 构成独立的单人推车；在所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的主前轮支架 10 的下端部、所述的主后轮支架 9 的下端部中至少所述的主后轮支架 9 的下端部上设置有主后轮组件 5，所述的主推车架 1 上设置有推把杆 8，所述的附座位位于所述的主座位的前方，所述的主推车架 1 与所述的附推车架 2 构成独立的双人推车。

当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，从附图 1-附图 11 所示，所述的附座位位于所述的主座位的前方，所述的附推车架 2 的后部与所述的主推车架 1 的前部相可拆卸地连接，所述的主推车架 1 上设置有推把杆 8，所述的主后轮支架 9 的下端部设置有主后轮组件 5。

如附图 1、附图 9 所示，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的主前轮支架 10 的下端部设置有主前轮组件 6，所述的主后轮支架 9 的下端部设置有主后轮组件 5。

当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附推车架 2 的前部可拆卸地连接有附餐盘 17 或附前扶手，并且在附餐盘 17 与所述的附推车架 2 的前部之间设置有锁定机构，如附图 3、附图 8、附图 9 所示，

所述的锁定机构可以是在所述的附餐盘 17 上设置有第三弹销 22，在所述的附推车架 2 上开有第三锁孔，锁定时，所述的第三弹销 22 插在所述的第三锁孔内，并且在附推车架 2 上设置有第三按钮 26，通过所述的第三按钮 26 可将所述的锁定机构解锁。当所述的附推车架 2 与所述的主推车架 1 处于第一工作状态下，所述的附餐盘 17 或附前扶手与所述的主推车架 1 的前部相可拆卸地连接；

所述的附推车架 2 的后部连接有主餐盘 16 或主前扶手，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的主餐盘 16 或主前扶手位于所述的主座位的前上方。

所述的附推车架 2 还包括前端部与所述的附轮支架 11 的上端部相连接的附侧扶手 19，所述的附座位机构 4 包括附座连杆 13，所述的附座连杆 13 的前端部与所述的附轮支架 11 相连接，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附侧扶手 19 的后部与所述的主推车架 1 相连接，并且两者之间具有第一锁定机构 27，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附座连杆 13 的后部与所述的主推车架 1 相连接，并且两者之间具有第二锁定机构 28。如附图 3-附图 8、附图 10、附图 11 所示，所述的第一锁定机构 27 可以是在所述的附侧扶手 19 上设置有第一弹销 20，在所述的主推车架 1 上开有第一锁孔 29，锁定时，所述的第一弹销 20 插在所述的第一锁孔 29 内，并且在主推车架 1 上设置有第一按钮 24，通过所述的第一按钮 24 可将所述的第一锁定机构 27 解锁。所述的第二锁定机构 28 可以是在所述的附座连杆 13 上设置有第二弹销 21，在所述的主推车架 1 上开有第二锁孔 30，锁定时，所述的第二弹销 21 插在所述的第二锁孔 30 内，并且在主推车架 1 上设置有第二按钮 25，通过所述的第二按钮 25 可将所述的第二锁定机构 28 解锁。如附图 2 所示，当所述的附推车架 2 与所述的主推车架 1 处于第一工作状态下，所述的附餐盘 17 或附前扶手与所述的主推车架 1 的前部相可拆卸地连接，并且所述的附餐盘 17 或所述的附前扶手与所述的主推车架 1 之间相锁定，此时，所述的附餐盘 17 上的第三弹销 22 可插在所述的主推车架 1 上的第一锁孔 29 内，按动第一按钮 24 可将所述的附餐盘 17 或附前扶手与所述的主推车架 1 的前部之间解锁。

所述的主推车架 1 还包括前端部与所述的主前轮支架 10 的上端部相连接的主侧扶手 18、与所述的主侧扶手 18 的后端部相连接的推把杆 8，所述的主后轮支架 9 的上端部与所述的主侧扶手 18 相连接，所述的主座位机构 3 包括位于所

述的主前轮支架 10 与所述的主后轮支架 9 之间的主座连杆 12，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下时，所述的附侧扶手 19 的后部与所述的主侧扶手 18 的前部相连接，所述的附座连杆 13 的后部与所述的主座连杆 12 的前部相连接。当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附侧扶手 19 的前部可拆卸地连接有附餐盘 17 或附前扶手，当所述的附推车架 2 与所述的主推车架 1 处于第一工作状态下，所述的附餐盘 17 或附前扶手与所述的主侧扶手 18 的前部相可拆卸地连接。所述的附侧扶手 19 的后部连接有主餐盘 16 或主前扶手。

第二实施例，从附图 12、附图 13 所示，一种童车，包括主推车架 1，所述的主推车架 1 包括主前轮支架 10、主后轮支架 9、主座位机构 3、设置于所述的主座位机构 3 上的供婴儿乘坐用的主座位，所述的童车还包括附推车架 2，所述的附推车架 2 包括附轮支架 11、附座位机构 4、设置于所述的附座位机构 4 上的供婴儿乘坐用的附座位，所述的附轮支架 11 的下端部设置有附轮组件 7，所述的主推车架 1 与所述的附推车架 2 相可拆卸地连接，使得所述的附推车架 2 与所述的主推车架 1 具有相分离的第一工作状态，以及所述的附推车架 2 与所述的主推车架 1 具有相连接的第二工作状态，在所述的附推车架 2 与所述的主推车架 1 处于第一工作状态下，所述的主前轮支架 10 的下端部设置有主前轮组件 6，所述的主后轮支架 9 的下端部设置有主后轮组件 5，所述的主推车架 1 上设置有推把杆 8，所述的主推车架 1 构成独立的单人推车；在所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的主前轮支架 10 的下端部、所述的主后轮支架 9 的下端部中至少所述的主前轮支架 10 的下端部上设置有主前轮组件 6，所述的附推车架 2 上设置有推把杆 8，所述的附座位位于所述的主座位后方，所述的主推车架 1 与所述的附推车架 2 构成独立的双人推车。

当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附座位位于所述的主座位的后方，所述的附推车架 2 的前部与所述的主推车架 1 的后部相可拆卸地连接，并且连接后相锁定，所述的附推车架 2 上设置有推把杆 8，所述的主前轮支架 10 的下端部设置有主前轮组件 6。

如附图 12 所示，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的主前轮支架 10 的下端部设置有主前轮组件 6，所述的主后轮支架 9 的下端部设置有主后轮组件 5。

当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的推

把杆 8 可拆卸地连接在所述的附推车架 2 的后部，当所述的附推车架 2 与所述的主推车架 1 处于第一工作状态下，所述的推把杆 8 与所述的主推车架 1 的后部相可拆卸地连接。

所述的主推车架 1 的前部连接有主餐盘 16 或主前扶手。

所述的主推车架 1 的后部连接有附餐盘或附前扶手，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附餐盘或附前扶手位于所述的附座位的前上方。

所述的附推车架 2 还包括前部与所述的附轮支架 11 的上端部相连接的附侧扶手 19、上端部与所述的附侧扶手 19 的后端部相连接的附推把杆连杆 32，所述的附座位机构 4 包括附座连杆 13，所述的附座连杆 13 的后端部与所述的附轮支架 11 相连接，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附侧扶手 19 的前部与所述的主推车架 1 的后部相连接，并且两者之间具有第一锁定机构 27，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附座连杆 13 的前部与所述的主推车架 1 的后部相连接，并且两者之间具有第二锁定机构 28。

所述的主推车架 1 还包括前端部与所述的主前轮支架 10 的上端部相连接的主侧扶手 18、上端部与所述的主侧扶手 18 的后端部相连接的主推杆连杆 31，所述的主后轮支架 9 的上端部与所述的主侧扶手 18 相连接，所述的主座位机构 3 包括位于所述的主前轮支架 10 与所述的主后轮支架 9 之间的主座连杆 12，当所述的附推车架 2 与所述的主推车架 1 处于第二工作状态下，所述的附侧扶手 19 的前部与所述的主侧扶手 18 的后部相连接，所述的附座连杆 13 的前部与所述的主座连杆 12 的后部相连接。当所述的主推车架 1 与所述的附推车架 2 处于第二工作状态下，所述的推把杆 8 可拆卸地连接在所述的附推把杆连杆 32 上，当所述的主推车架 1 与所述的附推车架 2 处于第一工作状态下，所述的推把杆 8 与所述的主推杆连杆 31 相可拆卸地连接。所述的主餐盘 16 或主前扶手连接在所述的主侧扶手 18 的前部，所述的主侧扶手 18 的后部连接有附餐盘或附前扶手。

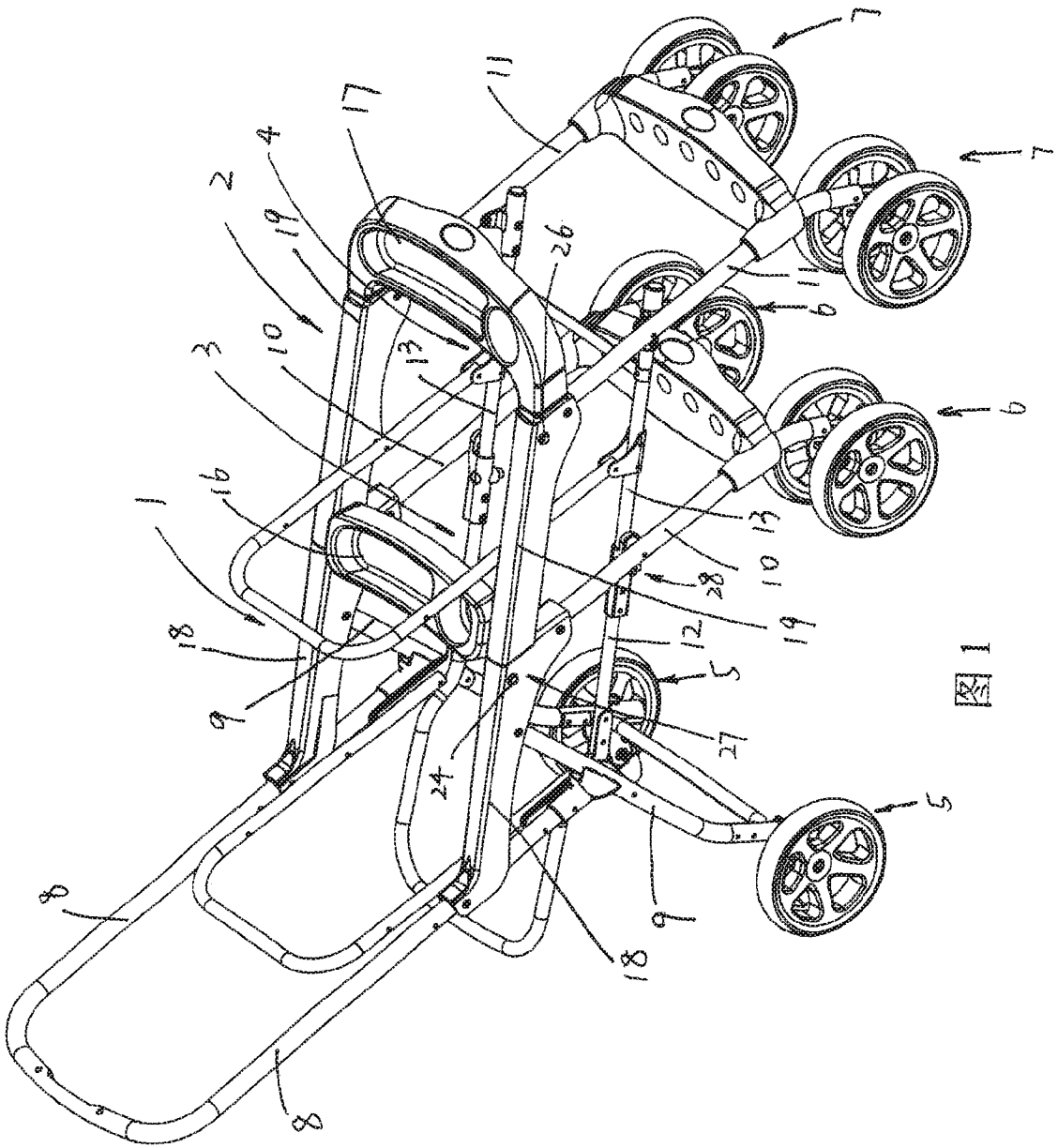


图 1

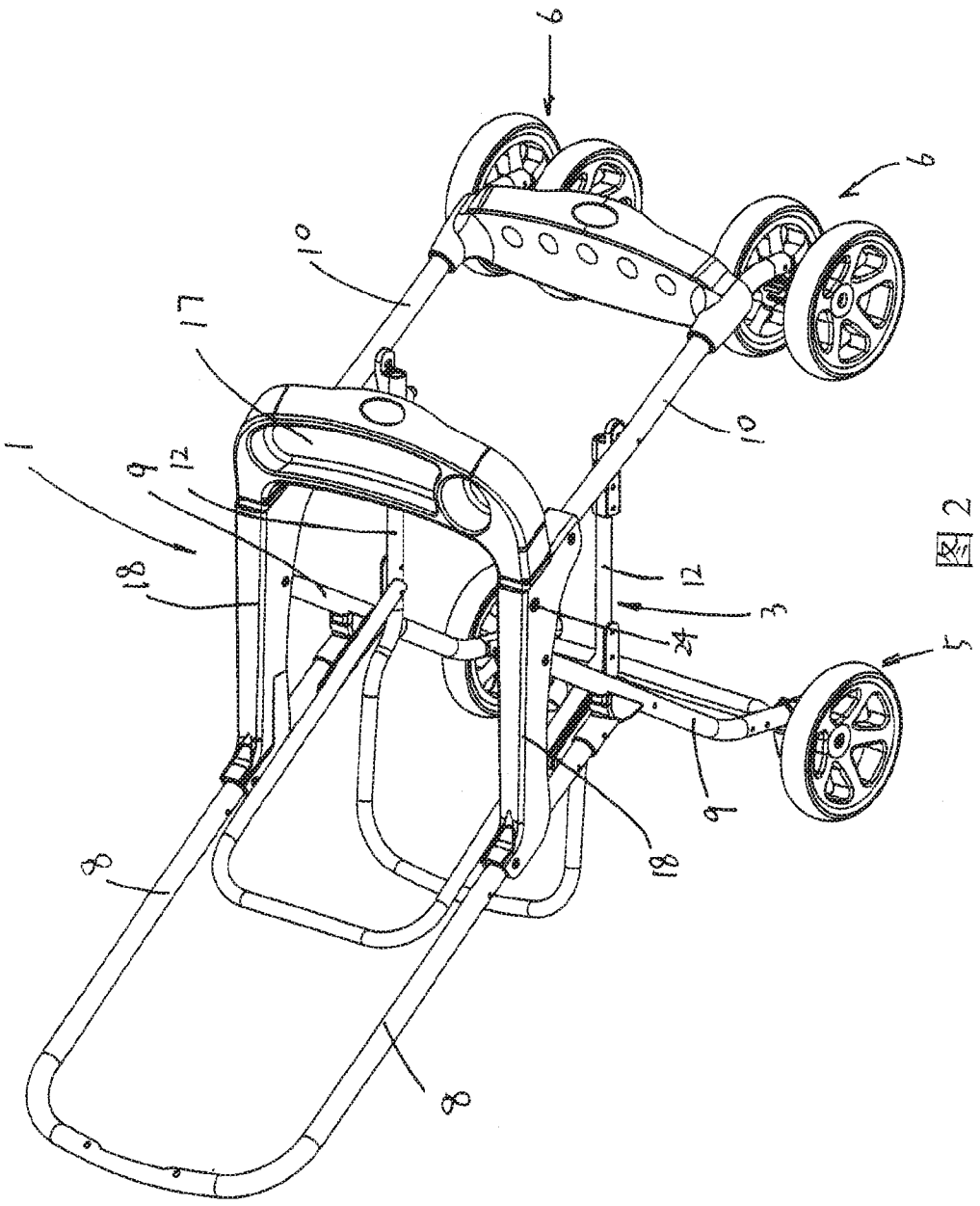


图 2

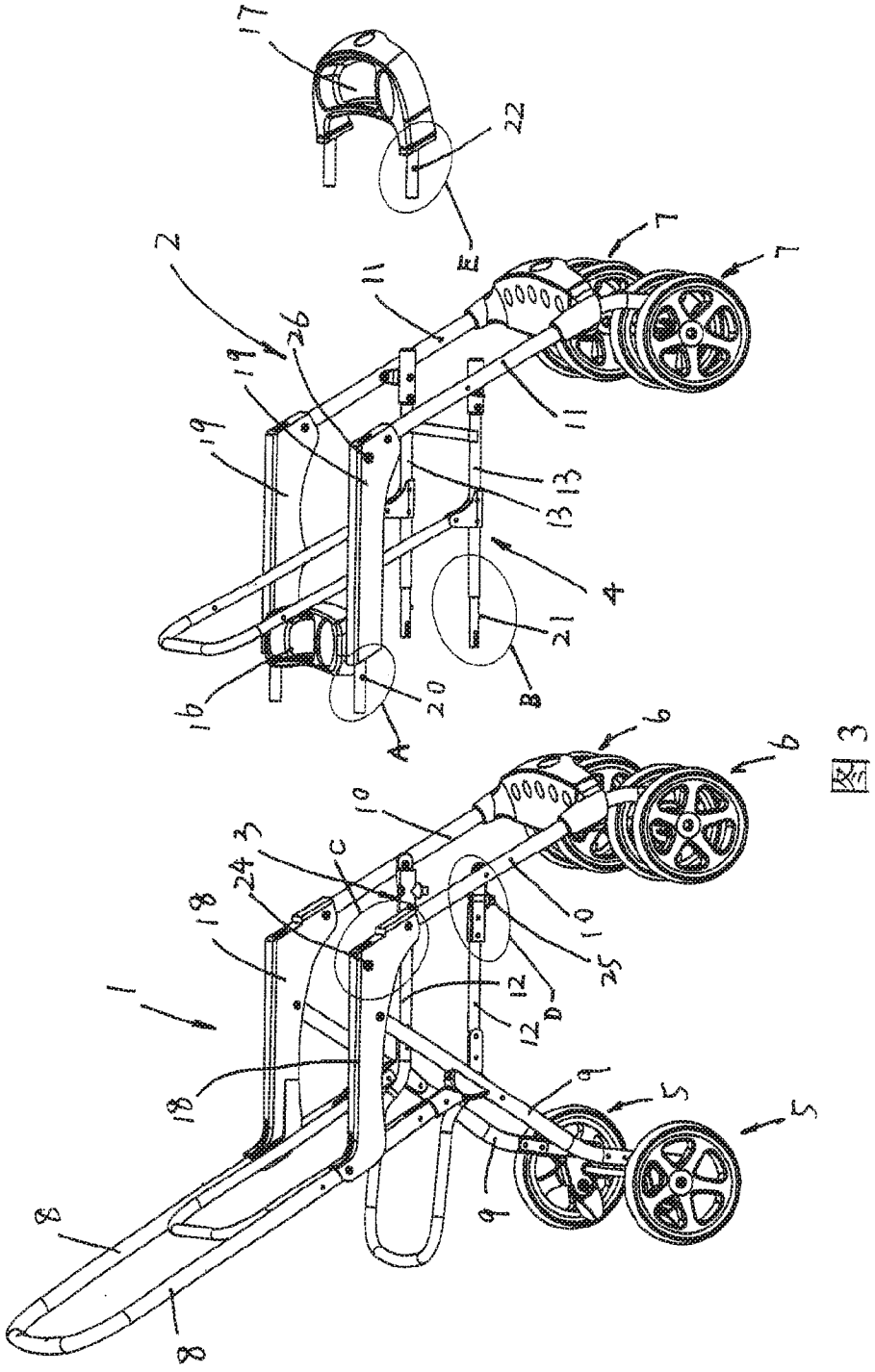

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图 3

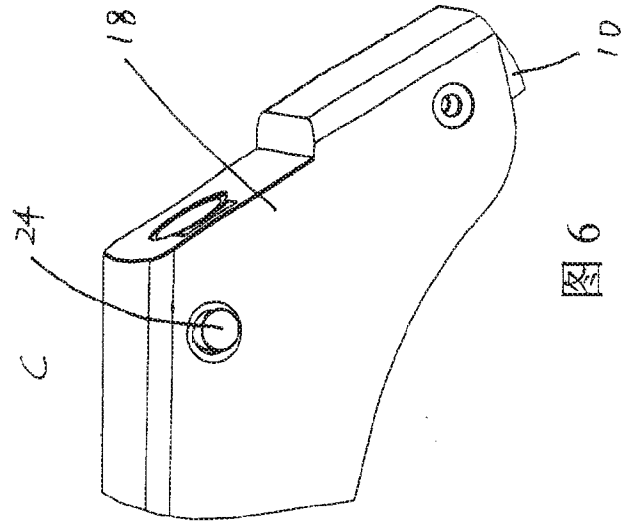


图6

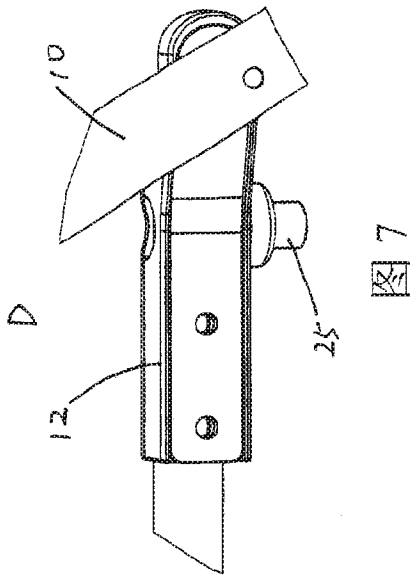


图7

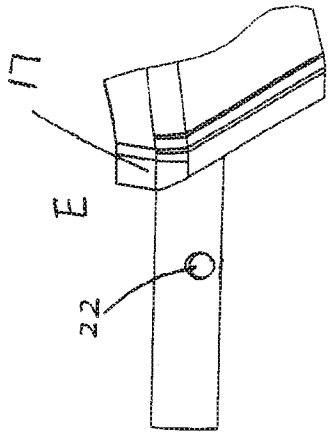


图8

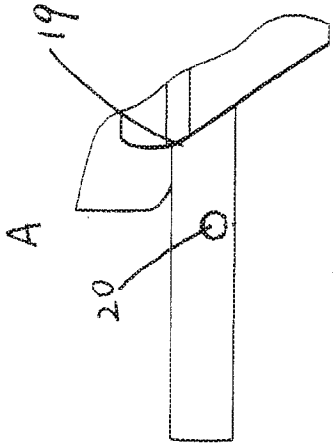


图4

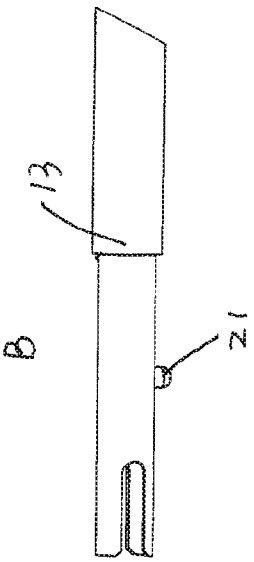


图5

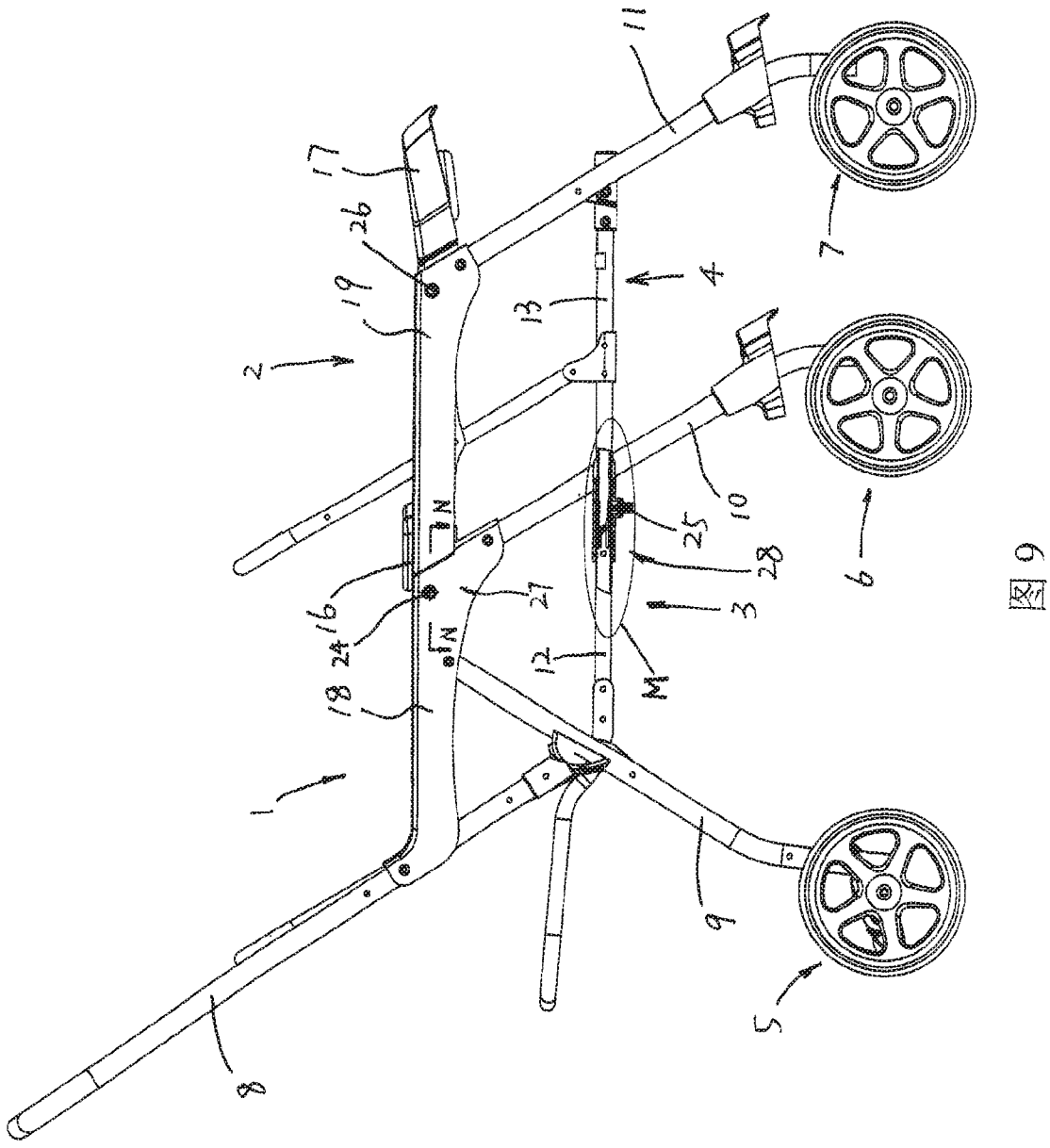


图 9

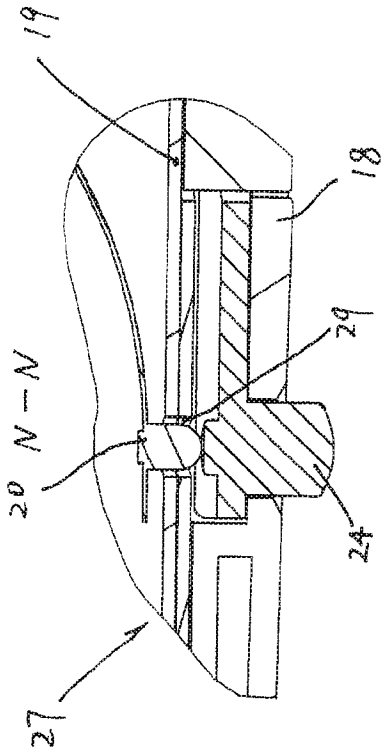


图 10

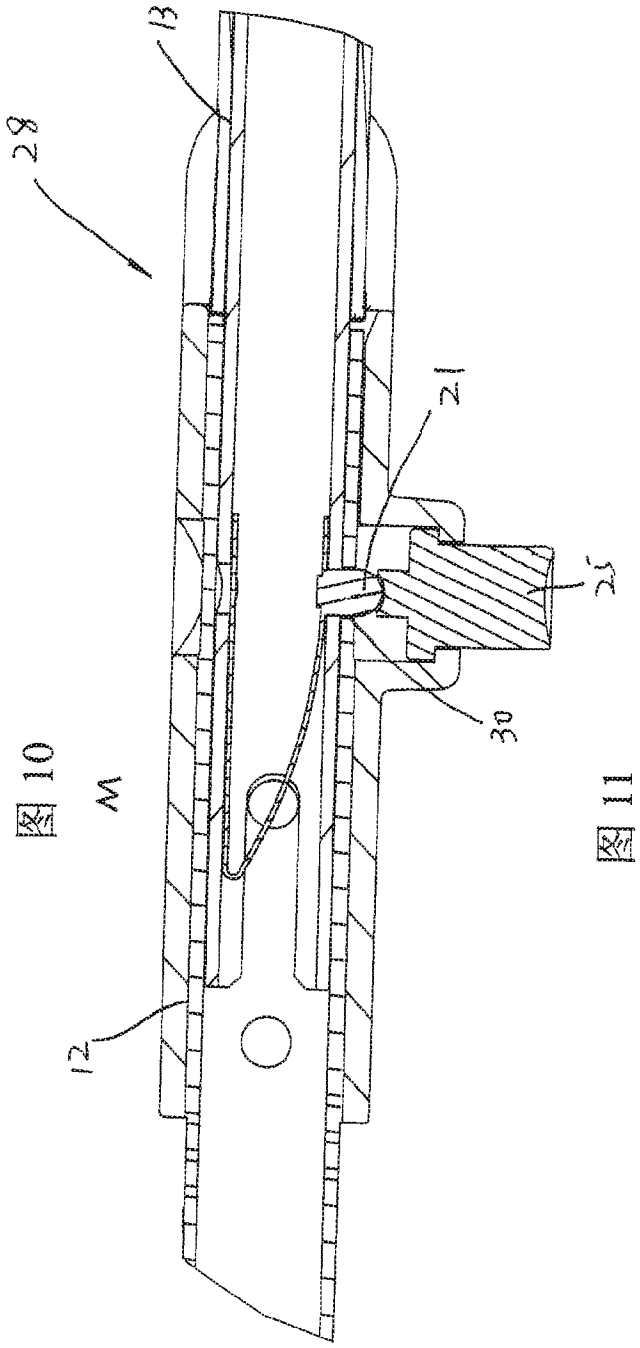


图 11

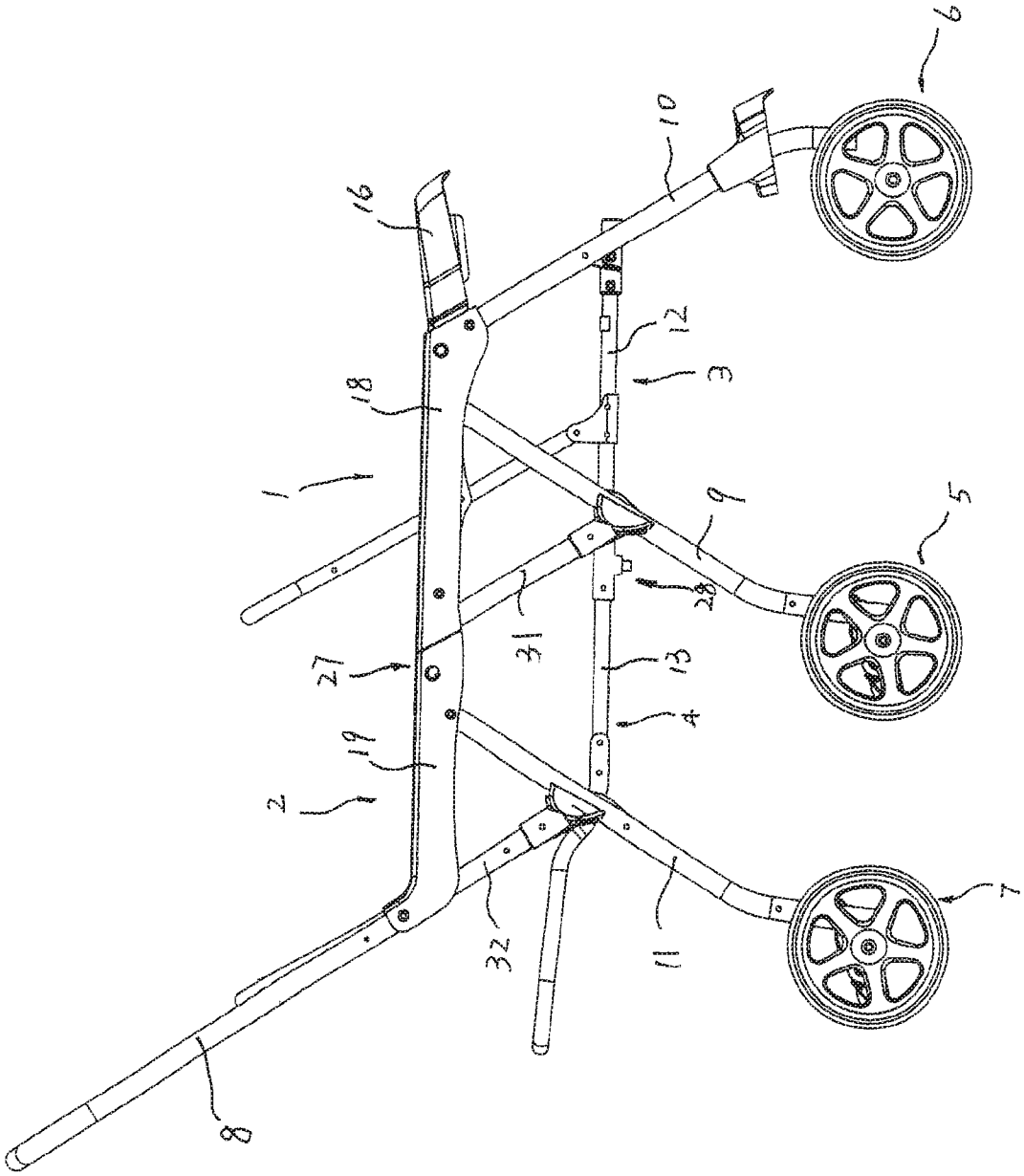


图 12

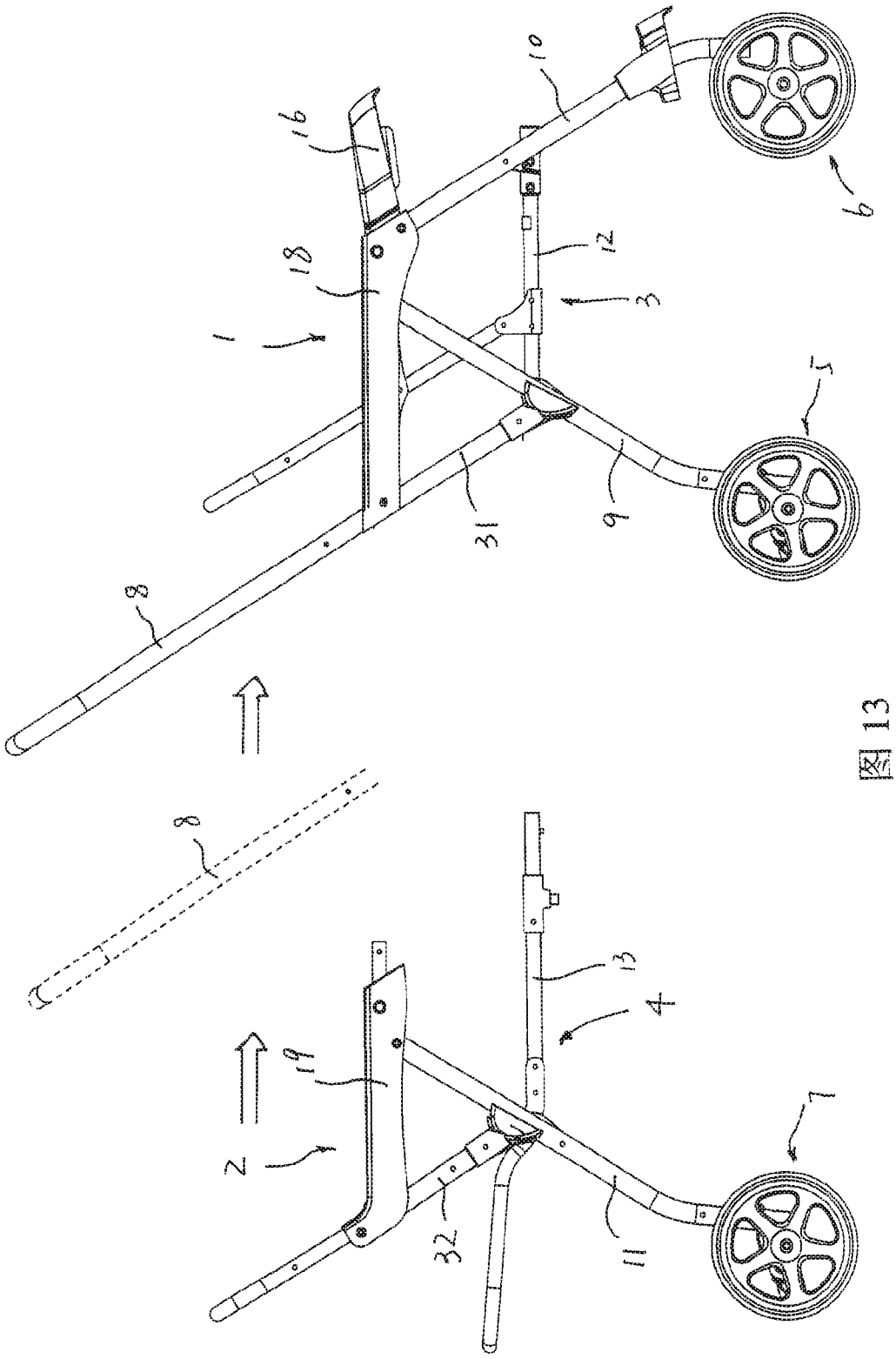


图 13

Espacenet

Bibliographic data: CN2784272 (Y) — 2006-05-31

Go-cart for children

Inventor(s): SHEN HAIDONG [CN] ± (HAIDONG SHEN)

Applicant(s): GOODBABY CHILD PRODUCTS CO LTD [CN] ± (GOODBABY CHILD PRODUCTS CO., LTD)

Classification: **- international:** ***B62B7/00; B62B9/00***
- cooperative:

Application number: CN2005269647U 20050104

Priority number(s): CN2005269647U 20050104

Abstract of CN2784272 (Y)

The utility model relates to a go-cart for children, which comprises a frame of the go-cart, front wheels arranged at the bottom-front part of the frame of the go-cart, rear wheels arranged at the bottom-rear part of the frame of the go-cart, and a first seat arranged on the frame of the go-cart, wherein the first seat is rotationally connected with the frame of the go-cart; in addition, rotary axis is almost vertical to the horizontal surface; a locking device for position is arranged between the first seat and the frame of the go-cart. When the direction of the first seat is needed to change, the locking device for position is unlocked and the first seat is rotated so that the direction of the first seat corresponding the frame of the go-cart is changed; then the first seat and the frame of the go-cart are locked again, and the direction of the first seat can be changed.

