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Application Number: 15912901 Document Date: 03/06/2018

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Form Revision Date: August 26, 2013

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	
Jon Hee Lee et al.	Customer No.: **134811**
Application No.: **NEW APPLICATION**	Confirmation No.: **TBD**
Filed: **March 6, 2018**	Art Unit: **TBD**
For: **REMOVABLE SEAT ATTACHMENT FOR A STROLLER**	Examiner: **TBD**
Attorney Docket No.: **34757-21TBD**	

PRELIMINARY AMENDMENT

VIA EFS-WEB

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Commissioner:

Please enter the following amendments in the above-referenced continuation application prior to the examination thereof.

Amendments to the Drawings begin on page 2 of this paper.

Amendments to the Specification begin on page 3 of this paper.

Remarks begin on page 9 of this paper.

Certificate of Electronic Transmission

I hereby certify that this correspondence is being transmitted via the U.S. Patent and Trademark Office (USPTO) electronic filing system (EFS-Web) to the USPTO on **March 6, 2018.**

/James M. Hannon/
James M. Hannon,
Reg. No. 48,565

AMENDMENTS TO THE DRAWINGS

Please enter the amended drawings as described below. These amendments to the drawings are supported by the specification and drawings as filed and do not introduce new matter.

Figure 14C has been amended to show the claimed stop flange, side wall, first open end, second open end, and through hole. The amendments to Figure 14C are supported by the specification and drawings, as filed, do not introduce new matter, and follow the same amendments made in co-pending parent U.S. Patent Application No. 15/225,326 in response to a request by the Examiner. A replacement sheet for Figure 14C is being filed together with this preliminary amendment.

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as shown below. The amendments to the specification are supported by the application as-filed and do not introduce new matter.

Please amend the first full paragraph beginning on page 22 of the specification that begins "Each seat attachment housing 1405, 1410 can include" as follows. These amendments follow the same amendments made in co-pending parent U.S. Patent Application No. 15/225,326 in response to a request by the Examiner.

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.

Please amend the first full paragraph on page 7 of the specification that begins "The seat attachment 20 can also include" as follows:

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 [[27]]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 [[28]]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.

Please amend the first full paragraph on page 9 of the specification that begins "Figure 3 presents a side elevation view" as follows:

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[[t]] 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.

Please amend the last full paragraph on page 11 of the specification that begins "Figures 8A-H present multiple views" as follows:

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 <u>be</u> 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.

Please amend the third paragraph on page 13 of the specification that begins "Though it cannot be seen" as follows:

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 <u>is</u> 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.

Please amend the first full paragraph on page 15 of the specification that begins "Figures 8C-8H present additional examples" as follows:

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 [[81]]<u>80</u> in the first seat position. In still another example configuration, as shown in Figure 8G, two child carriers [[93]]<u>91</u> 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 [[93]]<u>91</u> may be replaced with a pram or bassinet 92, as shown in Figure 8H.

Please amend the second full paragraph on page 19 of the specification that begins "Figure 12 is a partial perspective view" as follows:

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.

Please amend the first full paragraph on page 20 of the specification that begins "The removable seat attachment adapter 84 can also include a stop collar 1335" as follows:

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 [[1330]]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.

Please amend the second full paragraph on page 20 of the specification that begins "The removable seat attachment adapter 84 can also include a spring-loaded" as follows:

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 [[1305]]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.

REMARKS

Applicant has amended the specification and drawings herein in the same manner as co-pending parent U.S. Patent Application No. 15/225,326. No new matter has been added by way of amendment. As such, examination of claims 1-20 is respectfully requested.

I. Amendments to the Specification and Drawings

The specification and drawings are being amended herein in accordance with the amendments made in U.S. Patent Application No. 15/225,326 during its prosecution and as part of a 37 CFR 1.312 Amendment submitted after the Notice of Allowance to correct minor typographical errors. No new matter is introduced by way of any of these amendments. A replacement sheet for Figure 14 is being provided with this preliminary amendment. Accordingly, Applicant respectfully requests entry of these drawing and specification amendments.

CONCLUSION

If there are any issues which can be resolved by telephone conference, the Examiner is invited to call the undersigned attorney at (404) 853-8013. No additional fees are believed to be due. However, the Commissioner is hereby authorized to charge any additional fees due or credit any overpayment to Deposit Account No. 19-5029.

Respectfully submitted,

/James M. Hannon/

James M. Hannon
Reg. No. 48,565

Date: March 6, 2018

EVERSHEDS SUTHERLAND (US) LLP
999 Peachtree Street, NE
Atlanta, Georgia 30309-3996
Telephone: (404) 853-8013
Facsimile: (404) 853-8806
Attorney Docket No.: 34757-21TBD

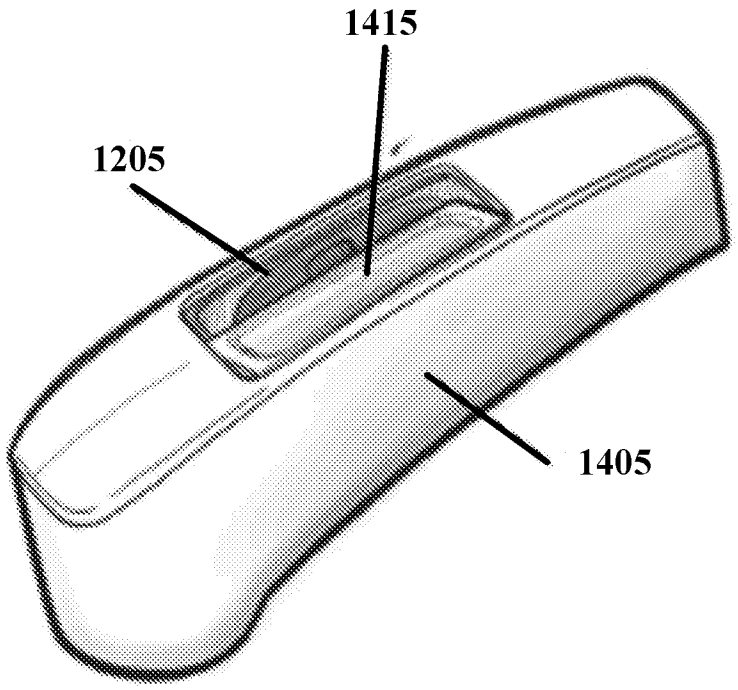


FIGURE 14B

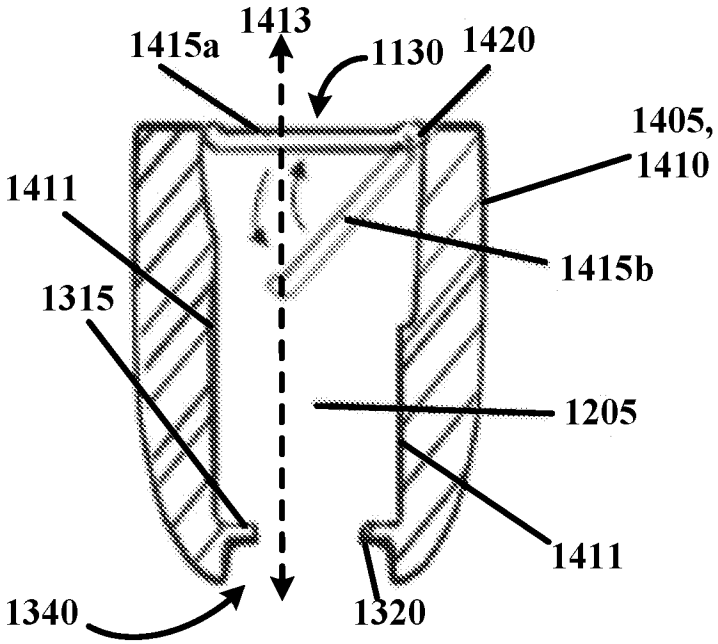


FIGURE 14C

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:	34757-21TBD

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:	31967802
Application Number:	15912901
International Application Number:	
Confirmation Number:	8011
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:	34757-21TBD
Receipt Date:	06-MAR-2018
Filing Date:	
Time Stamp:	13:30:56
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	030618INTEFSW00012761195029
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)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Application Data Sheet	34757-21TBD_ADS.pdf	1823569 16513f945085c9ff4b77385ec40d9e1c1d5fae22	no	10
Warnings:					
Information:					
2		34757-21TBD_Specification.pdf	207251 83e0ea9927c436d21b39e26e2fc39f54b2269573	yes	29

Multipart Description/PDF files in .zip description

Document Description	Start	End
Specification	1	23
Claims	24	28
Abstract	29	29

Warnings:					
Information:					
3	Drawings-only black and white line drawings	34757-21TBD_Drawings.pdf	1058405 f9781e2ecf93a4a68372438ed424477407a33db7	no	18
Warnings:					
Information:					
4		34757-21TBD_Preliminary_Amendment.pdf	130571 df444cf81a79a4870d04eecd83d02b740a87e9bf	yes	9

Multipart Description/PDF files in .zip description

Document Description	Start	End
Preliminary Amendment	1	1

	Drawings-only black and white line drawings		2	2	
	Specification		3	8	
	Applicant Arguments/Remarks Made in an Amendment		9	9	
Warnings:					
Information:					
5	Drawings-only black and white line drawings	34757-21TBD_Replacement_Sheet.pdf	132036 6c5218ce3f26ed899117dbf92376cd699365fdc3	no	1
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	34929 3e316a64257a1064d7ceda46f87a7834f88edeab	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	3386761		

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New Applications Under 35 U.S.C. 111

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

National Stage of an International Application under 35 U.S.C. 371

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

New International Application Filed with the USPTO as a Receiving Office

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

PTO/AIA/14 (11-15)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-21TBD
	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

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Inventor 2 Remove

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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

PTO/AIA/14 (11-15)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-21TBD
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

City	Portage	State/Province	MI	Country of Residence	US

Mailing Address of Inventor:

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Address 2	

City	Portage	State/Province	MI
Postal Code	49024	Country	US

Inventor 4 Remove

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Prefix	Given Name	Middle Name	Family Name	Suffix
	Mark		Zehfuss	

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

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Mailing Address of Inventor:

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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	34757-21TBD	Small Entity Status Claimed	☐
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	18	Suggested Figure for Publication (if any)	

PTO/AIA/14 (11-15)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-21TBD
	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	15225326	2016-08-01

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-21TBD
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

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

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Foreign Priority Information:

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-21TBD
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

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	34757-21TBD
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

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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.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-21TBD
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

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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		
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Country	US	Postal Code	23227
Phone Number		Fax Number	
Email Address			

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Assignee Information including Non-Applicant Assignee Information:

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-21TBD
	Application Number	
Title of Invention	REMOVABLE SEAT ATTACHMENT FOR A STROLLER	

Assignee 1

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

Organization Name	Baby Jogger, LLC

Mailing Address Information For Assignee including Non-Applicant Assignee:

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Address 2	Suite 1000		
City	Richmond	**State/Province**	VA
Country i	US	Postal Code	23227
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See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/James M. Hannon/			Date (YYYY-MM-DD)	2018-03-06
First Name	James	Last Name	Hannon	Registration Number	48565

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	34757-21TBD
	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.**

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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. 15/225,326, 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 which are hereby incorporated herein by reference for all purposes. This application also claims priority under 35 U.S.C. §120 to U.S. Patent Application No. 15/225,326, 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 27 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 28 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 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 not 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 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 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 81 in the first seat position. In still another example configuration, as shown in Figure 8G, two child carriers 93 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 93 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 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 1330 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 1305, 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.

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 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;

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 and configured to hold a first child in the stroller;

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

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

wherein a first seat attachment adapter is configured to be removably coupled to the first seat attachment housing and wherein a second seat attachment adapter is configured to be removably coupled to the second seat attachment housing.

2. The stroller of claim 1, further comprising:

the first seat attachment adapter removably coupled to the first seat attachment housing; and

the second seat attachment adapter removably coupled to the second seat attachment housing.

3. The stroller of claim 2, further comprising a second seat removably coupled to the first seat attachment adapter and the second seat attachment adapter.

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 releasably connected to one of the first seat attachment housing and the second seat attachment

housing.

6. The stroller of claim 4, wherein the second end is releasably connected to a second seat.

7. The stroller of claim 3, 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, wherein the second vertical position and the third vertical position are at a same vertical height.

10. The stroller of claim 1, wherein the stroller frame comprises:

a first upper tube support frame;

a second upper tube support frame;

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

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

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

a second back wheel support frame configured to rotate with respect to the second upper tube support frame.

11. The stroller of claim 10, wherein the first seat is coupled along the first upper tube support frame and the second upper tube support frame, wherein the first seat attachment housing is coupled to the first front wheel support frame, and wherein the second seat attachment housing is coupled to the second front wheel support frame.

12. The stroller of claim 10, 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.

13. The stroller of claim 1, wherein the first seat attachment housing and the second seat attachment housing are part of the stroller frame.

14. 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 configured to rotate with respect to the first upper tube support frame;

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

at least one back wheel support frame; and

a stroller handle provided along an end of the first upper tube support frame and the second upper tube support frame;

a first front wheel operably coupled to the first front wheel support frame;

a second front wheel operably coupled to the second front wheel support frame;

a plurality of back wheels operably coupled to the at least one back wheel support frame;

a first seat coupled along the first upper tube support frame and the second upper tube support frame and configured to hold a first child in the stroller;

a first seat attachment housing coupled to the first front wheel support frame;

a second seat attachment housing coupled to the second front wheel support frame;

a first seat attachment adapter removably coupled to the first seat attachment housing;

a second seat attachment adapter removably coupled to the second seat attachment housing; and

a second seat removably coupled to the first seat attachment adapter and the second seat attachment adapter and configured to hold a second child in the stroller.

15. The stroller of claim 14, 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 14, wherein the first seat is removably coupled along the stroller frame.