[19] 中华人民共和国国家知识产权局

[51] Int. Cl.
B62B 7/00 (2006.01)
B62B 9/00 (2006.01)

[12] 实用新型专利说明书

专利号 ZL 200520069647.6

[45] 授权公告日 2006 年 5 月 31 日

[11] 授权公告号 CN 2784272Y

[22] 申请日 2005.1.4

[21] 申请号 200520069647.6

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[74] 专利代理机构 苏州创元专利商标事务所有限公司

代理人 孙仿卫

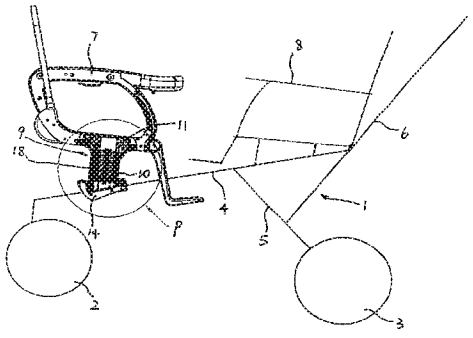
权利要求书 1 页 说明书 3 页 附图 5 页

[54] 实用新型名称

儿童推车

[57] 摘要

一种儿童推车，包括推车车架、设置在推车车架的底前部的前轮、设置在推车车架的底后部的后轮、设置在推车车架上的第一座位，第一座位与推车车架相转动连接，并且转动的轴心线与水平面大致上相垂直，第一座位与推车车架之间具有位置锁定装置。当第一座位需要换向时，只需将位置锁定装置解锁，转动第一座位，使得第一座位相对推车车架换向，再重新将第一座位与推车车架锁定，便实现第一座位的换向。



1、一种儿童推车，包括推车车架[1]、设置在所述的推车车架[1]的底前部的前轮[2]、设置在所述的推车车架[1]的底后部的后轮[3]、设置在所述的推车车架[1]上的第一座位[7]，其特征在于：所述的第一座位[7]与所述的推车车架[1]相转动连接，并且转动的轴心线与水平面大致上相垂直，所述的第一座位[7]与所述的推车车架[1]之间具有位置锁定装置[9]。

2、根据权利要求 1 所述的儿童推车，其特征在于：所述的推车车架[1]上固定设置有固定座[10]，所述的第一座位[7]上设有底盘[11]，所述的固定座[10]与所述的底盘[11]之间相转动连接。

3、根据权利要求 2 所述的儿童推车，其特征在于：所述的位置锁定装置[9]包括滑动地设置在所述的底盘[11]或所述的固定座[10]的一个上的插销[13]、开设在所述的底盘[11]或所述的固定座[10]的另一个上的至少两个插孔[12]，所述的插销[13]具有两个工作位置，第一工作位置是锁定工作位置，所述的插销[13]插在所述的插孔[12]中，第二工作位置是解锁工作位置，所述的插销[13]脱离所述的插孔[12]。

4、根据权利要求 3 所述的儿童推车，其特征在于：所述的位置锁定装置[9]还包括操作件[14]，所述的操作件[14]与所述的插销[13]相连接。

5、根据权利要求 3 所述的儿童推车，其特征在于：所述的固定座[10]上开有导向槽[15]，所述的插销[13]滑动地插在所述的导向槽[15]内。

6、根据权利要求 5 所述的儿童推车，其特征在于：所述的插销[13]与所述的固定座[10]之间设置有弹簧[15]。

7、根据权利要求 2 所述的儿童推车，其特征在于：所述的第一座位[7]的座基架与所述的底盘[11]可拆卸地连接。

8、根据权利要求 2 所述的儿童推车，其特征在于：所述的推车车架[1]包括前轮支架[4]、与所述的前轮支架[4]的后端部相转动连接的推把[6]、与所述的推把[6]的下端部相转动连接的后轮支架[5]，所述的后轮支架[5]的前端部与所述的前轮支架[4]相转动连接。

9、根据权利要求 8 所述的儿童推车，其特征在于：所述的固定座[10]固定设置在所述的前轮支架[4]上。

儿童推车

技术领域

本实用新型涉及一种儿童推车。

背景技术

现有技术中，为了实现儿童推车上的座位相对推车车架换向（换向是指座位上的儿童相对于推车的大人呈面对面的位置或背对面的位置），儿童推车上的座位可拆卸的设置在所述的推车车架上，需要换向时，须先将座位从推车车架上拆卸下来，将所述的座位换个方向后再安装到所述的推车车架上，假如所述的座位上坐着小孩，还有必要将小孩抱下，再将座位换向，使得操作很不方便。

发明内容

本实用新型目的是提供一种儿童推车，其座位的换向可以较方便的实现。

为达到上述目的，本实用新型采用的技术方案是：一种儿童推车，包括推车车架、设置在所述的推车车架的底前部的前轮、设置在所述的推车车架的底后部的后轮、设置在所述的推车车架上的第一座位，所述的第一座位与所述的推车车架相转动连接，并且转动的轴心线与水平面大致上相垂直，所述的第一座位与所述的推车车架之间具有位置锁定装置，在位置锁定装置处于解锁状态下，所述的第一座位可以相对于推车车架转动，可以调整座位，使得座位上的儿童相对于推车的大人呈面对面的状态，或呈背对面的状态。在位置锁定装置处于锁定状态下，所述的第一座位相对于推车车架呈位置相对固定的状态，第一座位不能相对于推车车架转动。

由于上述技术方案运用，本实用新型与现有技术相比具有下列优点：由于所述的第一座位与所述的推车车架之间相转动连接，并且所述的第一座位与所述的推车车架之间具有位置锁定装置，因此当第一座位需要换向时，只需将所述的位置锁定装置解锁，转动所述的第一座位，使得第一座位相对所述的推车车架换向，再重新将所述的第一座位与所述的推车车架锁定，便实现所述的第一座位的换向。

附图说明

附图 1 为本实用新型的座位正常使用时的主视图；

附图 2 为本实用新型的座位换向过程中的主视图；

附图 3 为本实用新型的座位换向后的主视图；

附图 4 为附图 1 的 I 处放大图；

附图 5 为附图 2 的 K 处放大图；

附图 6 为附图 3 的 P 处放大图；

其中：1、推车车架；2、前轮；3、后轮；4、前轮支架；5、后轮支架；6、推把；7、第一座位；8、第二座位；9、位置锁定装置；10、固定座；11、底盘；12、插孔；13、插销；14、操作件；15、弹簧；16、导向槽；17、第二转动轴；18、第一转动轴；

具体实施方式

参见附图 1-附图 3，一种可以双人坐的儿童推车，包括推车车架 1、设置在所述的推车车架 1 的底前部的前轮 2、设置在所述的推车车架 1 的底后部的后轮 3、设置在所述的推车车架 1 上的第一座位 7、设置在所述的推车车架 1 上的第二座位 8。所述的推车车架 1 包括前轮支架 4、与所述的前轮支架 4 的后端部相转动连接的推把 6、与所述的推把 6 的下端部相转动连接的后轮支架 5，所述的后轮支架 5 的前端部与所述的前轮支架 4 相转动连接，所述的第一座位 7 与所述的推车车架 1 相转动连接，并且转动的轴心线与水平面大致上相垂直。所述的推车车架 1 上固定设置有固定座 10，所述的固定座 10 固定设置在所述的前轮支架 4 上，所述的第一座位 7 上设有底盘 11，所述的第一座位 7 的座基架与所述的底盘 11 可拆卸地连接，所述的固定座 10 与所述的底盘 11 之间通过第一转动轴 18 相转动连接，所述的第一座位 7 与所述的推车车架 1 之间具有位置锁定装置 9。

所述的位置锁定装置 9 包括滑动地设置在所述的底盘 11 或所述的固定座 10 的一个上的插销 13、开设在所述的底盘 11 或所述的固定座 10 的另一个上的至少两个插孔 12。

如附图 4-附图 6 所示，所述的固定座 10 上开有导向槽 15，所述的插销 13 滑动地插在所述的导向槽 15 内，在所述的底盘 11 上开有两个插孔 12，该两个插孔 12 分别用于把第一座位 7 锁定于座位朝前或座位朝后的位置。所述的插销 13 具有两个工作位置，第一工作位置是锁定工作位置，所述的插销 13 插在所述的插孔 12 中，第二工作位置是解锁工作位置，所述的插销 13 脱离所述的插孔 12。所述的位置锁定装置 9 还包括操作件 14，所述的操作件 14 的一端部与所述的固定座 10 通过第二转动轴 17 相转动连接，所述的操作件 14 与

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所述的插销 13 相连接，按动所述的操作件 14，使得所述的插销 13 处于第二工作位置，所述的插销 13 脱离所述的插孔 12。

所述的插销 13 与所述的固定座 10 之间设置有弹簧 15，当所述的插销 13 处于第一工作位置时，弹簧 15 的作用力使得所述的插销 13 稳定地插在所述的插孔 12 中。

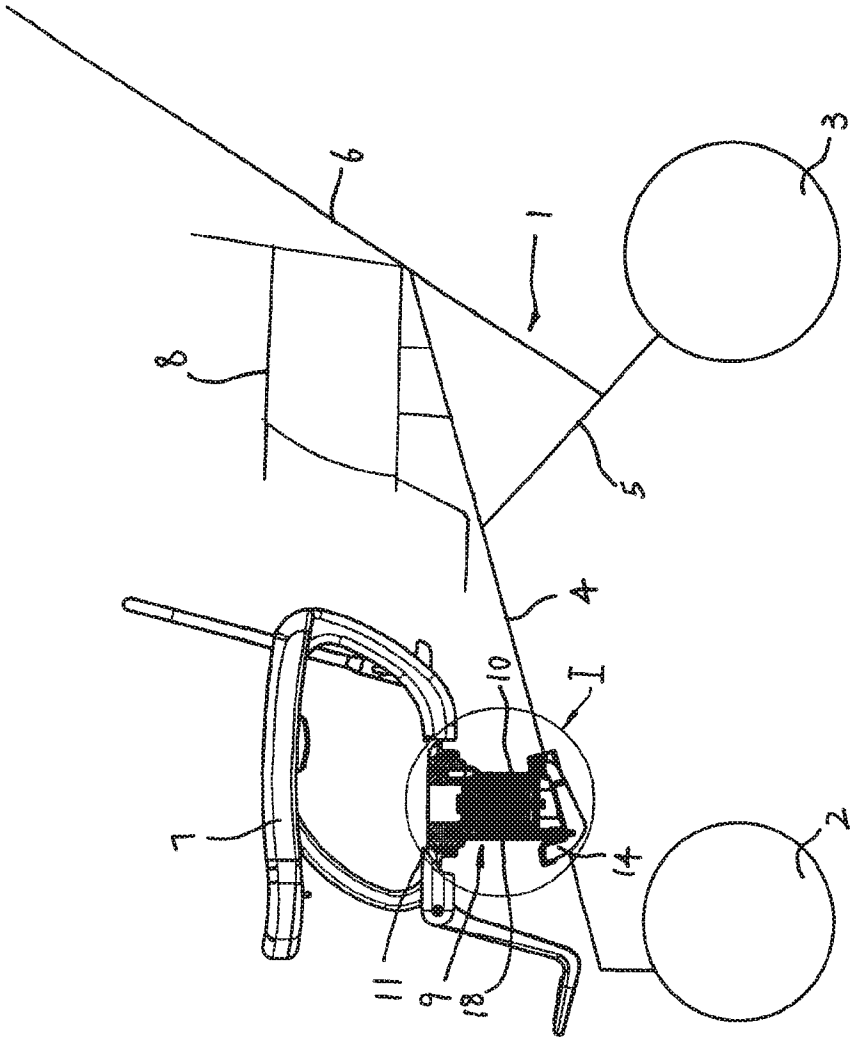


图 1

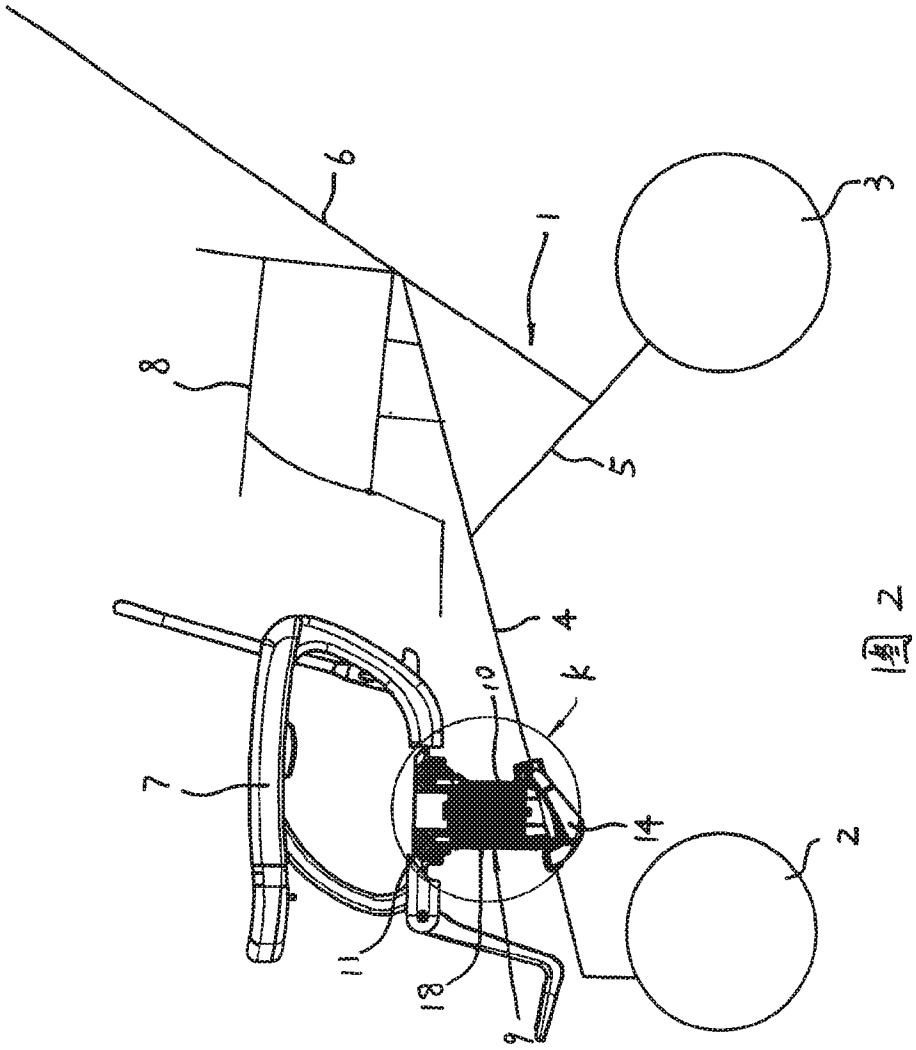


图 2

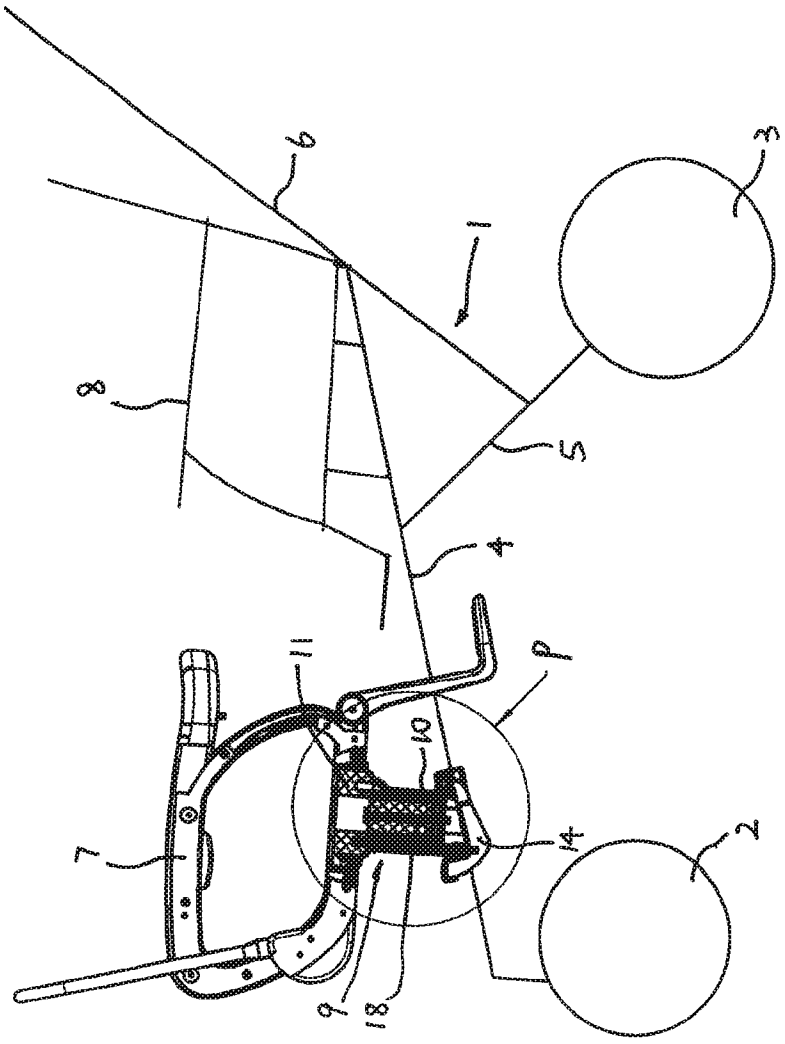


图 3

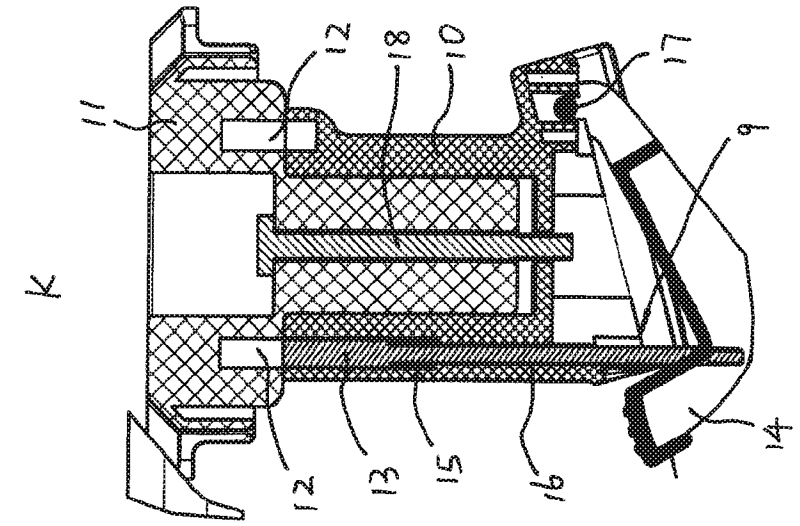


图 5

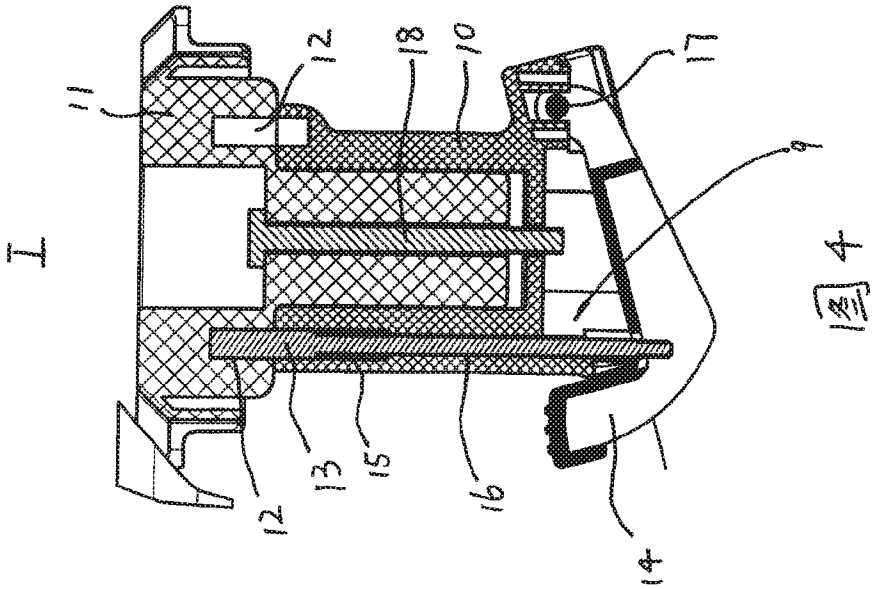


图 4

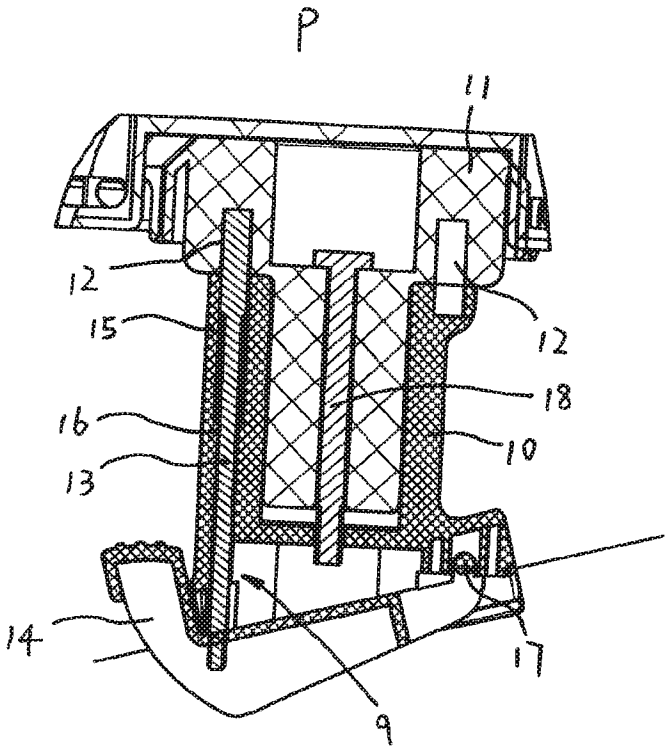


图 6

Espacenet

Bibliographic data: CN2918181 (Y) — 2007-07-04

Carriage for children with front and rear seats

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Classification: **- international:** ***B62B7/06***
- cooperative:

Application number: CN2006253300U 20060105

Priority number(s): CN2006253300U 20060105

Abstract of CN2918181 (Y)

The utility model discloses a double-child perambulator with a front seat and a rear seat, which comprises a frame of the perambulator, a front wheel assembly, a rear wheel assembly and a seat assembly. The frame comprises two side brackets, which are arranged at the two sides and connected with each other by a plurality of connecting rods; the side bracket comprises a supporting rod of the front wheel, a supporting rod of the rear wheel, a front arm lever and a rear arm lever respectively; the supporting rod of the front wheel is connected with a front wheel axle, while the supporting rod of the rear wheel is connected with a rear wheel axle; the rear end of the supporting rod of the front wheel is hinged with the front end of the supporting rod of the rear wheel mutually, and an arc with an upward opening is formed; the front end of the front arm lever is hinged in the middle of the supporting rod of the front wheel; the rear end of the front arm lever is hinged with the front end of the rear arm lever mutually, and an arc with an downward opening is formed; the middle part of the supporting rod of the rear wheel is hinged with the middle part of the rear arm lever; a kink four-bar linkage mechanism is formed by the side brackets by the supporting rod of the front wheel, the supporting rod of the rear wheel, the front arm lever and the rear arm lever hinged with each other; a transverse supporting rod is arranged between the two supporting rods of the rear wheel of the two side brackets, and a buckle mechanism is provided in the middle of the transverse supporting rod.

[19] 中华人民共和国国家知识产权局

[51] Int. Cl.
B62B 7/06 (2006.01)

[12] 实用新型专利说明书

专利号 ZL 200620053300.7

[45] 授权公告日 2007 年 7 月 4 日

[11] 授权公告号 CN 2918181Y

[22] 申请日 2006.1.5

[21] 申请号 200620053300.7

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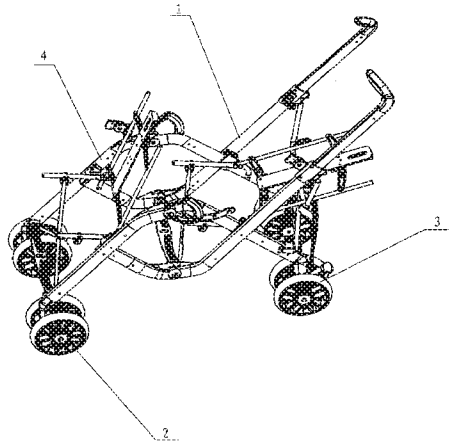
权利要求书 3 页 说明书 8 页 附图 7 页

[54] 实用新型名称

一种前后座双人儿童推车

[57] 摘要

本实用新型公开了一种前后座双人儿童推车，包括一推车车架、前轮组件、后轮组件及座椅组件；车架包括对称设置在两侧、并通过若干连接杆相连接的两侧支架；该侧支架，分别包括一前轮支杆、一后轮支杆、一前臂杆、一后臂杆；前轮支杆与前轮轴相连接，后轮支杆与后轮轴相连接；前轮支杆的后端部与后轮支杆的前端部相互铰接，形成一开口向上的拱起；前臂杆的前端部，铰接在前轮支杆的中部；前臂杆后端部与后臂杆的前端部相互铰接，形成一开口向下的拱起；后轮支杆的中部与后臂杆的中部相铰接；相互铰接的前轮支杆、后轮支杆、前臂杆、后臂杆，使侧支架形成铰链四连杆机构；侧支架的两后轮支杆之间，还设有一横向支撑杆，该支撑杆中部设有一卡扣机构。



1、一种前后座双人儿童推车，包括一推车车架、设置在所述推车车架底前部的前轮组件，设置在所述的推车车架的底后部的后轮组件，及设置在所述车架上的两座椅组件，其特征在于：所述的推车车架包括对称设置在两侧、并通过若干连接杆相连接的两侧支架；所述的侧支架，分别包括一前轮支杆、一后轮支杆、一前臂杆、一后臂杆；所述的前轮支杆的前端部与前轮轴相连接，所述后轮支杆的后端部与后轮轴相连接；所述的前轮支杆的后端部与后轮支杆的前端部相互铰接，铰接后形成一开口向上的拱起；所述前臂杆的前端部，铰接在前轮支杆的中部；所述前臂杆后端部与后臂杆的前端部相互铰接，铰接后形成一开口向下的拱起；所述后轮支杆的中部与所述后臂杆的中部相铰接；所述相互铰接的前轮支杆、后轮支杆、前臂杆、后臂杆，共同使侧支架形成一铰链四连杆机构；所述侧支架的两后轮支杆之间，还设有一横向支撑杆，该支撑杆的两端分别铰接在两后轮支杆上，其中部设有一用来使该支撑杆保持平直或弯折状态的卡扣机构。

2、根据权利要求 1 所述的儿童推车，其特征在于：所述的侧支架的后臂杆后段，还连接有一手把杆；所述的手把杆的下段可以从所述的后臂杆后段中插进或拉出；所述后臂杆的上端部，还设有一控制手把杆进出的伸缩卡位机构；所述手把杆的上端，还设有一把手；所述的手把杆，还铰接有一对呈弯折形、中部相互交叉的连接杆；所述弯折形连接杆的一端，铰接在所述的手把杆上，其另一端铰接在另一侧支架的后轮支架上；所述的两个弯折形连接杆的中段交叉部相互铰接。

3、根据权利要求 1 或 2 所述的儿童推车，其特征在于：所述的前轮支杆、后轮支杆、前臂杆、后臂杆、手把杆，均是管状构件，其各自的两端部，均设有一连接件，并通过该连接件与其他构件相互连接。

4、根据权利要求 1 或 2 或 3 所述的儿童推车，其特征在于：所述的两侧支架的前轮支杆之间，还设有一中部可折叠的前脚踏板；所述的两侧支架的前臂杆之间，也设有一中部可折叠的后脚踏板。

5、根据权利要求 1 或 2 或 3 所述的儿童推车，其特征在于：所述侧支架前轮支杆的中段，还铰接有一前座水平连杆，该连杆的后端通过一连接板铰接在所述的前臂杆上；所述后臂杆与后轮支杆的铰接轴上，还铰接有一后座水平连杆，该连杆的后段相下弯折，其端部铰接在后轮支杆上；所述两侧支架之间，其前部及后部还分别设有一对呈 X 形交叉、且其交叉部相铰接的斜向交叉连杆；所述设在前部的两斜向交叉连杆，其上端部分别与所述前座水平连杆相铰接，其下端部分别与所述前轮支杆相铰接；所述设在后部的两斜向交叉连杆，其上端部分别与所述后座水平连杆相铰接，其下端部分别铰接在所述前臂杆与后臂杆的铰接轴上。

6、根据权利要求 5 所述的儿童推车，其特征在于：所述前座水平连杆的后段，分别铰接有一向上的前座背靠立杆；所述后座水平连杆的后段，分别铰接有一向上的后座背靠立杆；所述两前座背靠立杆之间，以及两后座背靠立杆之间，还分别设有一座位无级调节装置，该装置通过水平对称设置的若干背靠连接板，对称地铰接在所述的背靠立杆上。

7、根据权利要求 6 所述的儿童推车，其特征在于：所述座位无级调节装置，包括一长形本体、设在所述本体上并可上下滑动的卡位机构及若干条钢丝；所述的钢丝一端固定在所述本体的上端，中部穿过卡位机

构，下端固定在所述的车架上；所述的卡位机构，通过拉紧或松弛所述的钢丝，可以不间断地无级调节或改变本体相对于所述车架的位置。

8、根据权利要求 1 或 2 或 3 所述的儿童推车，其特征在于：所述的前轮支架，其上端部连接件的内侧边，与所述后轮支架的外侧边相互铰接，两前轮支架之间距离，大于两后轮支架之间的距离，使前后轮组件的位置错开。

9、根据权利要求 1 或 2 或 3 所述的儿童推车，其特征在于：所述前轮支杆、后轮支杆的铰接轴上，还设有一环形拉手，该拉手的一侧还开有一弧形槽，所述槽开口的一端铰接有一卡钩；所述后轮支架与后臂杆的铰接轴上，设有一与所述卡钩配合使用、设有一卡钩连接开口的定位构件；当车架处于使用状态时，该卡钩与该定位构件脱开；当车架处于折叠收拢状态时，该卡钩与该定位构件结合。

10、根据权利要求 1 或 2 或 3 所述的儿童推车，其特征在于：所述的前座水平连杆、前座背靠立杆，及铰接在所述前座背靠立杆上的无级调节装置上，还设有一前座椅；所述的后座水平连杆、后座背靠立杆，及铰接在所述后座背靠立杆上的无级调节装置上，设有一后座椅；所述的座椅可以是普通座椅或汽车座椅之一。

一种前后座双人儿童推车

技术领域

本实用新型涉及儿童推车，特别涉及一种可实现三维伸缩折叠、且折叠后仍然可以推行的前后座双人儿童推车。

背景技术

现有技术中的儿童推车，一般包括推车车架、设置在所述的推车车架的底前部的前轮、设置在所述的推车车架的底后部的后轮，所述的推车车架包括位于两侧的侧支架，所述的侧支架包括前轮支架、下端部与所述的前轮支架的上端部相转动连接的推把、上端部与所述的推把相转动连接的后轮支架，通常推车车架包括座连杆等，所述的座连杆的前端部与所述的前轮支架相转动连接，所述的座连杆的后端部与所述的后轮支架相转动连接，当所述的儿童推车折叠时，前轮支架相对后轮支架折叠，而座连杆限制了前轮支架相对后轮支架折叠的位置从而不能使前轮支架相对后轮支架在折叠后收缩的较小，且车架结构复杂，组装繁琐；现有的儿童推车，在车宽及车高方向也无法进行收缩折叠，且折叠后推车无法直立推行。因而现有技术的儿童推车结构复杂，折叠后的体积依然较大，制造及运输成本较高，使用亦部方便。

实用新型内容

本实用新型目的是提供一种可以实现三维折叠、结构简单、使用方便、折叠后体积更小、且折叠后推车仍可以直立推行的前后座双人儿童推车。

本实用新型实现上述目的所采用的技术方案是：一种前后座双人儿童推车，包括一推车车架、设置在所述推车车架底前部的前轮组件，设置在所述的推车车架的底后部的后轮组件，及设置在所述车架上的两座椅组件，其特征在于：所述的推车车架包括对称设置在两侧、并通过若干连接杆相连接的两侧支架；所述的侧支架，分别包括一前轮支杆、一后轮支杆、一前臂杆、一后臂杆；所述的前轮支杆的前端部与前轮轴相连接，所述后轮支杆的后端部与后轮轴相连接；所述的前轮支杆的后端部与后轮支杆的前端部相互铰接，铰接后形成一开口向上的拱起；所述前臂杆的前端部，铰接在前轮支杆的中部；所述前臂杆后端部与后臂杆的前端部相互铰接，铰接后形成一开口向下的拱起；所述后轮支杆的中部与所述后臂杆的中部相铰接；所述相互铰接的前轮支杆、后轮支杆、前臂杆、后臂杆，共同使侧支架形成一铰链四连杆机构；所述侧支架的两后轮支杆之间，还设有一横向支撑杆，该支撑杆的两端分别铰接在两后轮支杆上，其中部设有一用来使该支撑杆保持平直或弯折状态的卡扣机构；所述的支撑杆是由中部相互铰接的两段杆体组成，所述的卡扣机构是设置在该支撑杆中部的铰接处，包括一舌杆及复位弹簧。

所述的侧支架的后臂杆后段，还连接有一手把杆；所述的手把杆的下段可以从所述的后臂杆后段中插进或拉出；所述后臂杆的上端部，还设有一控制手把杆进出的伸缩卡位机构；所述手把杆的上端，还设有一把手；所述的手把杆，还铰接有一对呈弯折形、中部相互交叉的连接杆；所述弯折形连接杆的一端，铰接在所述的手把杆上，其另一端铰接在另一侧支架的后轮支架上；所述的两个形连接杆的中段交叉部相互铰接。

所述的前轮支杆、后轮支杆、前臂杆、后臂杆、手把杆，均是管状构件，其各自的两端部，均设有一连接件，并通过该连接件与其他构件相互连接。具体地，设置在前轮支杆与后轮支杆之间的连接件是一轴节；设置在前臂杆与后臂杆之间的连接件是一轴节；设置在后臂杆与手把杆之间的连接件是一伸缩卡扣机构。根据具体需求，上述构件可以采用铝合金材料制成，也可以选用其他材料，如不锈钢材料等。

所述的两侧支架的前轮支杆之间，还设有一中部可折叠的前脚踏板；所述的两侧支架的前臂杆之间，也设有一中部可折叠的后脚踏板。

所述侧支架前轮支杆的中段，还铰接有一前座水平连杆，该连杆的后端通过一连接板铰接在所述的前臂杆上；所述后臂杆与后轮支杆的铰接轴上，还铰接有一后座水平连杆，该连杆的后段相下弯折，其端部铰接在后轮支杆上；所述两侧支架之间，其前部及后部还分别设有一对呈X形交叉、且其交叉部相铰接的斜向交叉连杆；所述设在前部的两斜向交叉连杆，其上端部分别与所述前座水平连杆相铰接，其下端部分别与所述前轮支杆相铰接；所述设在后部的两斜向交叉连杆，其上端部分别与所述后座水平连杆相铰接，其下端部分别铰接在所述前臂杆与后臂杆的铰接轴上。

所述前座水平连杆的后段，分别铰接有一向上的前座背靠立杆；所述后座水平连杆的后段，分别铰接有一向上的后座背靠立杆；所述两前座背靠立杆之间，以及两后座背靠立杆之间，还分别设有一座位无级调节装置，该装置通过水平对称设置的若干背靠连接板，对称地铰接在所述的背靠立杆上。

所述的座位无级调节装置，包括一长形本体、设在所述本体上并可

上下滑动的卡位机构及若干条钢丝；所述的钢丝一端固定在所述本体的上端，中部穿过卡位机构，下端固定在所述的车架上；所述的卡位机构，通过拉紧或松弛所述的钢丝，可以不间断地无级调节或改变本体相对于所述车架的位置。

所述的前轮支架，其上端部连接件的内侧边，与所述后轮支架的外侧边相互铰接，两前轮支架之间距离，大于两后轮支架之间的距离，使前后轮组件的位置错开。

所述前轮支杆、后轮支杆的铰接轴上，还设有一环形拉手，该拉手的一侧还开有一弧形槽，所述槽开口的一端铰接有一卡钩；所述后轮支架与后臂杆的铰接轴上，设有一与所述卡钩配合使用、设有一卡钩连接开口的定位构件；当车架处于使用状态时，该卡钩与该定位构件脱开；当车架处于折叠收拢状态时，该卡钩与该定位构件结合。

所述的前座水平连杆、前座背靠立杆，及铰接在所述前座背靠立杆上的无级调节装置上，还设有一前座椅；所述的后座水平连杆、后座背靠立杆，及铰接在所述后座背靠立杆上的无级调节装置上，设有一后座椅；所述的座椅可以是普通座椅或汽车座椅之一。

本实用新型还可以根据实际需要，在各连接杆等适当的部件上，或相关部件之间，设置若干帘布，及其他辅助或装饰性部件、物品。

本实用新型与现有技术相比，具有下列优点：由于在所述的前轮支杆、后轮支杆、前臂杆、后臂杆使侧支架形成一铰链四连杆结构，可以使车架实现车长方向的折叠伸缩；由于把手杆可以伸缩进出后臂杆内，车架折叠后可将其缩进后臂杆内，降低折叠后的车架高度；由于两侧支架之间的各构件均可以其中心铰接轴或中点进行横向折叠，故车架可

以实现车身的车宽方向的伸缩折叠；由于前后轮组件的位置相互错开，车架折叠后前后轮组仍然可以继续工作，因而使车身可以继续直立推动行走。如上所述，本实用新型实现了对推车的三维伸缩折叠，不仅减小了儿童推车折叠后的体积，降低了运输成本，而且结构简单，折叠、伸展等较为便捷，折叠后仍然可以推行，使用非常方便。

附图说明

图 1 为本实用新型实施例车架的展开使用状态立体结构示意图；

图 2 为图 1 的主视图；

图 3 为图 1 的左视图；

图 4 为图 1 的右视图；

图 5 为图 1 的俯视图；

图 6 为图 1 中背靠的立体结构示意图；

图 7 为本实用新型实施例车架的折叠状态立体结构示意图；

下面结合附图及实施例对本实用新型进一步说明。

具体实施方式

实施例： 采用本实用新型技术方案，构造一款铝合金管状构件为车架主体的一种前后座双人儿童推车。

参见图 1～图 7，一种前后座双人儿童推车，包括一推车车架 1、设置在所述推车车架 1 底前部的前轮组件 2，该组件包括前车轮 2a 及前车轮轴 2b；设置在所述的推车车架 1 的底后部的后轮组件 3，该组件包括后车轮 3a 及后车轮轴 3b，及设置在所述车架 1 上的两座椅组件，包括

前座椅组件及后座椅组件；所述的推车车架 1 包括对称设置在两侧、并通过若干连接杆相连接的两侧支架 4，分别是左侧支架与右侧支架；所述的侧支架 4，分别包括一前轮支杆 5、一后轮支杆 6、一前臂杆 7、一后臂杆 8；所述的前轮支杆 5 的前端部与前轮轴 2b 相连接，所述后轮支杆 6 的后端部与后轮轴 3b 相连接；所述的前轮支杆 5 的后端部与后轮支杆 6 的前端部相互铰接，铰接后形成一开口向上的拱起；所述前臂杆 7 的前端部，铰接在前轮支杆 5 的中部；所述前臂杆 7 后端部与后臂杆 7 的前端部相互铰接，铰接后形成一开口向下的拱起；所述后轮支杆 6 的中部与所述后臂杆 8 的中部相铰接；所述相互铰接的前轮支杆 5、后轮支杆 6、前臂杆 7、后臂杆 8，共同使侧支架 4 形成一铰链四连杆机构；所述侧支架 4 的两后轮支杆 6 之间，还设有一横向支撑杆 9，该支撑杆的两端分别铰接在两后轮支杆 6 上，其中部设有一用来使该支撑杆 9 保持平直或弯折状态的卡扣机构 9a；所述的支撑杆 9a 是由中部相互铰接的两段杆体组成，所述的卡扣机构是设置在该支撑杆中部的铰接处，包括一舌杆及复位弹簧。

所述的侧支架 4 的后臂杆 8 后段，还连接有一手把杆 10；所述的手把杆 10 的下段可以从所述的后臂杆 8 后段中插进或拉出；所述后臂杆 8 的上端部，还设有一控制手把杆 10 进出的伸缩卡位机构 11；所述手把杆 10 的上端，还设有一把手 12；所述的手把杆 10，还铰接有一对呈弯折形、中部相互交叉的连接杆 13；所述弯折形连接杆 13 的一端，铰接在所述的手把杆 10 上，其另一端铰接在另一侧支架 4 的后轮支杆 6 上；所述的两个弯折形连接杆 13 的中段交叉部相互铰接。

所述的前轮支杆 5、后轮支杆 6、前臂杆 7、后臂杆 8、手把杆 10，

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均是铝合金管状构件，其各自的两端部，均设有一连接件，并通过该连接件与其他构件相互连接；具体地，设置在前轮支杆 5 与后轮支杆 6 之间的连接件是轴节 14；设置在前臂杆 7 与后臂杆 8 之间的连接件是轴节 15；设置在后臂杆 8 与手把杆 10 之间的连接件是伸缩卡扣机构 11。根据具体需求，也可以选用其他材料，如不锈钢材料来制造前轮支杆 5、后轮支杆 6、前臂杆 7、后臂杆 8、手把杆 10 等构件及其连接件。

所述的两侧支架 4 的前轮支杆 5 之间，还设有一中部可折叠的前脚踏板 16；所述的两侧支架 4 的前臂杆 7 之间，也设有一中部可折叠的后脚踏板 17。

所述侧支架前轮支杆 5 的中段，还铰接有一前座水平连杆 18，该连杆 18 的后端通过一连接板 19 铰接在所述的前臂杆 7 上；所述后臂杆 8 与后轮支杆 6 的铰接轴上，还铰接有一后座水平连杆 20，该连杆 20 的后段相下弯折，其端部铰接在后轮支杆 6 上；所述两侧支架 4 之间，其前部设有一对呈 X 形交叉、且其交叉部相铰接的斜向交叉连杆 21，其后部设有一对呈 X 形交叉、且其交叉部相铰接的斜向交叉连杆 22；所述设在前部的两斜向交叉连杆 21，其上端部分别与所述前座水平连杆 18 相铰接，其下端部分别与所述前轮支杆 5 相铰接；所述设在后部的两斜向交叉连杆 22，其上端部分别与所述后座水平连杆 20 相铰接，其下端部分别铰接在所述前臂杆 7 与后臂杆 8 的铰接轴上。

所述前座水平连杆 18 的后段，分别铰接有一向上的前座背靠立杆 23；所述后座水平连杆 20 的后段，分别铰接有一向上的后座背靠立杆 24；所述两前座背靠立杆 23 之间，以及两后座背靠立杆 24 之间，还分别设有一座位无级调节装置 25，该装置通过水平对称设置的两对背靠连

接板 26，对称地铰接在所述的背靠立杆 23 及 24 上。

所述的座位无级调节装置 25，包括一长形本体 27、设在所述本体上 26 并可上下滑动的卡位机构 28 及若干条钢丝；所述的钢丝一端固定在所述本体 27 的上端，中部穿过卡位机构 28，下端固定在所述的车架 1 上；所述的卡位机构 28，通过拉紧或松弛所述的钢丝，可以不间断地无级调节或改变本体 27 相对于所述车架 1 的位置。