17. The stroller of claim 14, 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.

18. A stroller, comprising:

a stroller frame comprising:

a first upper tube support frame;

a second upper tube support frame;

a front wheel support frame configured to rotate with respect to the first upper tube support frame and the second upper tube support frame;

at least one back wheel support frame; and

a stroller handle provided along an end of the first upper tube support frame and an end of the second upper tube support frame;

at least one front wheel operably coupled to the front wheel support frame;

at least one back wheel operably coupled to the at least one back wheel support frame;

a first seat attachment housing coupled to the front wheel support frame;

a second seat attachment housing coupled to the front wheel support frame;

a first seat attachment adapter removably coupled to the first seat attachment housing;

a second seat attachment adapter removably coupled to the second seat attachment housing;

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

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

a first seat removably coupled along the third seat attachment adapter and the fourth seat attachment adapter and configured to hold a first child in the stroller; and

a second seat removably coupled to the first seat attachment adapter and the second seat attachment adapter and configured to hold a second child in the stroller.

19. The stroller of claim 18, wherein the at least one back wheel support frame is rotatable with respect to the first upper tube support frame and the second upper tube support frame.

20. The stroller of claim 18, wherein the first seat attachment housing and the second seat attachment housing are part of the stroller frame.

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.

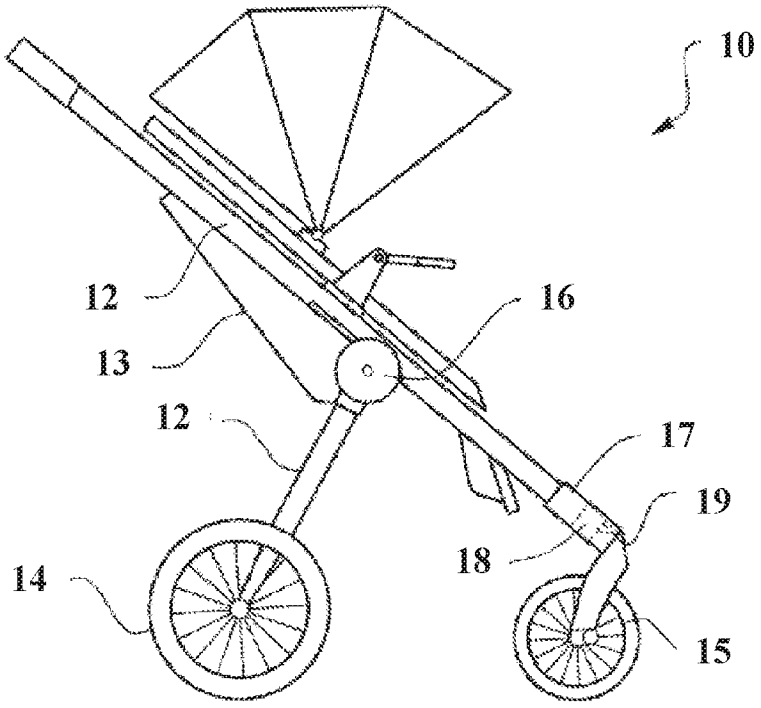


FIGURE 1

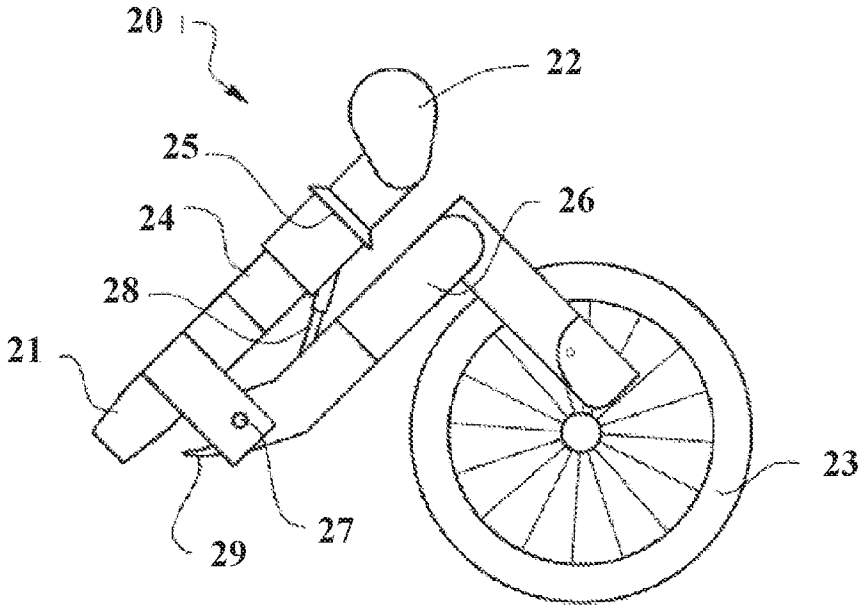


FIGURE 2

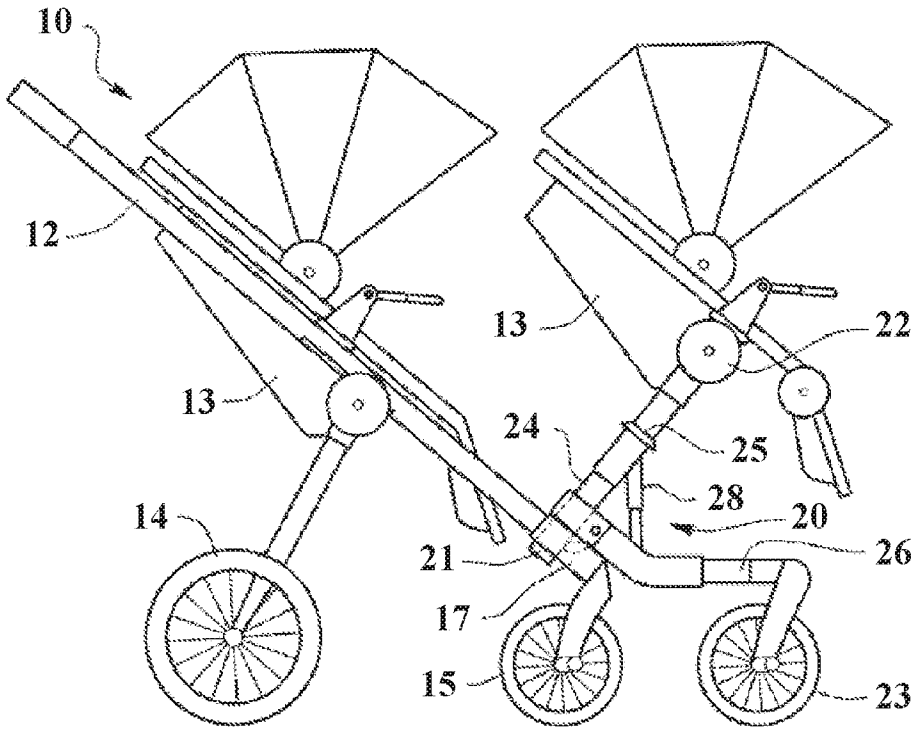


FIGURE 3

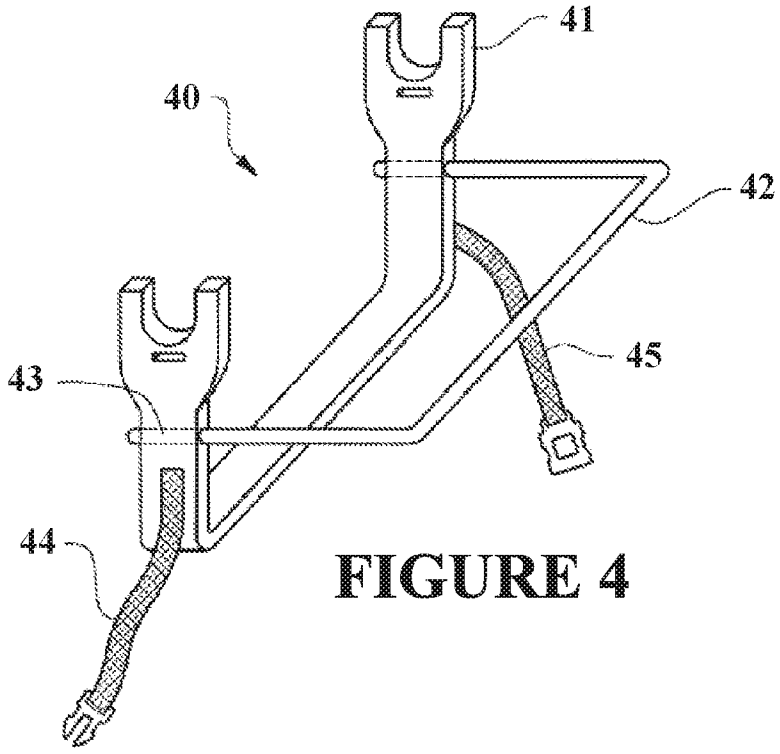


FIGURE 4

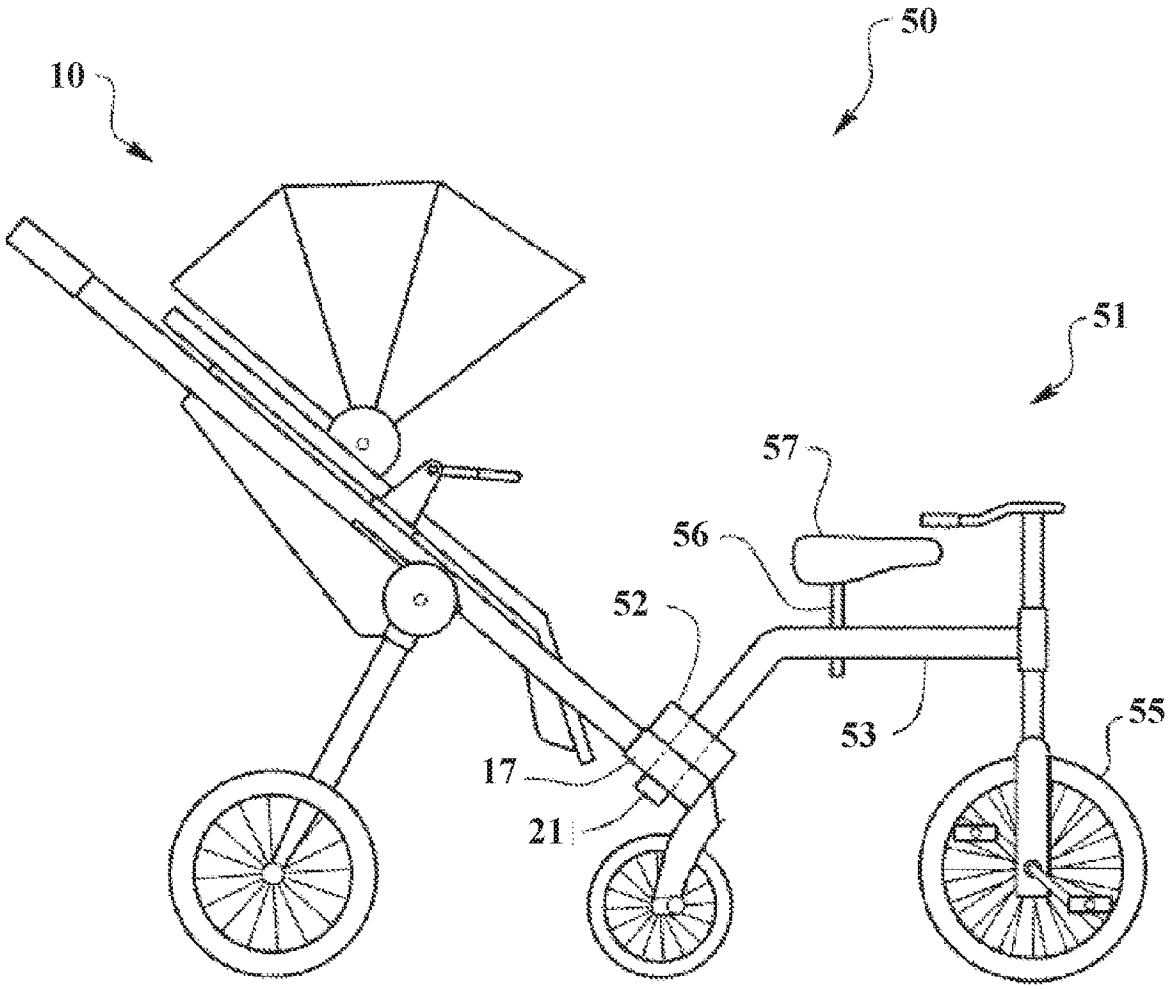


FIGURE 5

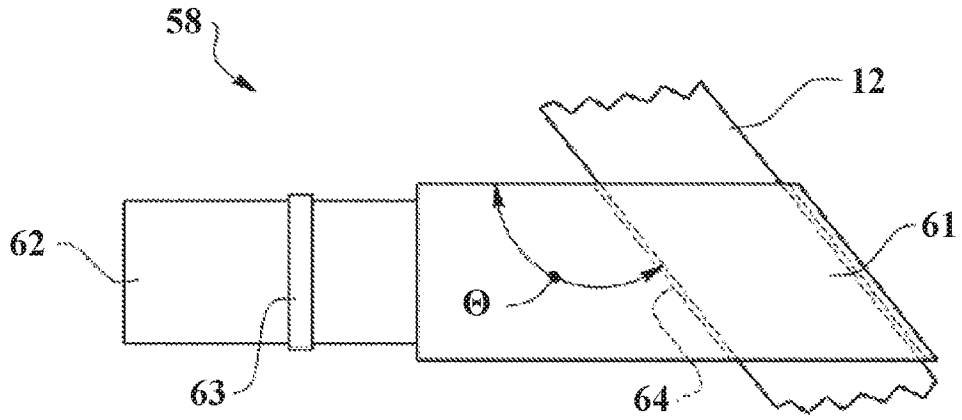


FIGURE 6A

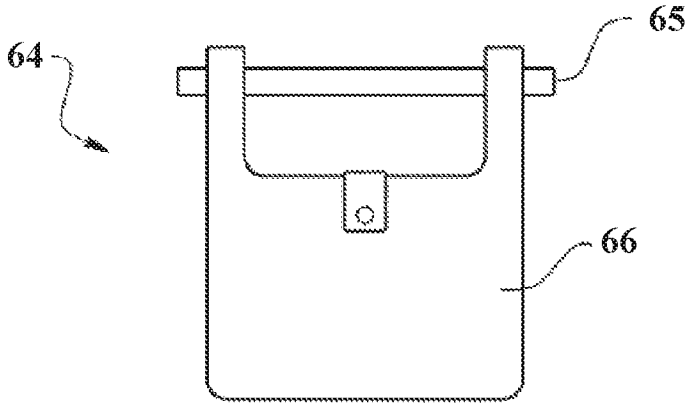


FIGURE 6B

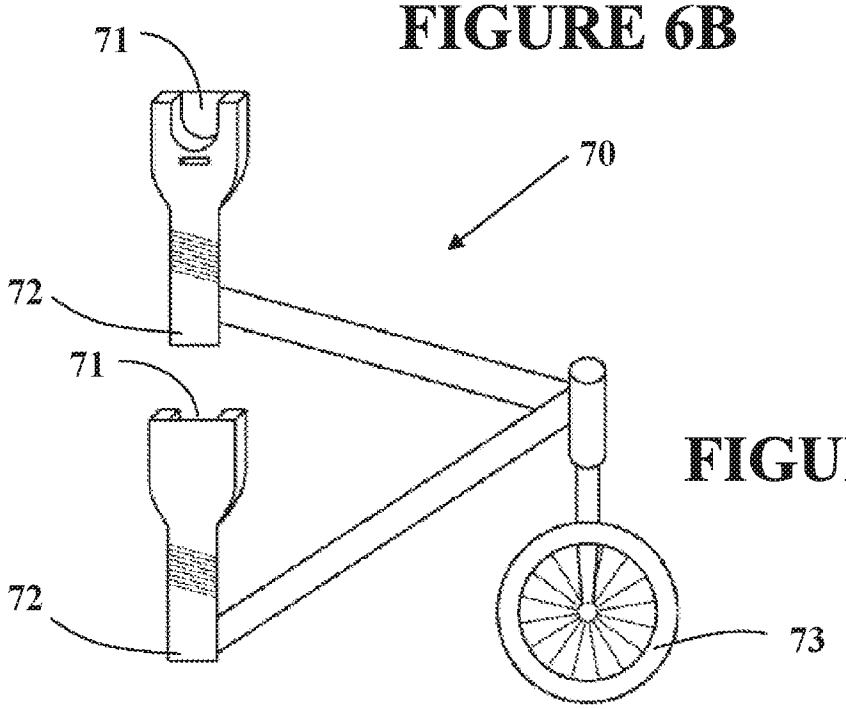


FIGURE 7

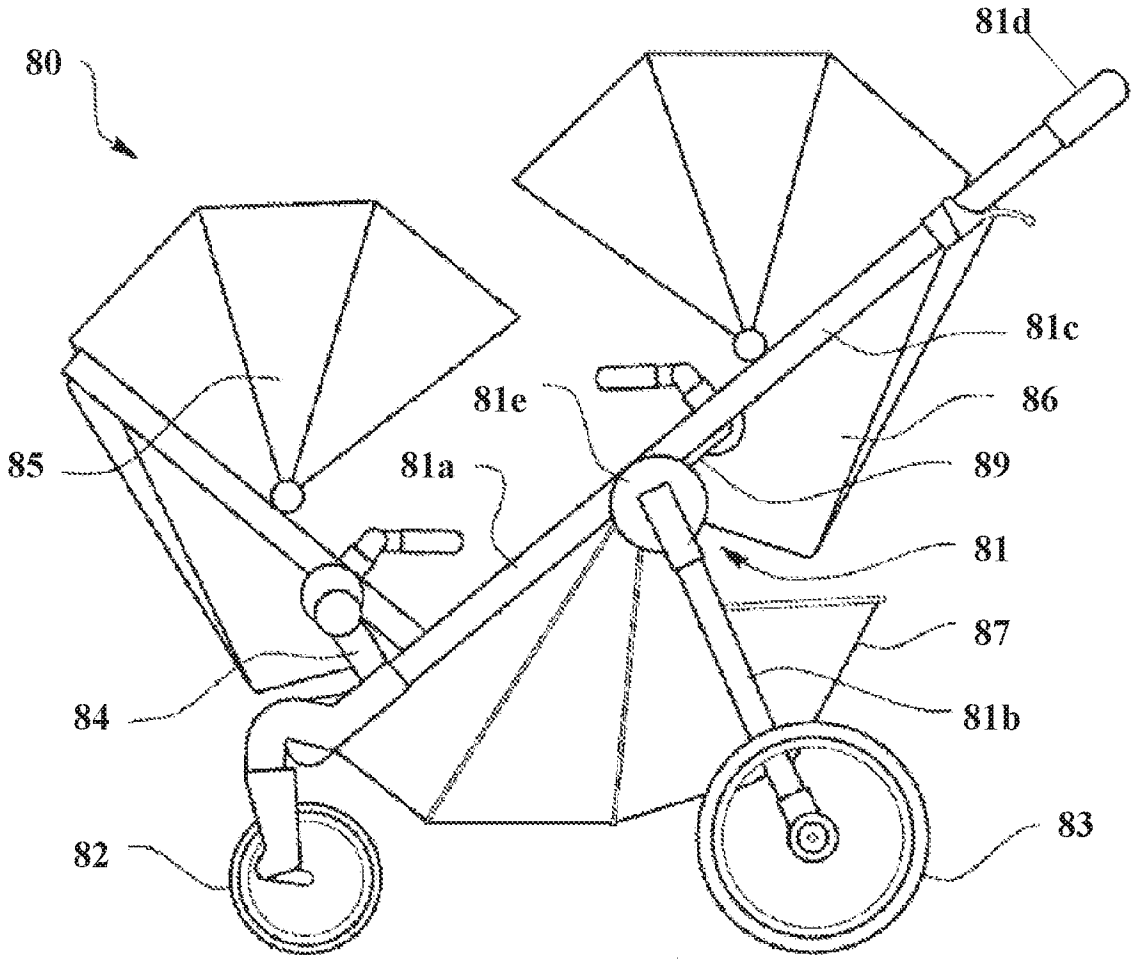


FIGURE 8A

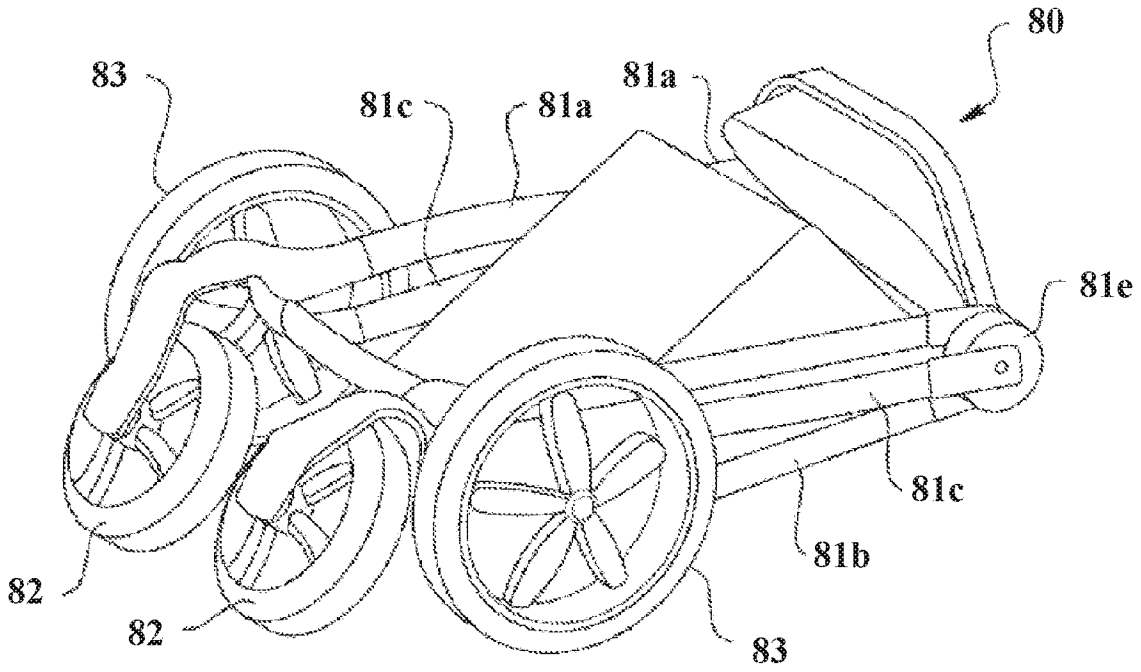


FIGURE 8B

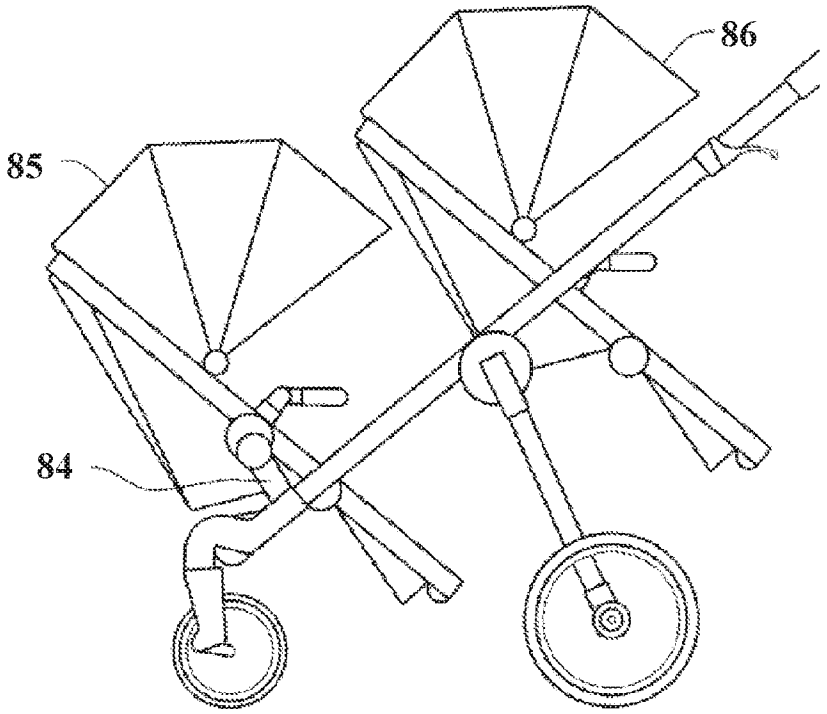


FIGURE 8C

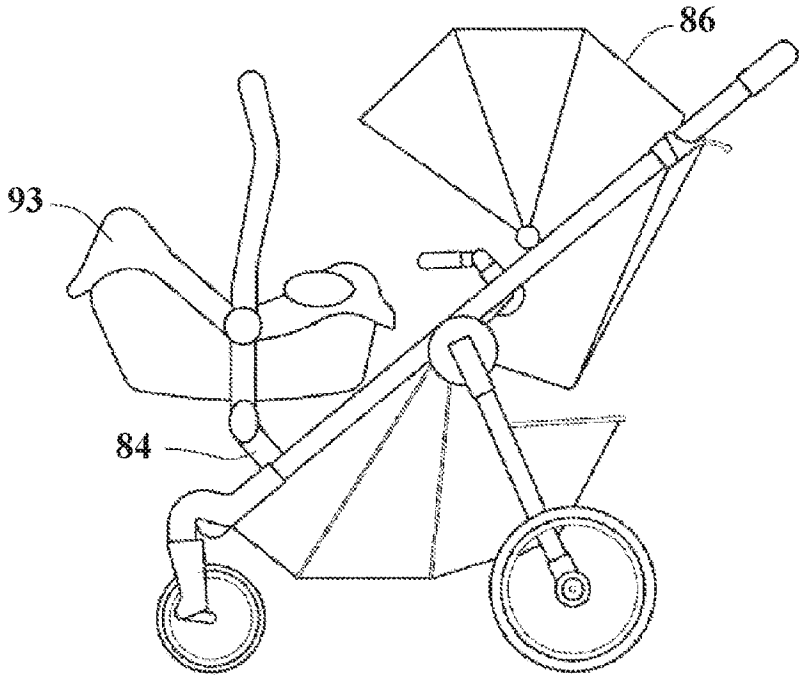


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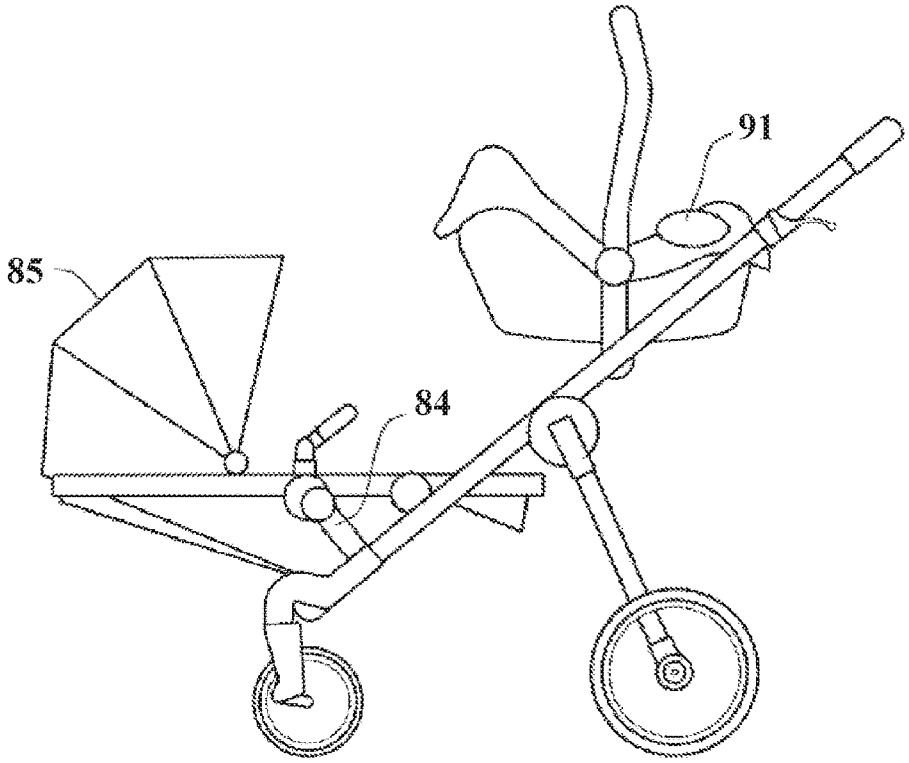