所述的前轮支架 5，其上端部连接件轴节 14 的内侧边，与所述后轮支架 6 的外侧边相互铰接，两前轮支架 5 之间距离，大于两后轮支架 6 之间的距离，使前轮组件 2 与后轮组件 3 的位置错开。

所述前轮支杆 5、后轮支杆 6 的铰接轴 14 上，还设有一环形拉手 29，该拉手的一侧还开有一弧形槽 30，所述槽开口的一端铰接有一卡钩 31；所述后轮支架 6 与后臂杆 8 的铰接轴上，设有一与所述卡钩 31 配合使用、设有一卡钩连接开口的定位构件 32；当车架 1 处于使用状态时，该卡钩 31 与该定位构件 32 脱开；当车架 1 处于折叠收拢状态时，该卡钩 31 与该定位构件 32 结合。

所述的前座水平连杆 18、前座背靠立杆 23，及铰接在所述前座背靠立杆 23 上的无级调节装置 25 上，还设有一前座椅；所述的后座水平连杆 20、后座背靠立杆 24，及铰接在所述后座背靠立杆 24 上的无级调节装置 25 上，设有一后座椅；所述的座椅可以是普通座椅或汽车座椅之一。本实用新型还可以根据实际需要，在各连接杆等适当的部件上，或相关部件之间，设置若干帘布，及其他辅助或装饰性部件、物品。

采用本实用新型上述实施例所述相同或相似的结构，所得到的其他前后座双人儿童推车，均在本实用新型保护范围之内。

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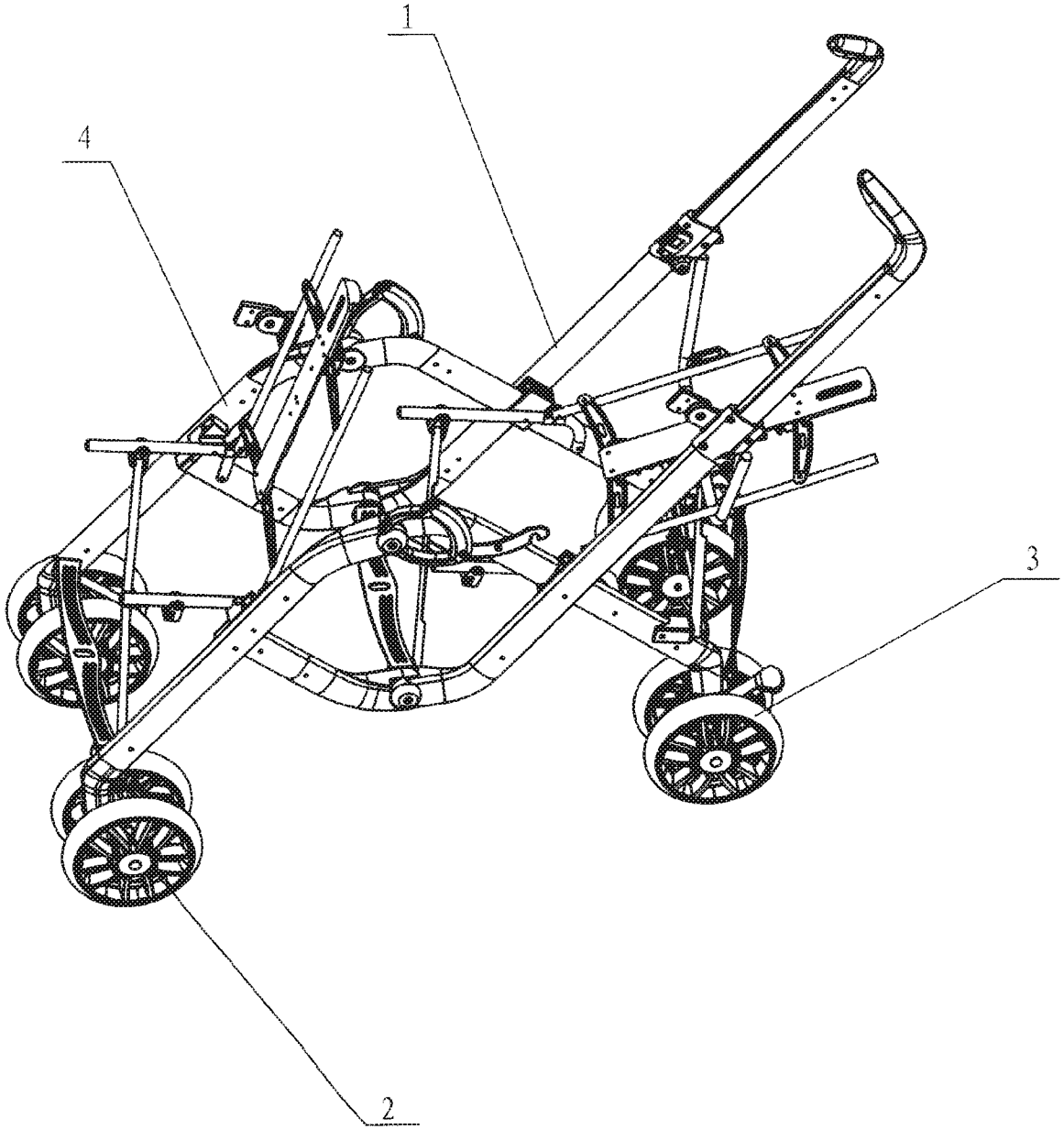


图 1

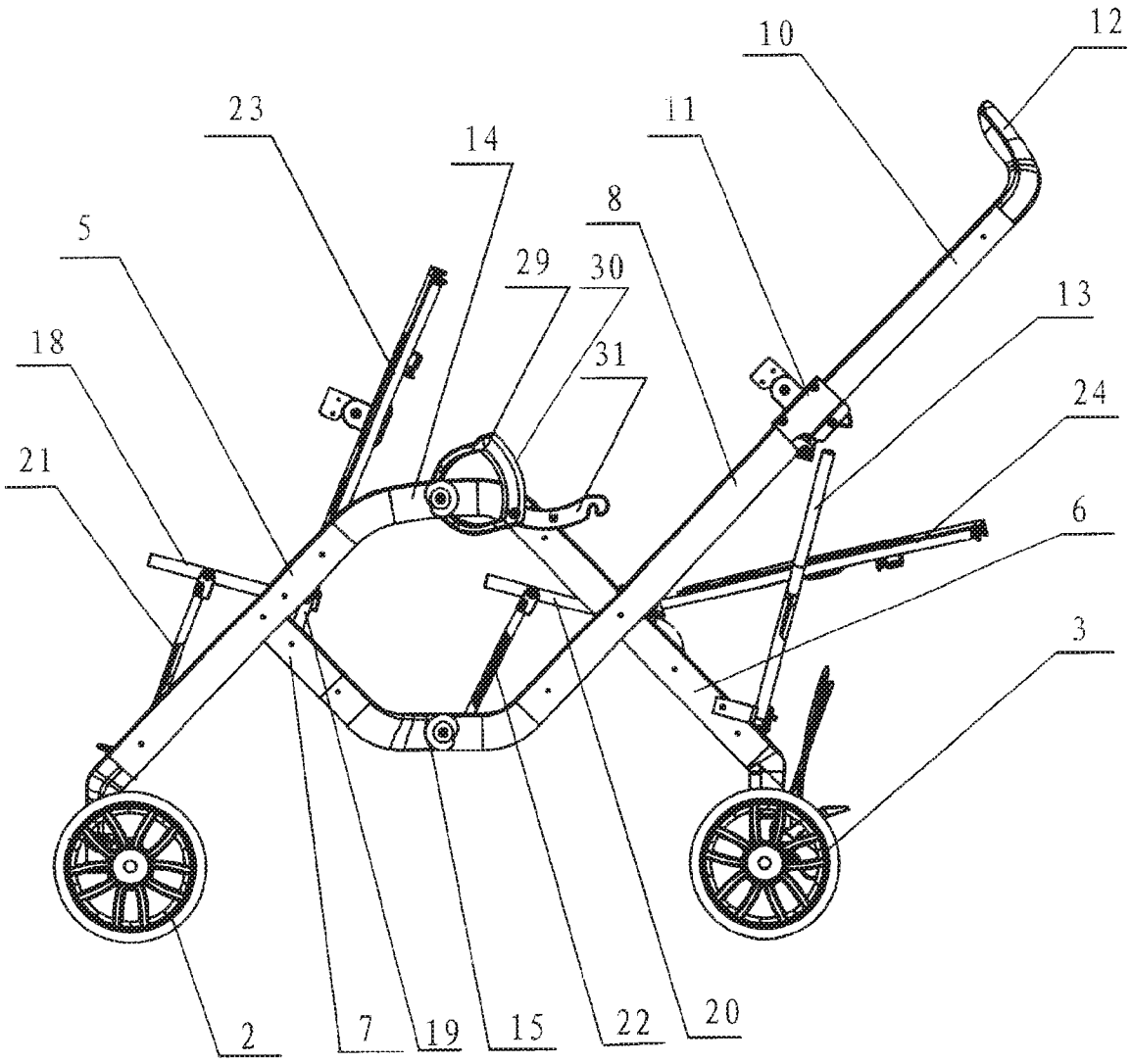


图 2

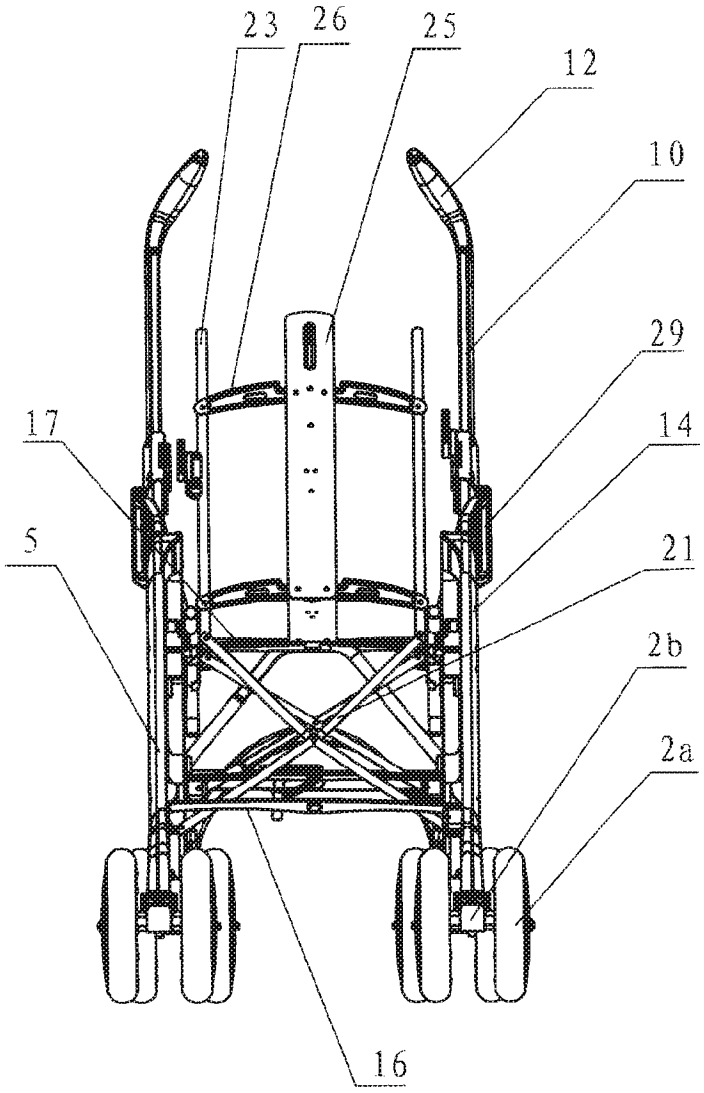


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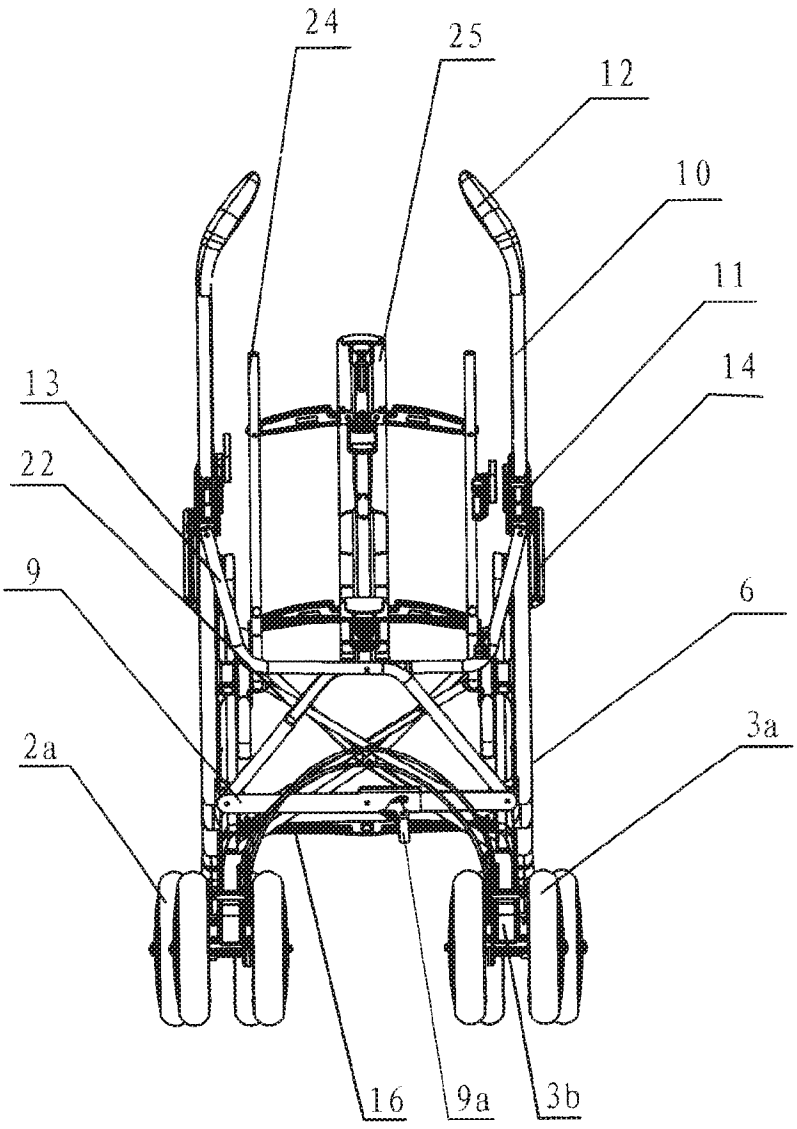


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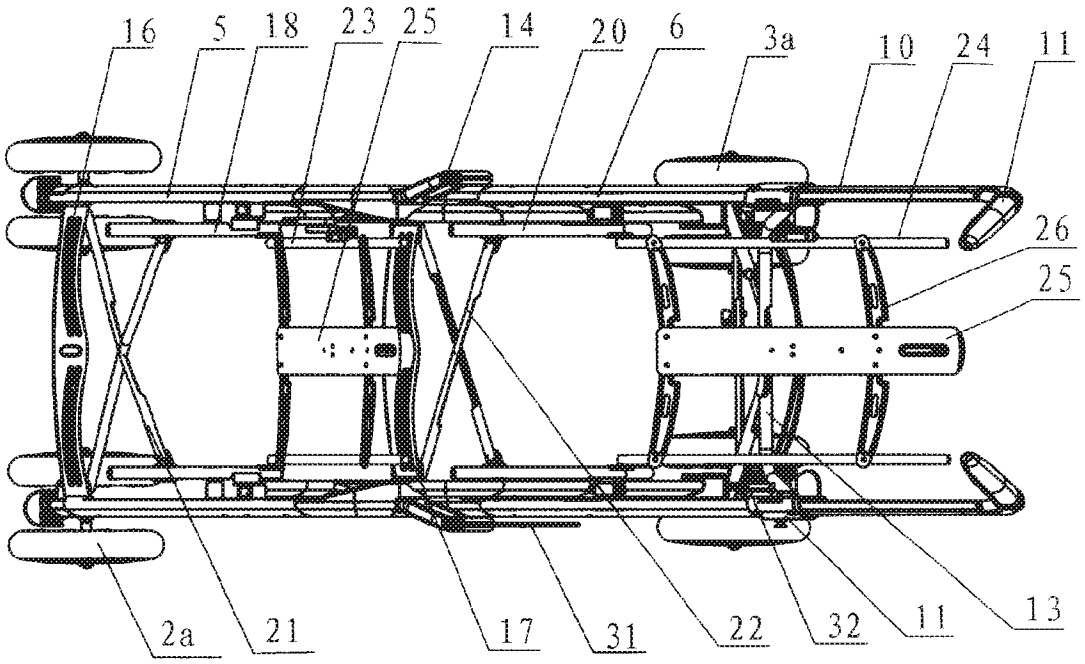


图 5

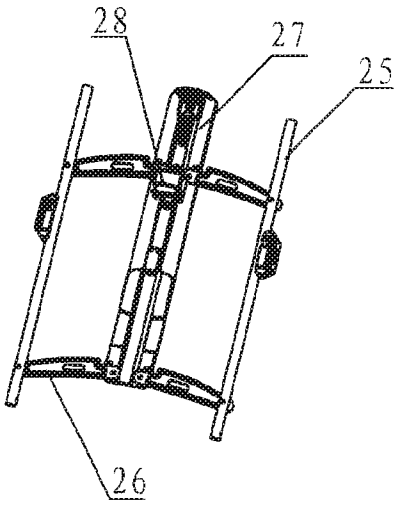


图 6

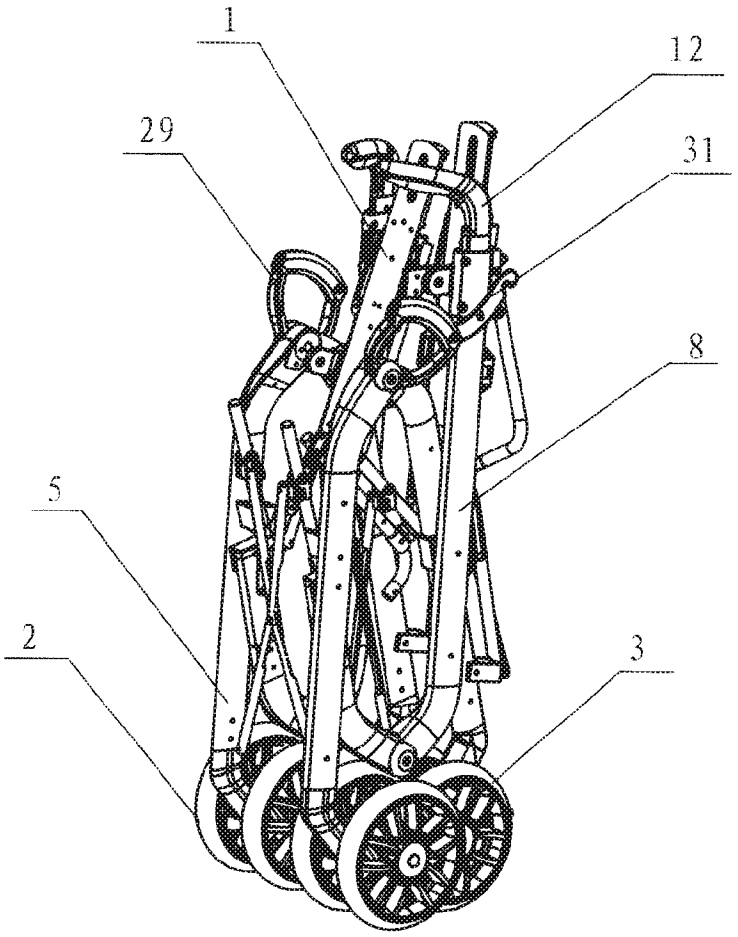


图 7

Espacenet

Bibliographic data: CN102256856 (A) — 2011-11-23

Seat attachment for a stroller

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Classification: - international:***B62B7/00***
- cooperative: **B62B7/006**; **B62B7/008**; **B62B7/14**; **B62B9/28**; B62B3/008; B62B7/145; B62K13/00

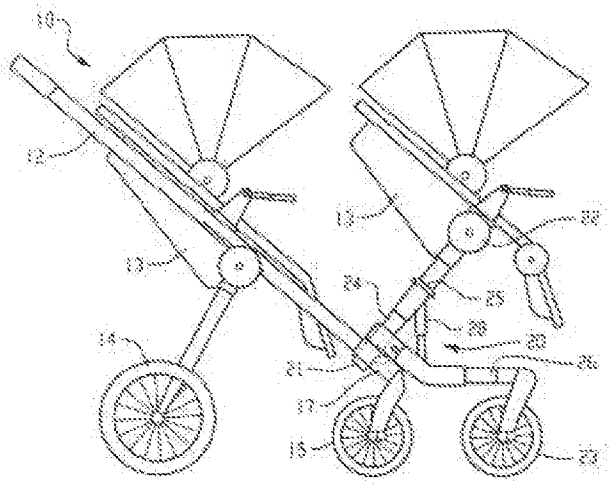
Application number: CN20098148829 20091204

Priority number (s): WO2009US66817 20091204 ; US20080119920P 20081204

Also published as: CN102256856 (B) AU2009322149 (A1) AU2009322149 (B2) CA2745914 (A1) CA2745914 (C) more

Abstract of CN102256856 (A)

The invention relates to a seat attachment for a stroller, single stroller and double strollers. Such a seat attachment may be used to reversibly convert a single stroller into a double stroller. More specifically, versions of the seat attachment relate to a seat attachment for a stroller capable of supporting a seat such as, but not limited to, a stroller seat, a baby seat, bassinet, a pram, a car seat, or a baby carrier, for example. The seat may be supported in front of a permanent seat of the stroller.



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(19)中华人民共和国国家知识产权局

(12)发明专利申请

(10)申请公布号 CN 102256856 A
(43)申请公布日 2011.11.23

(21)申请号 200980146829.3

(22)申请日 2009.12.04

(30)优先权数据
61/119,920 2008.12.04 US

(85)PCT申请进入国家阶段日
2011.06.03

(86)PCT申请的申请数据
PCT/US2009/066817 2009.12.04

(87)PCT申请的公布数据
WO2010/065884 EN 2010.06.10

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(51)Int.Cl.
B62B 7/00(2006.01)

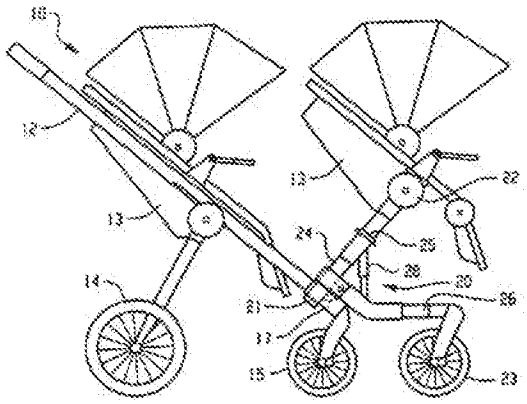
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(54)发明名称

用于手推童车的座椅附接件

(57)摘要

本发明涉及一种用于手推童车、单人手推童车及双人手推童车的座椅附接件。此座椅附接件可用来将单人手推童车以可逆方式转换成双人手推童车。更具体来说，所述座椅附接件的版本涉及一种用于手推童车的座椅附接件，其能够支撑例如但不限于手推童车座椅，婴儿座椅、摇篮，婴儿车、汽车座椅或婴儿吊篮等的座椅。可将所述座椅支撑在所述手推童车的永久座椅前部。



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1. 一种用于手推童车的座椅附接件，其包括：

附接框架部件，其包括能够连接到手推童车框架的连接器部分；及

座椅支撑元件，其能够支撑座椅。

2. 根据权利要求 1 所述的座椅附接件，其包括：

车轮。

3. 根据权利要求 2 所述的用于手推童车的座椅附接件，其进一步包括将所述车轮连接到所述附接框架部件的车轮支撑框架。

4. 根据权利要求 3 所述的用于手推童车的座椅附接件，其中所述车轮支撑框架以枢转方式连接到所述附接框架部件。

5. 根据权利要求 4 所述的用于手推童车的座椅附接件，其中所述车轮支撑框架以枢转方式连接于接近所述附接框架部件的中间处。

6. 根据权利要求 5 所述的用于手推童车的座椅附接件，其进一步包括折叠机构。

7. 根据权利要求 6 所述的用于手推童车的座椅附接件，其中所述折叠机构包括以滑动方式连接到所述附接框架部件的滑动连接器以及具有连接到滑动部件的第一端及连接到所述车轮支撑框架的第二端的斜撑。

8. 根据权利要求 4 所述的用于手推童车的座椅附接件，其中所述车轮支撑框架能够从第一位置枢转到第二位置。

9. 根据权利要求 8 所述的用于手推童车的座椅附接件，其中所述第一位置为锁定及使用中位置且所述第二位置为解锁及折叠位置。

10. 根据权利要求 1 所述的用于手推童车的座椅附接件，其中所述座椅为婴儿座椅、汽车座椅、手推童车座椅、摇篮或婴儿车。

11. 根据权利要求 1 所述的用于手推童车的座椅附接件，其中所述附接框架部件具有第一端及第二端。

12. 根据权利要求 11 所述的用于手推童车的座椅附接件，其中所述第一端能够连接到手推童车框架。

13. 根据权利要求 12 所述的用于手推童车的座椅附接件，其中所述第二端连接到座椅附接部件。

14. 根据权利要求 1 所述的用于手推童车的座椅附接件，其中所述座椅支撑元件能够将座椅支撑在前向或后向位置中。

15. 根据权利要求 1 所述的用于手推童车的座椅附接件，其进一步包括手推童车座椅，其中所述座椅支撑元件能够将所述手推童车座椅支撑在前向或后向位置中。

16. 一种双人手推童车，其包括：

手推童车框架，其包括车轮、框架、第一座椅及连接到所述框架的附接框架部件；

座椅附接件，其包括车轮、第二座椅及能够连接到所述附接框架部件的连接器部分。

17. 根据权利要求 12 所述的双人手推童车，其中所述连接器部分能够以可释放方式连接到所述附接框架部件。

18. 根据权利要求 12 所述的双人手推童车，其中所述第二座椅以可释放方式连接到座椅支撑元件。

19. 根据权利要求 18 所述的双人手推童车，其中所述座椅支撑元件能够将所述第二座

椅支撑在前向或后向位置中。

20. 一种双人手推童车，其包括：

第一座椅附接件，其能够以可拆卸方式支撑儿童座椅；及

第二座椅附接件，其能够支撑儿童座椅。

21. 根据权利要求 20 所述的双人手推童车，其中每一座椅附接件包括两个座椅连接器部分。

22. 根据权利要求 20 所述的双人手推童车，其中所述儿童座椅为手推童车座椅、婴儿吊篮、摇篮、婴儿车或汽车座椅中的一者。

23. 根据权利要求 20 所述的双人手推童车，其包括框架，其中所述框架包括把手部分、前车轮支撑部分及后车轮支撑部分。

24. 根据权利要求 23 所述的双人手推童车，其中第一座椅附接件邻近于所述前车轮支撑部分。

25. 根据权利要求 24 所述的双人手推童车，其中所述第一座椅附接件位于连接到所述车轮支撑部分的至少一个前车轮上面。

26. 根据权利要求 25 所述的双人手推童车，其中所述第二座椅附接件邻近于所述把手部分。

27. 根据权利要求 23 所述的双人手推童车，其进一步包括连接所述把手部分、所述前车轮支撑部分及所述后车轮支撑部分的折叠机构。

28. 一种手推童车，其包括：

框架；

至少一个前车轮；

至少一个后车轮；

手推童车座椅；及

座椅附接部分，其能够将第二座椅支撑在所述手推童车座椅的前部。

29. 根据权利要求 28 所述的手推童车，其中所述座椅附接部分包括两个座椅连接器。

30. 根据权利要求 29 所述的手推童车，其中所述座椅附接部分以可拆卸方式连接到所述框架。

31. 根据权利要求 30 所述的手推童车，其中所述座椅附接部分包括两个部分，每一部分包括一个座椅连接器。

32. 根据权利要求 30 所述的手推童车，其中所述框架包括用于将所述座椅附接部分以可拆卸方式连接到所述框架的套筒。

33. 根据权利要求 28 所述的手推童车，其中所述第二座椅为选自手推童车座椅、幼儿吊篮、摇篮、婴儿车或汽车座椅的一个座椅。

34. 根据权利要求 33 所述的手推童车，其中所述第二座椅与所述座椅附接部分成整体。

用于手推童车的座椅附接件

技术领域

[0001] 本发明针对一种用于手推童车、单人手推童车及双人手推童车的座椅附接件。此座椅附接件可用来将单人手推童车转换成双人手推童车。更具体来说，本发明的实施例针对一种用于手推童车的座椅附接件，其能够支撑例如但不限于手推童车座椅、婴儿座椅、摇篮、婴儿车、汽车座椅或婴儿吊篮等的座椅。所述座椅附接件的实施例能够将单人手推童车以可逆方式转换成双人手推童车。

背景技术

[0002] 具有多个幼儿的父母可能很难在不同地方之间运输其孩子。儿童走路慢而容易分心，且因此可能在其父母正试图在有限量的时间内完成购物任务或运动一下时落后父母。作为响应，许多父母已购买双人手推童车，其允许父母或监护者同时推着两名儿童且因此允许其更高效地办杂事、散步或慢跑。如此，双人手推童车允许父母或监护者具有比其在仅单人手推童车的情况下将具有的更大的自由，尤其是在试图照管两个睡着的儿童时。

[0003] 虽然双人手推童车具有某些优点，但双人手推童车也具有缺点。双人手推童车大致大于单人手推童车，且因此较难以操纵通过门口及沿着商店的走道行进。通常，能够容纳两名儿童的益处大大地抵消了这些缺点。然而，当父母或监护者仅随身带一个孩子时，双人手推童车的益处便不能实现而缺点仍存在。

[0004] 因此，父母通常买两个或两个以上手推童车以在不同时间使用：单人手推童车用于其仅随身带一个孩子时的时间且双人手推童车用于其需要将容纳两个孩子的手推童车时的时间。此通常产生其自身的一组问题。必须储存多个手推童车且典型汽车的尾箱或运动型多用途车的后部中存在很少空间来用于折叠式双人手推童车及折叠式单人手推童车两者。

[0005] 手推童车制造商已尝试通过提供用于使第二个儿童站在单人手推童车的后部上的地方或为第二个儿童提供挂在单人手推童车的座椅下方且稍靠后的另一座位的附接件来解决此问题。此为儿童提供第二个座椅，但所述儿童被紧裹到前座椅的后部，此可能为不舒适的、减少座椅下方储存的容量且妨碍父母将手提袋挂在把手上。

[0006] 存在对可方便地转换成双人手推童车的单人手推童车的需要。还需要将单人手推童车转换成能够容纳两名儿童而不损失父母或监护者的方便性的全双人手推童车的转换套件。

发明内容

[0007] 手推童车通常为单人手推童车（具有一个座椅以用于运输一名儿童的手推童车）或还可为双人手推童车（具有两个座椅以用于运输两名儿童的手推童车）。本发明的实施例针对一种用于手推童车的座椅附接件，其包括：连接器部分，其能够直接连接到手推童车框架或连接到所述手推童车框架的附接框架部件；及座椅支撑元件，其能够支撑座椅。在某些实施例中，所述用于手推童车的附接件包括具有第一端及第二端的附接框架部件。所述

第一端可能够将所述座椅附接件连接到手推童车框架且所述第二端可能够连接到所述座椅支撑元件。所述座椅支撑元件因此能够将座椅支撑在手推童车上。在更特定实施例中，可将所述座椅支撑在前向或后向位置中。

[0008] 另一实施例包括手推童车及用于所述手推童车的座椅附接件，其中所述手推童车包括连接到所述手推童车的框架的附接框架部件且所述用于手推童车的座椅附接件包括连接器部分。所述附接框架部件及所述连接器部分包括能够牢固地连接在一起的组件。在某些实施例中，所述附接框架部件及所述连接器部分包括能够牢固地且以可释放方式连接在一起的组件。以此方式，所述座椅附接件可附接到所述手推童车，且如上文所界定的座椅可连接到所述座椅附接件，因此将单人手推童车以可逆方式转换成双人手推童车。

[0009] 在另一实施例中，所述用于手推童车的座椅附接件进一步包括至少一个车轮。所述车轮可通过车轮支撑框架连接到所述座椅附接件，所述车轮支撑框架可刚性地附接到或可以枢转方式附接到所述座椅附接件。所述车轮支撑框架可连接到座椅附接件的任一区段，优选地所述车轮支撑框架以枢转方式连接到所述座椅附接件的后部部分在邻近于连接器部分的区域中或连接于接近附接部分的中间处。

[0010] 所述用于手推童车的座椅附接件的实施例可进一步包括折叠机构。所述折叠机构可包括以滑动方式连接到所述附接部分的滑动部件以及具有连接到所述滑动部件的第一端及连接到所述车轮支撑框架的第二端的折叠框架部件或斜撑。所述折叠机构允许所述车轮支撑框架从第一位置（使用中位置）枢转到第二位置（折叠位置）。所述用于手推童车的附接件还可包括锁定机构，其在使用中位置中将所述附接件紧固到手推童车且在处于折叠位置中时将所述手推童车解锁以允许所述附接件连接到所述手推童车或从所述手推童车拆卸。所述锁定机构可为附接到所述车轮支撑框架的小突出部，其啮合所述手推童车或所述手推童车附接部分中的对应孔口以将所述附接件紧固到所述手推童车。在折叠位置中，所述突出部不啮合在所述孔口中。

[0011] 另一方面针对一种双人手推童车。所述双人手推童车可包括框架，其中所述框架包括把手部分、前车轮支撑部分、后车轮支撑部分及折叠机构。所述双人手推童车的实施例包括手推童车框架，所述手推童车框架包括车轮、所述框架、第一座椅及连接到所述框架的连接器部分。所述双人手推童车可进一步包括座椅附接框架，所述座椅附接框架包括车轮、第二座椅及能够连接到手推童车框架的连接器部分的第二附接部分。所述第二附接部分可以可释放方式连接到所述连接器部分。此外，所述第二座椅可以可释放方式连接到所述座椅附接框架且能够将所述第二座椅支撑在前向或后向位置中。

[0012] 所述双人手推童车的另一实施例包括能够以可释放方式支撑第一儿童座椅的第一座椅附接件及能够以可释放方式支撑第二儿童座椅的第二座椅附接件。所述座椅附接件可包括用于将座椅支撑在两个侧上的两个座椅连接器部分。

[0013] 所述双人手推童车的又一实施例包括邻近于前车轮支撑部分的至少一个第一座椅附接件及邻近于每一折叠机构及 / 或把手部分的第二座椅附接件。所述第一座椅附接件可位于连接到所述车轮支撑部分的至少一个前车轮上面。

[0014] 所述手推童车的又一实施例包括：框架；至少一个前车轮；至少一个后车轮；第一手推童车座椅，其具有永久地附接到所述框架的至少一个第一附接部分；及至少一个以可释放方式连接的第二座椅附接部分，其能够将第二座椅支撑在所述第一手推童车座椅的前

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部。如同在其它实施例中一样，所述座椅附接件可包括两个座椅连接器。任一个或两个座椅附接部分可为具有两个座椅连接器的单个部分或各自包括一座椅连接器的两个单独件。

[0015] 在以上实施例中的任一者中，手推童车、双人手推童车或附接件可包括以下特征中的一者或一者以上，用于以可拆卸方式接纳所述附接部分的套筒。所述座椅附接部分可包括突出部，其具有与所述套筒的互补形状以用于插入到所述套筒中。此外，所述第二座椅可与所述座椅附接件成整体。

[0016] 在各种实施例中呈现了手推童车、双人手推童车及附接件的方面，然而，所属领域的技术人员将理解各种实施例的组件的各种变化形式及可互换性，其打算包含在本发明的范围中。

附图说明

[0017] 图 1 展示单人手推童车的实施例；

[0018] 图 2 展示用以将单人手推童车转换成双人手推童车的座椅附接件的实施例；

[0019] 图 3 展示图 1 的单人手推童车附接到图 2 的座椅附接件的组合；

[0020] 图 4 展示能够将汽车座椅支撑在图 2 的附接件上的座椅附接件的实施例；

[0021] 图 5 展示图 1 的单人手推童车附接到呈三轮车样的骑乘装置形式的附接件的实施例的组合；且

[0022] 图 6A 展示用于将附件支撑在手推童车上的附件附接件，图 6B 展示用于附接到图 6A 的附件附接件的手提袋或手提包。

[0023] 图 7 展示用于支撑包括一个车轮的座椅的附接件。

[0024] 图 8 展示能够以可逆方式从单人手推童车转换成双人手推童车的手推童车的实施例，其包括不包括车轮的附接部分。

[0025] 图 9A、9B、9C、9D、9E 及 9F 展示图 8 中所示的手推童车的实施例的各种配置。

具体实施方式

[0026] 本发明涉及一种用于手推童车的附件、附接件或转换套件（下文中称“座椅附接件”）。如上文所论述，父母或监护者可能发现自己处于其中在一手推童车中运输两个儿童会更方便的情形中，但同时发现具有单人手推童车及双人手推童车两者是不方便的。所述座椅附接件的实施例解决此问题。在一个方面中，所述用于手推童车的座椅附接件的实施例能够将单人手推童车转换成双人手推童车。举例来说，所述座椅附接件可支撑例如但不限于手推童车座椅、婴儿座椅、摇篮、婴儿车、婴儿吊篮或汽车座椅的座椅。因此，父母或监护者不需要单人手推童车及双人手推童车两者。经配置以接纳用于将单人手推童车转换成双人手推童车的座椅附接件的手推童车为使用者提供方便性。可通过将所述座椅附接件附接到单人手推童车且接着附接第二座椅来将所述单人手推童车连接成双人手推童车。如此，所述用于将单人手推童车转换成双人手推童车的座椅附接件的实施例包括能够连接到手推童车框架的至少一个连接器部分及能够支撑座椅的座椅支撑元件。所述座椅附接件可任选地包括用于额外支撑及稳定性的至少一个车轮，然而，为更方便起见，所述附接件的实施例不包含车轮。在某些实施例中，车轮可使双人手推童车稳定，但在所述附接件的其它实施例中，所述车轮可能并非合意的或必需的。举例来说，所述附接件的额外实施例包括手推

车样、四车轮货车样、三轮车样的附接件或可连接到手推童车的其它骑乘玩具。三轮车样的附接件将允许儿童在手推童车的前部骑乘或被推着。

[0027] 图 1 中展示单人手推童车 10 的实施例的侧视图。注意，图 1 仅展示单人手推童车 10 的一侧，然而，大多数组件包含位于所述单人手推童车的另一侧上但未展示于图 1 中的互补组件。单人手推童车 10 包括支撑座椅 13 的框架 12。框架 12 可任选地包含至少一个（优选地为两个）折叠机构 16，其允许将手推童车 10 折叠成用于储存或运输手推童车 10 的更方便大小。

[0028] 在此实施例中，将座椅 13 展示为典型的手推童车座椅，然而，其它类型的座椅可用于单人手推童车中。The 座椅 13 可永久地附加到框架 12 或以可释放方式连接使得其能够被拆卸并用不同座椅来替代。如本文中所使用，“以可释放方式连接”或“以可释放方式附接”意指所述连接并非永久连接且所述连接能够由手推童车的使用者连接及断开而不需要特殊工具或特殊技能。可释放连接包含（但不限于）钮扣、搭扣件、摩擦配件、干涉配合、螺纹连接、锁定连接片、键式连接、其它扣件等。在图 1 的手推童车 10 上，框架 12 支撑在一对后车轮 14 及一对前车轮 15 上。在此实施例中，后车轮 14 为固定的且不以所述框架为轴而旋转或枢转。单人手推童车 10 上的所述对前车轮 15 枢转以使得使单人手推童车 10 转动更容易且更方便。虽然在某些手推童车中枢转车轮可为优选的，但具有固定非枢转车轮的手推童车也为常见的。应注意，单人手推童车不需要成对的前车轮或后车轮且可用单个车轮来替代前对车轮 15 或后对车轮 14。按常规，许多单人手推童车（包含伞式手推童车、慢跑手推童车、全地形手推童车以及其它手推童车）可仅包含一个前车轮。本发明的座椅附接件的实施例可能够将任何样式的手推童车转换成双人手推童车，包含具有一个或两个前车轮的手推童车。

[0029] 手推童车 10 的实施例包括两个附接框架部件 17。连接器部分优选地位于手推童车的前部上以允许座椅附接件及座椅连接到手推童车 10 的前部。附接框架部件 17 允许座椅附接件（例如用于将单人手推童车 10 转换成如图 3 中所示的双人手推童车的座椅附接件）连接到手推童车。图 3 中仅展示一个座椅附接件，手推童车 10 将使用如图 3 中所展示的两个座椅附接件或包括两个座椅支撑元件的一个座椅附接件。手推童车 10 的实施例具有左侧及右侧附接框架部件 17。手推童车 10 的座椅附接件的实施例将包括能够在附接框架部件 17 处连接到手推童车框架的对应连接器部分。虽然关于单人手推童车描述了用于手推童车的座椅附接件，但所述附接件可类似地附接到双人手推童车。因此，所述座椅附接件的实施例可用于将双人手推童车转换成三人手推童车（如果需要的话）。