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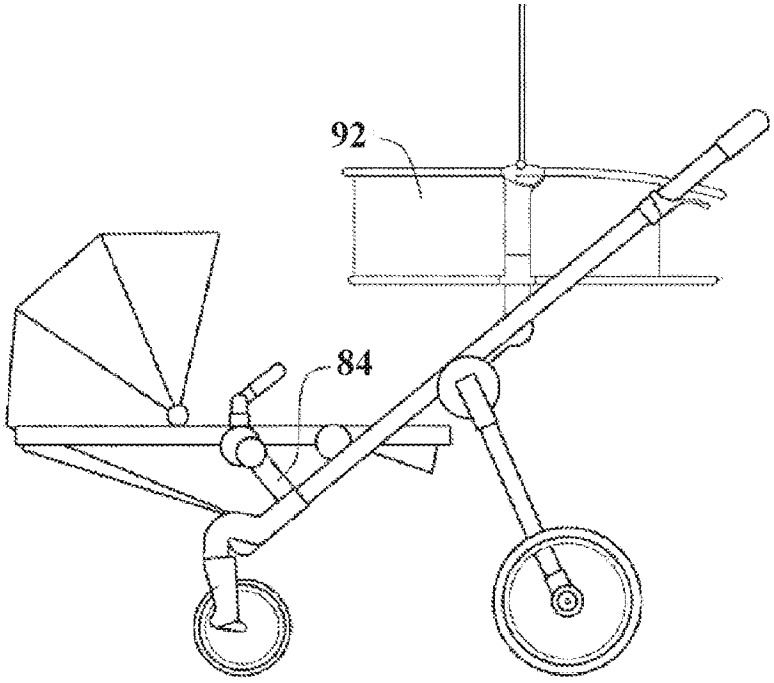


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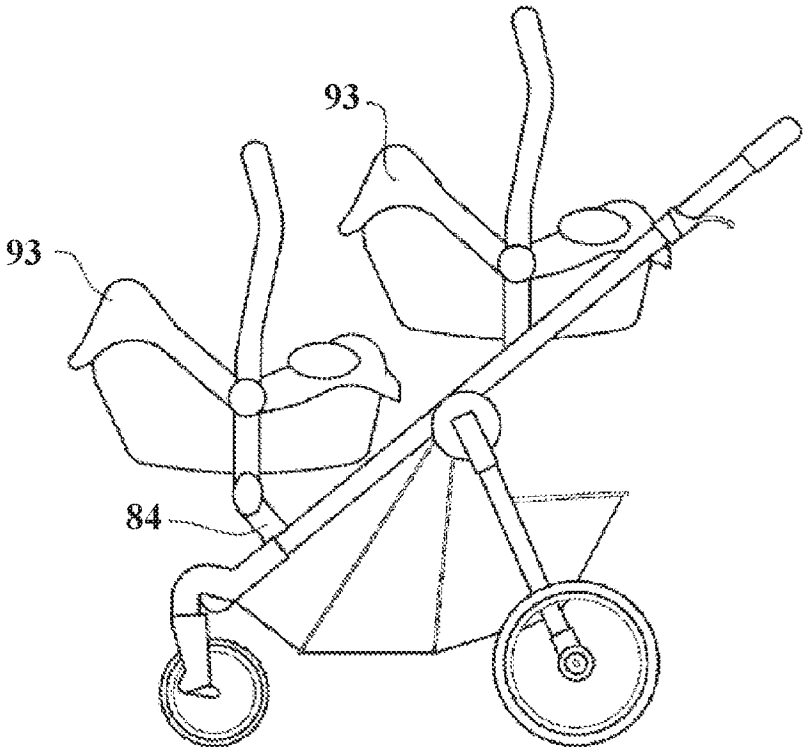


FIGURE 8G

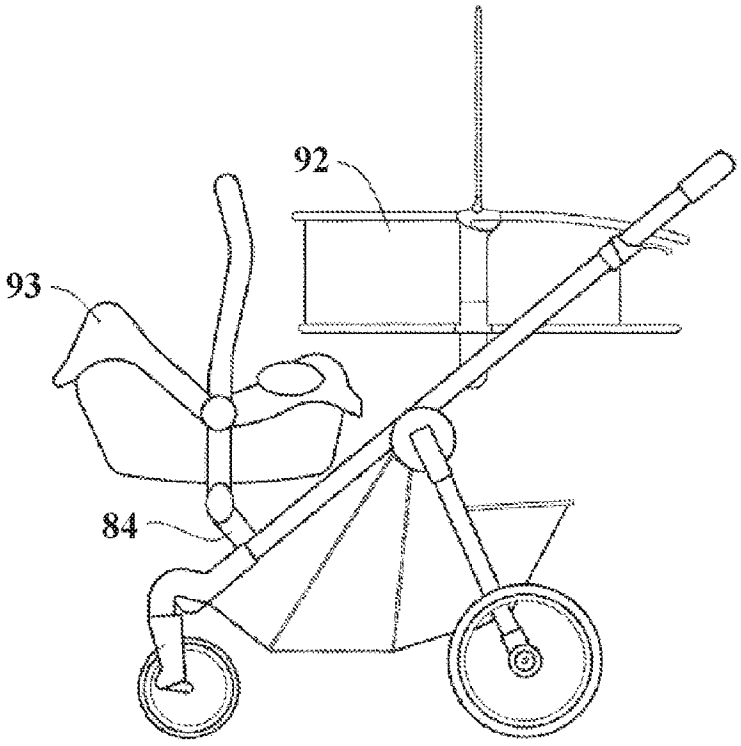


FIGURE 8H

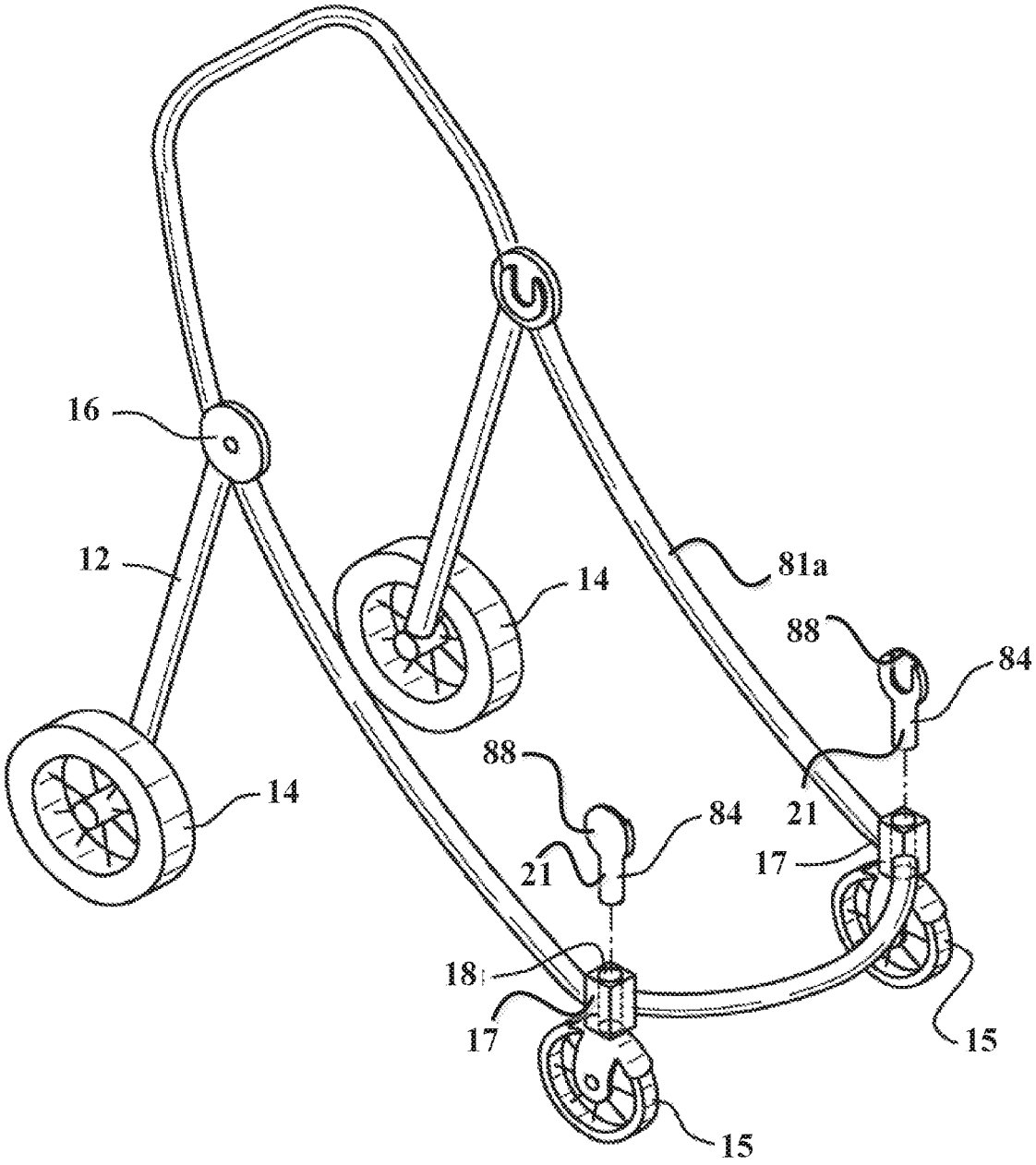


FIGURE 9

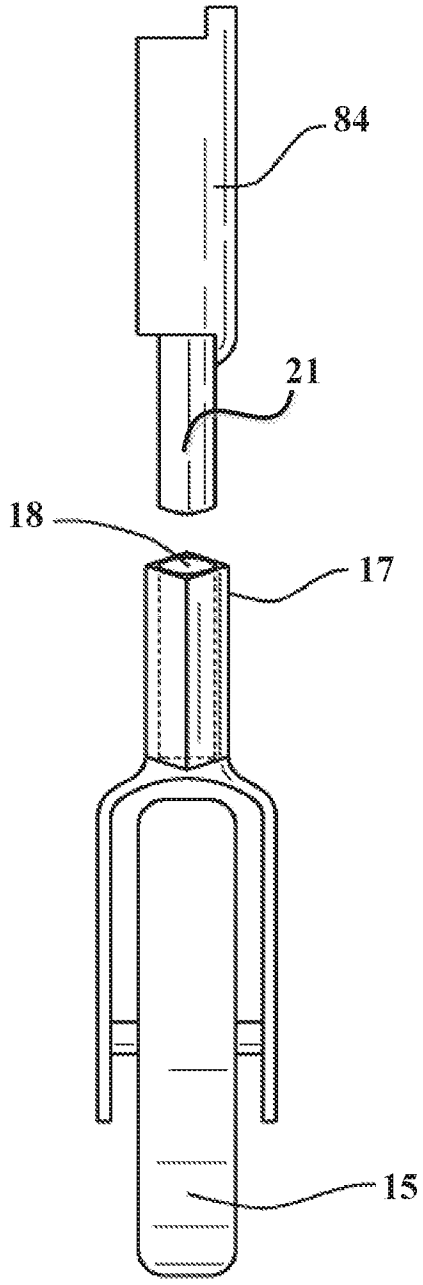


FIGURE 10

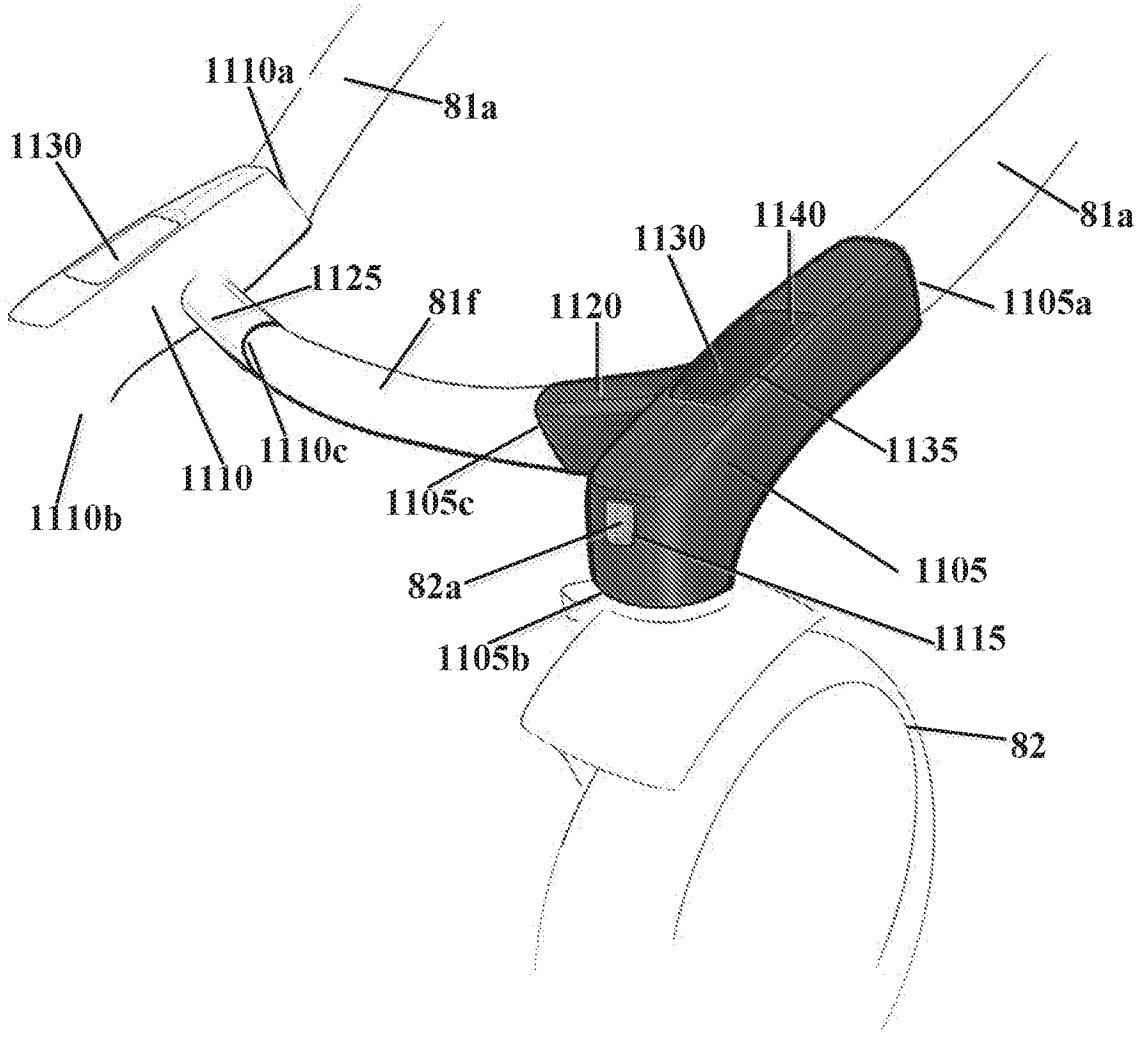

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FIGURE 11

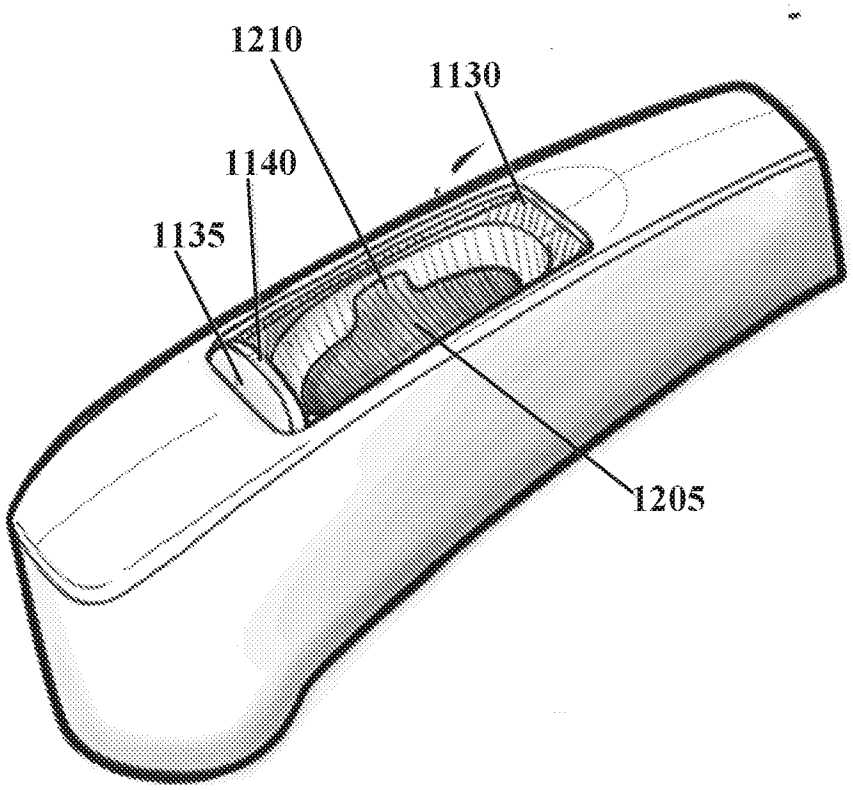


FIGURE 12

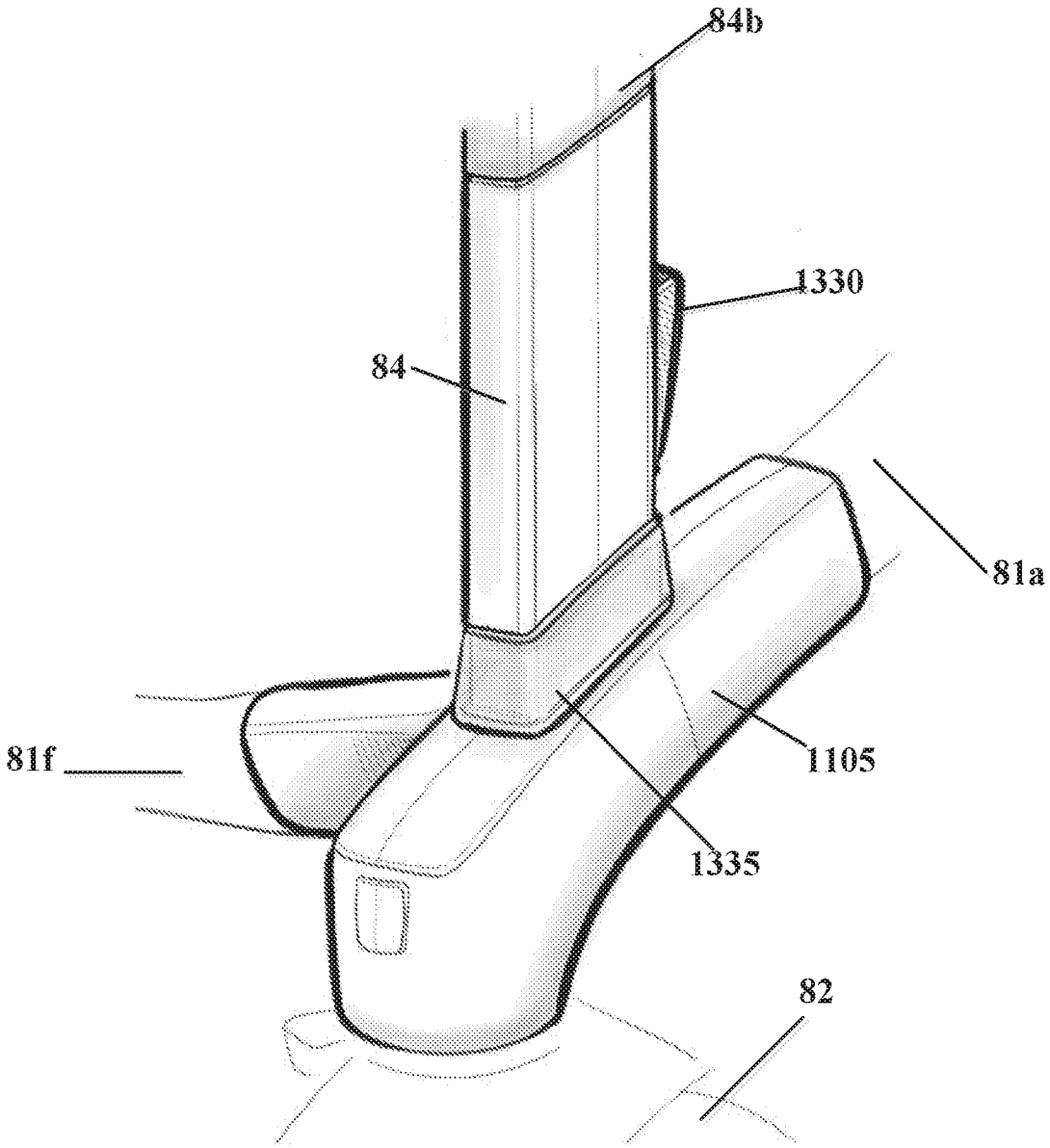


FIGURE 13A

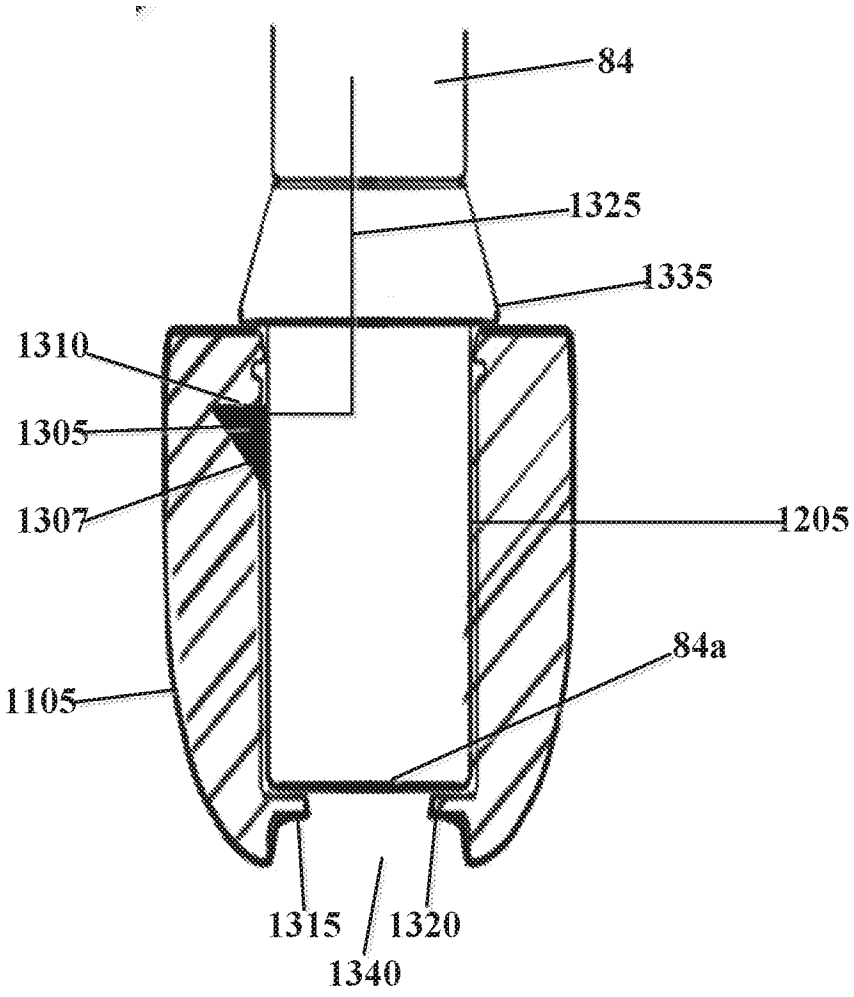


FIGURE 13B

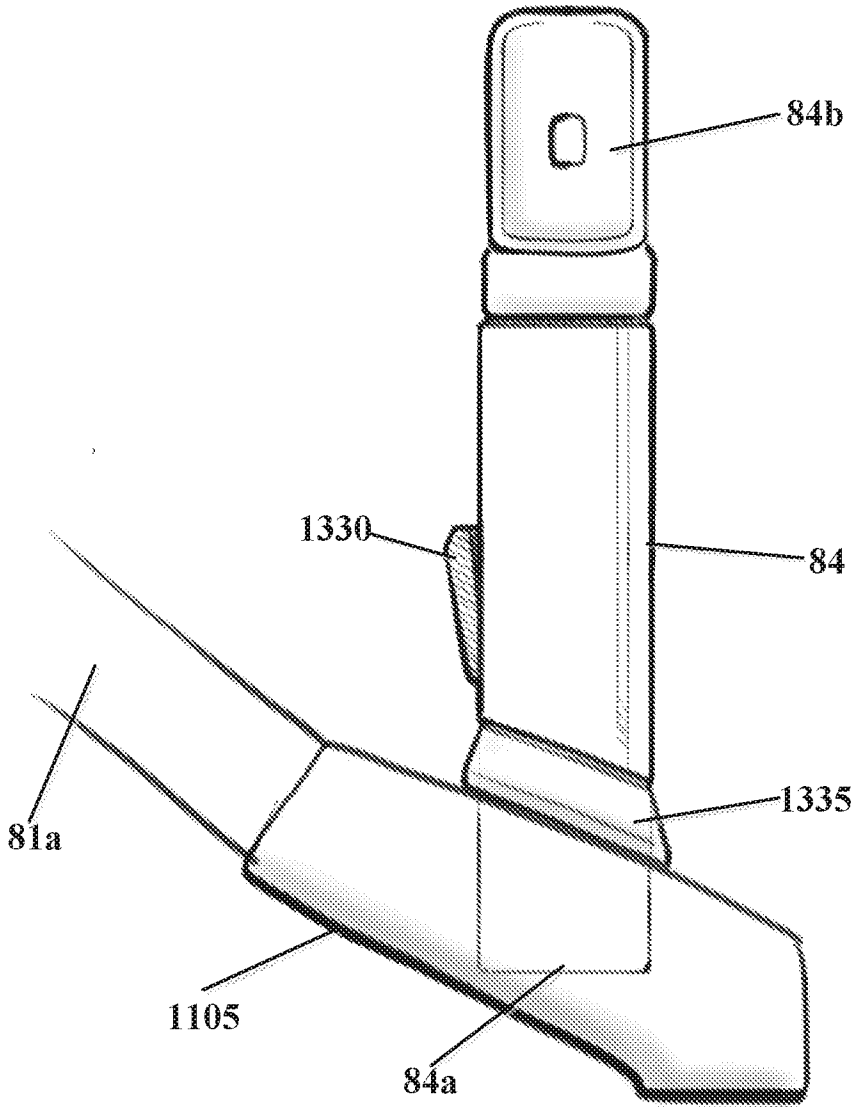


FIGURE 13C

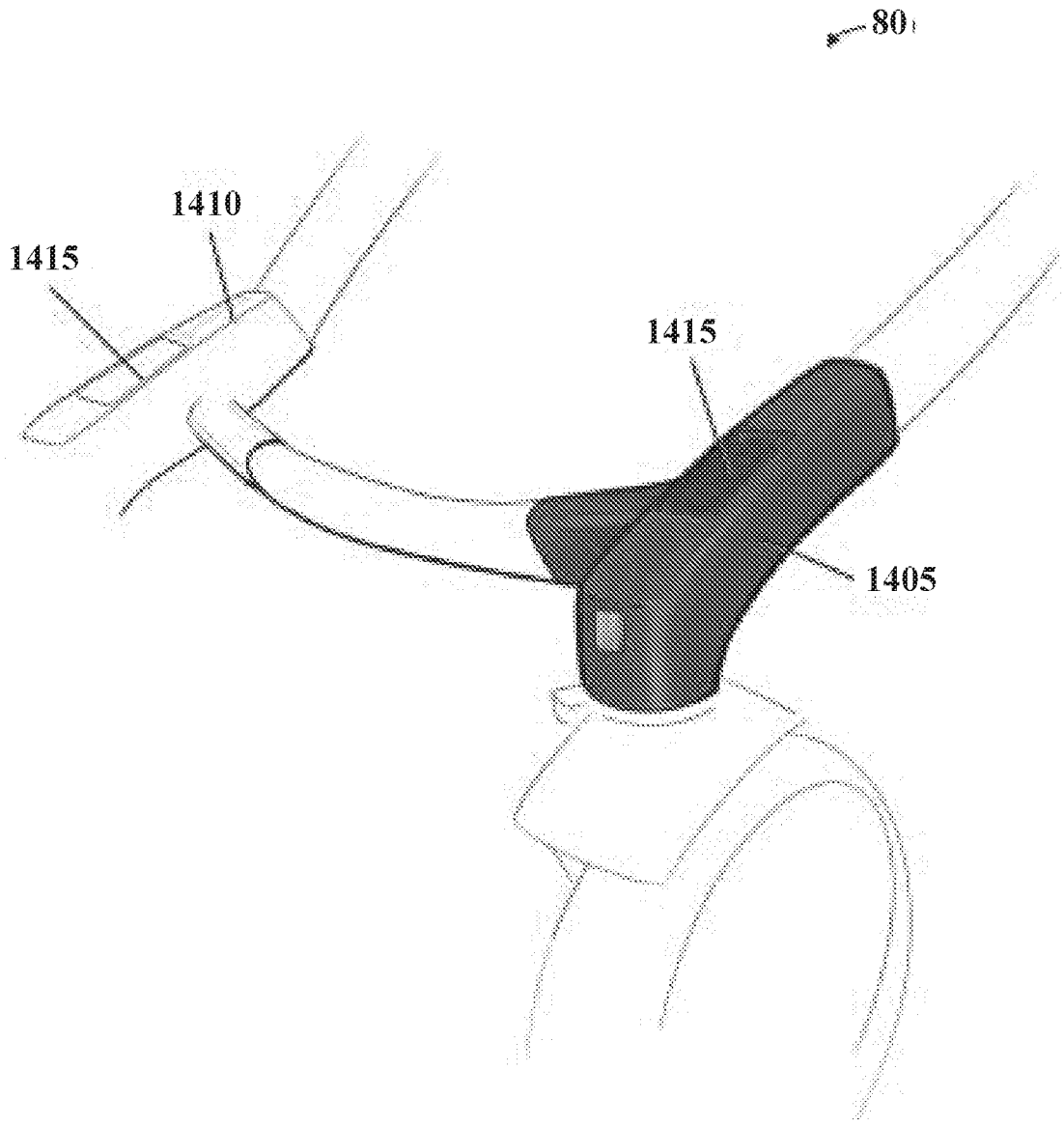


FIGURE 14A

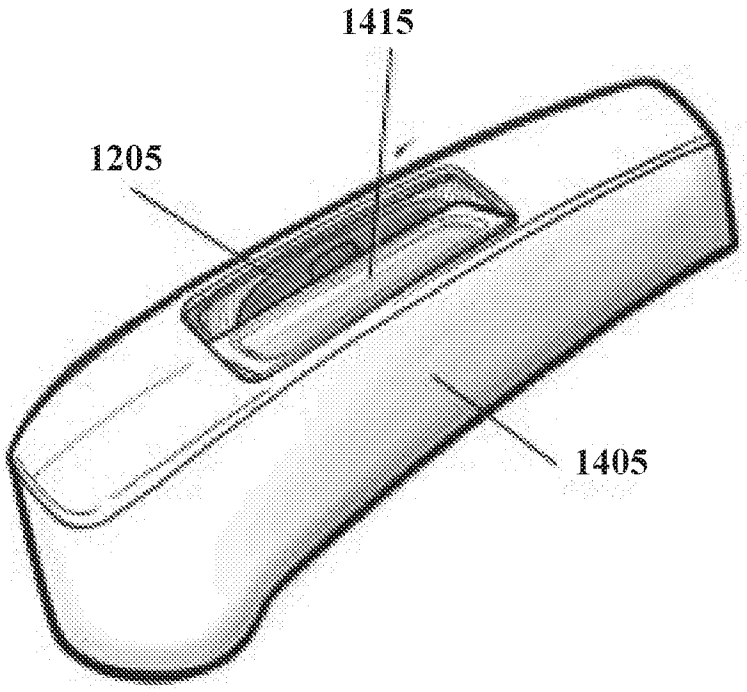


FIGURE 14B

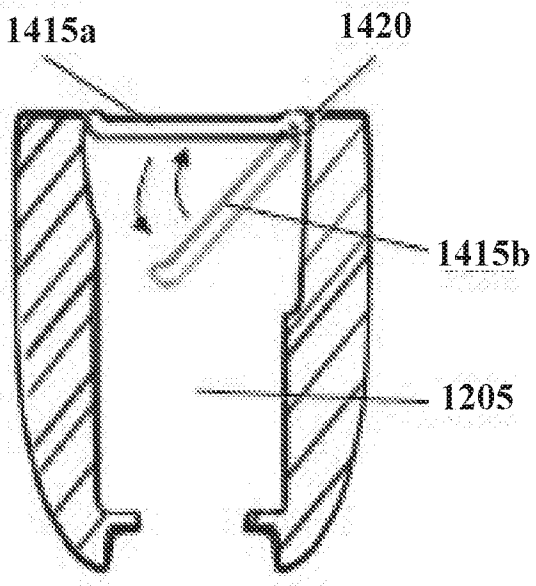


FIGURE 14C

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
Stylesheet Version v1.2

EPAS ID: PAT4853535

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	ASSIGNMENT

CONVEYING PARTY DATA

Name	Execution Date
JON HEE LEE	07/28/2016
MEGAN ROE	07/28/2016
STACY NOEL SIMPSON	07/25/2016
MARK ZEHFUSS	08/02/2016

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State/Country:	VIRGINIA
Postal Code:	23227

PROPERTY NUMBERS Total: 1

Property Type	Number
Application Number:	15912901

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Fax Number: (404)853-8806

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Email: patentdocket@eversheds-sutherland.com
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Address Line 2: SUITE 2300
Address Line 4: ATLANTA, GEORGIA 30309

ATTORNEY DOCKET NUMBER:	34757-21TBD
NAME OF SUBMITTER:	LAYONDA PRUE
SIGNATURE:	/LaYonda P. Prue/
DATE SIGNED:	03/06/2018
	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 7
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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
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Kalamazoo, MI 49008

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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

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	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/912,901	03/06/2018	Jon Hee Lee	34757-21TBD

CONFIRMATION NO. 8011

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

FORMALITIES LETTER

OC000000098452589

Date Mailed: 04/03/2018

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- A substitute specification excluding claims in compliance with 37 CFR 1.52, 1.121(b)(3), and 1.125 is required. The substitute specification must be submitted with markings and be accompanied by a clean version (without markings) as set forth in 37 CFR 1.125(c) and a statement that the substitute specification contains no new matter (see 37 CFR 1.125(b)). Since a preliminary amendment was present on the filing date of the application and such amendment is part of the original disclosure of the application, the substitute specification must include all of the desired changes made in the preliminary amendment. See 37 CFR 1.115 and 1.215.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice". https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ttruong/

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 15/912,901

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.

UNITED STATES PATENT AND TRADEMARK OFFICE

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/912,901	03/06/2018	3636	1720	34757-21TBD	20	3

CONFIRMATION NO. 8011

FILING RECEIPT

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

OC000000098452588

Date Mailed: 04/03/2018

Receipt is acknowledged of this non-provisional 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 APPLICANT, 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 Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections 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**

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

Assignment For Published Patent Application

Baby Jogger, LLC, Richmond, VA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application 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: 03/30/2018
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/912,901**
Projected Publication Date: To Be Determined - pending completion of Corrected Papers
Non-Publication Request: No
Early Publication Request: No
Title

REMOVABLE SEAT ATTACHMENT FOR A STROLLER

Preliminary Class

297

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.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER

Title 35, United States Code, Section 184

Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign AssetsControl, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop

technology, manufacture products, deliver services, and grow your business, visit http://www.SelectUSA.gov or call +1-202-482-6800.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Jon Hee Lee et al.	)	Confirmation No.: **8011**
	)	
Serial No.: **15/912,901**	)	Art Unit: **3636**
	)	
Filed: **March 6, 2018**	)	Examiner: **Unassigned**
	)	
For: **REMOVABLE SEAT ATTACHMENT FOR A STROLLER**	)	

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

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

Commissioner:

Responsive to the Notice to File Corrected Application Papers, dated April 3, 2018, the Applicant submits the enclosed Substitute Specifications. The amendments to the Specification do not introduce new matter.

Amendments to the Specification begin on page 2 of this paper.

Remarks begin on page 3 of this paper.

I hereby certify that this correspondence is being electronically filed via EFS-WEB to Mail Stop Missing Parts, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, Attn: GAU 3636 on **April 6, 2018**.

/James M. Hannon/
James M. Hannon
Reg. No. 48,565

AMENDMENTS TO THE SPECIFICATION

Please amend the specification as set forth in the enclosed Substitute Specification. The amendments do not introduce new matter. The amendments being made herein, and originally presented as part of the preliminary amendment submitted at the time of filing of this application, are in accordance with the amendments made in U.S. Patent Application No. 15/225,326 during its prosecution and as part of a 37 CFR 1.312 Amendment submitted after the Notice of Allowance to correct minor typographical errors. No new matter is introduced by way of any of these amendments. A marked-up copy, as well as a clean copy of the Substitute Specification is filed herein.

REMARKS

No claims have been amended, added, or canceled by way of amendment herein. The Patent Office objected to amendments made to the specificaiton in the form of a preliminary amendment submitted at the time of filing of this application. The specification is amended herein in accordance with the amendments made in U.S. Patent Application No. 15/225,326 during its prosecution and as part of a 37 CFR 1.312 Amendment submitted after the Notice of Allowance to correct minor typographical errors. No new matter is introduced by way of any of these amendments. Accordingly, Applicant respectfully requests entry of these amendments to the specification.

CONCLUSION

The foregoing is submitted as a full and complete response to the Notice to File Corrected Application Papers, Filing Date Granted, dated April 3, 2018. In light of the above amendments and in view of the remarks, Applicant respectfully requests that the application be passed to examination. Should the Examiner have any questions, comments, or suggestions in furtherance of the prosecution of this application, the Examiner is invited to contact the undersigned at the telephone number below.

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

Respectfully submitted,

/James M. Hannon/

James M. Hannon
Reg. No. 48,565

Date: **April 6, 2018**
EVERSHEDS SUTHERLAND (US) LLP
999 Peachtree Street, NE
Atlanta, GA 30309
Telephone: 404-853-8013
Facsimile: 404-853-8806
Attorney Docket No. 34757-2184

SUBSTITUTE SPECIFICATION - MARKED-UP COPY

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. 15/225,326, 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 which are hereby incorporated herein by reference for all purposes. This application also claims priority under 35 U.S.C. §120 to U.S. Patent Application No. 15/225,326, 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 [[27]]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 [[28]]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[[t]] 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 [[81]]80 in the first seat position. In still another example configuration, as shown in Figure 8G, two child carriers [[93]]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 [[93]]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 [[1330]]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 [[1305]]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.

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. 15/225,326, 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 which are hereby incorporated herein by reference for all purposes. This application also claims priority under 35 U.S.C. §120 to U.S. Patent Application No. 15/225,326, 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.

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NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- A substitute specification excluding claims in compliance with 37 CFR 1.52, 1.121(b)(3), and 1.125 is required. The substitute specification must be submitted with markings and be accompanied by a clean version (without markings) as set forth in 37 CFR 1.125(c) and a statement that the substitute specification contains no new matter (see 37 CFR 1.125(b)). Since a preliminary amendment was present on the filing date of the application and such amendment is part of the original disclosure of the application, the substitute specification must include all of the desired changes made in the preliminary amendment. See 37 CFR 1.115 and 1.215.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice". https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html

For more information about EFS-Web please call the USPTO Electronic Business Center at 1-866-217-9197 or visit our website at http://www.uspto.gov/ebc.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at **(571) 272-4000** or **(571) 272-4200** or **1-888-786-0101**.