[0030] 图 2 中展示本发明的座椅附接件 20 的实施例。图 2 的座椅附接件呈解锁及折叠配置。座椅附接件 20 包括：能够连接到附接框架部件 17 的一对连接器部分 21；能够支撑座椅的两个座椅附接元件 22；及车轮 23。在此实施例中，所述连接器部分连接到座椅附接件 20 的后部，从而允许座椅附接件 20 连接到手推童车（例如图 1 中所示的手推童车 10）的前部。所述座椅附接件的其它实施例可包含一个以上车轮、一个连接器部分、一个座椅支撑元件或这些元件的组合。举例来说，在具有一个车轮的手推童车的实施例中，所述附接框架部件可位于前车轮的轮叉上。

[0031] 座椅附接件 20 包括将附接件 20 的车轮 23 连接到附接框架部件 24 的车轮支撑框架 26。每一附接框架部件 24 具有第一及第二端。所述第一端能够连接到手推童车框架且

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所述第二端连接到座椅支撑元件 22。座椅附接件 20 的实施例包括以枢转方式连接到两个附接框架部件 24 的车轮支撑框架 26。车轮支撑框架 26 或附接框架 24 可横跨手推童车在两个附接框架部件 17 之间的宽度。枢转连接 27 允许折叠并方便地储存或运输座椅附接件，但并非是本发明所必需的。所述枢转连接为任选的且提供更大方便性，然而，附接件的实施例可包括以可释放方式连接的车轮支撑框架或刚性框架，其可经并入以产生具有更大强度以供在其中（例如）可需要更强座椅附接件的情形中（例如在全地形或慢跑手推童车的情况下）使用的座椅附接件。可在附接框架上的任一点处连接所述车轮支撑框架，优选地在接近连接器部分 21 处或在接近附接框架 24 的中间处连接所述车轮支撑框架。

[0032] 举例来说，不具有车轮的座椅附接件的实施例可包含连接器部分 21 或附接框架部件 24 及座椅附接部件 22。在此实施例中，将不需要枢转连接 27、车轮支撑框架 26、滑动连接器 25 或车轮 23。

[0033] 座椅附接件 20 包括折叠机构，所述折叠机构包括连接到斜撑 28 的第一端的滑动连接器 25。斜撑 28 的第二端以枢转方式连接到车轮支撑框架 26。在此实施例中，可使滑动连接器 25 在附接框架部件 24 上于第一位置与第二位置之间移动。随着滑动连接器 25 移动，斜撑 28 将车轮支撑框架 26 从使用中位置推到储存位置。所述储存位置较紧凑，如图 2 中所示。另外，座椅附接件 20 的实施例包括能够将座椅附接件 20 紧固到手推童车（例如图 1 中所示的手推童车 10）的锁定机构 29。通过将滑动连接器 25 移动到其中使车轮支撑框架 26 及车轮 23 延展的使用中位置来啮合锁定机构 29。在用于手推童车 10 的座椅附接件 20 的实施例中，座椅附接件 20 的车轮以枢转方式连接到所述连接器部分，且当所述车轮处于使用中位置时，可释放连接被锁定，且当将车轮 23 移动到储存位置时，可释放连接被解锁，从而允许从手推童车 10 拆卸座椅附接件 20。可储存座椅附接件 20 且手推童车 10 可方便地用作单人手推童车。按设计，座椅附接件 20 可重新连接到手推童车 10 以用作双人手推童车。在本发明的任一实施例中，可将座椅附接部分在手推童车框架上紧固到适当位置中且锁定机构可与具有或不具有车轮的实施例一起使用。所述座椅附接件或手推童车框架可包括用于将手推童车与座椅附接件紧固在一起的锁定机构。所述锁定机构可为能够在使用期间将各组件紧固在一起的任何机构且可为（例如）摩擦锁定装置、螺纹连接、孔中栓塞（peg in a hole）或干涉锁定装置，例如孔或槽中销子。在图 2 中所示的实施例 20 中，在使附接件 20 从展开位置移动到折叠位置时，锁定机构 29 随车轮支撑框架 26 枢转。锁定机构 29 可滑动到图 1 中所示的手推童车 10 的附接框架部件中的孔或凹口中。如此，可通过将附接件 20 的附接部分 21 定位于手推童车 10 的附接部分 17 的槽 18 中而将附接件 20 附接到手推童车 10。可将滑动连接器 25 移动到使用中位置，移动车轮支撑框架且将锁定机构 29 定位到手推童车 10 的锁定槽 19 中。

[0034] 座椅附接件 20 的实施例的连接器部分 21 具有圆柱形形状。可将连接器部分 21 插入到图 1 的手推童车 10 的附接框架部件 17 的圆柱形凹部 18 中以紧固所述座椅附接件并将单人手推童车转换成双人手推童车，如图 3 中所示。座椅附接件的其它实施例可包含任何类型的连接器部分。所述连接器部分可具有实心或管状构造且可为任何横截面形状，举例来说，包含（但不限于）圆形、多边形、正方形、矩形及三角形。可利用其它附接机构将所述座椅附接件连接到手推童车，例如（但不限于）U 形托架、U 形螺栓、管夹、O 形托架、螺丝、螺栓或其它夹紧或附接构件。手推童车的附接框架部件具有互补及协作形状，其允许将

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连接器部分紧固到手推童车的附接部分。

[0035] 在图 3 中，展示图 2 的座椅附接件 20 连接到图 1 的单人手推童车 10，从而形成双人手推童车。将双人手推童车配置展示为两个手推童车座椅 13 呈直列式配置，但还可将其它配置（例如手推童车座椅及摇篮或婴儿车）支撑在所述双人手推童车上。此外，座椅附接件的座椅支撑元件可能够将前手推童车座椅支撑在前向或后向位置中。

[0036] 手推童车 10 的实施例仅作为一种类型的手推童车的实例而展示，所述手推童车的框架可为许多可能配置中的任一者。本发明的附件的实施例可经配置以用在手推童车的任何此种配置上。举例来说，婴儿手推童车的不同实施例可不包含两个前车轮、可不包含折叠机构或可只包含仅一个折叠机构。另外，婴儿手推童车可包含婴儿手推童车 10 中不包含的额外特征。举例来说，所述手推童车可任选地包括固定前车轮、完全不同的框架配置或位于手推童车的座椅底下的储存篮。

[0037] 座椅支撑部件可为能够将座椅支撑在座椅附接件上的任何配置。图 4 中展示供与汽车座椅或其它婴儿座椅一起使用的座椅支撑部件的另一实施例。图 4 的座椅支撑部件 40 的实施例包括主要支撑件 41。主要支撑件 41 包括用于支撑座椅的中心部分的支架。座椅的另一部分可搁靠在支撑杆 42 上。在此实施例中，支撑杆 42 可经调整以容纳不同形状及大小的座椅。支撑杆 42 可在孔口 43 内滑动且当处于支撑某一座椅的所要位置中时被锁定于适当位置中。因此，座椅被支撑在两个主要支撑件 41 及支撑杆 42 上。可通过将带 44 及 45 环绕在座椅上并借助带扣或其它紧固构件将所述带锁定于此位置中来进一步将所述座椅紧固在座椅附接部件 40 中。

[0038] 图 5 中展示用于手推童车的座椅附接件的另一实施例。组合 50 包括手推童车 10 及座椅附接件 51。座椅附接件 51 为三轮车样的附接件，其包括连接器部分 52，具有座椅支撑元件 56、座椅 57 及车轮 55 的框架 53。所述三轮车样的附接件可附接到手推童车 10 以允许在手推童车 10 中推着一名儿童而一名儿童骑乘座椅附接件 51。举例来说，所述座椅附接件还可为其它形状，例如汽车、卡车或动物形状。

[0039] 图 5 的手推童车 10 的实施例包括额外附件附接部分 58。附件附接部分 58 附接到手推童车 10 的框架部件。附件附接部分 58 的实施例展示于图 6A 上。此实施例特别适用于将如图 6B 中所示的手提袋或手提包 64 附接到手推童车 10。

[0040] 当使用手推童车时，父母或监护者通常携带其它物项，例如手提包、食品杂货手提袋、蜂窝电话、尿布、清洁湿巾或者其它个人或婴儿相关物项。一些手推童车具有用于放置此些物项的底部储存篮。然而，这些储存篮可能不方便接近或一些轻量手推童车不包含此些储存物。因此，手推童车的使用者可将手提包或购物手提袋挂在手推童车的把手上。此由于容易接近而为方便的，但把手上的手提袋的重量可导致手推童车不平衡且增加手推童车向后倾倒的趋势。挂在手推童车的把手上的沉重的手提袋可甚至在座椅上有儿童的情况下也导致手推童车向后倾斜。如果手推童车正面临上坡或不平坦的地形、正被向上推过路边或由幼小的儿童占用，那么问题会更糟。举例来说，可通过上文所描述的夹紧或附接方法中的任一者将附接部分附接到手推童车的框架。优选地，在接近手推童车 10 的重心处附接附件附接件 58 以避免产生手推童车的不平衡条件。图 6A 中展示附件附接件 58 的实施例。展示附件附接件 58 在接近折叠机构处连接到图 1 中的手推童车 10 的手推童车框架 12。所述附件的实施例包括用于连接到手推童车框架的第一端 61 及用于以可释放方式连接到所

述附件的第二端 62。第一端 61 包括可连接到手推童车 10 的框架 12 的孔口 64。在某些实施例中，孔口 64 在一角度上～使得附件附接部分 58 的轴线为大致水平的。附件附接件 58 可任选地包括用于将附件附接到附件附接件 58 的肋状件。如图 6A 中所示的肋状件可用任何其它锁定元件或紧固构件替换，包含（例如）摩擦配件、旋紧式配件、干涉配件。

[0041] 图 6B 中展示用于附接到附件附接件 58 的附件的一个实例。所述附件为手提袋或手提包 64。所述附件包含能够紧固到附件附接件 58 上的附接部分 62 的附接部分 65。可通过将附接部分 65 紧固到附接部分 62 而将手提袋或手提包 64 紧固在手推童车 10 上。如所展示，附接部分 65 在附件附接件 58 的圆柱形附接部分 62 上滑动。附接部分 65 可包含接纳将手提袋或手提包 64 紧固到手推童车 10 的肋状件 63 的内部环形凹部。因此，如从侧面所观看，手提袋或手提包 64 被紧固到手推童车 10 在所述手推童车的中心部分中。因此，手提袋或手提包 64 被方便地紧固到手推童车 10，同时不引起手推童车 10 的不平衡条件。

[0042] 图 8 中展示手推童车 80 的另一实施例。可在附接件上不添加另一车轮的情况下容易地将手推童车 80 从包括一个座椅的单人手推童车转换成包括两个座椅的双人手推童车。手推童车 80 包括能够支撑手推童车座椅 86 的框架 81。在此实施例中，框架 81 包括前车轮支撑部分 81a、后车轮支撑部分 81b 及把手部分 81c。手推童车 80 的实施例的框架 81 进一步包括连接前车轮支撑部分 81a、后车轮支撑部分 81b 及把手部分 81c 的折叠机构 81d。折叠机构 81d 允许将手推童车折叠成较紧凑大小以便储存或运输。图 8A 展示呈折叠配置的手推童车 80。

[0043] 手推童车 80 进一步包括至少一个前车轮 82（可在图 8A 中看到手推童车 80 的两个前车轮 82）、至少一个后车轮 83（可在图 8A 中看到手推童车 80 的两个后车轮 83）、手推童车座椅 86 及能够将第二个座椅支撑在所述手推童车座椅的前部的座椅支撑部分 84。手推童车 80 可进一步包括储存篮 87。座椅支撑部分可具有能够牢固地将座椅支撑在手推童车上的任何设计。举例来说，座椅支撑部分 84 可类似于图 2 中所示的座椅支撑部分 20，但不具有车轮 23、斜撑 28、枢转连接 27 及 / 或车轮支撑框架 26。优选地，所述座椅支撑部分能够支撑座椅使得处于所述座椅中的儿童大致高于手推童车的框架。此提供对座椅的更容易接近、不阻挡对储存篮的接近、允许座椅的更通用配置、允许将更多种的座椅附接到所述框架且允许父母或其它监护者更容易地监视并看到每一座椅中的儿童。

[0044] 手推童车 80 包括手推童车座椅 86。手推童车座椅 86 位于邻近于把手部分 81c 处。手推童车座椅 86 可以固定方式附接到或以可拆卸方式附接到框架 81。在其中手推童车座椅 86 以可拆卸方式附接到框架 81 的手推童车 80 的实施例中，手推童车座椅 86 可被拆卸及重新放置成后向配置（参见图 9A）、由座椅支撑元件 84 上的幼儿提篮 91 或汽车座椅替换（参见图 9C）或者用座椅支撑元件 84 上的婴儿车 92 替换（参见图 9D）。手推童车 80 的实施例可包括邻近于把手部分 81c 的第二座椅支撑元件 89。包括第二座椅支撑元件 89 的手推童车 80 允许座椅被容易地拆卸并重新配置成不同定向或用不同样式的座椅替换。

[0045] 手推童车 80 的实施例包括第一座椅支撑元件 84。座椅支撑元件 84 连接到手推童车 80 的前车轮支撑框架 81a。座椅支撑元件 84 邻近于框架 81 的前车轮支撑部分 81a。所述座椅支撑元件能够将第二手推童车座椅 85 支撑在手推童车座椅 86 的前部。此为手推童车 80 的使用者提供方便性及多用性。座椅支撑元件可以固定方式附接到或以可拆卸方式附接到前车轮支撑部分 81a。前座椅 85 可大致定位于前车轮上方，使得手推童车保持稳

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定。优选地，所述座椅应经定位使得手推童车的重心在前车轮与后车轮之间。如果不，那么可在附接件上放置额外车轮，如先前所描述。座椅支撑元件 84 包括座椅连接器 88。座椅连接器 88 可为多用途的通用连接器，其允许在座椅支撑元件 84 上更换不同座椅。举例来说，任何样式的座椅可经配置以连接到所述座椅连接器，例如（但不限于）手推童车座椅、婴儿座椅、摇篮、婴儿车、婴儿吊篮或汽车座椅。

[0046] 所述手推童车附接件的实施例包括连接器部分及座椅支撑元件。所述连接器部分能够将所述座椅附接件连接到框架。

[0047] 在图 8 中所示的实施例中，手推童车 80 包括第一手推童车座椅 86 及第二手推童车座椅 85。展示手推童车座椅 86 呈前向配置且展示第二手推童车座椅 85 呈后向配置。座椅支撑元件 84 能够将座椅支撑在连接到车轮支撑部分 81a 的前车轮 82 上面。优选地，前座椅大致位于前车轮上方且后座椅大致位于后车轮上方。

[0048] 虽然在图 8 的侧视图中无法看到，但所述手推童车的典型实施例将包括两个座椅连接器部分。一个座椅连接器部分将支撑座椅的每一侧。所述连接器部分可为一件式或多个部分。

[0049] 图 9A 到图 9F 展示对于本发明的手推童车可能有的各种配置。这些配置不应被视为手推童车的所有可用配置且所属领域的技术人员基于本说明书及图式集将认识到许多额外可能性。依据前文将了解，虽然本文已出于说明的目的描述了本发明的特定实施例，但可做出各种修改，此并不背离本发明的精神及范围。因此，本发明不受除所附权利要求书以外的限制。

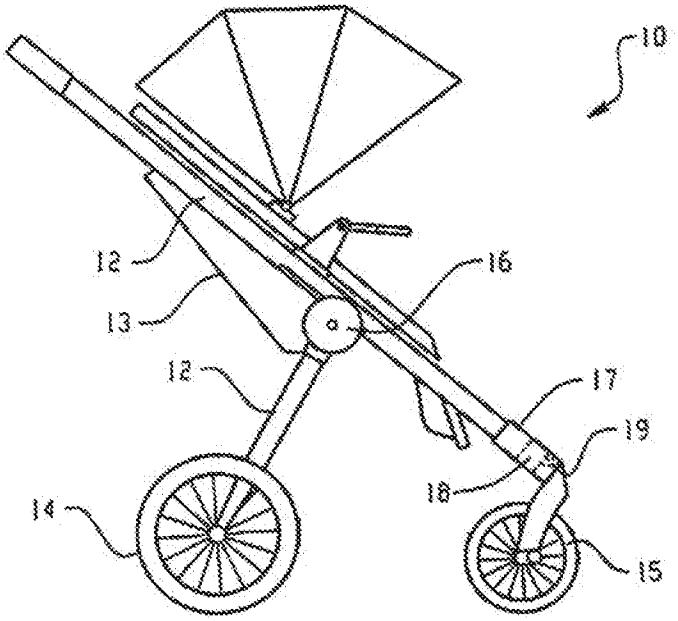


图 1

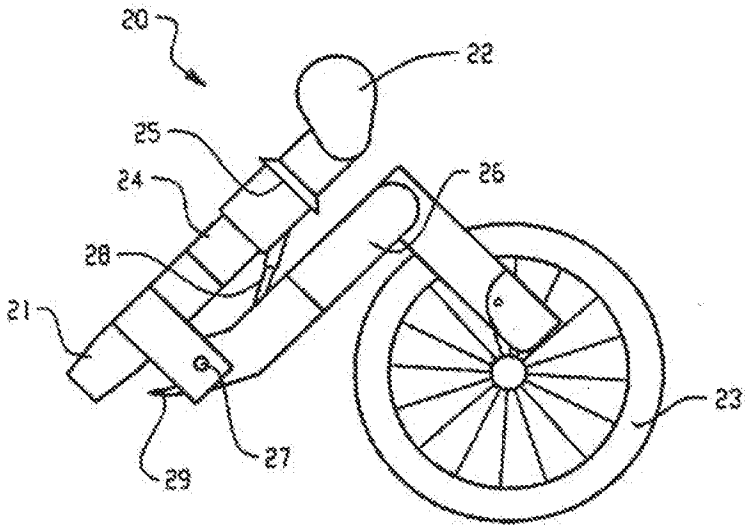


图 2

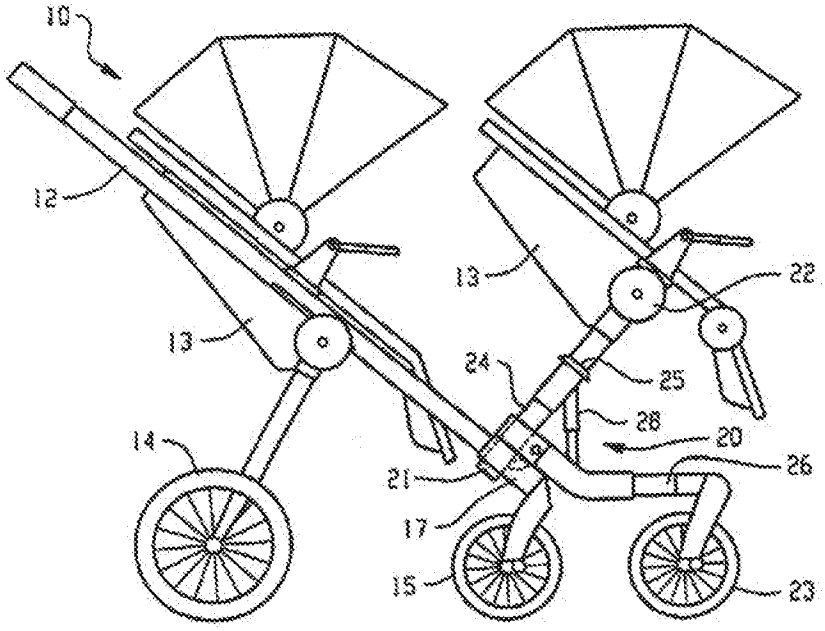


图 3

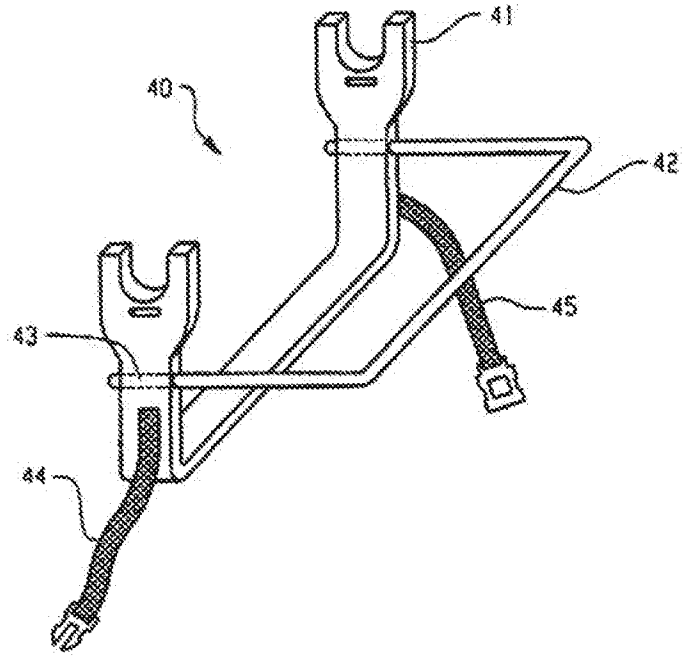


图 4

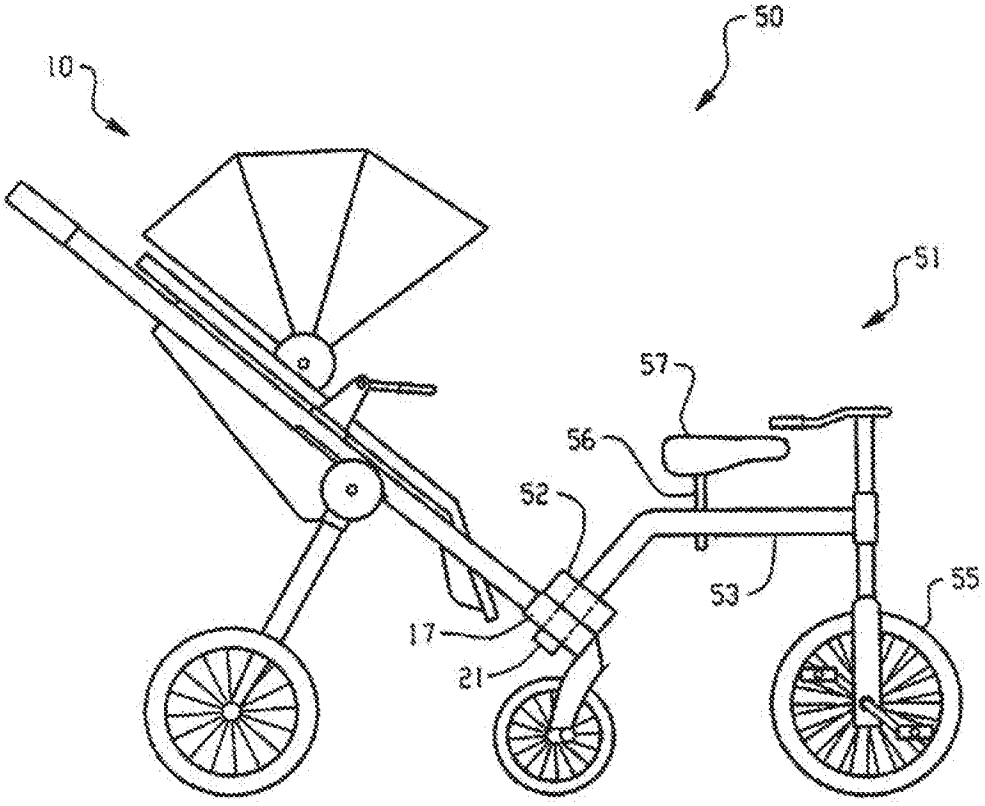


图 5

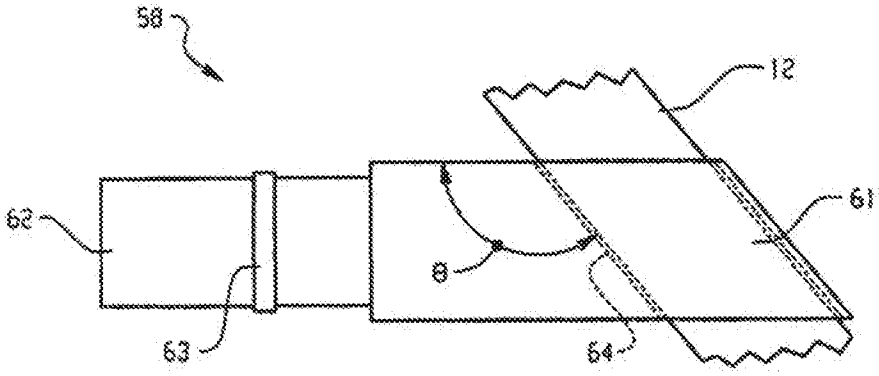


图 6A

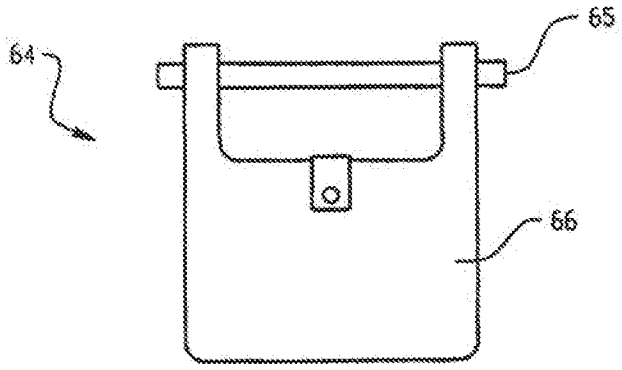


图 6B

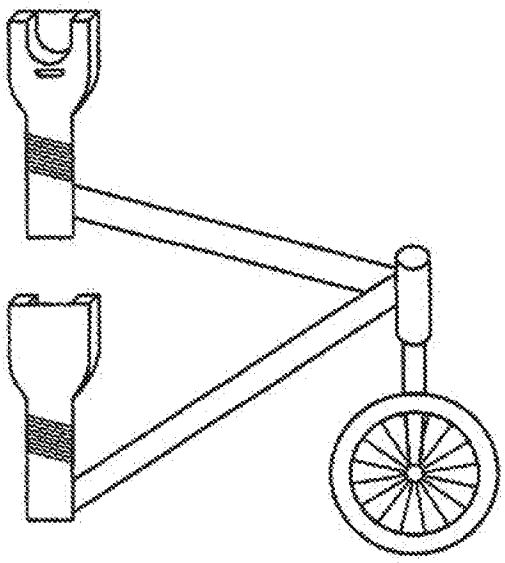


图 7

5/8

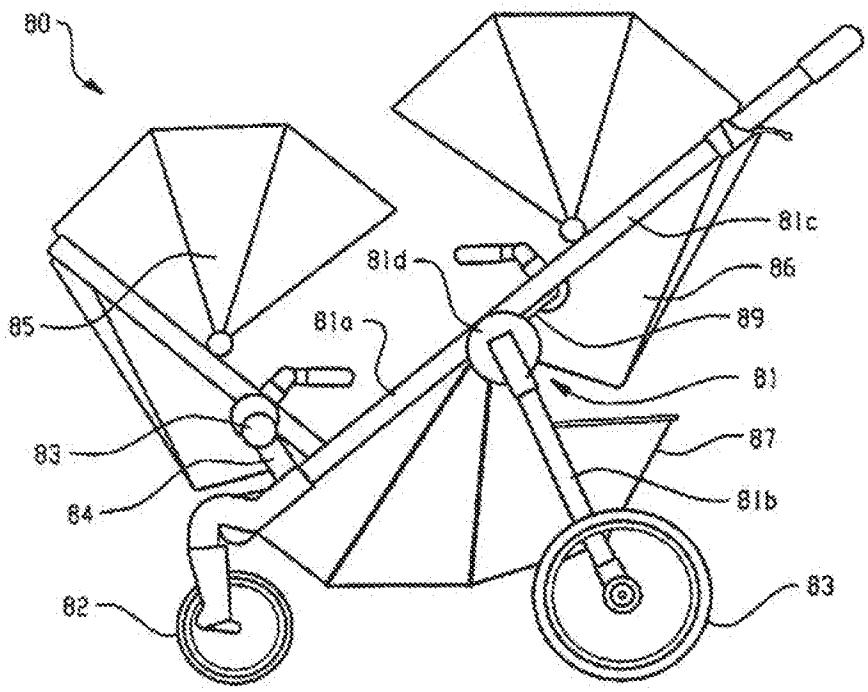

80
81c
81d
86
89
85
81a
81
87
83
84
81b
82
83

图 8

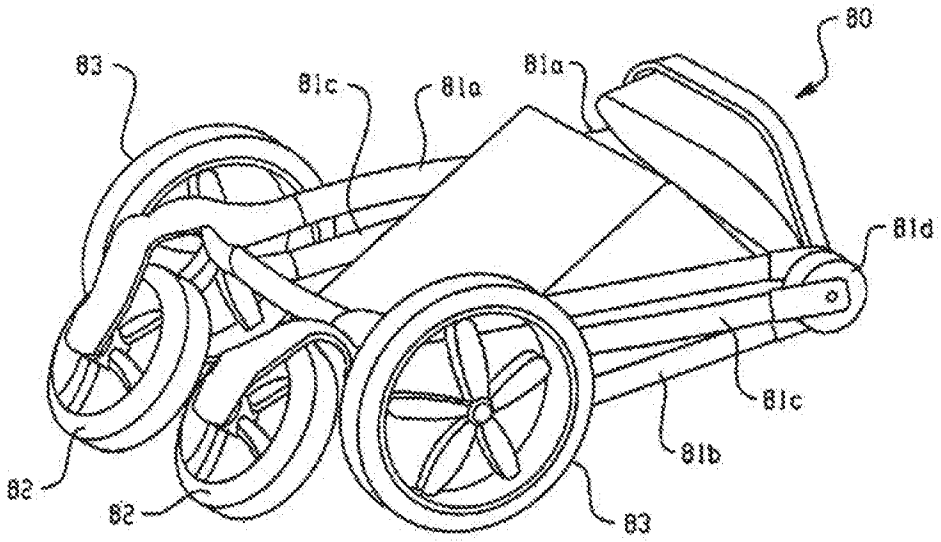

80
83
81c
81a
81a
81d
81c
81b
82
82
83

图 8A

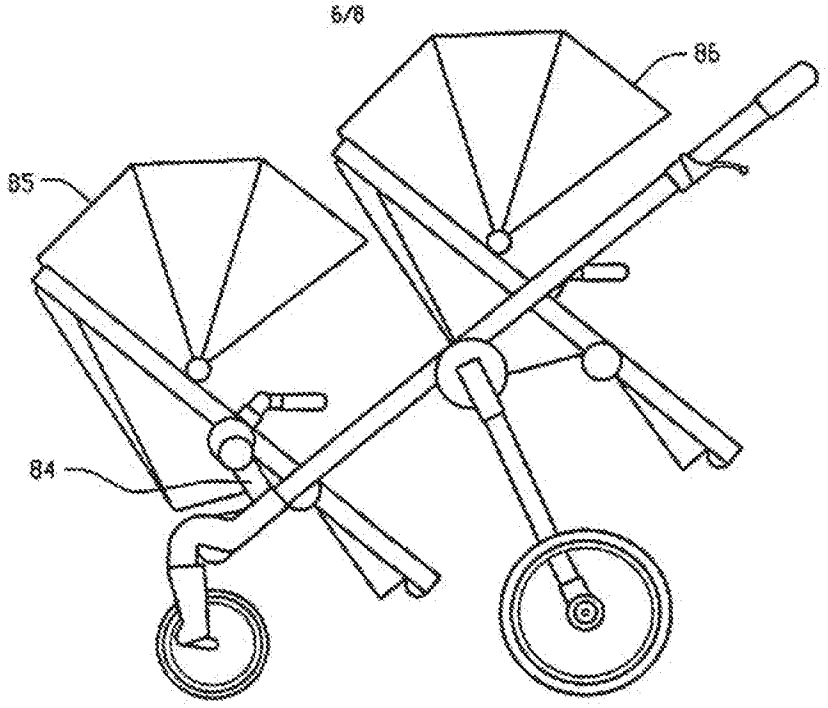


图 9A

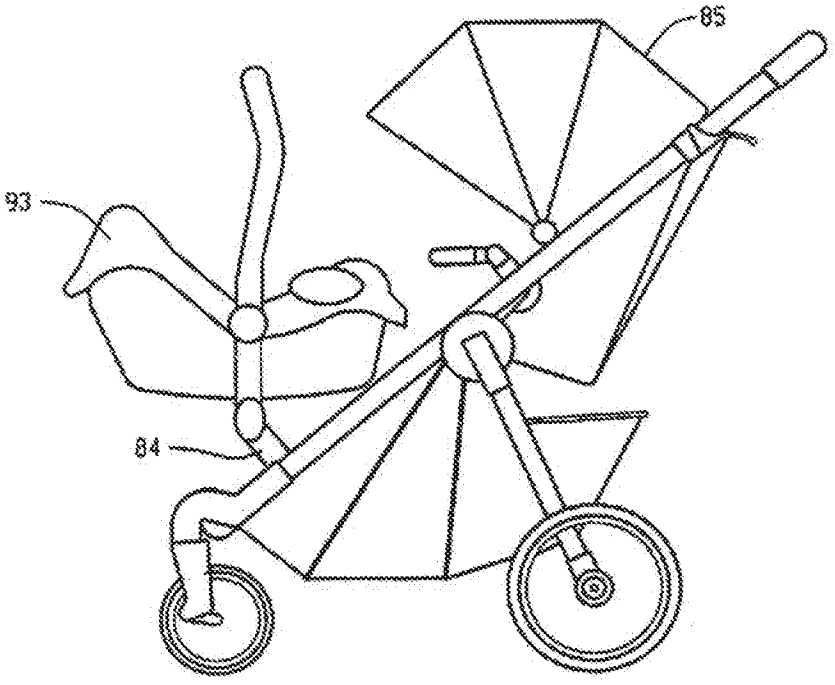


图 9B

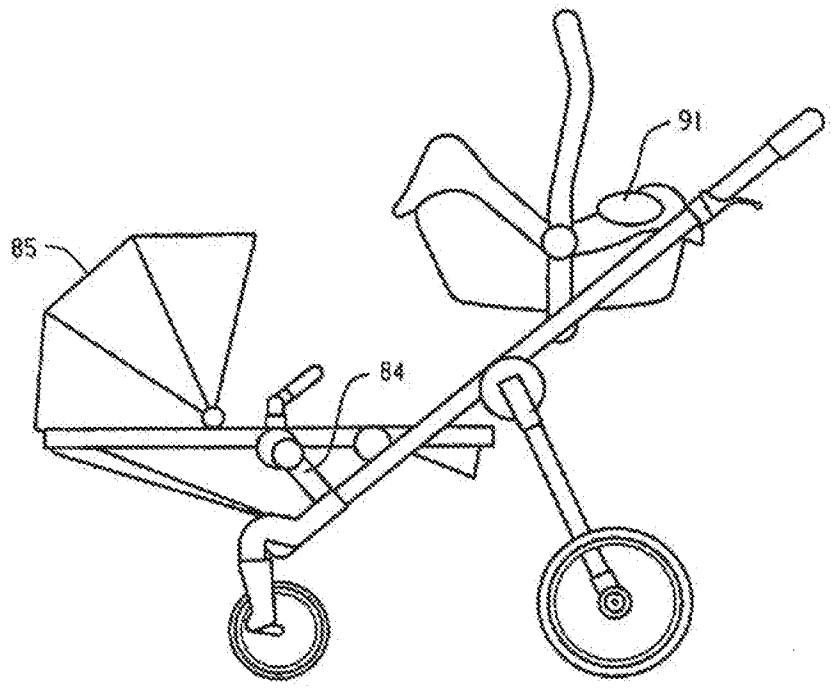


图 9C

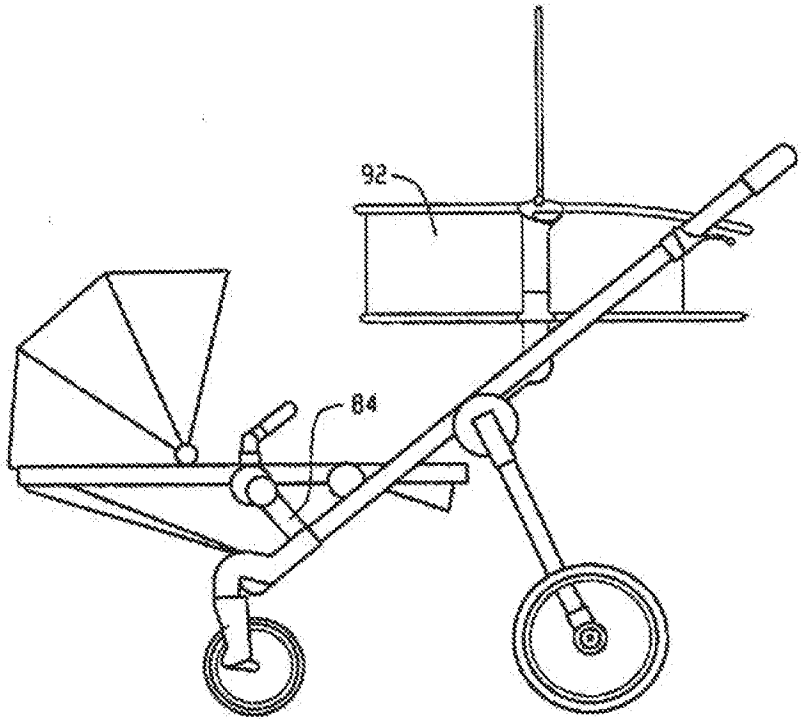


图 9D

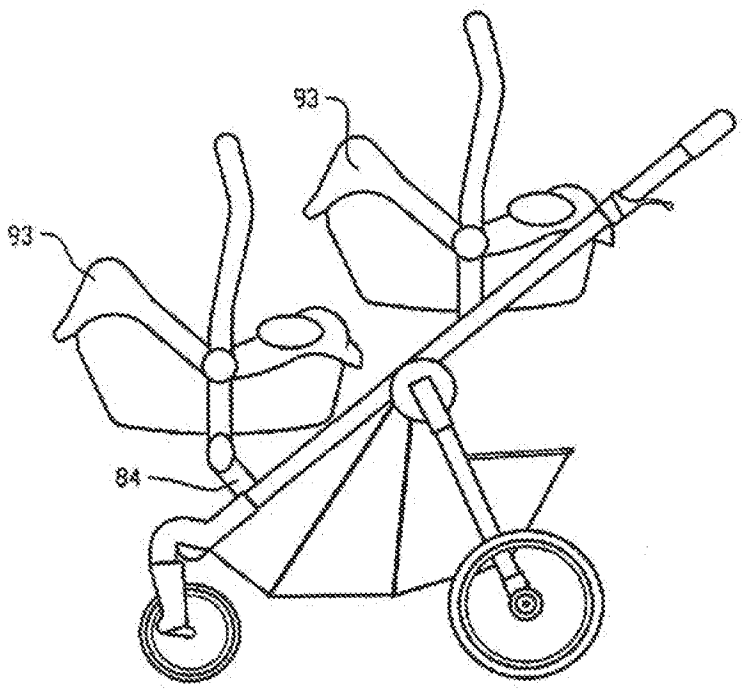


图 9E

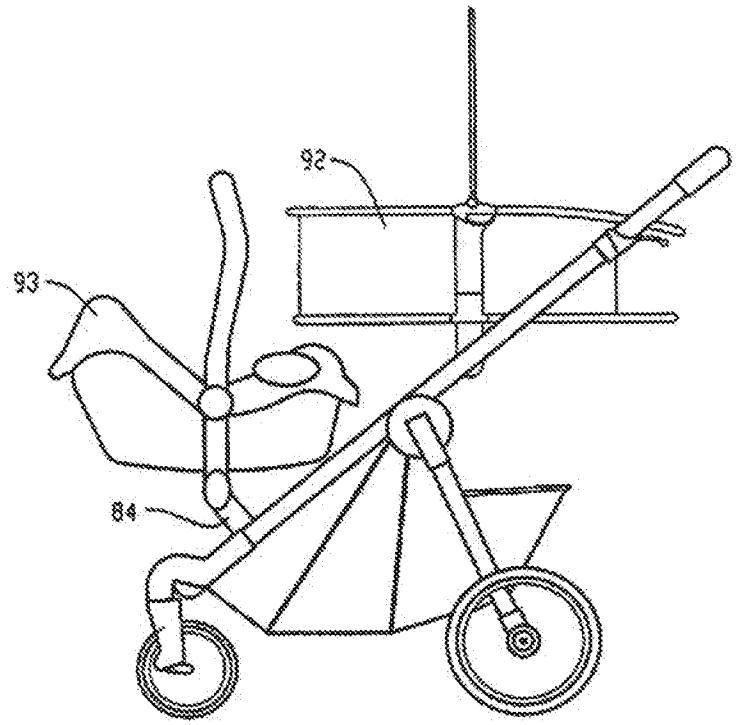


图 9F

Espacenet

Bibliographic data: CN103909960 (A) — 2014-07-09

Maneuverable strollers

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Applicant(s): KOLCRAFT ENTPR INC ± (KOLCRAFT ENTERPRISES, INC)

Classification: **- international:** ***B62B7/10***
- cooperative:

Application number: CN2014158323 20140106 Global Dossier

Priority number (s): US201361749728P 20130107 ; US201313828344 20130314

Also published as: CN103909960 (B)

Abstract of CN103909960 (A)

Maneuverable strollers are disclosed herein. An example stroller disclosed herein includes a frame having a front wheel and a rear wheel to support the frame. An intermediate wheel is positioned between the front wheel and the rear wheel. A carriage is coupled to the rear wheel, the intermediate wheel and the frame.

(19)中华人民共和国国家知识产权局

(12)发明专利申请

(10)申请公布号 CN 103909960 A
(43)申请公布日 2014.07.09

(21)申请号 201410058323.6

(22)申请日 2014.01.06

(30)优先权数据
61/749,728 2013.01.07 US
13/828,344 2013.03.14 US

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(51)Int.Cl.
B62B 7/10(2006.01)

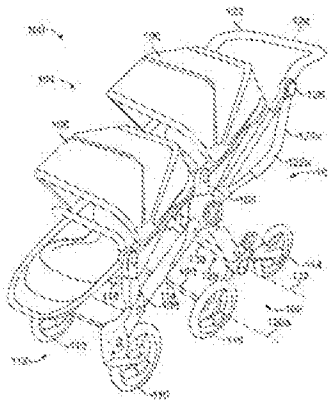
权利要求书2页 说明书10页 附图25页

(54)发明名称

容易操纵的婴儿车

(57)摘要

本文公开了一种容易操纵的婴儿车。在此公开的示例婴儿车包括框架，该框架具有前轮和后轮以支撑该框架、中间轮位于前轮和后轮之间、托架被连接至后轮、中间轮和框架。



CN 103909960 A

1. 一种婴儿车，该婴儿车包括：

框架；

用于支撑所述框架的前轮和后轮；

位于所述前轮和所述后轮之间的中间轮；以及

联接至所述后轮、所述中间轮和所述框架的托架。

2. 根据权利要求 1 所述的婴儿车，该婴儿车还包括在所述框架的第一侧面框架组件和第二侧面框架组件之间延伸的轮轴。

3. 根据权利要求 2 所述的婴儿车，其中，所述轮轴位于所述中间轮的旋转轴线与所述后轮的旋转轴线之间。

4. 根据权利要求 1 所述的婴儿车，其中，所述托架被枢转地安装至所述框架，以使得当向所述婴儿车的手柄施加向下力时所述婴儿车的所述前轮能够相对于所述中间轮和所述后轮被抬起。

5. 根据权利要求 4 所述的婴儿车，其中，当所述前轮相对于行进表面被抬起时，所述中间轮和所述后轮保持与所述行进表面接合。

6. 根据权利要求 1 所述的婴儿车，该婴儿车还包括悬架，当在所述后轮和所述中间轮位于地面上的情况下使所述婴儿车的前端向上枢转时，所述悬架提供反作用力。

7. 根据权利要求 6 所述的婴儿车，其中，所述悬架包括联接至所述婴儿车的轮轴的扭转弹簧。

8. 根据权利要求 1 所述的婴儿车，该婴儿车还包括一限制件，以限制所述框架绕所述婴儿车的轮轴枢转的旋转距离。

9. 根据权利要求 1 所述的婴儿车，其中，所述中间轮提供一转动枢转点，以在向所述婴儿车的手柄施加转动力时使所述婴儿车绕该转动枢转点来转动。

10. 根据权利要求 1 所述的婴儿车，其中，所述中间轮的中心与所述后轮的中心之间的距离小于所述中间轮的中心与所述前轮的中心之间的距离。

11. 一种婴儿车，该婴儿车包括：

框架，该框架具有第一侧面框架组件，该第一侧面框架组件与第二侧面框架组件横向间隔开，以在这些侧面框架组件之间限定座椅区域；

用于支撑所述框架的前端的前轮；

用于支撑所述框架的后端的后轮；

中间轮，该中间轮用于提供位于所述前轮和所述后轮之间的转动枢轴；以及

在所述第一侧面框架组件和所述第二侧面框架组件之间延伸的轮轴，该轮轴限定了这样的轴线，即：当所述前轮相对于所述后轮和所述中间轮升起时所述框架绕该轴线枢转，并且该轴线位于所述中间轮和所述后轮之间。

12. 根据权利要求 11 所述的婴儿车，该婴儿车还包括联接至所述轮轴的悬架，以当所述框架绕所述轮轴枢转时向所述框架提供增加的力。

13. 根据权利要求 12 所述的婴儿车，其中，所述悬架包括同轴地联接至所述轮轴或所述框架的扭转弹簧。

14. 根据权利要求 11 所述的婴儿车，该婴儿车还包括托架，该托架用于将所述中间轮和所述后轮安装至所述框架。

15. 根据权利要求 14 所述的婴儿车，其中，每个侧面框架组件都包括下框架支撑件、上框架支撑件和中间框架支撑件，所述下框架支撑件、所述上框架支撑件和所述中间框架支撑件经由位于该下框架支撑件、该上框架支撑件和该中间框架支撑件的相应的第一端处的枢转连接件而被枢转地联接。

16. 根据权利要求 15 所述的婴儿车，其中，当所述框架处于使用中的位置时，所述下框架支撑件与所述上框架支撑件基本上对齐或平行，并且所述中间框架支撑件相对于所述下框架支撑件和所述上框架支撑件基本上垂直。

17. 根据权利要求 15 所述的婴儿车，该婴儿车还包括邻近所述中间框架支撑件定位的悬架，该悬架具有联接至所述上框架支撑件的第一端和联接至所述托架的第二端。

18. 根据权利要求 17 所述的婴儿车，其中，所述悬架基本上平行于所述中间框架支撑件。

19. 根据权利要求 17 所述的婴儿车，其中，所述悬架、所述中间框架支撑件、所述上框架支撑件和所述托架限定一联动装置，当将所述婴儿车折叠至塌缩位置时，该联动装置使得所述托架绕所述轮轴旋转。

20. 一种制造婴儿车的方法，该方法包括：

将前轮安装至框架的前部；

将后轮和中间轮安装至所述框架，使得所述中间轮位于所述前轮和所述后轮之间；以及

在所述后轮和所述中间轮之间提供一枢转轴，以使得所述框架的所述前部能够相对于该框架的后部抬起。

21. 根据权利要求 20 所述的方法，其中，将所述后轮和所述中间轮安装至所述框架包括将所述中间轮和所述后轮安装至一托架并且在所述枢转轴处将所述托架安装至所述框架。

22. 根据权利要求 21 所述的方法，该方法还包括以可旋转的方式联接所述框架，从而相对于所述托架绕所述枢转轴旋转。

23. 根据权利要求 21 所述的方法，该方法还包括将悬架联接至所述托架，使得当所述框架绕所述枢转轴旋转时所述悬架提供增加的力。

24. 根据权利要求 21 所述的方法，该方法还包括通过以下步骤来形成所述框架：将下框架支撑件、上框架支撑件和中间框架支撑件联接至位于这些框架支撑件的相应的第一端处的枢转连接件，并且在所述中间框架支撑件的第二端处将所述中间框架支撑件以可旋转的方式联接至所述枢转轴。

25. 根据权利要求 24 所述的方法，该方法还包括将悬架安装至所述框架而与所述中间框架支撑件相邻，所述悬架具有联接至所述上框架支撑件的第一部分和联接至所述托架的第二部分，当所述框架绕所述枢转轴枢转时，所述悬架提供增加的力。

容易操纵的婴儿车

技术领域

[0001] 本公开大体上涉及一种儿童照顾装置，并且更具体地，涉及一种容易操纵的婴儿车。

背景技术

[0002] 在本领域中，婴儿车是已知的。典型地，已知的婴儿车包括可折叠框架、车轮以及用于支撑处于就坐、斜卧和/或平躺位置的儿童或婴儿的一个或多个座椅。婴儿车框架通常能沿至少一个方向折叠以允许所述婴儿车塌缩至折叠位置。

发明内容

[0003] 依照第一方面，提供了一种婴儿车，该婴儿车包括：框架；用于支撑所述框架的前轮和后轮；位于所述前轮和所述后轮之间的中间轮；以及联接至所述后轮、所述中间轮和所述框架的托架。

[0004] 依照第二方面，提供了一种婴儿车，该婴儿车包括：框架，该框架具有第一侧面框架组件，该第一侧面框架组件与第二侧面框架组件横向间隔开，以在这些侧面框架组件之间限定座椅区域；用于支撑所述框架的前端的前轮；用于支撑所述框架的后端的后轮；中间轮，该中间轮用于提供位于所述前轮和所述后轮之间的转动枢轴；以及在所述第一侧面框架组件和所述第二侧面框架组件之间延伸的轮轴，该轮轴限定了这样的轴线，即：当所述前轮相对于所述后轮和所述中间轮升起时所述框架绕该轴线枢转，并且该轴线位于所述中间轮和所述后轮之间。

[0005] 依照第三方面，提供了一种制造婴儿车的方法，该方法包括：将前轮安装至框架的前部；将后轮和中间轮安装至所述框架，使得所述中间轮位于所述前轮和所述后轮之间；以及在所述后轮和所述中间轮之间提供一枢转轴，以使得所述框架的所述前部能够相对于该框架的后部抬起。

附图说明

[0006] 图 1 是依照在此公开的教导而构造的示例婴儿车的立体图。

[0007] 图 2 是图 1 的示例婴儿车的左侧面视图。

[0008] 图 3 是图 1 和图 2 的示例婴儿车的右侧面视图。

[0009] 图 4 是图 1 至图 3 的示例婴儿车的侧面视图，示出了当示例婴儿车的全部车轮都与基本上平坦或水平的行进路径接触时示例婴儿车的枢转运动的示例范围。

[0010] 图 5A 是图 1 至图 4 的示例婴儿车的局部左侧面立体图。

[0011] 图 5B 是图 1 至图 4 的示例婴儿车的局部右侧面立体图。

[0012] 图 6 是图 1 至图 4、图 5A 和图 5B 的示例婴儿车的侧面视图，示出了示例婴儿车的前轮相对于示例婴儿车的后轮和中间轮而升高。

[0013] 图 7 是图 1 至图 4、图 5A、图 5B 和图 6 的示例婴儿车的侧面视图，示出了部分塌缩

的婴儿车。

[0014] 图 8 是图 1 至图 4、图 5A、图 5B、图 6 和图 7 的示例婴儿车的侧面视图，示出了完全塌缩的婴儿车。

[0015] 图 9A 和图 9B 示出了在此公开的示例座椅安装件。

[0016] 图 10 示出了在此公开的另一示例座椅安装件。

[0017] 图 11 示出了依照本公开的教导而构造的另一示例婴儿车。

[0018] 图 12 是依照该公开的教导而构造的另一示例婴儿车的侧面视图。

[0019] 图 13 是图 12 的示例婴儿车的示例手柄的顶视图。

[0020] 图 14 是图 12 和图 13 的示例婴儿车的处于部分塌缩状态的框架的一部分的侧面视图。

[0021] 图 15 是图 12 至图 14 的示例婴儿车的侧面视图，示出了完全塌缩的婴儿车。

[0022] 图 16 是依照在此公开的教导而构造的另一示例婴儿车的立体图。

[0023] 图 17 是图 16 的示例婴儿车具有柔软品的侧面视图。

[0024] 图 18 是图 16 和图 17 的示例婴儿车的顶视图。

[0025] 图 19 是图 16 至图 18 的示例婴儿车的左侧面视图，但是为了清楚起见而移除了柔软品。

[0026] 图 20 是图 16 至图 19 的示例婴儿车的右侧面视图。

[0027] 图 21 是图 16 至图 20 的示例婴儿车的侧面视图，示出了示例婴儿车的示例悬架装置。

[0028] 图 22A 至图 22D 示出了图 16 至图 21 的示例婴儿车的示例制动机构。

[0029] 图 23 是图 16 至图 21 的示例婴儿车的侧面视图，示出了部分塌缩的婴儿车。

[0030] 图 24 是图 16 至图 21 的示例婴儿车的侧面视图，示出了完全塌缩的婴儿车。

[0031] 图 25A 和图 25B 示出了图 16 至图 21 的示例婴儿车的示例锁闩释放机构。

[0032] 图 26 是依照本公开的教导而构造的又一示例婴儿车的侧面视图。

[0033] 图 27 是图 26 的示例婴儿车的侧面视图，示出了部分塌缩的婴儿车。

[0034] 图 28 是图 26 和图 27 的示例婴儿车的侧面视图，示出了完全塌缩的婴儿车。

[0035] 图 29 描述了在此公开的组装示例覆盖组件的示例方法的流程图。

具体实施方式

[0036] 在此公开的示例婴儿车相对于一些已知的婴儿车提高了婴儿车的稳定性、操纵性和 / 或转向控制，和 / 或提供了改进的震动吸收性。在此公开的示例婴儿车使得使用者能够在一紧密的转动半径内转动或枢转示例婴儿车。在一些示例中，婴儿车可以在其自身的总长度或包络尺寸内转动 360 度。为了能够这样转动，在此公开的示例婴儿车采用一个或多个中间的、能够枢转的和 / 或变大的车轮。在一些示例中，中间轮（例如，中央轮）被布置在支撑婴儿车框架的前部的一个或多个前轮和支撑婴儿车框架的后部的一个或多个后轮之间。前轮和后轮之间的距离基本上限定了婴儿车的总长度。在一些示例中，中间轮基本上位于前和后轮之间的中途，和 / 或基本上位于被使用的婴儿车的质量中心的下方（例如，正下方）。在一些示例中，为了进一步改进转向和 / 或操纵性，中间轮定位成与前轮相比更接近于后轮，使得中间轮的中心与后轮的中心之间的距离小于中间轮的中心与前轮的中

心之间的距离。在一些示例中，与前轮相比将中间轮定位得更接近于后轮在操纵婴儿车越过诸如路缘之类的障碍时，便于提升婴儿车的前端。

[0037] 为了在婴儿车的前端相对于婴儿车的后端被提升或抬高时（例如，当婴儿车的前端被提升、枢转或倾斜以前进通过路缘时）改进婴儿车的控制或操纵性，在此公开的示例婴儿车采用了枢轴或枢转轮轴。在一些示例中，枢轴位于后轮和中间轮之间。结果，这样的示例婴儿车包括框架，当婴儿车的前端相对于婴儿车的后端被提升时，该框架相对于中间轮和后轮枢转。一些这样的婴儿车采用壳体、托架或承载架来将中间轮和后轮联接至车架的侧面框架组件。在一些实例中，框架例如经由套管联接（例如，枢转联接）至枢轴。另选地，在此公开的一些示例婴儿车的框架被安装至枢转轮轴和托架，一些这样的示例经由套管被联接至枢转轮轴。在此公开的示例托架可以使得联接至该托架的中间轮和后轮绕由枢转轮轴或枢转轴提供的枢轴相对于框架枢转。

[0038] 此外或另选地，为了提供更大的稳定性、便于平衡和/或便于提升婴儿车的前端，在此公开的一些示例婴儿车采用悬架装置。在一些这样的示例中，当婴儿车的前端绕由枢转轴提供的枢轴向上或远离一表面枢转时，悬架装置提供朝向框架的前端的反作用力。结果，悬架装置降低（例如，显著降低或防止）朝向后轮转移婴儿车的重量。换句话说，当婴儿车的前端绕枢转轴枢转时，悬架装置将婴儿车的质量中心保持在由中间轮和后轮限定的周界内。当示例婴儿车的手柄移动或绕枢转轮轴枢转来提升婴儿车的前端时，一些这样的示例的悬架装置提供了朝向中间轮和/或后轮的反作用力（例如，增加的力）。结果，当婴儿车的前轮相对于后轮和中间轮被提升或抬高时，一些这样的示例的悬架装置帮助保持后轮和中间轮与行进路径或地面接合。当婴儿车的前端被提升时帮助保持中间轮和后轮与地面接合有助于防止婴儿车绕其中一个后轮倾翻。

[0039] 为了便于或有助于折叠婴儿车，在此公开的一些示例婴儿车提供了辅助框架构件或杆。在一些这样的示例中，框架构件与婴儿车的框架的折叠枢轴间隔开，以使得当示例婴儿车被折叠至塌缩位置时，托架和因而联接至该托架的中间轮相对于框架旋转至存放位置。

[0040] 改进了婴儿车的稳定性、操纵性和/或转向控制的一些示例婴儿车在国际专利申请序列号 PCT/US2011/062669 中公开，该国际专利申请的全部内容通过引用合并于此。

[0041] 图 1 是依照在此公开的教导而构造的示例婴儿车 100 的立体图。图 1 的示例婴儿车 100 包括框架 102，该框架限定了用于容纳或支撑一个或多个儿童和/或婴儿座椅 106 的座椅区域 104。为了支撑婴儿座椅 106，所示示例的框架 102 包括一个或多个婴儿座椅安装件 108。更具体地，婴儿座椅 106 借助由座椅 106 和座椅安装件 108 提供的接口（例如，锁扣件或连接件）以可移除的方式联接至座椅安装件 108。为了从座椅安装件 108 移除婴儿座椅 106，由所述接口限定的连接件经由一释放装置（例如，弹簧加载的推动按钮）而释放。附加地或另选地，座椅安装件 108 可沿着框架 102 被调整，从而相对框架 102 和/或相对于彼此调整婴儿座椅 106 的位置。

[0042] 所示示例的框架 102 由位于框架 102 前端 112 处的一个或多个前轮 110 和位于框架 102 的后端 116 处的一个或多个后轮 114 支撑。所示示例的框架 102 被组装形成这样的结构，该结构旨在在其使用和存放的所有阶段中都保持被组装。附加地，为了改进操纵性、转向控制和/或提供震动吸收性，所示示例的框架 102 采用被布置在前轮 110 和后轮 114

之间的一个或多个中间轮 118。为了向示例婴儿车 100 提供震动吸收性，所示示例的中间轮 118、前轮 110 和 / 或后轮 114 可实施为由橡胶构成的可充气轮。如在所示示例中所示的，中间轮 118 的直径基本上类似或等于前轮 110 和后轮 114 的直径。

[0043] 在图 1 的所示示例中，中间轮 118 被定位成与前轮 110 相比更接近后轮 114。然而，在其它示例中，中间轮 118 可以被布置在前轮 110 和后轮 114 之间的近似中点处。所示示例的每个中间轮 118 均限定了枢轴（例如，转动枢转点）提供结构，该枢轴提供结构被布置或定位在前轮 110 和后轮 114 之间。因此，在所示的示例中，每个中间轮 118 均提供了用于婴儿车 100 的枢转点，该枢转点从婴儿车 100 的后端 116 和 / 或后轮 114 偏离或横向间隔开。因此，当使用者在使所有车轮 110、114 和 118 都与地面或行进表面接触的情况下沿向右方向、向左方向和 / 或以 360 度的转或圈转动所示示例的婴儿车 100（例如，通过向婴儿车 100 施加侧向力）时，婴儿车 100 的前端 112 和婴儿车 100 的后端 116 都能够绕由其中一个相应的中间轮 118 提供的转动枢轴或枢转点沿弧形路径枢转或旋转。

[0044] 如在示出的示例中所示的，中间轮 118 经由轮轴 120 相互联接，并且绕公共的旋转轴线 120a 旋转。然而，在其它示例中，轮轴 120 可被移除以使得中间轮 118 相对于彼此独立地驱动或旋转。此外，虽然示例婴儿车 100 包括两个中间轮 118，但其它示例婴儿车可以仅采用一个中间轮 118 或两个以上的中间轮 118。例如，婴儿车 100 可以包括在轮轴 120 上布置在第一和第二中间轮 118 之间的第三中间轮。

[0045] 由于中间轮 118 基本上位于婴儿车 100 的座椅区域 104 的下方（例如，垂直地与该座椅区域对齐），因此中间轮 118 吸收由儿童坐在所示示例的婴儿车 100 的婴儿座椅 106 中所提供的负载的大部分。换句话说，在所示的示例中，当使用者转动所示示例的婴儿车 100 时，坐在座椅区域 104 中的儿童的负载或重量大部分由中间轮 118 承载。结果，由儿童提供的负载绕由其中一个中间轮 118 提供的枢转点旋转。以这样的方式，婴儿车 100 和婴儿车 100 中的儿童的组合负载或重量与在没有中间轮 118 的情况下类似组合重量的婴儿车和儿童所需要力（或转矩）小的力（或转矩）来转动或枢转婴儿车 100。由于所示示例的婴儿车 100 中的儿童的重量（或质量中心）接近中间轮 118 的枢转轴线或枢转点，因此当儿童坐在座椅区域 104 中时枢转或转动所示示例的婴儿车 100 所需的力或转矩相对低。结果，所示示例的婴儿车 100 可以在相对紧密的转动半径的情况下相对轻松地绕由任一中间轮 118 提供的枢转点转动。例如，图 1 的示例婴儿车 100 可以在其自身的长度内转动 360 度。

[0046] 为了使得使用者能够推动、转动和 / 或倾斜所示示例的婴儿车 100，框架 102 包括具有把手 124 的手柄 122，使用者可以握住该把手 124 来移动、控制和 / 或转向婴儿车 100。此外，所示示例的手柄 122 邻近后轮 114。所示示例的婴儿车 100 包括具有辅助把手 124a 的辅助手柄 122a，以使得儿童或成人在沿着婴儿车 100 行走时能够握住辅助把手 124a 来进行支撑。辅助手柄 122a 通常并不用于操纵婴儿车 100，而是可以将其用作其它一些使用目的。手柄 122 经由手柄关节毂或接头 126 联接至框架 102，该手柄关节毂或接头使得手柄 122 能够相对于框架 102 调整。

[0047] 如在下文更详细地描述的，为了当操纵婴儿车 100 越过路缘或其它障碍时进一步改进稳定性和 / 或便于平衡，所示示例的示例婴儿车 100 采用悬架装置 128。更具体地，当婴儿车 100 的前端 112 经由手柄 122 相对于框架 102 的后端 116 枢转或倾斜时（例如，前端 112 相对于支撑表面（例如，地面）沿向上方向被提升），图 1 的示例悬架装置 128 提供

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了稳定性和 / 或便于平衡。此外，如在下文结合图 2A、图 2B、图 3 和图 4 更详细地讨论的，示例婴儿车 100 采用轮轴 130，来使得当前端 112 相对于后轮 114 和中间轮 118 从行进表面被抬起、倾斜或升起时框架 102 能够围绕轮轴 130 的轴线 132 枢转。

[0048] 图 2 示出了婴儿车 100 的第一侧面视图或左侧面视图。图 3 示出了图 1 的示例婴儿车 100 的第二侧面视图或右侧面视图。参考图 2 和图 3，所示示例的框架 102 包括第一侧面框架组件 202a，该第一侧面框架组件与第二侧面框架组件 202b 横向间隔开而限定座椅区域 104。所示示例的第一侧面框架组件 202a 和第二侧面框架组件 202b 基本上类似或相同并且是对称的。所示示例的手柄 122 在侧面框架组件 202a、202b 之间延伸，并且可以由弯曲成大体 U 型的结构的单个管件形成。

[0049] 参考图 2 和图 3，所示示例的侧面框架组件 202a、202b 均包括下框架支撑件 204、上框架支撑件 206 和中间框架支撑件 208。在示出的示例中，框架支撑件 204、206 和 208 具有基本上线性的轮廓（例如，直的和 / 或平坦的轮廓）。然而，在其它示例中，框架支撑件 204、206 和 208 可以是任何形状的，包括大体上弯曲的形状或具有一个或多个弯曲和 / 或线性部分的形状。

[0050] 为了使得所示示例的婴儿车 100 沿至少一个方向折叠或塌缩，第一侧面框架组件 202a 的框架支撑件 204、206 和 208 经由第一枢转连接件或枢转接头 210a 被枢转地联接。更具体地，连接件或枢转接头 210a 由毂 212a（例如，T 形毂）限定，以接收第一侧面框架组件 202a 的每个框架支撑件 204、206 和 208 的相应端。所示示例的毂 212a 使得框架支撑件 204、206 和 208 能够相对彼此枢转，以例如如在下文更详细地讨论的塌缩婴儿车 100。相似地，第二侧面框架组件 202b 的框架支撑件 204、206 和 208 在第二枢转连接件或枢转接头 210b 处枢转地联接。更具体地，连接件或枢转接头 210b 由毂 212b（例如，T 形毂）限定，以接收第二侧面框架组件 202b 的每个框架支撑件 204、206 和 208 的相应端部。与毂 212a 一样，毂 212b 使得第二侧面框架组件 202b 的框架支撑件 204、206 和 208 能够相对于彼此枢转。

[0051] 参考图 3，所示示例的每个毂 212a、212b 均包括：第一腿或开口 214a，该第一腿或开口以接收下框架支撑件 204 的第一端 204a 或联接至该第一端 204a；第二腿或开口 214b，该第二腿或开口以接收上框架支撑件 206 的第一端 206a 或联接至该第一端 206a；以及第三腿或开口 214c，该第三腿或开口以接收中间框架支撑件 208 的第一端 208a 或联接至该第一端 208a。在这一示例中，毂 212a、212b 还包括第四腿或开口 214d，以接收辅助手柄 122a 的端部。腿 214a 至 214c 使得当毂 212a、212b 的锁定机构（例如，锁闩）处于释放或解锁状态时框架支撑件 204、206 和 208 能够绕相应的枢转连接件 210a、210b 相对于彼此枢转。当毂 212a、212b 的锁定机构处于解锁状态时，框架支撑件 204、206 和 208 不能绕相应的枢转连接件 210a、210b 相对于彼此枢转。毂 212a、212b 的锁定机构可经由释放致动器 216 移动至解锁状态，所述释放致动器位于可以由使用者致动的上框架支撑件上。

[0052] 参考图 2，当框架 102 直立时，第一侧面框架组件 202a 的下框架支撑件 204 和上框架支撑件 206 相对于彼此基本上对齐或平行，使得下框架支撑件 204 的轴线 218 基本上与上框架支撑件 206 的轴线 220 对齐。然而，在其它示例中，当框架 102 处于直立状态时，下框架支撑件 204 可以相对于上框架支撑件 206 定位在任意角度。例如，下框架支撑件 204 的轴线 218 与上框架支撑件 206 的轴线 220 之间的角度 222 可以在近似 100 度至 200 度之

间。

[0053] 所示示例的中间框架支撑件 208 从相应的毂 212a 和 212b 朝向后轮 114 伸出。为了使得框架 102 能够相对于中间轮 118 和 / 或后轮 114 枢转，中间框架支撑件 208 枢转地联接至轮轴 130（图 1）。更具体地，在示出的示例中，中间框架支撑件 208 的第二端 208b 经由连接件或套管 211 被联接至轮轴 130（图 1）。所示示例的套管 211（其包括轴向联接至轮轴 130 的部分）使得中间框架支撑件 208 且因此使和下框架支撑件 204 和上框架支撑件 206 能够绕轮轴 130 的轴线 132 枢转。

[0054] 当联接至相应的枢转接头 110a 和轮轴 130 时，所示示例的中间框架支撑件 208 基本上垂直于下框架支撑件 204 和上框架支撑件 206。换句话说，由中间框架支撑件 208 限定的轴线 224 相对于下框架支撑件 204 的轴线 218 和上框架支撑件的轴线 220 呈大致九十度的角度。然而，在其它示例中，中间框架支撑件 208 可以相对于下框架支撑件 204 和 / 或上框架支撑件 206 呈任何不同的角度。例如，中间框架支撑件 208 的轴线 224 和下框架支撑件 204 的轴线 218 之间的角度 226a 和 / 或中间框架支撑件 208 的轴线 224 和上框架支撑件 206 的轴线 220 之间的角度 226b 可以是小于九十度或大于九十度的任何其它合适的角度。

[0055] 参考图 2 和图 3，为了将所示示例的前轮 110 安装或附接至侧面框架组件 202a、202b 中的一者，所示示例的每个前轮 110 都包括前轮毂体 230。例如，前轮壳体 230 可以被联接或附接至下框架支撑件 204 件的一端。所示示例的每个前轮壳体 230 均包括以可旋转的方式安装至连接件 234 的叉或轮支撑件 232。每个前轮 110 均可以以可旋转的方式轴颈连接至轮支撑件 232，以使得每个前轮 110 都能够绕单独的旋转轴线 236a、236b（例如，相对于供定位婴儿车 100 的水平地面基本上水平的轴线）独立地旋转。附加地，为了改进转向，所示示例的每个前轮 110 都能够绕基本上垂直于对应的旋转轴线 236a、236b 的对应的基本上竖直的轴线 238a、238b 旋转，回转或枢转。在所示示例中，由于对应的轮支撑件 232 和对应的连接件 234 之间的枢转连接件，因此前轮 110 能够绕对应的竖直轴线 238a、238b 枢转。

[0056] 为了将后轮 114 和中间轮 118 安装或附接至相应的侧面框架组件 202a、202b，所示示例的每个侧面组件 202a、202b 都采用壳体或托架 240（例如，摇摆件）。所示示例的托架 240 是整体件或整体结构。更具体地，所示示例的托架 240 包括或限定了毂 242，该毂将后轮 114 和中间轮 118 附接或联接至框架 102。在示出的实例中，轮轴 130 轴颈连接在托架 240 上。示例托架 240 可相对于框架 102 和 / 或中间框架支撑件 208 枢转。所示示例的每个毂 242 都包括：第一部分或腿 242a，该第一部分或腿用于接收其中一个后轮 114 或者联接至其中一个后轮 114；以及第二部分或腿 242b，该第二部分或腿用于接收其中一个中间轮 118 或者联接至其中一个中间轮 118。

[0057] 例如，示例托架 240 的第一部分 242a 接收后轮壳体 244，该后轮壳体具有以可旋转的方式安装至连接件 248 的叉或后轮支撑件 246，所述连接件 248 安装至（例如，通过螺钉）托架 240 或与该托架一体地形成。每个后轮 114 都以可旋转的方式安装至后轮支撑件 246，以使得每个后轮 114 都能够绕单独的旋转轴线 250a、250b（它们中的每一个都是相对于供定位婴儿车的水平地面的基本上水平的轴线）独立地旋转。附加地，为了改进转向，所示示例的每个后轮 114 都能够绕基本上垂直于相应的旋转轴线 250a、250b 的基本上竖直的轴线 252a、252b 旋转、回转或枢转。在示出的实例中，后轮 114 由于位于对应的轮支撑件 246 和

/或托架 240 和对应的连接件 248 之间的枢转连接件而能够绕相应的竖直轴线 252a、252b 枢转。

[0058] 在示出的示例中，每个中间轮 118 都经由臂或框架构件 254 联接至相应的托架 240。在示出的示例中，臂 254 的第一端 254a 被联接或固定至托架 240 的第二部分 242b，并且臂 254 的第二端 254b 限定中间轮 118 的毂 256 或被联接至中间轮 118 的毂 256。臂 254 在被联接至托架 240 时沿远离后轮 114 且朝向前轮 110 的方向从托架 240 伸出，以在后轮 114 和前轮 110 之间定位中间轮 118。如在所示的示例中所示的，臂 254 将中间轮 118 定位得与前轮 110 相比更接近后轮 114。然而，在其它示例中，臂 254 可以被构造成将中间轮 118 定位在前轮 110 的旋转轴线 236a、236b 和后轮 114 的旋转轴线 250a、250b 之间的近似中点处。所示示例的臂 254 的中间轴线 258（图 2）相对于中间框架支撑件 208 的中心轴线 224 成角度 260（例如，基本上垂直）。如在下文中更详细地描述的，当中间框架支撑件 208 和/或框架 102 相对于托架 240 绕由轮轴 130 限定的轴线 132 枢转时，角度 260 发生改变。

[0059] 如上文注意到的，所示示例的中间轮 118 被安装在在侧面框架组件 202a、202b 之间延伸的轮轴 120 上（图 1）。因此，轮轴 120 以可旋转的方式联接中间轮 118。结果，所示示例的中间轮 118 绕轮轴 120 的旋转轴线 120a 旋转。然而，虽然所示示例的中间轮 118 能够绕旋转轴线 120a 旋转，但中间轮 118 被固定而不能在其它方向上回转或枢转（例如，与前轮 110 和后轮 114 不一样，中间轮 118 不能绕基本上垂直于相应的旋转轴线 120a 的基本上竖直的轴线 264a、264b 旋转）。结果，当婴儿车 100 在基本上直的路径中移动或被推动时，图 1 的示例婴儿车 100 的中间轮 118 阻止婴儿车 100 的横向漂移。然而，在其它示例中，中间轮 118 可以相对于框架 102 绕竖直轴线 264a、264b 旋转。

[0060] 如上文注意到的，所示示例的中间轮 118 限定了枢轴或枢转点，所示示例的婴儿车 100 可以绕这些枢轴或枢转点转动。换句话说，所示示例的每个中间轮 118 都限定布置于前轮 110 和后轮 114 之间的枢转点。例如，当相对于站在婴儿车之后且抓握手柄 122 的使用者的取向沿向左方向（例如，从婴儿车 100 的上方向下看的顺时针方向）向所示示例的婴儿车 100 的手柄 122 施加足够力时，婴儿车 100 绕第二框架组件 204b 的（右侧）中间轮 118 枢转，使得前轮 110 在朝向第二侧面框架组件 202b 的方向上沿着弧形路径移动，并且使得后轮 114 在朝向第一侧面框架组件 202a 的方向上沿着弧形路径移动。同样，当相对于抓握手柄 122 的使用者的取向沿向右方向（例如，从婴儿车 100 的上方向下看的逆时针方向）向婴儿车 100 的手柄 122 施力时，所示示例的婴儿车 100 绕第一框架组件 202a 的（左侧）中间轮 118 枢转，使得前轮 110 在朝向第一侧面框架组件 202a 的方向上沿着弧形路径移动，并且使得后轮 114 在朝向第二侧面框架组件 202b 的方向上沿着弧形路径移动。在一些示例中，婴儿车可以在其自身的总长或包络尺寸内转动 360 度。

[0061] 图 4 是图 1 至图 3 的示例婴儿车 100 的侧视图。在图 4 的所示示例中，第一侧面框架组件 202a 的托架 240 经由轮轴 130（图 1）的第一端被联接或安装至框架 102。第二侧面框架组件 202b 的托架 240 基本上与第一侧面框架组件 202a 的托架 240 相同，并且以与第一侧面框架组件 202a 的托架 240 相同的方式被安装至轮轴 130 的第二端。因此，下面的描述将集中于一个托架，来用作对两个托架 240 的说明。托架 240 以及因此附接至该托架的中间轮 118 和后轮 114 可以相对于中间框架支撑件 208（例如，经由套管）绕由轮轴 130 限定的轴线 132 枢转。结果，中间框架支撑件 208 和/或相应的左侧面框架组件 202a 和右

侧面框架组件 202b 的托架 240 可以相对于彼此绕由轮轴 130 和 / 或轴线 132（图 1）限定的枢轴 404 枢转。例如，中间框架支撑件 208、框架 102 和 / 或托架 240 可以绕由轴线 132 限定的枢转点 404 在旋转方向 402 上枢转（例如，绕轴线 132 的顺时针和逆时针旋转）。虽然第一侧面框架组件 202a 的托架 240 可以相对于第二侧面框架组件 202b 的托架 240 绕由轮轴 130 限定的轴线 132 枢转，但在中间轮 118 之间延伸的轮轴 120（图 1）连接或联接每个托架 240 的相应的中间轮 118。结果，所示示例的第一侧面框架组件 202a 的托架 240 和第二侧面框架组件 202b 的托架 240 一起绕轴线 132 旋转或枢转。然而，在没有使用轮轴 120 的示例中，第一侧面框架组件 202a 的托架 240 可以绕轴线 132 相对于第二侧面框架组件 202b 的托架 240 和 / 或中间框架支撑件 208 独立地旋转或枢转。

[0062] 所示示例的枢转点 404 位于中间轮 118 和后轮 114 之间。具体地，枢转点 404 位于中间轮 118 的旋转轴线 120a 和后轮 114 的旋转轴线 250a、250b 之间。同样，在这一示例中，枢轴 404 相对于旋转轴线 120a 和 250a、250b 偏移（例如，至少在上方定位）。结果，中间轮 118 和后轮 114 可以相对框架 102 枢转，以移动和 / 或跟随轮廓行进表面。因此，可以导致前端 112 相对于后端 116 提升或抬起（或另选地，下降）的在行进表面中的一些轮廓变化将不导致中间轮 118 和 / 或后轮 114 分离或抬离行进表面。例如，图 4 的所示示例的婴儿车 100 被示出为从通过虚线示出的初始位置 408 移动或移位至第一位置 406。换句话说，随着框架 102 绕枢轴 404 枢转或倾斜，臂 254 的轴线 258 和中间框架支撑件 208 的轴线之间的角度 260 在当框架 102 处于初始位置 408 时的第一角度 410 和当框架 102 处于第一位置 406 时的第二角度 412 之间改变。

[0063] 为了限制中间框架支撑件 208 可以相对于托架 240 枢转的角度 260（例如，在中间框架支撑件 208 与臂 254 之间的角度），所示示例的婴儿车 100 采用一个或多个行进限制件。在示出的示例中，行进限制件是物理障碍件（例如，止动件），这些物理障碍件借助中间框架支撑件 208 和 / 或臂 254 接合，以阻挡沿相应方向的进一步旋转运动。所示示例的婴儿车 100 采用位于轮轴 130 上的行进限制件 403，以限制中间框架支撑件 208 可以相对于托架 240 或臂 254 在第一旋转方向 404a（例如，顺时针方向）上可以枢转的角度 260。例如，中间框架支撑件 208 的轴线 224 与臂 254 之间的角度 260 可以被限制至近似 0 至 120 度。在其它示例中，行进限制件 403 可以位于托架 240 和 / 或中间框架支撑件 208 上。在一些示例中，可以使用两个行进限制件来限制中间框架支撑件 208 可以相对于托架 240 或臂 254 枢转的角度 260。在其它示例中可以采用行进限制件的其它位置、构件和 / 或构造。

[0064] 图 5A 和图 5B 示出了相应的侧面框架组件 202a、202b 的局部后部立体图。参考图 5A 和图 5B，当框架 102 绕枢轴 404 枢转时为了进一步帮助支撑框架 102，所示示例的婴儿车 100 采用悬架装置 128。所示示例的示例悬架装置 128 是联接至轮轴 130、中间框架支撑件 208 和 / 或套管 211 的扭转弹簧 502。例如，图 5A 的第一侧面框架组件 202a 包括第一扭转弹簧 502，并且图 5B 的第二侧面框架组件 202b 具有第二扭转弹簧 502。每个扭转弹簧 502 都具有由中间框架支撑件 208 联接或接合的第一部分 502a 以及联接或固定至轮轴 130 的第二部分 502b。结果，中间框架支撑件 208 绕轴线 132 在方向 402a 上的旋转导致每个扭转弹簧 502 的第一部分 502a 相对于扭转弹簧 502 的第二部分 502b 移动，因而增加了由每个扭转弹簧 502 提供的张力或力。在其它示例中，扭转弹簧 502 是整体弹簧，该整体弹簧沿着轮轴 130 的长度延伸，轮轴 130 的相应端部联接至第一侧面框架组件 202a 和第二侧面框架

组件 202b（例如，中间框架支撑件 208、托架 240 等）。在其它示例中，悬架装置 128 可以是联接至轮轴 130 的板簧和 / 或扭转杆，位于上框架支撑件 206 和托架 240 之间的流体缸，和 / 或当婴儿车 100 的手柄 122 绕枢轴 404 朝向后轮 114 移动或枢转时提供反作用力或增加的力的任何其它悬架装置。

[0065] 所示示例的示例托架 240 还支撑制动装置的一部分。示例婴儿车 100 的制动装置可在防止或限制相应在的中间轮 118 和 / 或后轮 114 旋转的锁定位置和使得中间轮 118 和 / 或后轮 114 能够旋转的解锁位置之间选择性地移动。为了在锁定和解锁位置之间移动制动装置，所示示例的婴儿车 100 采用由托架 240 支撑的制动杆或脚踏板 504。所示示例的制动杆 504 可以相对于托架 240 被按压，从而摩擦性地接合或阻碍相应的后轮 114 绕它们的旋转轴线 250a、250b 旋转。

[0066] 图 6 是图 1 至图 4、图 5A 和图 5B 的示例婴儿车 100 的侧面视图，框架 102 的前端 112 相对于框架 102 的后端 116 被向上提升或倾斜。更具体地，图 6 的所示示例中的前轮 110 相对于供定位中间轮 118 和后轮 114 的表面 604 位于升高表面 602 上。在示出的示例中，升高表面 602 可以是路缘 606 或台阶的顶面。此外，如上面结合图 4 所注意到的，用于限制中间框架支撑件 208 可以绕轮轴 130 枢转的旋转距离（例如，五度的旋转）的行进限制件 403 足以使得在中间轮 118 和后轮 114 保持在下表面 604 上的情况下婴儿车 100 的前端 112 能够克服（例如，到达其顶部）路缘 606（例如 5 英寸的高度）。

[0067] 当框架 102 的前端 112 绕枢轴 404 向上枢转（例如，绕枢轴 404 在顺时针方向上）时，悬架装置 128 朝向前端 112 提供反作用转矩或力（例如，增加的力）来增强稳定性。为了增强稳定性，悬架装置 128 通常减缓或分散在侧面框架组件 202a、202b 之间施加至手柄 122 的向下力，并且支撑婴儿车 100 的重量，在当婴儿车 100 的前端 112 被提升、枢转或倾斜（例如，为了前进经过路缘或台阶 606）时中间框架支撑件 208 绕枢轴 404 在方向 608 上移动时，该重量否则可以朝向框架 102 的后端 116 移位（例如，远离中间轮 118）。例如，当框架 102 的前端 112 绕枢轴 404 枢转或倾斜时，由悬架装置 128 提供的反作用力或转矩阻止（例如，显著降低或防止）婴儿车 100 的质量中心（例如，婴儿车和 / 或位于座椅区域 104 中的儿童的重量）远离中间轮 118 且朝向后轮 114 移位。换句话说，反作用力将婴儿车 100 的质量中心保持或定位成基本上对齐和 / 或邻近中间轮 118。为了当婴儿车 100 的前端 112 相对于框架 102 的后端 116 向上倾斜时便于控制婴儿车 100，悬架装置 128 帮助将婴儿车 100 的质量中心保持或定位在后轮 114 的旋转轴线 250a、260b 和中间轮 118 的旋转轴线 120a 之间。