/ttruong/

Electronic Acknowledgement Receipt

EFS ID:	32265165
Application Number:	15912901
International Application Number:	
Confirmation Number:	8011
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:	34757-2184
Receipt Date:	06-APR-2018
Filing Date:	06-MAR-2018
Time Stamp:	13:20:28
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	34757-2184_Response_to_Corrected_App_Paper.pdf	101935 142f9bc9166babf9473dfa69ef1b6c8e5a3e8b6e	no	3

Warnings:

Information:					
2	Specification	34757-2184_Subtitute_Specification-marked.pdf	201035 adb7777ef3a03a41bd77f39e18becd1960bfb1cd	no	23
Warnings:					
Information:					
3	Specification	34757-2184_Subtitute_Specification-clean.pdf	199524 f77b9efe703ae4089cd833337f8913455b89689a	no	23
Warnings:					
Information:					
4	Applicant Response to Pre-Exam Formalities Notice	34757-2184_Notice.pdf	288934 4ad3ad5f9a6cef7db91bbd4d810f753bcf31ad8f	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	791428		

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.

<u>New Applications Under 35 U.S.C. 111</u>
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.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
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.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/912,901	03/06/2018	3636	1720	34757-2184	20	3

CONFIRMATION NO. 8011

UPDATED FILING RECEIPT

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

OC000000098659258

Date Mailed: 04/11/2018

Receipt is acknowledged of this non-provisional 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 APPLICANT, 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 Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections 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**

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

Assignment For Published Patent Application

Baby Jogger, LLC, Richmond, VA

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application 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: 03/30/2018
The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/912,901**
Projected Publication Date: 07/19/2018
Non-Publication Request: No
Early Publication Request: No
Title

REMOVABLE SEAT ATTACHMENT FOR A STROLLER

Preliminary Class

297

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

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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.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at http://www.uspto.gov/web/offices/pac/doc/general/index.html.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, http://www.stopfakes.gov. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

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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 15/912,901

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE($)	FEE($)		RATE($)	FEE($)
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)		(Column 2)	(Column 3)	SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
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)		(Column 2)	(Column 3)					
		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE($)	ADDITIONAL FEE($)		RATE($)	ADDITIONAL FEE($)
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.

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT
(Not for submission under 37 CFR 1.99)

Application Number	15912901
Filing Date	2018-03-06
First Named Inventor	Jon Hee Lee et al.
Art Unit	3618
Examiner Name	James M. Dolak
Attorney Docket Number	34757-2184

U.S.PATENTS Remove

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
	1	1707186	A	1929-03-26	Chatfield	
	2	3000645	A	1961-09-19	Schmidt	
	3	4542915	A	1985-09-24	Wheeler, III et al.	
	4	5201535	A	1993-04-13	Kato et al.	
	5	5338096	A	1994-08-16	Huang	
	6	5567008	A	1996-10-22	Richard	
	7	6045145	A	2000-04-04	Lan	
	8	6209892	B1	2001-04-03	Schaaf et al.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2184

	9	6286844	B1	2001-09-11	Richard et al.	
	10	6378892	B1	2002-04-30	Hsia	
	11	6443467	B1	2002-09-03	Black	
	12	6513827	B1	2003-02-04	Barenbrug	
	13	6561526	B1	2003-05-13	Towns	
	14	6676140	B1	2004-01-13	Gondobintoro	
	15	6752405	B1	2004-06-22	Wright	
	16	6851693	B2	2005-02-08	Haeggberg	
	17	6923467	B2	2005-08-02	Hsia	
	18	7249779	B2	2007-07-31	Ehrenreich et al.	
	19	7311323	B1	2007-12-25	Lan	

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	20	7320471	B2	2008-01-22	Maciejczyk	
	21	7367581	B2	2008-05-06	Yang	
	22	7377537	B2	2008-05-27	Li	
	23	7401803	B1	2008-07-22	Lai	
	24	7475900	B2	2009-01-13	Cheng	
	25	7481439	B2	2009-01-27	Thompson	
	26	7497461	B2	2009-03-03	Emerson	
	27	7677585	B2	2010-03-16	Rohl	
	28	7681894	B2	2010-03-23	Santamaria	
	29	7766366	B2	2010-08-03	Li	
	30	7832755	B2	2010-11-16	Nolan et al.	

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	31	7896384	B2	2011-03-01	Schonfeld	
	32	7938435	B2	2011-05-10	Sousa et al.	
	33	8029007	B2	2011-10-04	Jones et al.	
	34	8029014	B2	2011-10-04	Ahnert et al.	
	35	8033554	B2	2011-10-11	Vieira et al.	
	36	8061732	B1	2011-11-22	Song et al.	
	37	8157273	B2	2012-04-17	Bar-Lev	
	38	8231136	B2	2012-07-31	Fiore, Jr.	
	39	8251382	B2	2012-08-28	Chen et al.	
	40	8262103	B2	2012-09-11	Enserink et al.	
	41	8336904	B2	2012-12-25	Kylstra	

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	42	8444171	B2	2013-05-21	Smith et al.	
	43	8458880	B2	2013-06-11	Fiore, Jr.	
	44	8585075	B2	2013-11-19	Zhong	
	45	8596670	B2	2013-12-03	di Carimate et al.	
	46	8696016	B2	2014-04-15	Homan et al.	
	47	8733784	B2	2014-05-27	Kobayashi	
	48	8764048	B1	2014-07-01	Ahnert et al.	
	49	8882134	B2	2014-11-11	Rolicki et al.	
	50	8905427	B2	2014-12-09	Katz et al.	
	51	8936261	B2	2015-01-20	Yuan	
	52	9010773	B2	2015-04-21	Horst et al.	

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	53	9108654	B2	2015-08-18	Kozinski	
	54	9108659	B2	2015-08-18	Sparling	
	55	9119483	B1	2015-09-01	Heisey	
	56	9199659	B2	2015-12-01	Chen et al.	
	57	9200746	B2	2015-12-01	Xiao	
	58	9227650	B2	2016-01-05	Gillett	
	59	9242665	B2	2016-01-26	Offord	
	60	9260127	B2	2016-02-16	Rolicki et al.	
	61	9260128	B2	2016-02-16	Liu	
	62	9517787	B2	2016-12-13	Zehfuss et al.	
	63	9561817	B2	2017-02-07	Laffan et al.	

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	64	9701333	B2	2017-07-11	Liu	
	65	9725106	B2	2017-08-08	Pos	
	66	9771095	B2	2017-09-26	Laffan et al.	
	67	9776652	B2	2017-10-03	Zhong	

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20010033069	A1	2001-10-25	Ivers	
	2	20020109321	A1	2002-08-15	Turner et al.	
	3	20030025304	A1	2003-02-06	Haeggberg	
	4	20060001226	A1	2006-01-05	Refsum	
	5	20060131841	A1	2006-06-22	Huang	

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	6	20060290107	A1	2006-12-28	Powers	
	7	20070001429	A1	2007-01-04	Maciejczyk	
	8	20070085303	A1	2007-04-19	Cheng	
	9	20070090619	A1	2007-04-26	Lundh	
	10	20070114738	A1	2007-05-24	Jones et al.	
	11	20080224451	A1	2008-09-18	Vegt	
	12	20080231022	A1	2008-09-25	Hu et al.	
	13	20090302578	A1	2009-12-10	White et al.	
	14	20140191483	A1	2014-07-10	Rolicki et al.	
	15	20160046315	A1	2016-02-18	Zehfuss et al.	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15912901
Filing Date	2018-03-06
First Named Inventor	Jon Hee Lee et al.
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Examiner Name	James M. Dolak
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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	1978264	CN	A	2007-06-13	HAOHAIZI CHILDREN S ARTICLES C	(Abstract)	☒
	2	2784272	CN	Y	2006-05-31	GOODBABY CHILD PRODUCTS CO LTD	(Abstract)	☒
	3	2918181	CN	Y	2007-07-04	DONGGUAN LIAOBUQI DAILY PRODUC	(Abstract)	☒
	4	2253093	ES	A1	2006-05-16	PLAY SA	(Abstract)	☒
	5	2309203	GB	A	1997-07-23	JANE SA		☐
	6	2005/105545	WO	A1	2005-11-10	STEPHANIE ROHL		☐
	7	2005/105546	WO	A1	2005-11-10	STEPHANIE ROHL		☐
	8	2010/065884	WO	A1	2010-06-10	DYNAMIC BRANDS LLC		☐
	9	2014/042524	WO	A1	2014-03-20	WF INTERNATIONAL HOLDING BV		☐

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15912901
	Filing Date	2018-03-06
	First Named Inventor	Jon Hee Lee et al.
	Art Unit	3618
	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2184

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	European Search Report and Search Opinion for European Application No. 09831215, dated November 4, 2013 (7pgs).	
	2	Extended European Search report issued in EP Application No. 17161947.1, mailed August 29, 2017 (9 pages).	
	3	International Search Report and Written Opinion for International Application No. PCT/US2009/066817, dated January 29, 2010 (6 pages).	
	4	International Preliminary Report on Patentability for International Application No. PCT/US2009/066817, dated June 7, 2011 (5 pages).	
	5	Office Action from Australian Patent Application 2009322149, dated April 1, 2014 (5pgs).	
	6	Office Action from Australian Patent Application No. 2009322149, dated December 2, 2014 (4pgs).	
	7	Office Action from Canadian Patent Application No. 2,745,914, dated December 17, 2015 (3pgs).	
	8	Office Action from Chinese Patent Application No. 200980148829.3 dated October 31, 2012 (17pgs., including 8 pgs. English translation).	
	9	Office Action from Chinese Patent Application No. 200980148829.3, dated June 8, 2013 (11 pgs. including, 5 pgs. English translation).	
	10	Office Action from Chinese Patent Application No. 200980148829.3, dated November 18, 2013 (5pgs, including 2pg English translation).	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
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	Art Unit	3618
	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2184

	11	Office Action from Chinese Patent Application No. 201410187239.4, dated September 6, 2015 (9pgs, including 4 pg. English translation)
	12	Office Action from European Patent Application No. 09831215, dated January 13, 2016. (5pgs)

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Examiner Signature		Date Considered	

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[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	15912901
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	First Named Inventor	Jon Hee Lee et al.
	Art Unit	3618
	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2184

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

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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	/James M. Hannon/	Date (YYYY-MM-DD)	2018-06-29
Name/Print	James M. Hannon	Registration Number	48,565

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.**

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EFS ID:	32993522
Application Number:	15912901
International Application Number:	
Confirmation Number:	8011
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:	34757-2184
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Filing Date:	06-MAR-2018
Time Stamp:	12:20:46
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Foreign Reference	CN1978264A.pdf	3232904 21b90be9cf217390fa35579039dc0d4cc88e196a	no	22

Warnings:

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2	Foreign Reference	CN2784272Y.pdf	1173849 21726a96d1df92eddca020222ab18c21d4c248c4	no	11
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3	Foreign Reference	CN2918181Y.pdf	2778756 cb73c1921150b7dc9b13a021c2e3a50688106b2d	no	20
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4	Foreign Reference	ES2253093A1.pdf	882087 d1aa964fe0890f92ae9e1ef3c28b3b8d40eb0515	no	9
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5	Foreign Reference	GB2309203A.pdf	320674 2b20c5223941780006163c643b398f2500512d99	no	9
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6	Foreign Reference	WO2005105545A1.pdf	938811 c48d898c1e844cbaa428f82eb7245bd52027663a	no	26
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7	Foreign Reference	WO2005105546A1.pdf	2515651 fe18a2ed56be47711bede67586c07a37c4f16228	no	69
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8	Foreign Reference	WO2010065884A1.pdf	1210469 6e453232e81a0d362e1adab94c0abd08a23bb0e3	no	28
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13	Other Reference-Patent/App/Search documents	Australian_OA_1.pdf	782981 da8a033352b5e23fe3ebe6f9ec7bd56f5a654ab8	no	5
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14	Other Reference-Patent/App/Search documents	Australian_OA_2.pdf	478318 00210fd07c715ae125a8fe46a5814a4426528a3e	no	4
Warnings:					
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16	Other Reference-Patent/App/Search documents	CN_OA_10_31_2012.pdf	1982577 fd4db0e212c04d63cb7c7545b1d82a03e6a0e97c	no	17
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23	Information Disclosure Statement (IDS) Form (SB08)	34757-2184_SB08.pdf	1037510 fe827a74459a9dd970774554696c2fb5eedce6ed	no	13
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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.