[0068] 结果，除了由座椅区域 104（图 1）中的儿童提供的负载之外，悬架装置 128 向中间轮 118 和 / 或后轮 114 提供有效的向下偏压力。以这一方式，当前轮 110 相对于后轮 114 和中间轮 118 被抬高或提离表面 604 时，悬架装置 128 通过帮助保持中间轮 118 和 / 或后轮 114 与行进路径或表面 604（例如，地面）保持接合和 / 或接触而便于平衡婴儿车 100 和 / 或改进婴儿车 100 的稳定性。当婴儿车 100 的前端 112 被提升时保持中间轮 118 和后轮 114 与表面 604 接触帮助防止婴儿车 100 绕其中一个后轮 114 倾翻（例如，向侧面的施加转矩）。如果没有悬架装置 128，则当婴儿车 100 的前端 112 相对于后端 116 被提升（例如，在向上方向上）时，使用者将需要施加较大的力来平衡婴儿车 100 且保持中间轮 118 和后轮 114 与地面接触。

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[0069] 所示示例的中间轮 118 基本上没有增加婴儿车 100 的总体包络尺寸。具体地，中间轮 118 没有显著地影响所示示例的婴儿车 100 塌缩为紧凑轮廓的能力。图 7 和图 8 示出了图 1 的示例婴儿车 100 被从图 1 至图 6 中所示的使用中的未折叠位置折叠成图 8 中所示的塌缩，折叠或存放位置 800。如上文注意到的，侧面框架组件 202a、202b 构造得使得所示示例的整个婴儿车 100 可在延伸、展开、使用位置（图 1 至图 6）与塌缩，折叠或存放位置 800（图 8）之间选择性地移动。当婴儿车 100 处于塌缩位置 800 时，所示示例的婴儿车 100 具有低轮廓或紧凑的包络尺寸。当婴儿车 100 处于展开位置（图 1 至图 6）和 / 或折叠位置 800（图 8）时，所示示例的中间轮 118 没有显著地增加所示示例的婴儿车 100 的总体包络尺寸。此外，中间轮 118 不干涉将婴儿车 100 折叠至折叠位置 800。

[0070] 为了保持婴儿车 100 处于使用或展开位置，所示示例的婴儿车 100 的每个毂 212a、212b 都包括锁闩机构。所示示例的锁闩机构包括由棘爪、锁、弹簧和 / 或其它任何机构固定的锁闩盘，以将所示示例的框架 102 锁定并保持在使用位置。任何已知的锁闩可被用于这一角色。所采用的锁闩机构对于这一公开是不重要的。锁闩机构将毂 212a、212b 以及固而将框架支撑件 204、206 和 208 保持在锁定状态，以防止框架支撑件 204、206 和 208 相对彼此旋转（以由此防止婴儿车 100 塌缩）。为了塌缩所示示例的婴儿车 100，释放装置 216 被致动（例如，被滑动和 / 或按压），以解锁锁闩机构并且使得毂 212a、212b 的相应部分 214a 至 214c 能够相对于彼此旋转。更具体地，在解锁状态下，框架支撑件 204、206 和 / 或 208 不相对于彼此绕由枢转连接件 210a、210b 提供的枢轴 704 旋转或枢转。在示出的示例中，所示示例的下框架支撑件 204 和上框架支撑件 206 沿由各箭头 706 和 708 示出的方向朝向中间框架支撑件 208 枢转到图 7 和 8 中示出的构造。此外，当将婴儿车 100 折叠至折叠位置 800 时，所示示例的托架 240 也在由箭头 710 表示的方向上朝向中间框架支撑件 208 旋转。托架 240 沿箭头 710 的方向的旋转没有被上面讨论的行进限制件 403 阻碍。相反地，如上面注意到的，行进限制件 403 限制托架 240 在方向 403a 上的旋转，该方向 403a 是箭头 710 的相反方向。

[0071] 如图 8 所示，在完全塌缩、折叠或存放位置 800 中，所示示例的婴儿车 100 具有相对低的轮廓或包络尺寸以及相对小的轮廓。在折叠位置 800 中，后轮壳体 244 的轴线 802 相对于中间框架支撑件 208 的轴线 244 基本上对齐（例如，稍微偏离）。虽然示出了可塌缩的框架 102，但在一些示例中，婴儿车并不塌缩。

[0072] 在一些示例中，座椅安装件 108 可以在婴儿车 100 处于折叠位置 800 之前或之后相对于框架 102 被折叠。例如，图 9A 和图 9B 示出了相对于框架 102 折叠的示例座椅安装件 108。所示示例的座椅安装件 108 被枢转地联接或附接至婴儿车 100 的连接件或壳体 902 和 / 或框架 202。所示示例的每个座椅安装件 108 都相对于连接件 902 或框架 202 绕枢转点 904 在第一竖立或使用位置 906 和第二或下降折叠位置 908 之间枢转。在图 9B 的所示示例中，在第一位置 906，座椅安装件 108 的锁闩 910（例如，伸出构件或突出部）接合框架 202 中的开口或凹部 912，以锁定或限制座椅安装件 108 相对于框架 202 和 / 或连接件 902 绕枢转点 904 旋转。为了折叠座椅安装件 108，将锁闩 910 从凹部 912 移动或撤回，以使得座椅安装件 108 能够相对于框架 202 和 / 或连接件 902 旋转。在折叠位置 908，锁闩 910 接合第二凹部 914 以防止当婴儿车 100 处于塌缩状态 800 时座椅安装件 108 意外地或无意地绕枢转点 904 枢转。

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[0073] 在一些示例中，座椅安装件 108 可以在婴儿车 100 处于折叠位置 800 之前或之后相对于框架 102 被移除。例如，图 10 示出了被从连接件 902 或框架 202 的开口或凹口 1002 移除的示例座椅安装件 108。为了从连接件 902 和 / 或框架 102 移除座椅安装件 108，将座椅安装件 108 固定至连接件 902 和 / 或框架 102 的锁或锁闩机构被释放，并且将座椅安装件 108 从开口 1002 移除。

[0074] 图 11 示出了另一示例婴儿车 1100。图 11 的示例婴儿车 1100 基本上类似或等同于图 1 至图 8 的婴儿车 100。然而，不同于图 1 的婴儿车 100，图 11 的示例婴儿车 1100 仅具有一个婴儿座椅 106。在一些示例中，图 1 的婴儿车 100 可被构造或转换为图 11 的婴儿车 1100。例如，图 1 的其中一个座椅 106 可以被从框架 102 移除，并且与被移除的婴儿座椅 106 相关联的座椅安装件 108 可以被从框架 102 移除。在图 1 至图 11 的示例中，座椅安装件 108 是卡口型安装件。

[0075] 图 12 示出了另一示例婴儿车 1200。基本上类似或等同于上面描述的图 1 至图 8 的示例婴儿车 100 的部件、并且具有基本上类似或等同于那些部件的功能的示例婴儿车 1200 的那些部件在下文将不再详细地描述。相反地，感兴趣的读者将参考上文的相应描述。为了便于这一过程，对于相似结构的将使用相似的附图标记。例如，在图 12 的所示示例中，示例婴儿车 1200 包括框架 1202，该框架具有用于支撑该框架 102 的前端 112 的一个或多个前轮 110 以及用于支撑该框架 102 的后端 116 的一个或多个后轮 114。所示示例的框架 1202 包括彼此横向间隔开的第一侧面框架组件和第二侧面框架组件，以容纳在这些侧面框架组件之间延伸的一个或多个婴儿座椅 106。每个侧面框架组件都包括绕由枢轴连接件 210 提供的枢轴 704 枢转地联接的下框架支撑件 204、上框架支撑件 206 和中间框架支撑件 208。托架或壳体 240 绕由在框架 1202 的侧面框架组件之间延伸的轮轴 130 提供的枢转点 404 枢转地连接中间轮 118 和后轮 114。

[0076] 图 12 的示例婴儿车 1200 具有框架 1202，该框架 1202 基本上类似或等同于图 1 至图 8 的示例婴儿车 100 的框架 102。然而，图 12 的所示示例的婴儿车 1200 具有不同的手柄 1222。手柄 1222 可以相对于上框架支撑件 206 活动连接在第一或上部位置 1204 和第二或下部位置 1206 之间。为了使得手柄 1222 能够相对于上框架支撑件 206 活动连接，示例婴儿车 1200 采用枢转接头或活动连接毂 1208。毂 1208 采用锁闩机构，以将手柄 1222 锁定或保持在上部位置 1204 和下位置 1206 之间的位置。为了释放锁闩机构以使得手柄 1222 能够在上部位置 1204 和下部位置 1206 之间活动连接，框架 1202 包括释放装置 1210（例如，推动按钮）。

[0077] 图 13 是联接至图 12 的上框架支撑件 206 的示例手柄 1222 的平面图。如在图 13 的所示示例中所示的，示例婴儿车 1200 采用锁闩释放装置 1302 来塌缩所示示例的婴儿车 1200。为了起动锁闩释放装置 1302，该释放装置的一个或多个触发器 1304a、1304b 相对于上框架支撑件 206 移动（例如，拉动、推动、扭动、滑动等），以解锁由枢转连接件 210 提供的闩锁或锁定。此外，当被起动时，锁闩释放装置 1302 还释放毂 1208 的锁闩机构，以使得手柄 1222 能够相对于上框架支撑件 206 旋转。

[0078] 图 14 和图 15 示出了图 12 的示例婴儿车 1200，该婴儿车从图 12 中所示的使用中的展开位置被折叠到图 15 中所示的塌缩、折叠或存放位置 1500。更具体地，在未被锁定的情况下，框架支撑件 204、206 和 / 或 208 相对彼此而枢转。参考图 14，当锁闩释放装置 1302

被起动时，手柄 1222 绕毂 1208 朝向上框架支撑件 206 在图 14 的取向中沿绕毂 1208 的逆时针方向枢转，然后手柄 1222 和上框架支撑件 206 朝向中间框架支撑件 208 枢转。

[0079] 下框架支撑件 204 和上框架支撑件 206 相对于中间框架支撑件 208 绕枢轴 704 旋转。如图 15 所示，在完全塌缩、折叠或存放位置 1500 中，所示示例的婴儿车 1200 具有相对低的轮廓或包络尺寸。

[0080] 图 16 示出了依照在此公开的教导构造的另一示例婴儿车 1600。基本上类似或等同于上面描述的示例婴儿车 100 的部件、并且具有基本上类似或等同于那些部件的功能的示例婴儿车 1600 的那些部件在下文将不再详细地描述。相反地，感兴趣的读者将参考上文的相应描述。为了便于这一过程，对于相似的结构将使用相似的附图标记。

[0081] 图 16 是示例婴儿车 1600 的立体图。在图 16 的所示示例中，示例婴儿车 1600 包括框架 1602，该框架 1602 限定了用于接收一个或多个婴儿座椅 106 的座椅区域 104。所示示例的框架 1602 采用座椅安装件 108 来将婴儿座椅 106 接收或联接至框架 1602。在一些示例中，安装件 108 可被相对于框架 1602 调整。为了使得使用者能够推动、转动和 / 或倾斜所示示例的婴儿车 1600，框架 1602 包括手柄 1622。所示示例的手柄 1622 可相对于框架 1602 沿方向 1622a 被伸缩性地调整。

[0082] 所示示例的框架 1602 由位于框架 1602 的前端 112 处的一个或多个前轮 110 和位于框架 1602 的后端 116 处的一个或多个后轮 114 支撑。所示示例的框架 1602 被组装形成这样的结构，该结构旨在在其使用和存放的全部阶段中保持组装。此外，为了改进操纵性、控制转向和 / 或为了提供震动吸收性，所示示例的框架 1602 采用布置在前轮 110 和后轮 1114 之间的一个或多个中间轮 118。为了向示例婴儿车 1600 提供震动吸收性，所示示例的中间轮 118、前轮 110 和 / 或后轮 114 可以被实施为由橡胶组成的可充气车轮。

[0083] 此外，所示示例的中间轮 118 的直径大于相应的前轮 110 和后轮 114 的直径。在这一示例中，相应的前轮 110 和后轮 114 的直径基本上是相同的。因此，前轮 110 和后轮 114 以比中间轮 118 相对较小的部分或接触面积接合行进表面。结果，由于与中间轮 18 的接合行进表面的接触面积相比，相应的前轮 110 和 / 或后轮 114 的接合行进表面的接触面积相对较小，因此前轮 110 和 / 或后轮 114 的滚动摩擦降低。此外，中间轮 118 的较大直径允许所示示例的婴儿车 1600 滚过粗糙或不平坦表面而没有困难。然而，在其它示例中，中间轮 118 的直径基本上类似或等同于前轮 110 和 / 或后轮 114 的直径。

[0084] 图 17 是示例婴儿车 1600 的侧面视图，该婴儿车具有柔软品 1702 来限定一个或多个存放区域 1704。在图 17 的所示示例中，示例婴儿车 1600 的中间轮 118 位于前轮 110 和后轮 114 之间的近似中点。所示示例的每个中间轮 118 都限定布置在前轮 110 和后轮 114 之间的枢转点。换句话说，每个中间轮 118 都提供了用于婴儿车 1400 的枢转点，该枢转点偏离婴儿车 1400 的后端 116 和 / 或后轮 114 或者与婴儿车 1400 的后端 116 和 / 或后轮 114 横向间隔开。当侧向或基本上水平的力被施加至手柄 1422 时，由中间轮 118 提供的枢转点使得婴儿车 1400 能够相对轻松地向左或向右转动。

[0085] 图 18 是图 14 的示例婴儿车 1400 的顶面视图。如图 18 所示，由中间轮 118 提供的偏移枢转点使得婴儿车 1400 的前端 112 和婴儿车 1400 的后端 116 二者都能够相对于由其中一个中间轮 118 提供的转动枢轴以弧形路径枢转或旋转。例如，使用者可以向手柄 1622 施加转动力 1802，以绕由其中一个中间轮 118 提供的枢转点转动所示示例的婴儿车 1600。

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结果，所示示例的婴儿车 1600 可以相对紧密的旋转半径且相对轻松地绕由任一个中间轮 118 提供的枢转点转动。例如，婴儿车 1600 可以基本上在其自身长度内以完全 360 度的弧形路径转动，如由图 18 中的圆圈 1800 所反映的。

[0086] 在所示示例中，框架 1602 限定了第一侧面框架组件 1802a 和与该第一侧面框架组件 1802a 横向间隔开的第二侧面框架组件 1802b，从而限定了座椅区域 104。所示示例的中间轮 118 经由在侧面框架组件 1802a、1802b 之间延伸的轮轴 120 而彼此联接。然而，在其它示例中，可以不使用公共轮轴 120 并且中间轮 118 因此可以不相对于彼此独立地驱动或旋转。

[0087] 此外，为了当框架 1602 的前端 112 相对于框架 1602 的后端 116 被升起、提升、倾斜或以其它方式抬高时（例如，向手柄 1622 施加垂直于转动力 1802 的向下力）提供枢转轴线 132，所示示例的示例婴儿车 1600 采用轮轴 130。在所示的示例中，枢转轴线 132 位于中间轮 118 与后轮 114 之间。换句话说，枢转轴线 132 相对于中间轮 118 的旋转轴线 120a 与后轮 114 的相应旋转轴线 250a、250b 偏移。

[0088] 为了改进稳定性和 / 或便于在具有很小干涉或没有干涉的情况下塌缩婴儿车 1400，所示示例的中间轮 118 相对于前轮 110 偏移（水平）距离 1804 且相对于后轮 114 偏移距离 1806。更具体地，当婴儿车 1600 沿直线移动时，所示示例的中间轮 118 沿着路线或路径 1808 行进，所述路线或路径 1808 在前轮 110 下降或行进所沿的路线或路径 1810 的外侧以及在后轮 114 下降或行进所沿的路线或路径 1812 的外侧延伸。虽然所示示例的中间轮 118 比起前轮 110 和后轮 114 与婴儿车 1600 的纵向中心线 1814 间隔开更远的距离，但在其它示例中，中间轮 118 可以与前轮 110 和后轮 114 对齐，可以向前轮 110 和后轮 114 的内侧偏移（也就是，更接近于纵向中心线 1814），和 / 或可以向前轮 110 和后轮 114 中的第一者的外侧和向前轮 110 和后轮 114 中的不同的第二者的内侧偏移。在一些示例中，当婴儿车 1400 沿直线向前移动时，前轮 110 和后轮 114 沿着相同路线或行进路径下降。

[0089] 为了塌缩婴儿车 1600，所示示例的框架 1602 包括锁闩释放机构 1816。为了起动锁闩释放机构 1816，所示示例的锁闩释放机构 1816 包括手柄 1818。手柄 1818 支撑在延伸穿过侧面框架组件 1802a、1802b 的横杆或管 1820 上。手柄 1818 定位或位于座椅安装件 108 或上框架支撑件 206 的附近，在座椅区域 104 的婴儿座椅 106 的正下方。这一定位便于在从座椅安装件 108 移除婴儿座椅 106 时进行接近。

[0090] 图 19 是图 16 至图 18 的示例婴儿车 1600 的侧面框架组件 1802a 的左侧视图。图 20 是图 16 至图 18 的示例婴儿车 1600 的侧面框架组件 1802b 的右侧视图。参考图 19 和图 20，每个侧面框架组件 1802a、1802b 都包括绕枢转连接件 210a、210b 或毂 212a、212b 枢转地联接的下框架支撑件 204、上框架支撑件 206 和中间框架支撑件 208。

[0091] 为了将前轮 110 联接至框架 1602，侧面框架组件 1802a、1802b 采用前轮壳体 230。前轮壳体 230 使得每个前轮 110 都能够绕单独的（例如水平的）旋转轴线 236a、236b 独立地旋转，并且使得每个前轮 110 都能够绕竖直轴线 238a、238b 回转或枢转。

[0092] 为了将后轮 114 和中间轮 118 安装或附接至相应的侧面框架组件 1802a、1802b，所示示例的每个侧面框架组件 1802a、1802b 都采用壳体、毂或托架 1940（例如，摆动件）。所示示例的每个托架 1640 都包括：毂、腿或端口 1642a，以接收安装有后轮 114 的后轮壳体 244；以及毂、腿或端口 1642b，以接收联接至中间轮 118 的臂或部分 254。

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[0093] 由于左和右托架 1640 是基本上相同的，因此下面的描述将集中于一个托架 1640，来用作对于两个托架 1640 的描述。

[0094] 所示示例的后轮壳体 244 使得每个后轮 114 都能够绕单独的旋转轴线 250a、250b 独立地旋转，并且使得每个后轮 114 都能够绕基本上垂直于相应的旋转轴线 250a、250b 的基本上竖直的轴线 252a、252b 回转或枢转。托架或壳体 1940 相对于中间框架支撑件 208 绕由轮轴 130 提供的枢转轴线 132 而枢转地联接相应的一对中间轮 118 和后轮 114。

[0095] 为了当操纵婴儿车 1600 越过路缘或其它障碍物时改进稳定性和 / 或便于平衡，所示示例的示例婴儿车 1600 采用悬架装置 1928。当婴儿车 1600 的前端 110 相对于框架 1602 的后端 112 绕枢转轮轴 130 枢转或倾斜（例如相对于支撑表面（例如，地面）的向上方向）时，所示示例的悬架装置 1928 提供稳定性和 / 或便于平衡。当婴儿车 1600 被沿着一路径推动和 / 或绕枢转轴线 132 倾斜或枢转时，所示示例的悬架装置 1928 帮助防止中间轮 118 和 / 或后轮 114 分离和 / 或抬离行进表面（例如，地面）。例如，为了相对于婴儿车 1600 的后端 112 枢转或提升前轮 110，向手柄 1622 施加向下力。该向下力 1902 具有基本上垂直于施加至手柄 1622 的转动力 1802 的分量，以绕其中一个中间轮 118 转动或枢转婴儿车 1600。结果，当婴儿车 1600 的前端 110 围绕枢转轴线 132 被提升时，悬架装置 1928 帮助保持中间轮 118 和后轮 114 与行进路径接合。

[0096] 在示出的示例中，悬架装置 1928 定位成邻近于且平行于中间框架支撑件 208。在示出的实例中，悬架装置 1928 包括附接或联接至上框架支撑件 206 的第一端 1904 以及附接或联接至托架 1940 的第二端 1906。在所示的示例中，通过紧固件 1908（例如，销等）将第一端 1904 联接（例如，固定或枢转地联接）至上框架支撑件 206 并且将第二端 1906 联接（例如，固定或枢转地联接）至托架 1940。上框架支撑件 206、托架 1940、悬架装置 1928 和中间框架支撑件 208 限定了四杆式联动装置 1910。当折叠婴儿车 1600 时，该联动装置 1910 帮助辅助托架 1940 的旋转，如在下文更详细讨论的。在所示的示例中，联动装置 1910 限定了平行四边形。然而，在其它示例中，联动装置 1910 可以具有任何其它合适的形状和 / 或构造。

[0097] 图 21 是图 14 至图 20 的示例婴儿车 1600 的侧视图，其中具有示例悬架装置 1928 的局部剖切视图。所示示例的示例悬架装置 1928 是压缩弹簧 2102。为了在婴儿车 1600 的前端 112 绕枢转轴线 132 或枢轴 404 相对于婴儿车 1600 的后端 116 倾斜或提升时使得压缩弹簧 2102 能够压缩，压缩弹簧 2102 包括以可滑动的方式联接至第二部分 2106 的第一部分 2104。更具体地，第一部分 2104 被固定或联接（例如，枢转地联接）至上框架支撑件 206 并且第二部分 2106 被固定或联接（例如，枢转地联接）至托架 1940。第一部分 2104 包括销或滑块 2108，该销或滑块沿着形成在第二部分 2106 中的槽 2110 滑动或移动。因此，当婴儿车 1600 的前端 112 绕由轮轴 130 提供的枢转轴线 132 被提升时，压缩弹簧 2102 的第一部分 2104 相对于第二部分 2106 在槽 2110 中滑动，以压缩 / 解压位于弹簧筒 2112 中的弹簧。

[0098] 图 22A 至图 22D 示出了示例婴儿车 1600 的示例制动机构 2200。所示示例的制动机构 2200 由中间轮的共用轮轴 120 支撑，并且示例制动机构 2200 的制动杆或脚踏板 2202 由轮轴 130 支撑。如图 22B 和图 22C 中分别所示的，所示示例的制动杆 2202 能够绕轮轴的枢转轴线 132 在用于限制或防止中间轮 118 旋转的锁定位置 2204 与用于使得或便于中间

轮 118 旋转的解锁位置 2206 之间选择性地移动或旋转。所示示例的制动杆 2202 包括视觉指示器 2208（例如，色彩指示器），以表示制动杆 2202 处于锁定位置 2204 和解锁位置 2206。

[0099] 还参考图 22D，所示示例的制动杆 2202 被致动或相对于轮轴 130 旋转，以起动柱塞 2210a、2210b，所述柱塞能够相对于中间轮 118 的锁定接口 2212a、2212b（例如，毂上的多个突起）移动。为了相对于中间轮 118 的相应的锁定接口 2212a、2212b 移动柱塞 2210a、2210b，所示示例的制动机构 2200 采用致动器 2214。所示示例的致动器 2214 是齿条和小齿轮组件，其中在齿轮 2220 之间定位有两个齿条 2216、2218。所示示例的齿条 2216 致动柱塞 2210b，并且所示示例的齿条 2218 致动柱塞 2210b。为了致动齿条 2216、2218，所示示例的制动机构 2200 采用线缆 2222。更具体地，线缆 2222 的第一端被附接至齿条 2216 并且线缆 2222 的第二端被附接至制动杆 2202。所示示例的线缆 2222 通过托架 1640 的臂 254 被布线至制动杆 1922。图 22D 示出了处于锁定状态的制动机构 2200。为了解锁中间轮 118，而将所示示例的制动杆 2202 旋转至解锁位置 2206（图 22）。结果，线缆 2222 朝向齿条 2218 移动（例如，拉动）齿条 2216，并且使得柱塞 2210b 与接口 2212b 分离。同时，随着齿条 2216 朝向齿条 2218 移动，齿条 2218 通过齿轮 2220 而朝向齿条 2216 移动，因而使得柱塞 2210a 与接口 2212a 分离。所示示例的致动器 2214 采用偏压元件 2224 来偏压或帮助移动齿条 2216、2218。所示示例的致动器 2214 包括由轮轴 120 联接或支撑的壳体 2226。

[0100] 图 23 和图 24 示出了图 14 至图 18 的示例婴儿车 1400 从图 14 至图 21 和图 22A 至图 22D 所示的使用中的展开位置被折叠至图 24 所示的塌缩、折叠或存放位置 2400。如上面注意到的，侧面框架组件 1802a、1802b 被构造得使得所示示例的整个婴儿车 1600 都能够在延伸、展开、使用中的位置（图 14 至图 18 和 22A 至图 22D）与塌缩、折叠或存放的位置 2400（图 24）之间选择性地移动。

[0101] 图 25A 和图 25B 示出了图 18 的锁闩释放机构 1816。参考图 23 至图 24 和图 25A 至图 25B，为了塌缩所示示例的婴儿车 1600，枢转连接件 210a、210b 的闩锁或锁定通过锁闩释放机构 1816 被释放。在解锁位置中，所示示例的枢转连接件 110a、110b 使得框架支撑件 204、206 和 / 或 208 能够相对于彼此绕由枢转连接件 210a、210b 提供的枢轴 704 旋转或枢转，所示示例的锁闩释放机构 1816 被起动。为了解锁枢转连接件 210a、210b，在婴儿座椅 106 已经被从座椅安装件 108 移除之后，所示示例的手柄 1818 首先远离框架 1602 被提升（例如，向上）。在手柄 1818 被提升之后，示例锁闩释放机构 1816 的触发器 2502 由使用者致动（例如，按压），以使得框架 1602 能够塌缩。当被起动时，所示示例的锁闩释放机构 1816 通过任何合适装置（例如，开关、锁定释放装置、拉绳等）移出与枢转连接件 210a、210b 的锁定接口的接合，以使得框架支撑件 204、206 和 208 能够相对彼此绕枢轴 704 枢转。所示示例的触发器 2502 经由位于锁闩释放机构 1816 的壳体或管 1820 中的线缆或条带而被联接至柱塞。示例锁闩机构 1818 使得能够单手操作来塌缩婴儿车 1600。

[0102] 在图 23 的所示示例中，所示示例的下框架支撑件 204 和上框架支撑件 206 沿由各箭头 2304 和 2306 所示的方向朝向中间框架支撑件 208 枢转。附加地，当向折叠位置 2400 折叠婴儿车 1600 时，所示示例的托架 1940 还沿由箭头 2308 表示的方向朝向中间车间支撑件 208 旋转。

[0103] 具体地，随着上框架支撑件 206 朝向中间框架支撑件 208 枢转，悬架装置 1928 通过沿箭头 2310 的方向朝向后轮 114 移动而作为杠杆，以使得托架 1940 沿箭头 2312 的方向

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绕枢转轴线 132 枢转。结果，随着上框架支撑件 206 朝向中间框架支撑件 208 枢转，悬架装置 1928 使得中间轮 118 同时朝向中间框架支撑件 208（经由托架 1940）枢转。

[0104] 如图 24 所示，在完全塌缩、折叠或存放位置 2400 中，所示示例的婴儿车 1600 具有相对低的轮廓和包络尺寸。如图 24 所示，悬架装置 1928 不干涉将婴儿车 1600 塌缩至折叠位置 2400。虽然示出了可塌缩框架 1602，但一些示例婴儿车可以不进行塌缩。

[0105] 在一些示例中，悬架装置 1928 由联接至轮轴 130 的扭转弹簧来实施。此外，所示示例的压缩弹簧 2102 可以由辅助框架构件或杆代替，以帮助塌缩示例婴儿车 1600。

[0106] 图 26 至图 28 示出了依照在此公开的教导而构造的另一示例婴儿车 2600。基本上类似或等同于上面描述的示例婴儿车 100 或 1600 的部件、并且具有基本上类似或等同于那些部件的功能的示例婴儿车 2600 的那些部件在下文将不再详细地描述。相反地，感兴趣的读者将参考上文的相应描述。为了便于这一过程，对于相似的结构将使用相似的附图标记。

[0107] 所示示例的示例婴儿车 2600 采用由一个或多个前轮 110、一个或多个后轮 114 和一个或多个中间轮 118 支撑的框架 2602。前轮壳体 230 将前轮 110 联接至框架 2602。托架或承载件 240 相对于框架 2602 枢转地联接中间轮 118 和后轮 114。例如，托架 240 限定了枢轴 404，中间轮 118 和后轮 114 可以相对框架 2602 围绕该枢轴 404 枢转。

[0108] 所示示例的框架 2602 限定了横向间隔开的侧面组件，以限定座椅区域 104。每个侧面组件都包括下框架支撑件 204、上框架支撑件 206 和中间框架支撑件 208。中间框架支撑件 208 经由连接件 2604（例如，毂）联接至上框架支撑件 206。与上文描述的框架 102 和 1602 不同，上框架支撑件 206 经由枢转连接件 2606 被联接至下框架支撑件 204。更具体地，连接件 2606 沿着上框架支撑件 206 的长度定位，使得连接件 2604 与枢转连接件 2606 间隔开由一部分上框架支撑件 206 限定的距离 2608。所示示例的枢转连接件 2606 提供了枢转点 2610，以使得下框架支撑件 204 能够相对于上框架支撑件 206 枢转，并且所示示例的连接件 2604 提供了枢转点 2612，以使得当婴儿车 2600 被折叠时，上框架支撑件 206 能够相对于中间框架支撑件 208 枢转。因此，中间框架支撑件 208 定位成与由枢转连接件 2606 提供的枢转点 2610 相邻或与该枢转点 2610 间隔开。图 26 中所示的示例婴儿车 2600 没有采用悬架装置。然而，在其它示例中，示例婴儿车 2600 包括悬架装置（例如，在此公开的悬架装置 128 或 1928）。

[0109] 为了便于塌缩或折叠婴儿车 2600，所示示例的框架 2602 采用辅助框架构件或杆 2614。所示示例的辅助框架构件 2614 具有联接或附接连接件 2606 的第一端以及附接或联接至托架 240 的臂 254 的第二端。所示示例的辅助框架构件 2614 基本上平行于中间框架支撑件 208。所示示例的辅助框架构件 2614 通过枢转连接件 2606 被枢转地联接至下框架支撑件 204 和上框架支撑件 206。

[0110] 图 27 和图 28 示出了图 26 的示例婴儿车 2600 从图 26 所示的使用中的展开位置折叠至图 28 所示的塌缩、折叠或存放位置 2800。框架 2602 构造得使得所示示例的整个婴儿车 2600 能够在延伸、展开、使用中的位置（图 26）与塌缩、折叠或存放的位置 2800（图 28）之间选择性地移动。为了塌缩所示示例的婴儿车 2600，通过任何合适的装置（例如，开关、锁定释放装置、拉绳等）来起动锁闩释放装置，以解锁锁闩机构，并且使得框架支撑件 204、206 和 / 或 208 和辅助框架构件 2614 能够相对于彼此绕由枢转连接件 2606 提供的枢轴 2610 和由连接件 2604 提供的枢轴 2612 旋转或枢转。在示出的示例中，下框架支撑件 204

沿箭头 2702 的方向朝向中间框架支撑件 208 枢转，并且上框架支撑件 206 沿箭头 2704 的方向朝向中间框架支撑件 208 枢转。

[0111] 更具体地，上框架支撑件 206 绕连接件 2604 枢转，使得上框架支撑件 206 的在连接件 2604 和 2606 之间延伸的部分 2608 作为杠杆。随着上框架支撑件 206 绕枢轴 2612 朝向中间框架支撑件 208 枢转，上框架支撑件 206 使得辅助框架构件 26148 沿箭头 2708 的方向（例如，向上方向）移动。继而，辅助框架构件 2614 使得或拉动使得托架 240 的臂 254 沿由箭头 2710 所示的方向朝向中间框架支撑件 208 枢转。结果，当将婴儿车 2600 折叠至折叠位置 2800 时，所示示例的托架 240 沿由箭头 2710 表示的方向朝向中间框架支撑件 208 绕枢轴 140a、404 旋转。框架 2602 的手柄 2722 可以沿箭头 2714 的方向绕枢轴 2712 朝向上框架支撑件 206 旋转。

[0112] 如图 28 所示，在完全塌缩、折叠或存放位置 2800 中，所示示例的婴儿车 2600 具有相对低的轮廓或包络尺寸。虽然示出了可塌缩框架 2602，但一些示例婴儿车可以不进行塌缩。

[0113] 图 29 是示例方法 2900 的流程图，该方法可被用于制造示例婴儿车，例如图 1 至图 8、图 9A、图 9B 和图 10 的示例婴儿车 100、图 11 的示例婴儿车 1100、图 12 至图 15 的示例婴儿车 1200、图 16 至图 21、图 22A 至图 22D、图 23、图 24、图 25A 和图 25B 的示例婴儿车 1600 以及图 26 至图 28 的示例婴儿车 2600。虽然示出了制造示例覆盖组件的示例方式，但在图 29 中示出的一个或多个块和 / 或过程可被组合、分割、再排列、省略、消除和 / 或以其他任何方式而实施。仍进一步的，图 29 的示例方法可以包括除了图 29 中所示的过程和 / 或块之外或作为图 29 中所示的过程和 / 或块代替物的一个或多个过程和 / 或块，和 / 或可以包括多于所示的过程和 / 或块中的任意一个或全部的过程和 / 或块。此外，虽然参考图 29 所示流程图描述了示例方法 2900，但可以另选地使用制造覆盖组件的很多其它方法。

[0114] 为了开始图 29 的示例组装过程，将前轮安装至框架的前部（块 2902）。例如，在此公开的所示示例的前轮 110 经由前轮壳体 230 被安装至下框架支撑件 204。

[0115] 将后轮和中间轮也安装至框架（块 2904）。更具体地，将中间轮定位在后轮和前轮之间，并且该中间轮和后轮 114 经由第一托架 240、1940 被安装至第一侧面框架组件 202a、1202a、1802a、2602a，并且第二组中间轮 118 和后轮 114 经由第二托架 240、1940 被安装至第二侧面框架组件 202b、1202b、1802b、2602b。

[0116] 在后轮和中间轮之间提供枢转轴，以使得后轮和中间轮能够绕枢转轴线枢转（块 2808）。例如，由在第一和第二侧面框架组件 202a、202b ；1202a、1202b ；1802a、1802b ；2602a、2602b 之间延伸的轮轴 130 来提供枢转轴线 132。具体地，托架 240、1640 安装至轮轴 130 的每一端，以将托架 240、1640 枢转地安装至婴儿车的框架。更具体地，中间轮 118 经由臂 254 被安装至托架 240、1640，并且后轮经由后轮壳体 244 被安装至托架 240、1640。在一些示例中，第一和第二侧面框架组件 202a、202b ；1202a、1202b ；1802a、1802b ；2602a、2602b 的中间轮 118 经由轮轴 120 被以可旋转的方式联接在一起。

[0117] 在一些示例中，示例婴儿车可构造有悬架，当婴儿车绕枢转轴线 132 旋转时该悬架提供增加的力，以相对于后端 116 提升婴儿车的前端 112。例如，在此公开的示例婴儿车可构造有悬架装置 128、1928。例如，悬架装置 128 被联接或附接至轮轴 130 或枢转轴线 132 以及中间框架支撑件 208。另选地，悬架 1928 被附接至上框架支撑件 206 和托架 240、1940，

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而邻近中间框架支撑件 208。

[0118] 虽然已经在此描述了一些示例方法、装置和制造环节，但该专利的覆盖范围并不限于此。相反地，该专利覆盖了直接落入本专利的权利要求的范围内的全部方法、装置和制造环节。

[0119] 相关申请的交叉引用

[0120] 本申请要求于 2013 年 1 月 7 日提交的名为“容易操纵的婴儿车 (Maneuverable Strollers)”的、序列号为 61/749,728 的美国临时专利申请的优先权，该专利申请的全部内容通过引用并入本文。

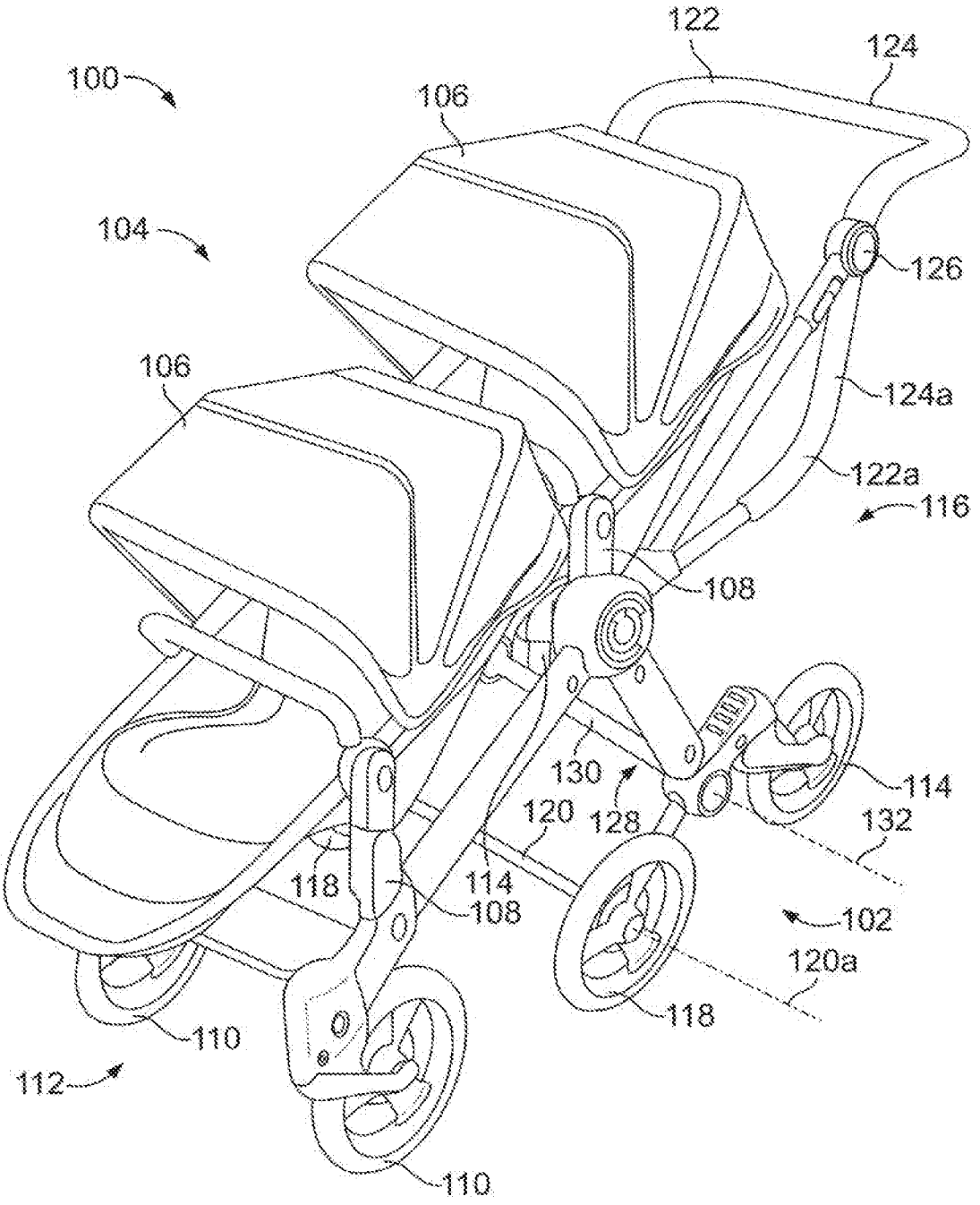

122
124
100
106
104
126
106
124a
122a
116
108
130
114
120
128
132
118
114
108
102
120a
118
110
112
110

图 1

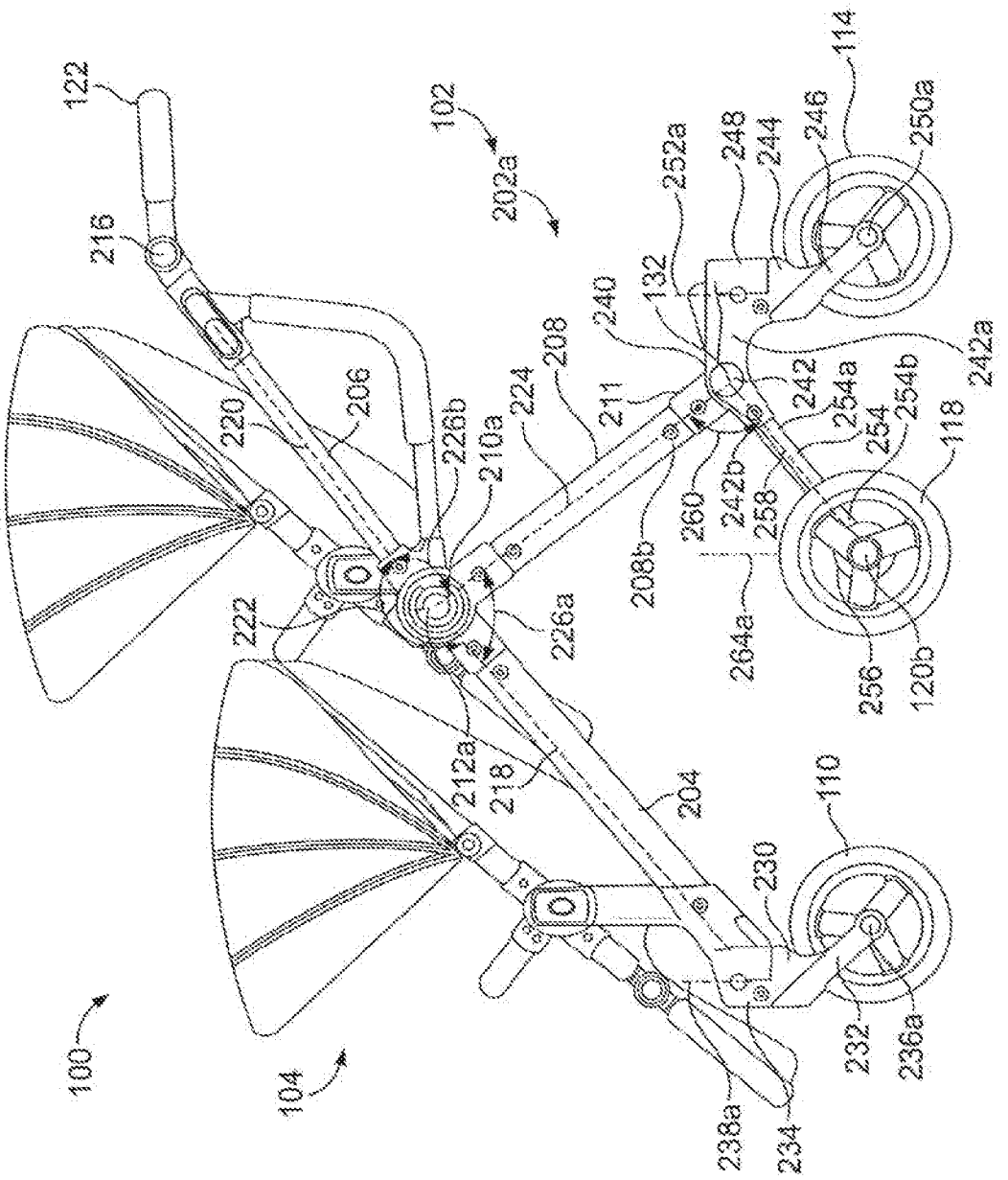

122
216
102
202a
114
246
250a
252a
248
244
240
132
208
224
211
242a
242
254a
254b
254
118
220
206
226b
210a
208b
260
242b
258
264a
256
120b
222
226a
212a
218
204
110
230
232
236a
238a
234
100
104

图 2

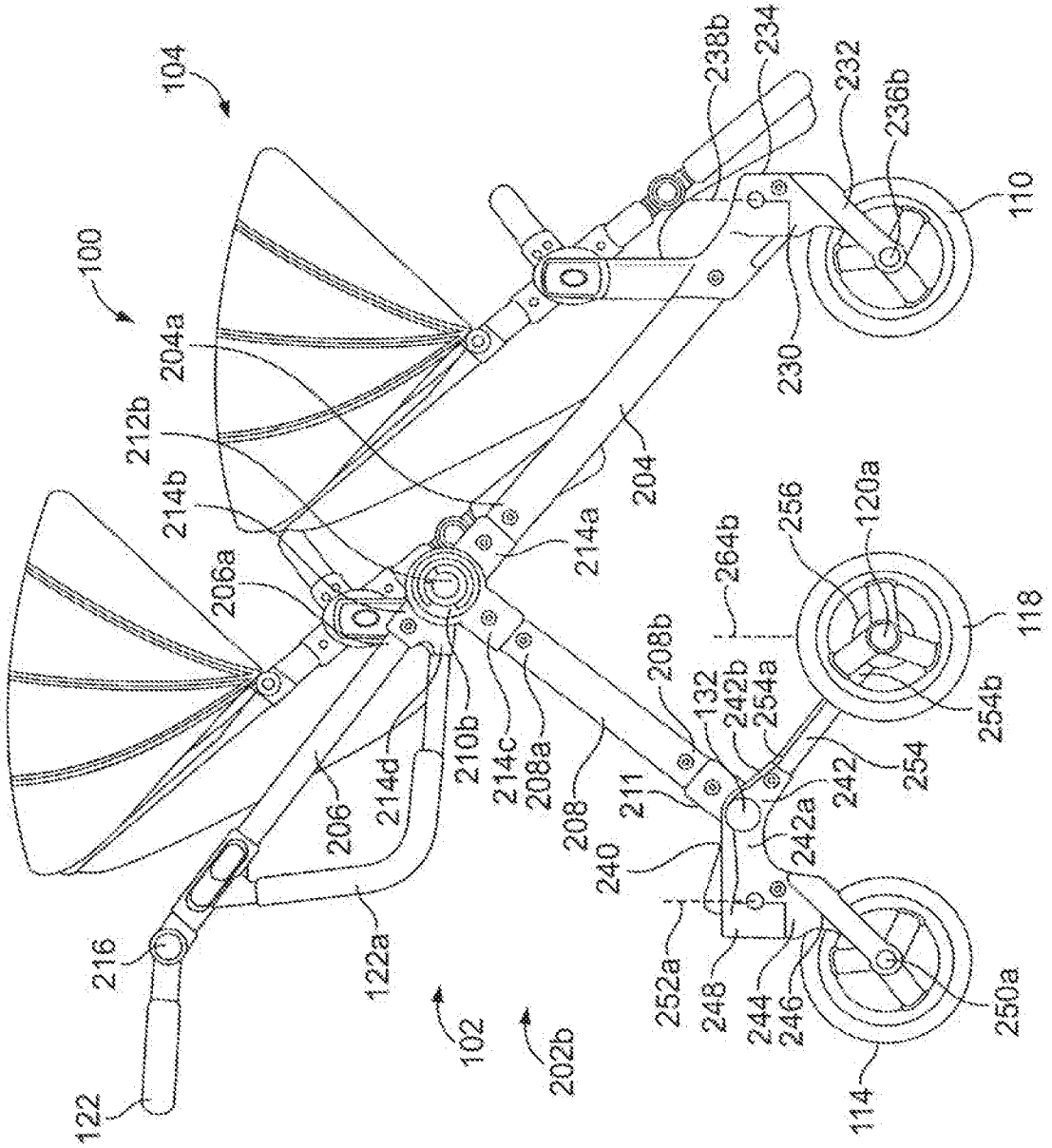

104
100
238b
234
232
236b
110
230
204a
212b
214b
206a
204
214a
264b
256
120a
118
208b
132
242b
254a
254b
254
242
211
208
240
242a
252a
248
244
246
250a
114
102
202b
122
216
122a
206
214d
210b
214c
208a

图 3

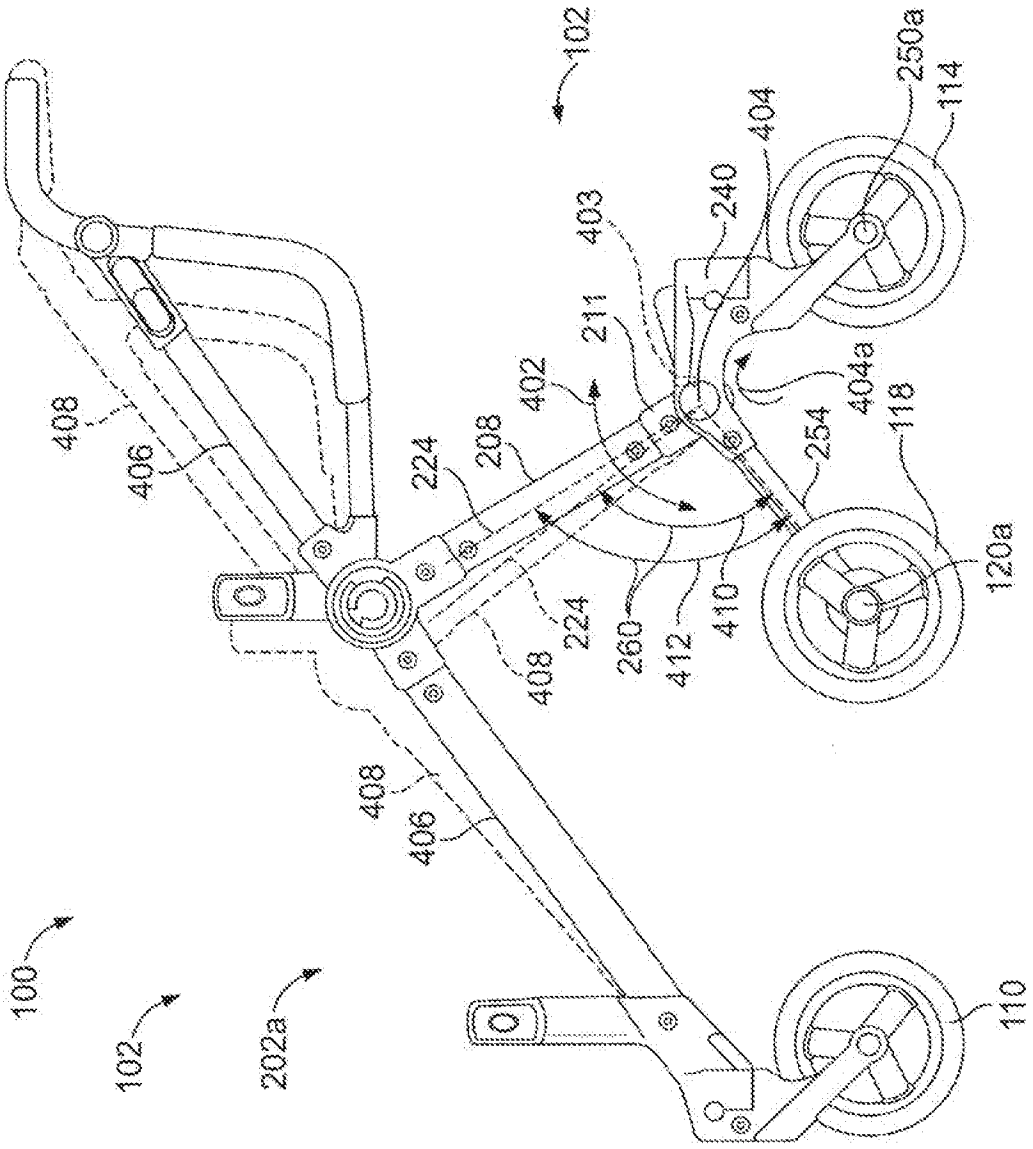

102
250a
114
404
240
403
211
402
404a
118
254
208
224
408
406
120a
260
412
410
110
100
202a

图 4

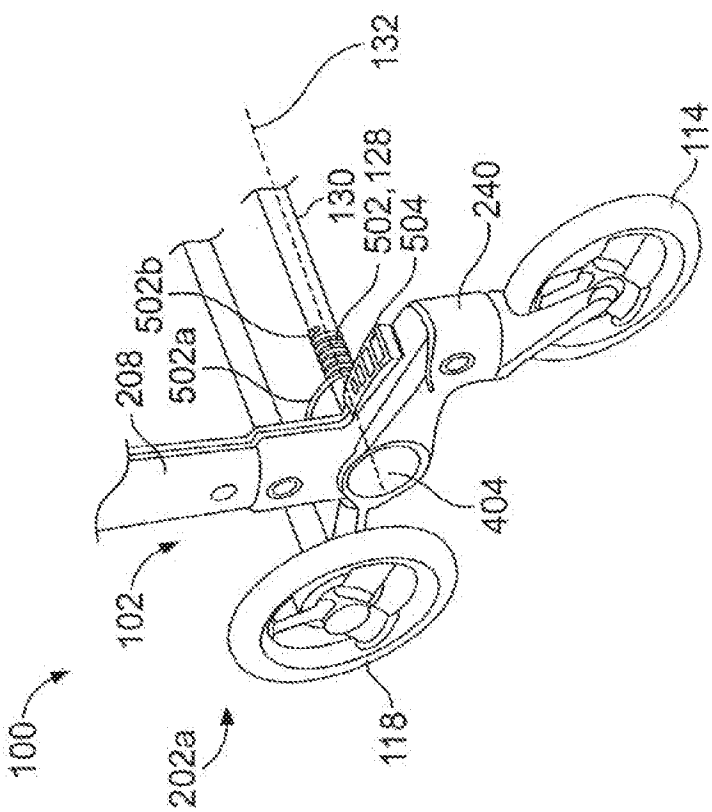

100
102
202a
118
208
502a
502b
502,128
504
130
132
240
114
404

图5A

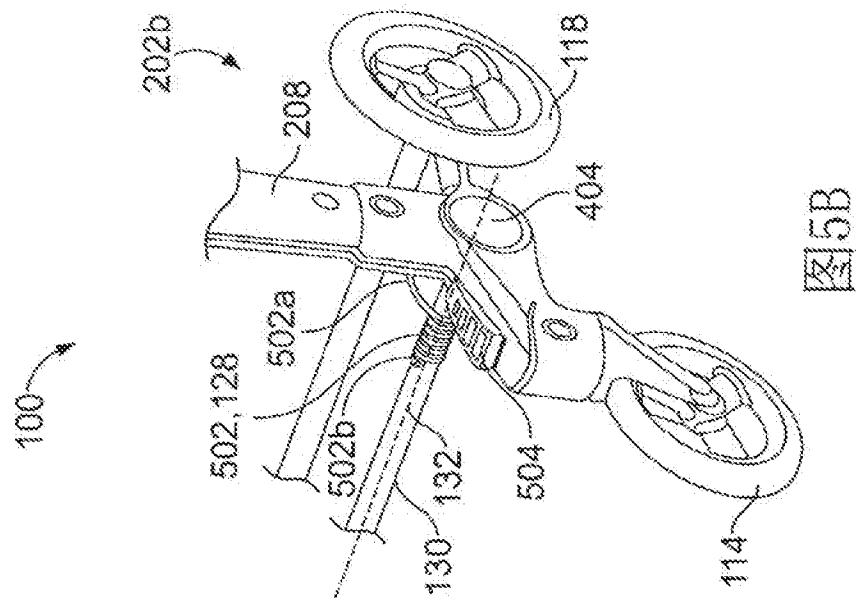

100
202b
208
118
404
502a
502,128
502b
132
504
130
114

图5B

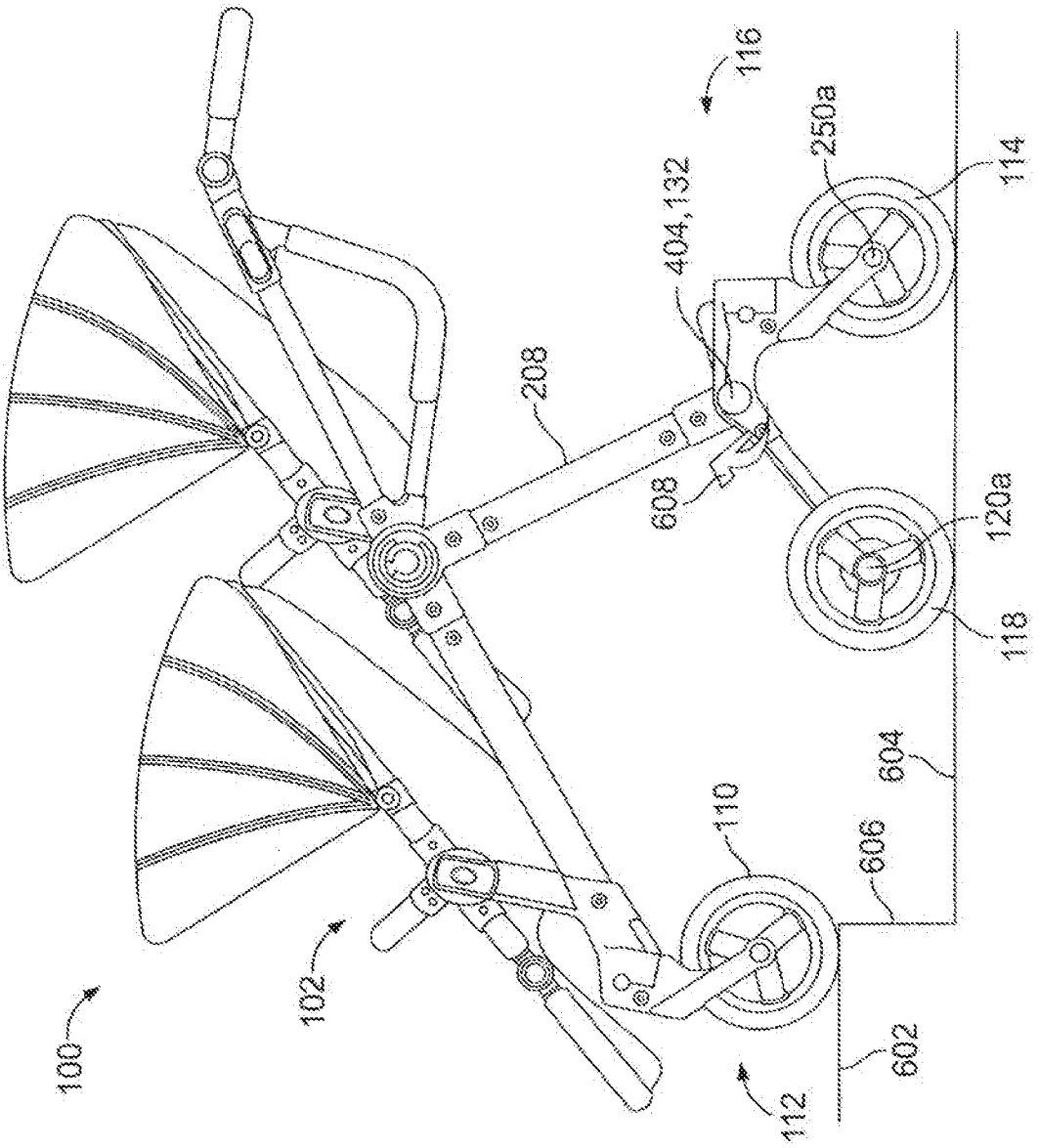

116
250a
114
404,132
208
608
120a
118
604
606
110
102
100
602
112

图 6

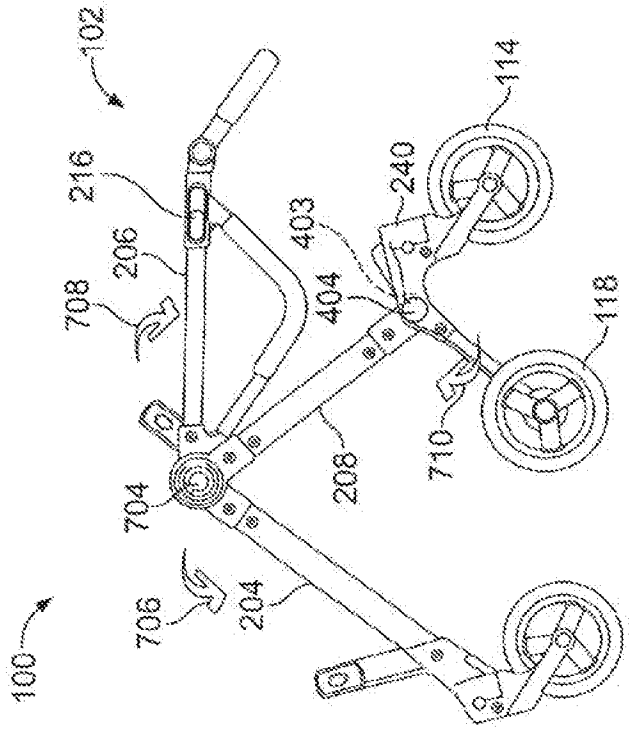

102
216
206
708
403
404
240
114
118
208
710
704
706
204
100

图7

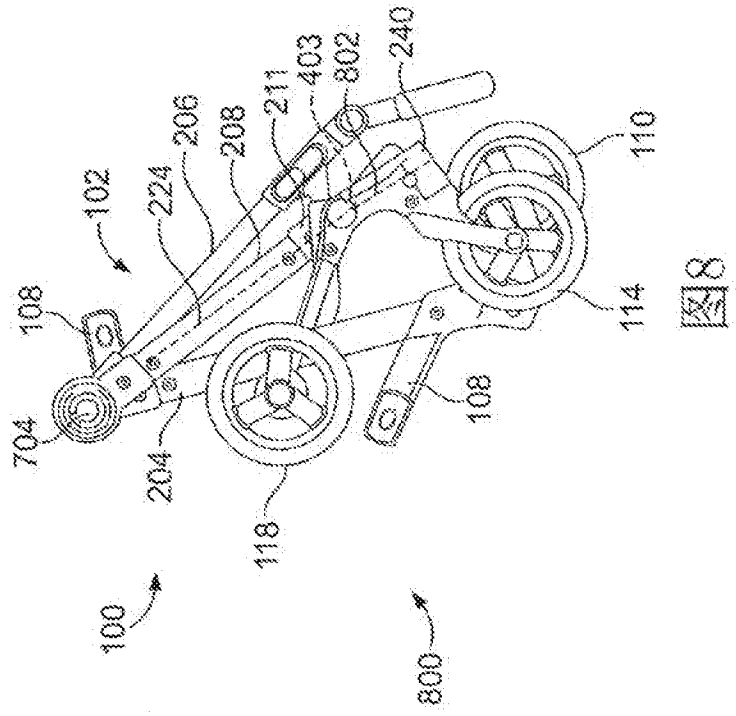

102
224
206
208
211
403
802
240
110
114
108
704
204
118
108
100
800

图8

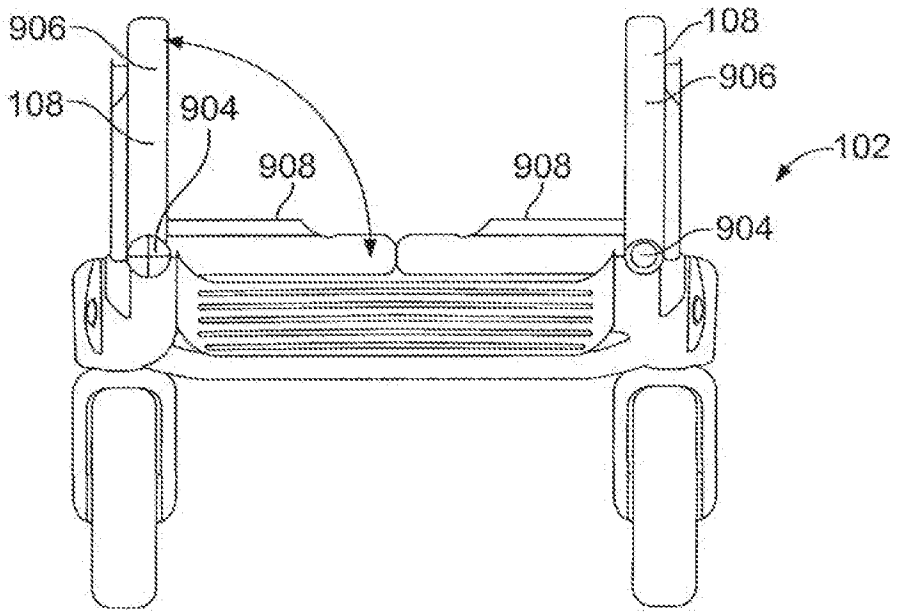


图 9A

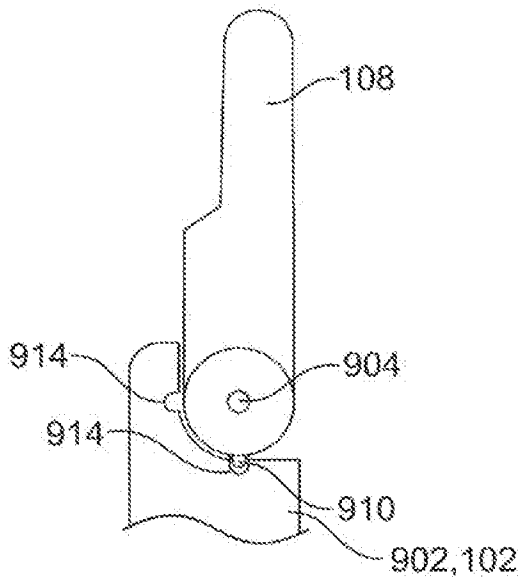


图 9B

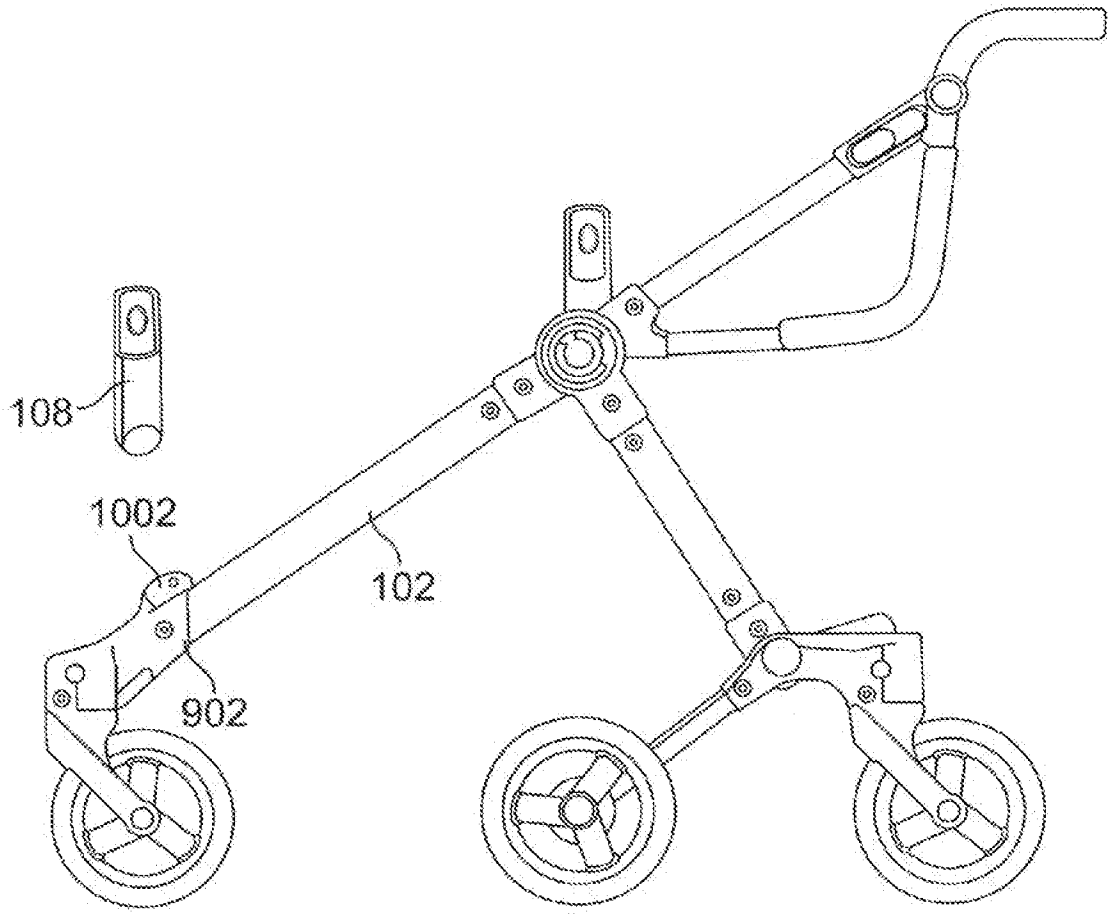


图 10

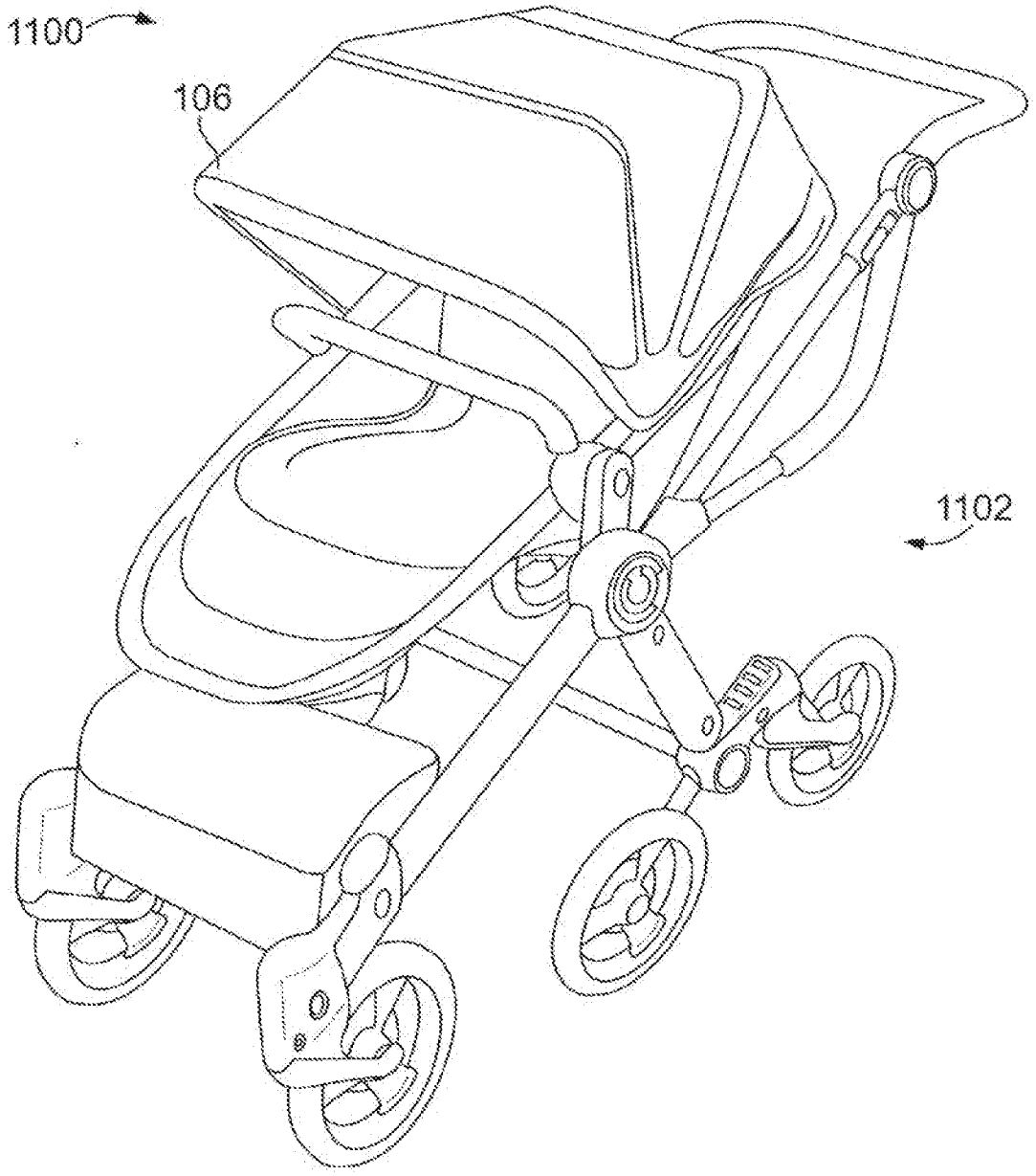


图 11

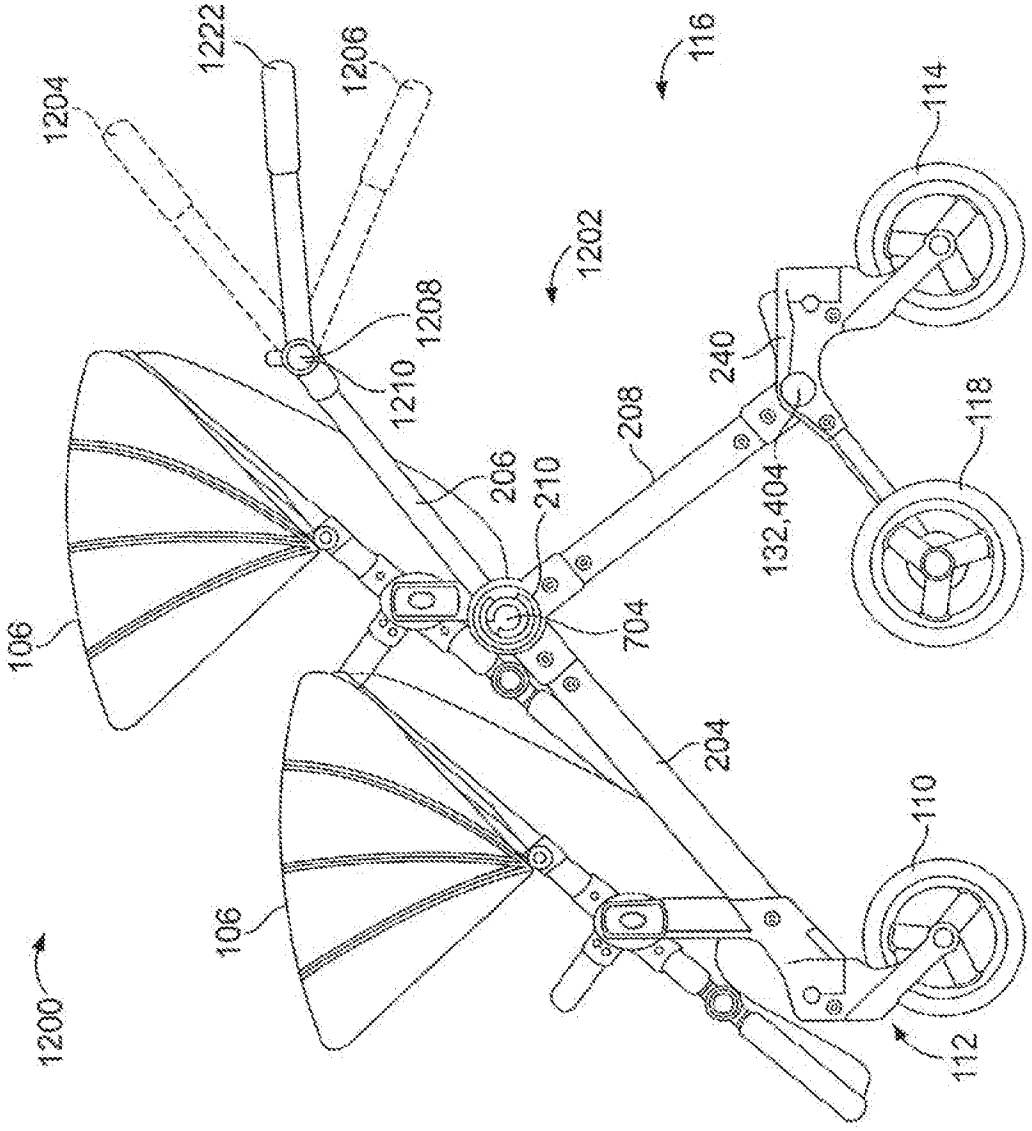

1222
1206
1204
116
114
1202
1208
1210
240
208
206
210
118
132,404
704
106
204
110
106
1200
112

图 12

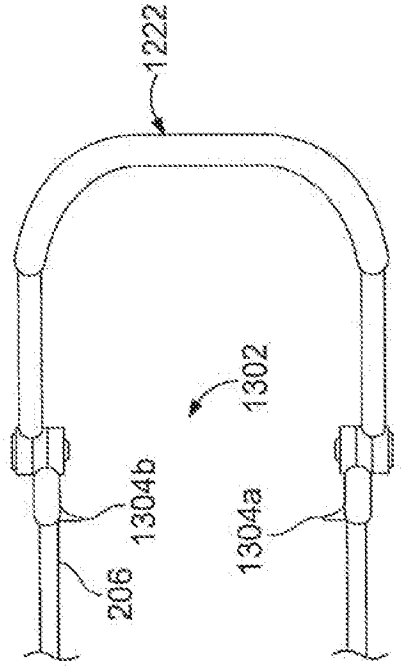

1222
1302
1304b
1304a
206

图 13

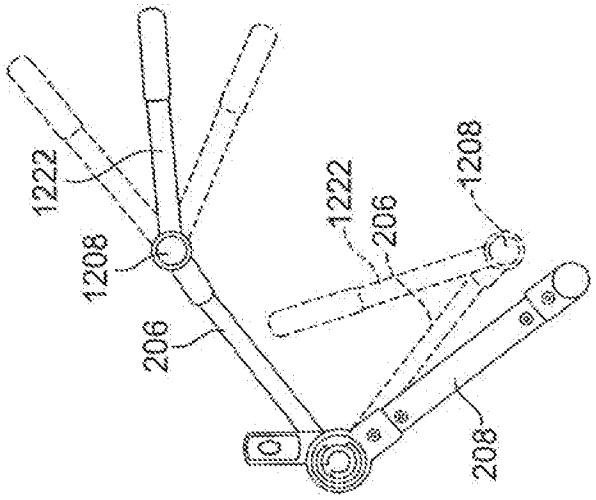

1222
1208
206
1222
206
1208
208

图 14

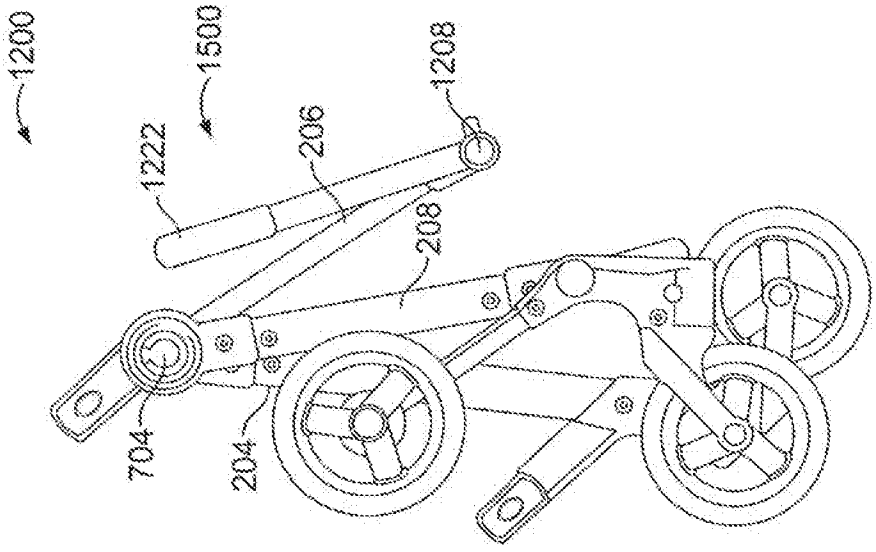

1200
1500
1208
1222
206
208
704
204

图 15

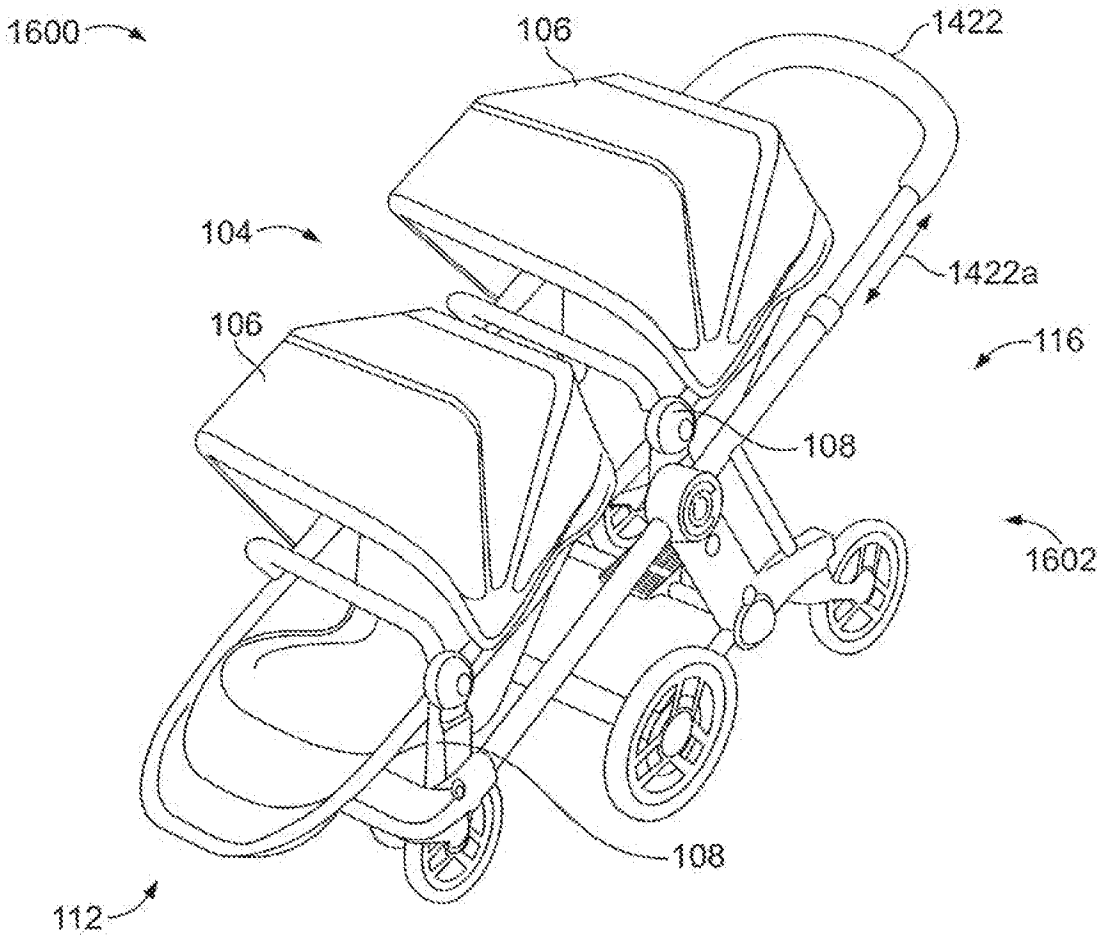


图 16

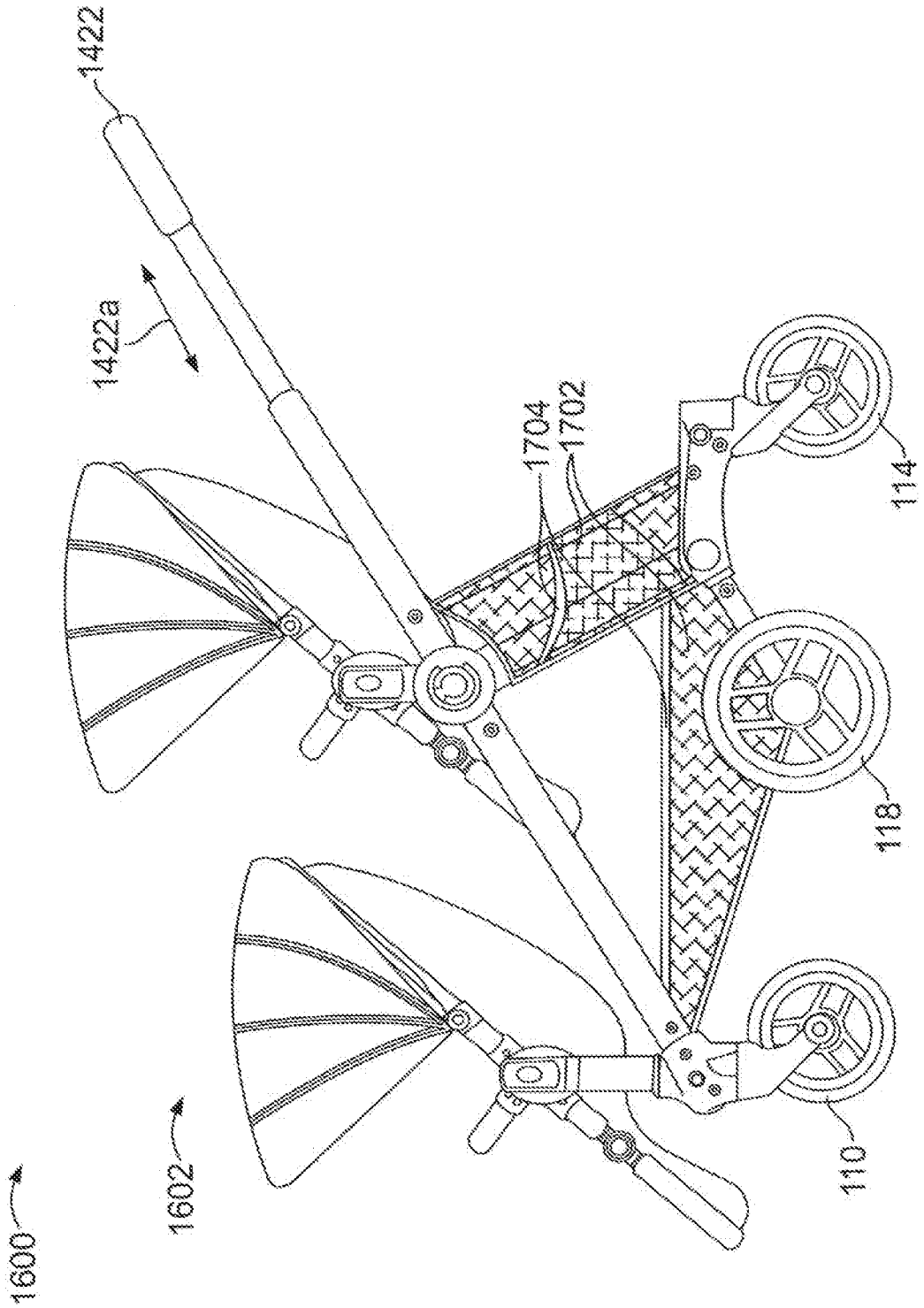


图 17

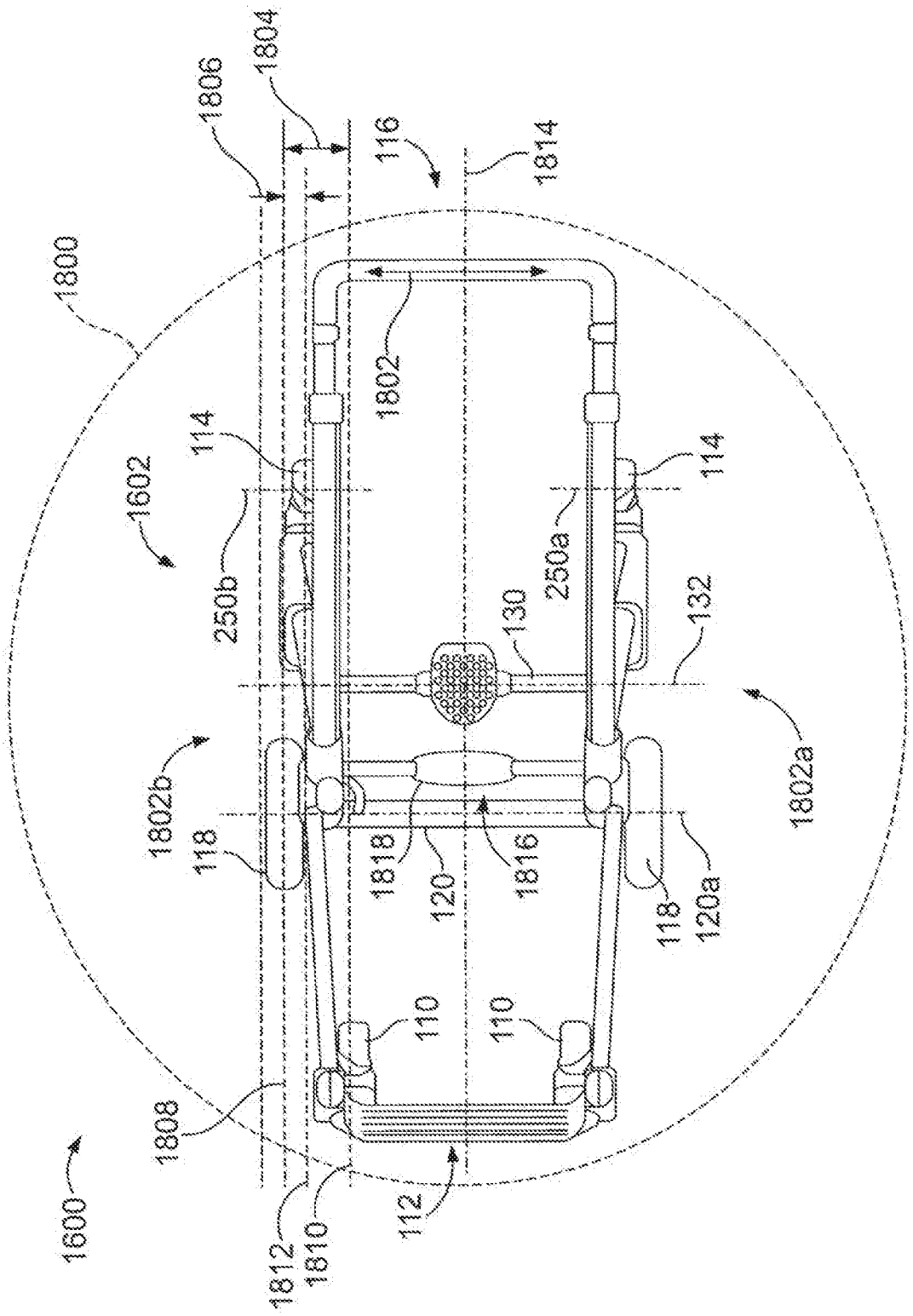

1804
1806
116
1814
1800
1802
114
1602
250b
250a
114
130
132
1802b
1802a
118
1818
120
1816
118
120a
110
110
1808
1600
112
1812
1810

图 18

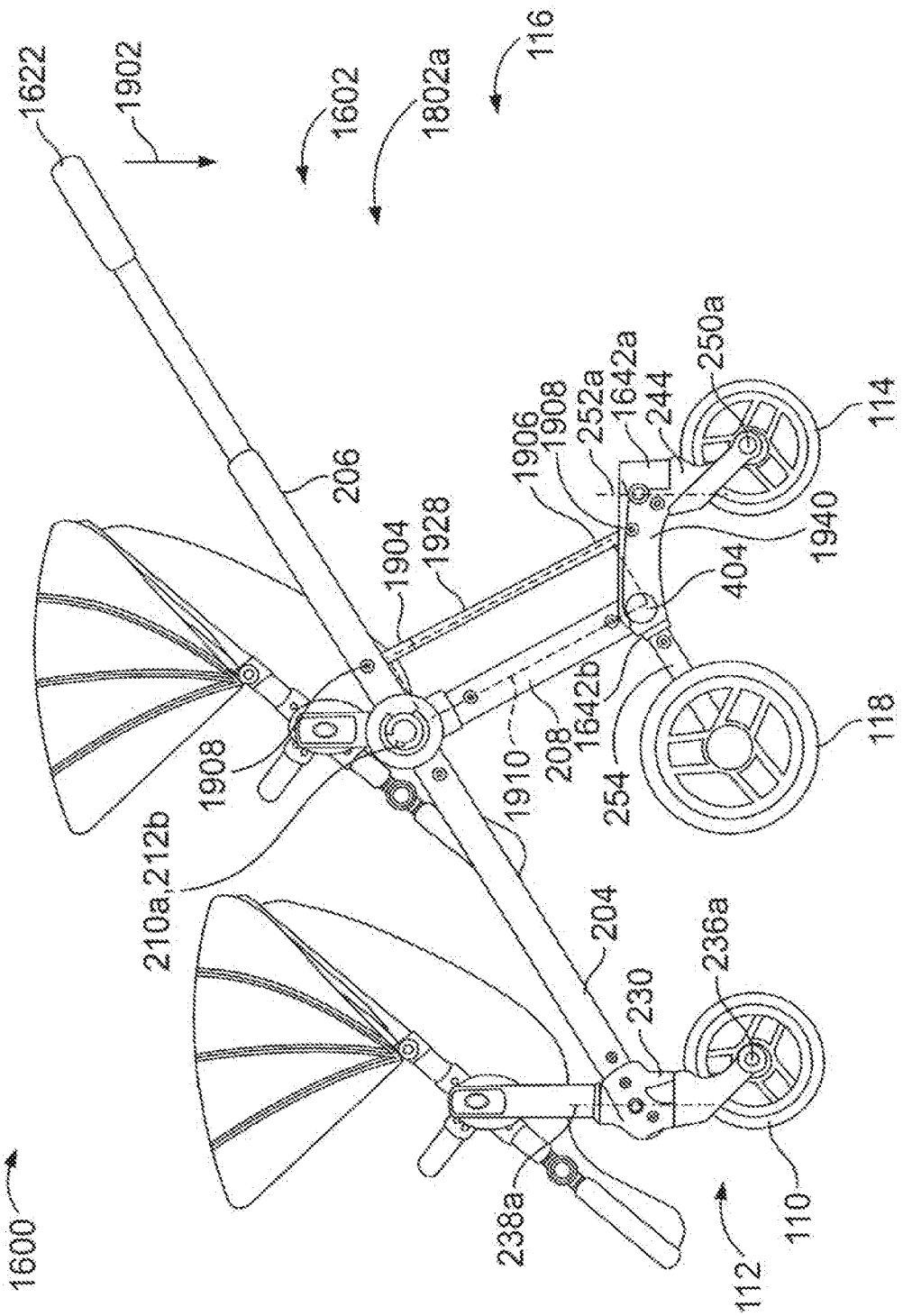

1622
1902
1602
1802a
116
206
1906
1908
252a
1642a
244
250a
114
1904
1928
1940
404
1908
1910
208
1642b
254
118
210a,212b
204
236a
230
238a
110
112
1600

图 19

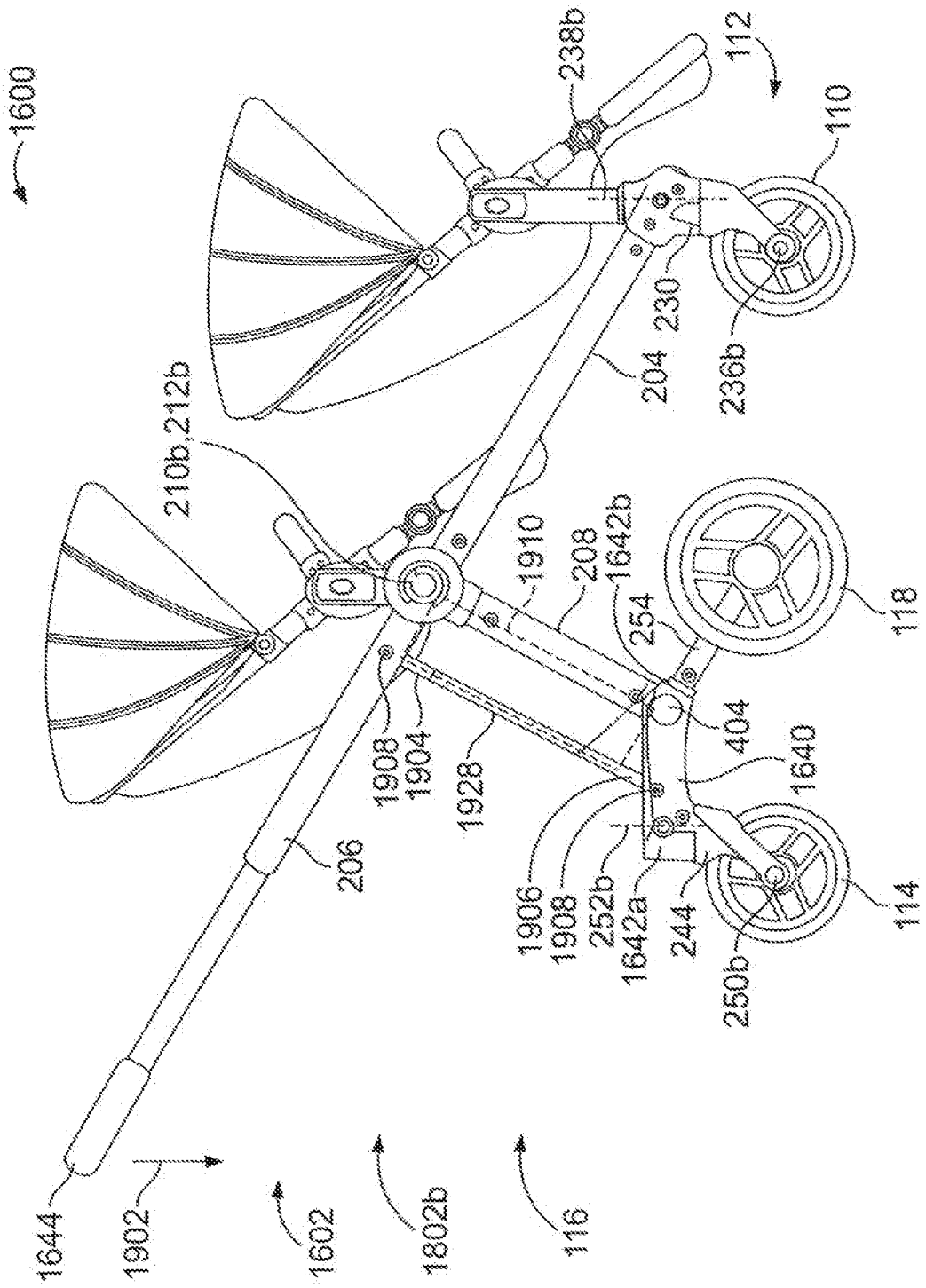

1600
238b
112
110
230
204
236b
210b,212b
1910
208
1642b
254
118
404
1640
1908
1904
1928
206
1906
1908
252b
1642a
244
250b
114
1644
1902
1602
1802b
116

图 20

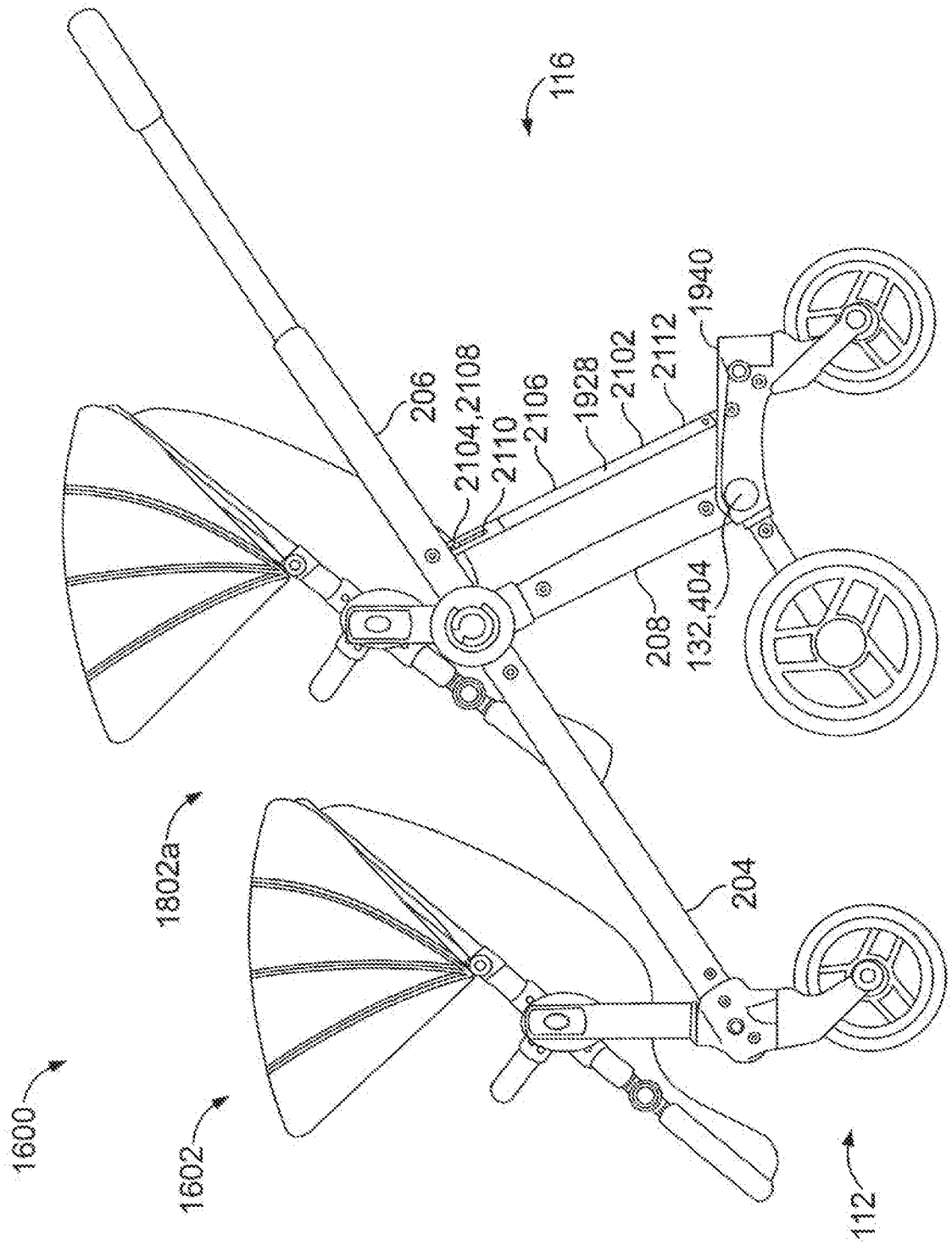

116
206
2104,2108
2110
2106
1928
2102
2112
1940
208
132,404
204
1802a
1600
1602
112

图 21

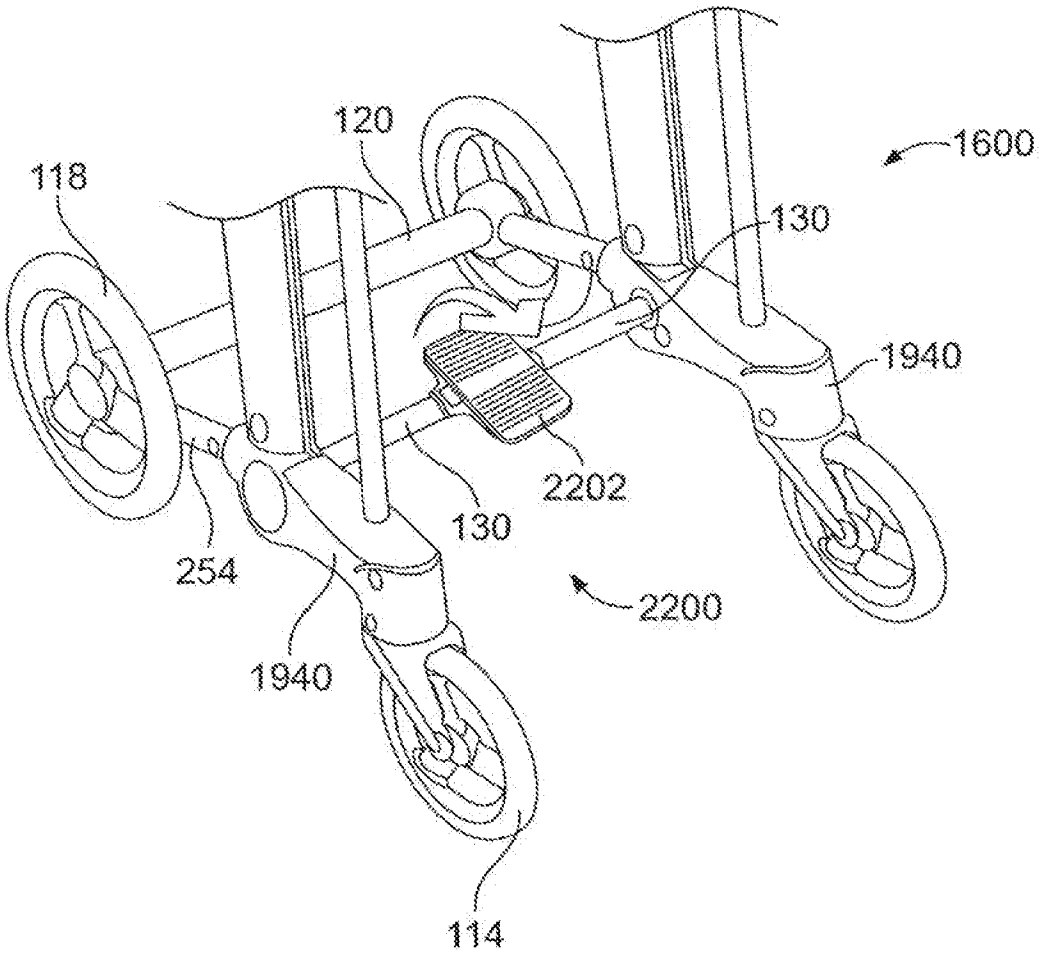


图 22A

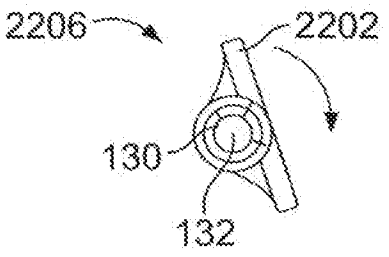


图 22B

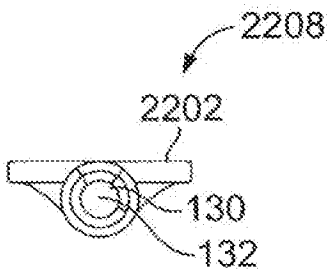


图 22C

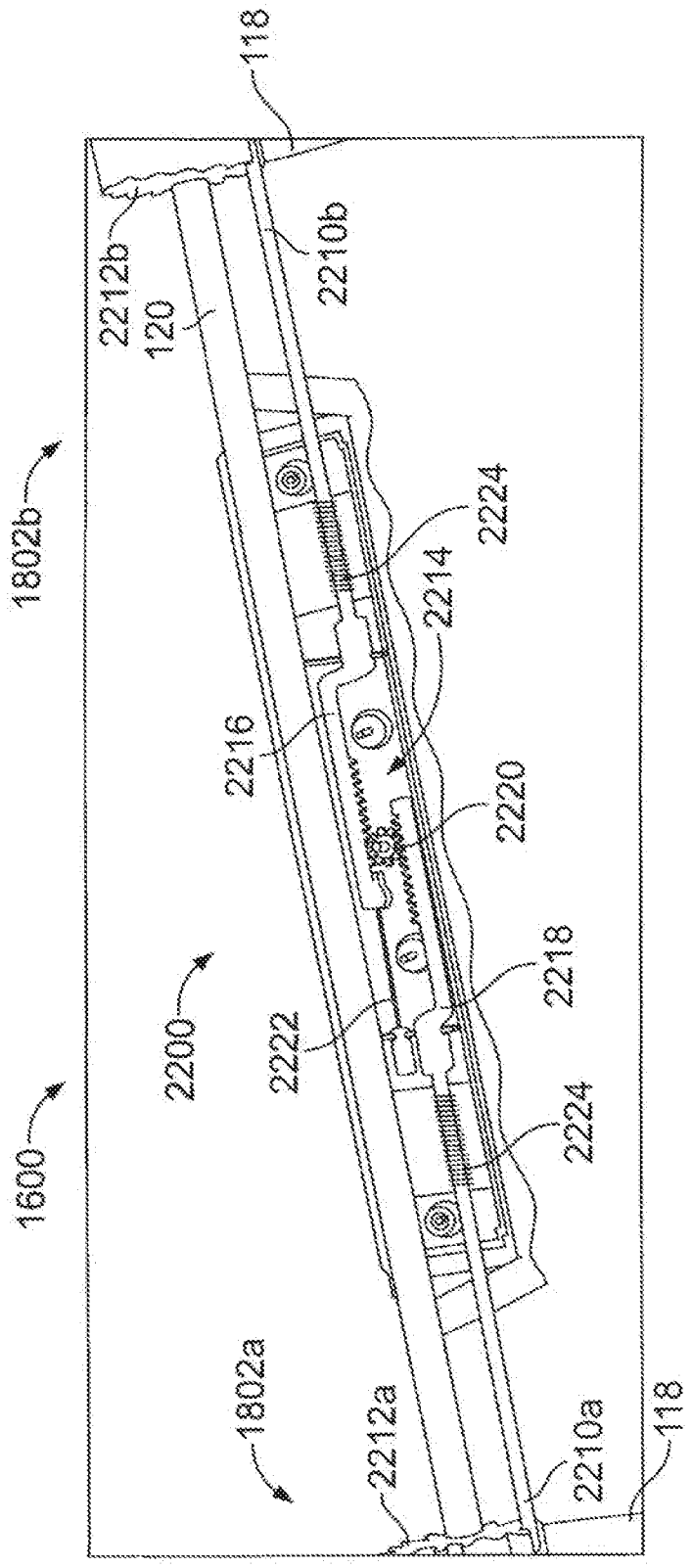

118
2212b
2210b
120
1802b
2224
2214
2216
2220
2218
2200
2222
2224
1600
1802a
2212a
2210a
118

图 22D

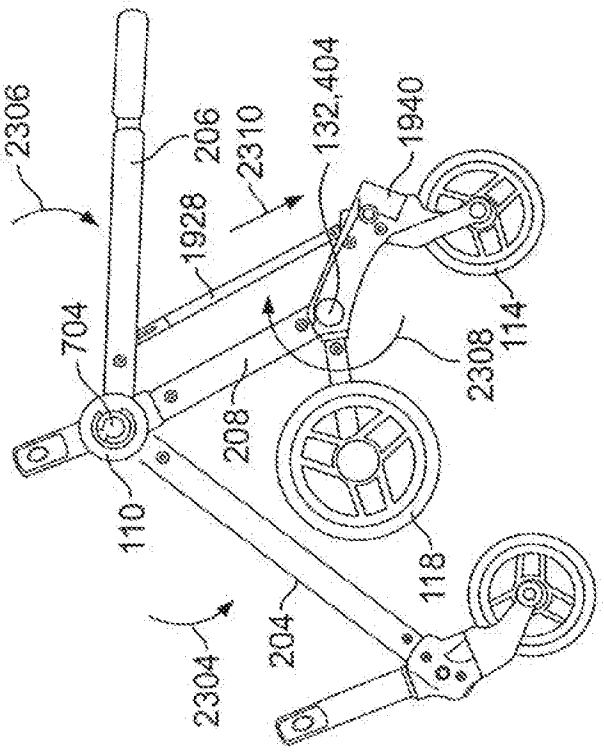

2306
206
2310
132,404
1940
1928
704
2308
114
208
110
118
204
2304

图 23

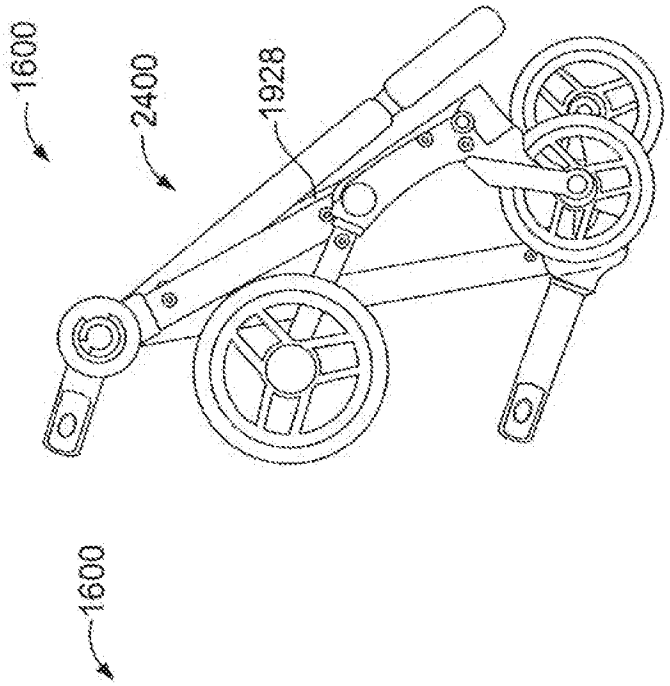

1600
2400
1928
1600

图 24

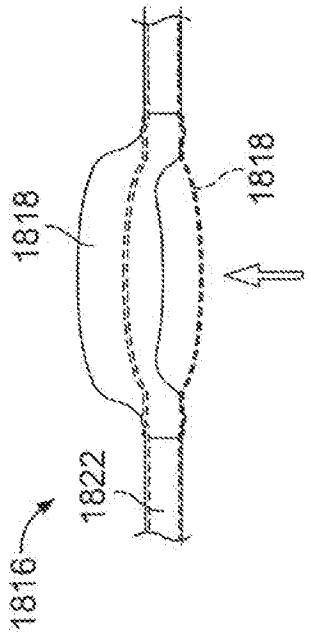

1818
1818
1822
1816

图 25A



图 25B

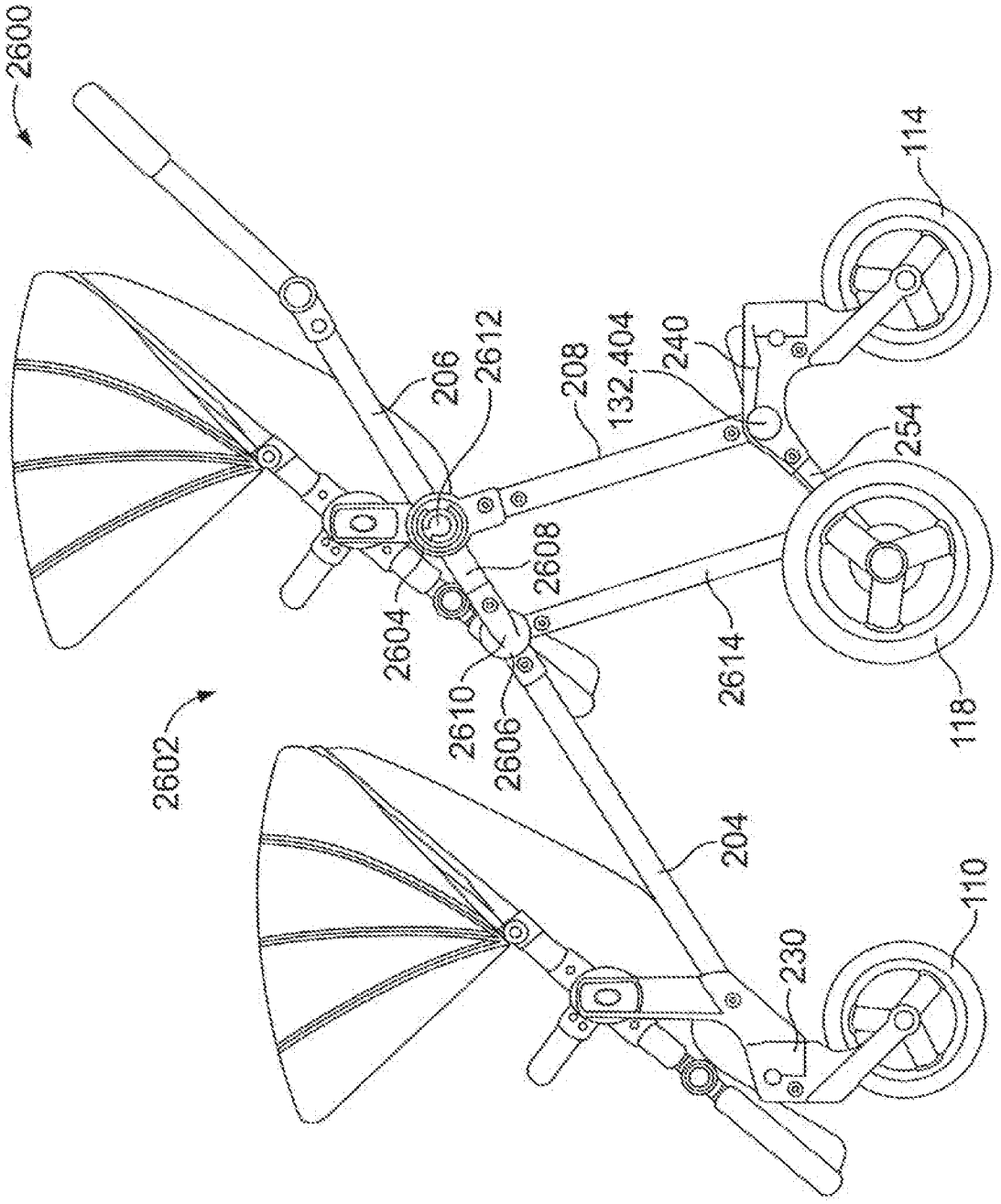

2600
114
206
2612
208
132,404
240
254
2608
2604
2610
2606
2614
118
2602
204
110
230

图 26

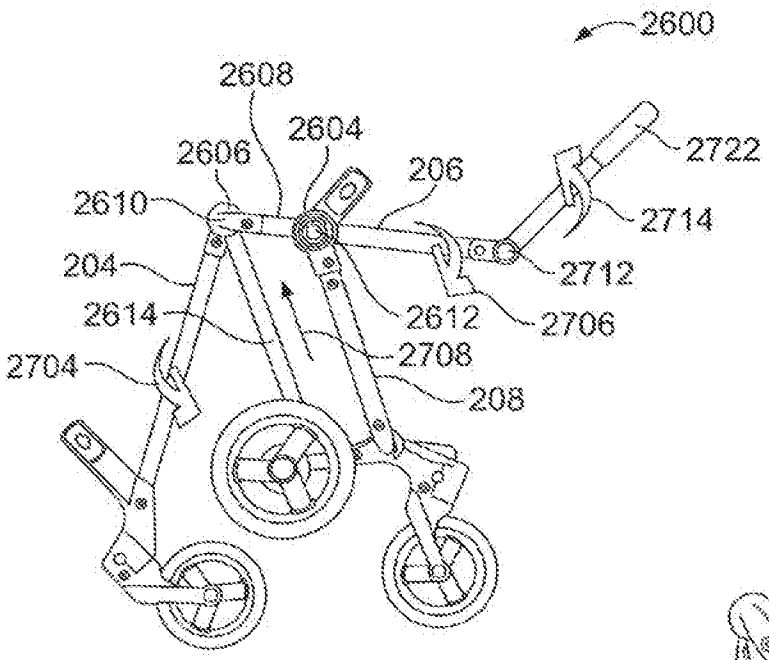

2600
2608
2604
2606
206
2722
2610
2714
204
2712
2614
2612
2706
2708
2704
208

图27

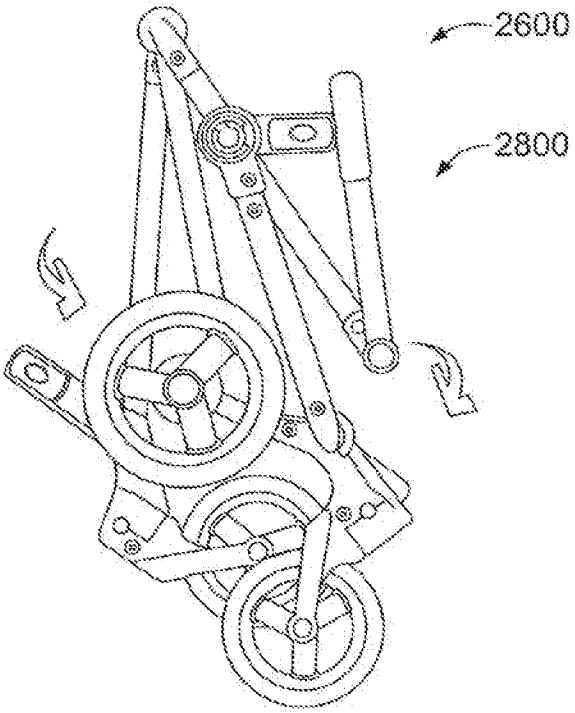

2600
2800

图28

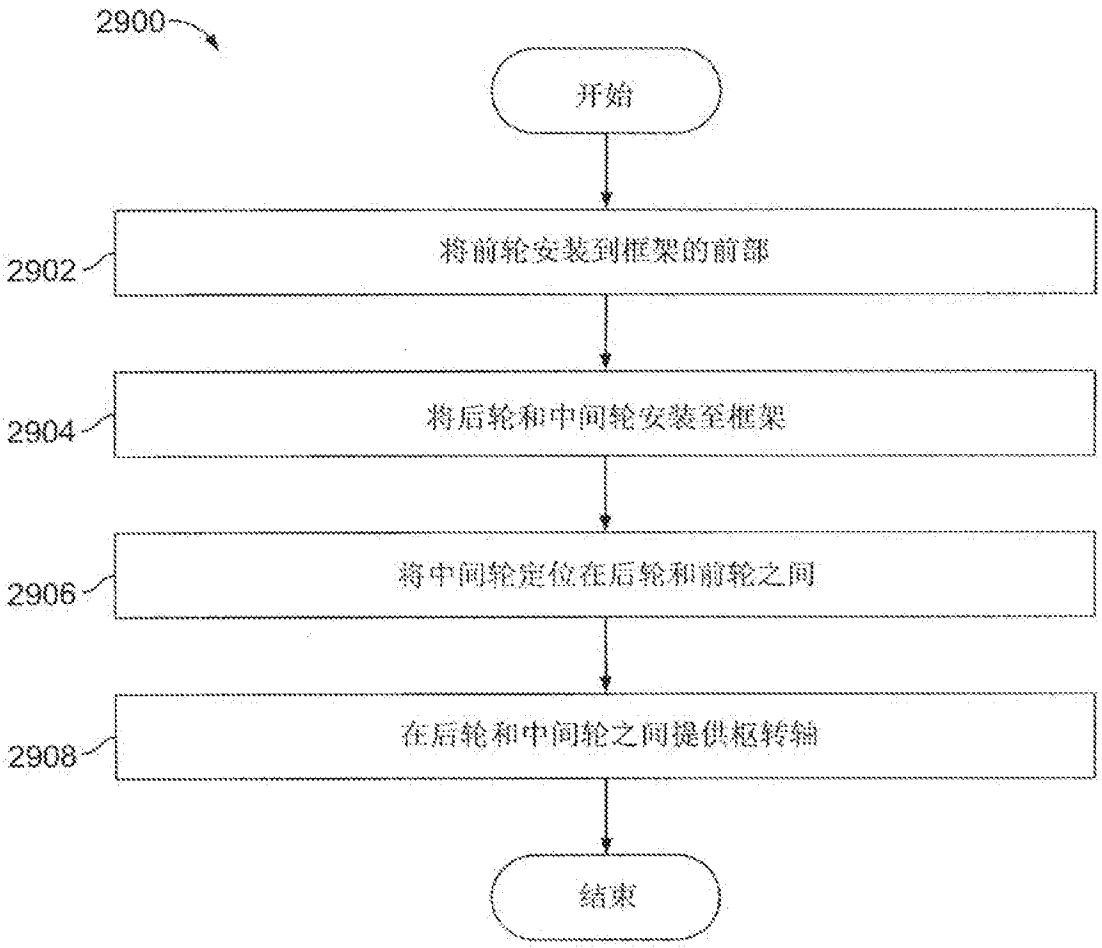

2900
开始
2902
将前轮安装到框架的前部
2904
将后轮和中间轮安装至框架
2906
将中间轮定位在后轮和前轮之间
2908
在后轮和中间轮之间提供枢转轴
结束

图 29