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)

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[21] 申请号 200610107155.0

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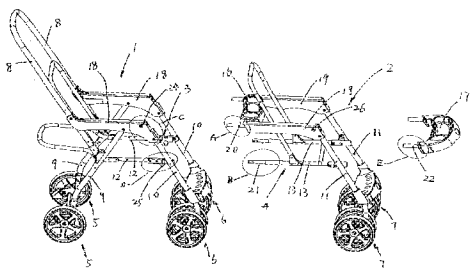
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[71] 申请人 好孩子儿童用品有限公司
地址 215331 江苏省昆山市陆家镇录溪东路 20 号
[72] 发明人 宋郑还 王俊马
[74] 专利代理机构 苏州创元专利商标事务所有限公司
代理人 孙仿卫
权利要求书 4 页 说明书 8 页 附图 8 页

[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。



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

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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。

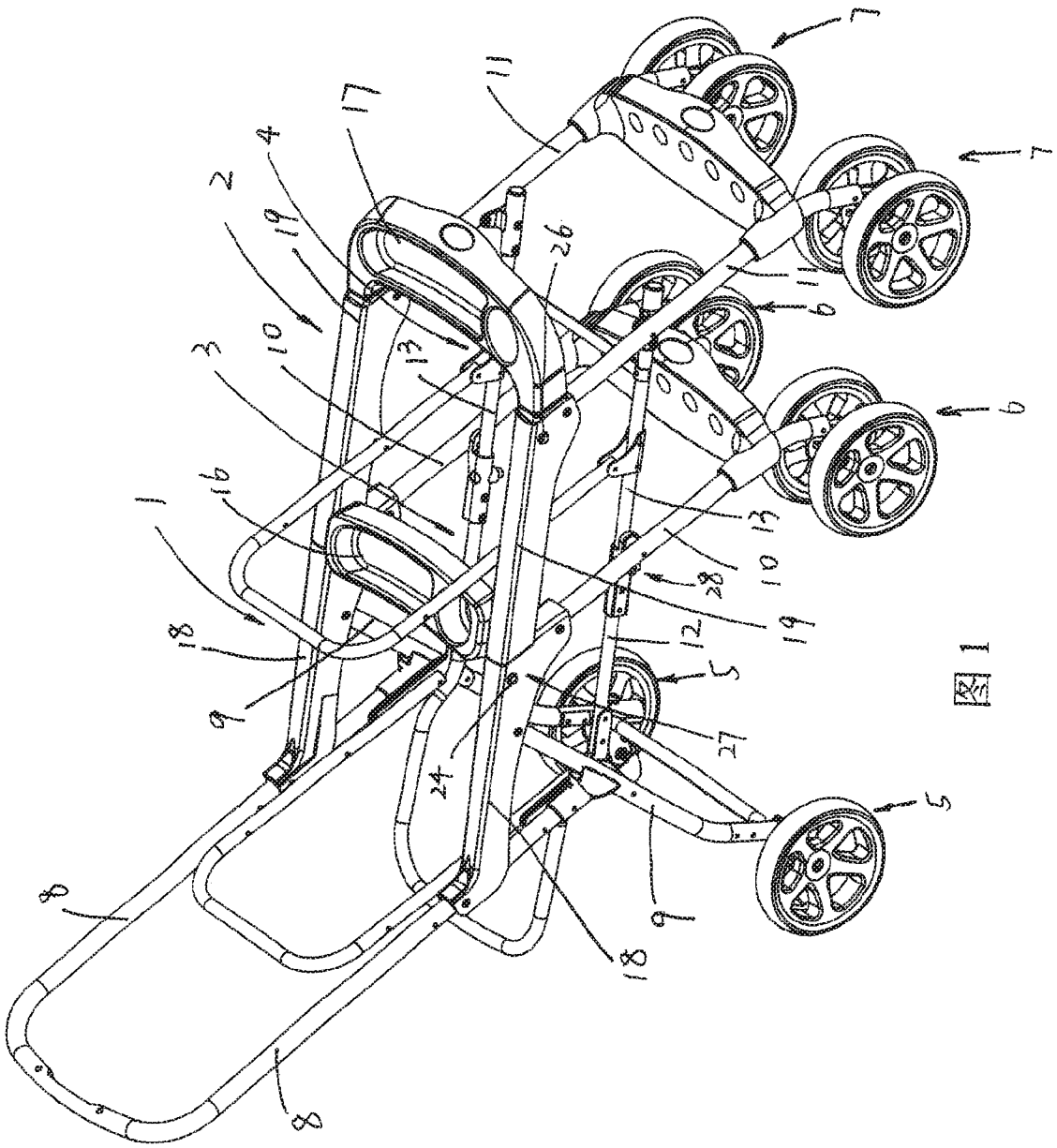


图 1

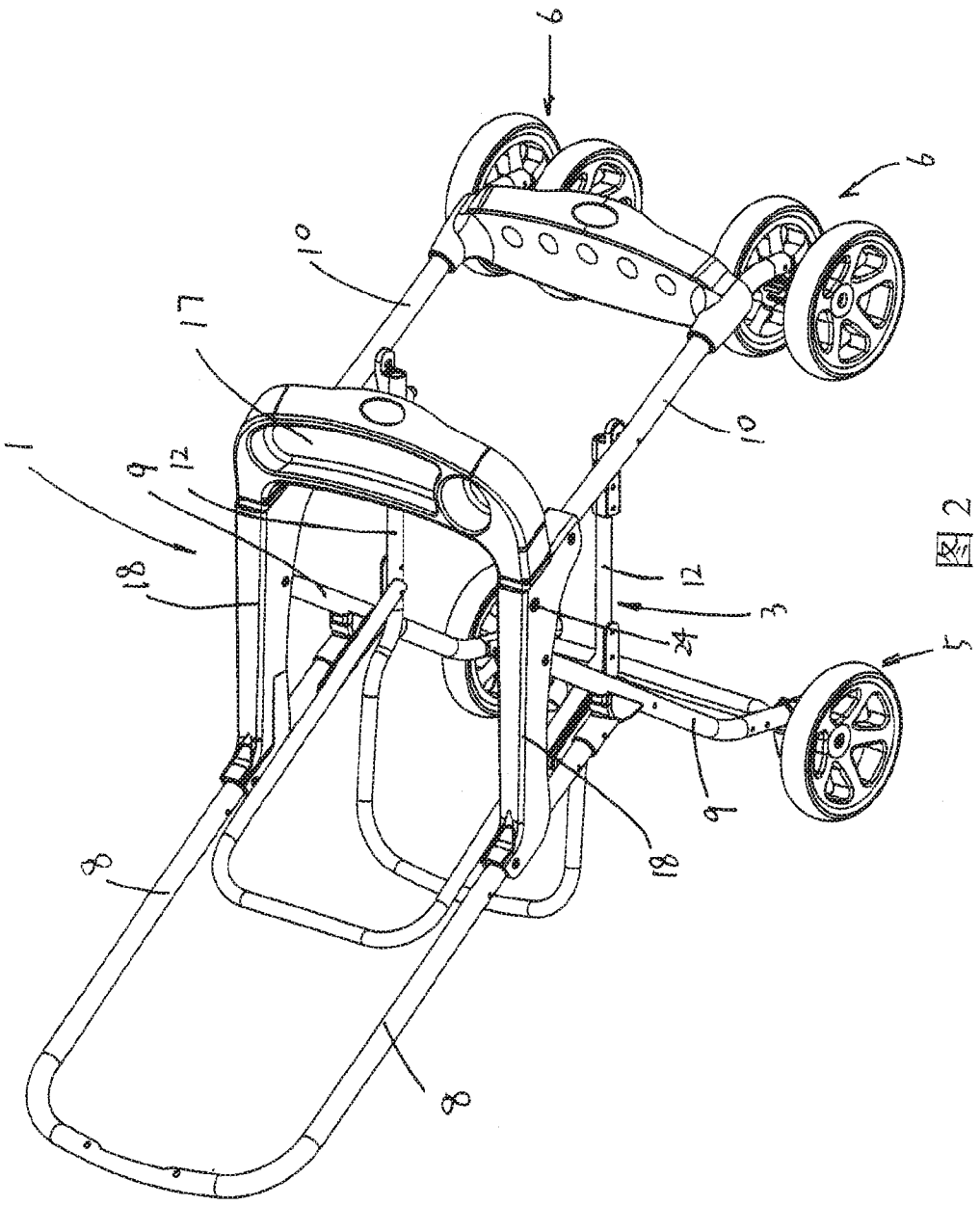


图 2

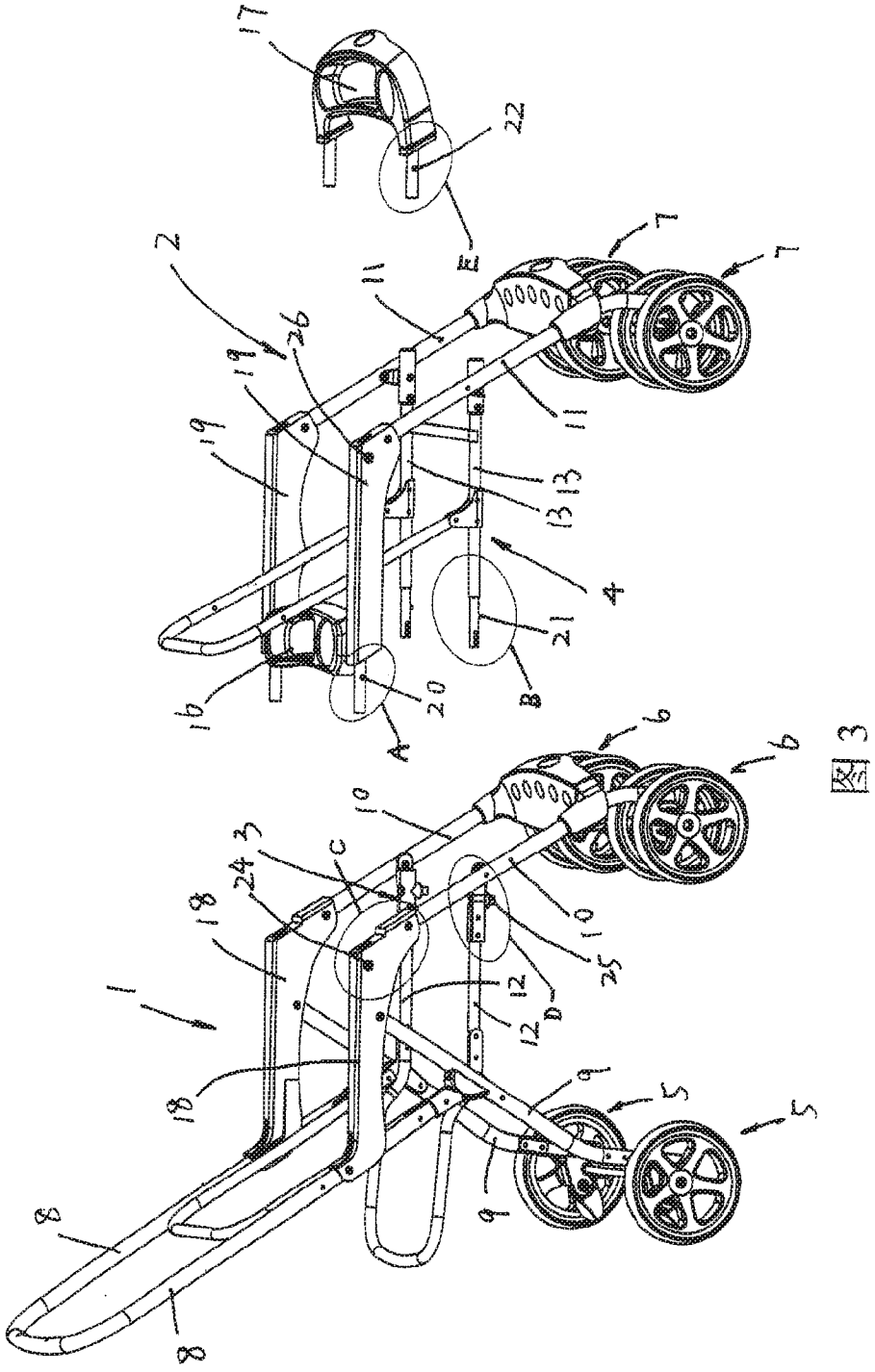

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图 3

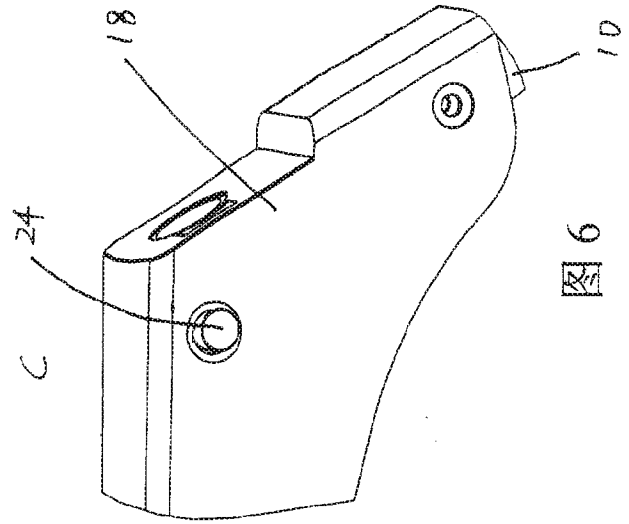


图6

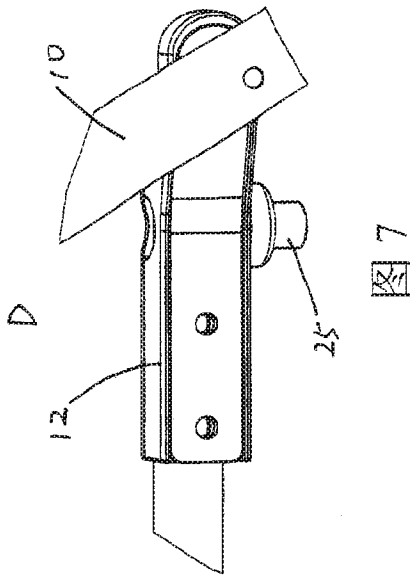


图7

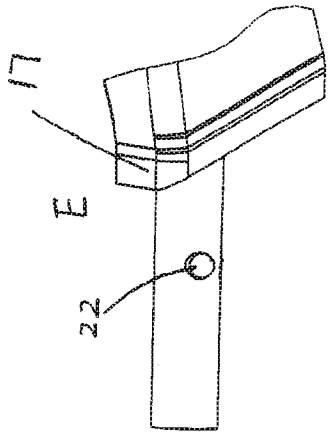


图8

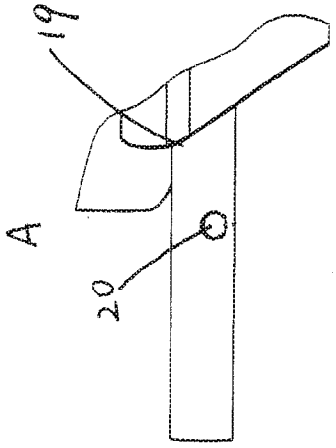


图4

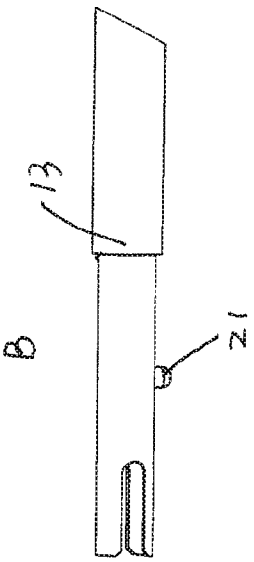


图5

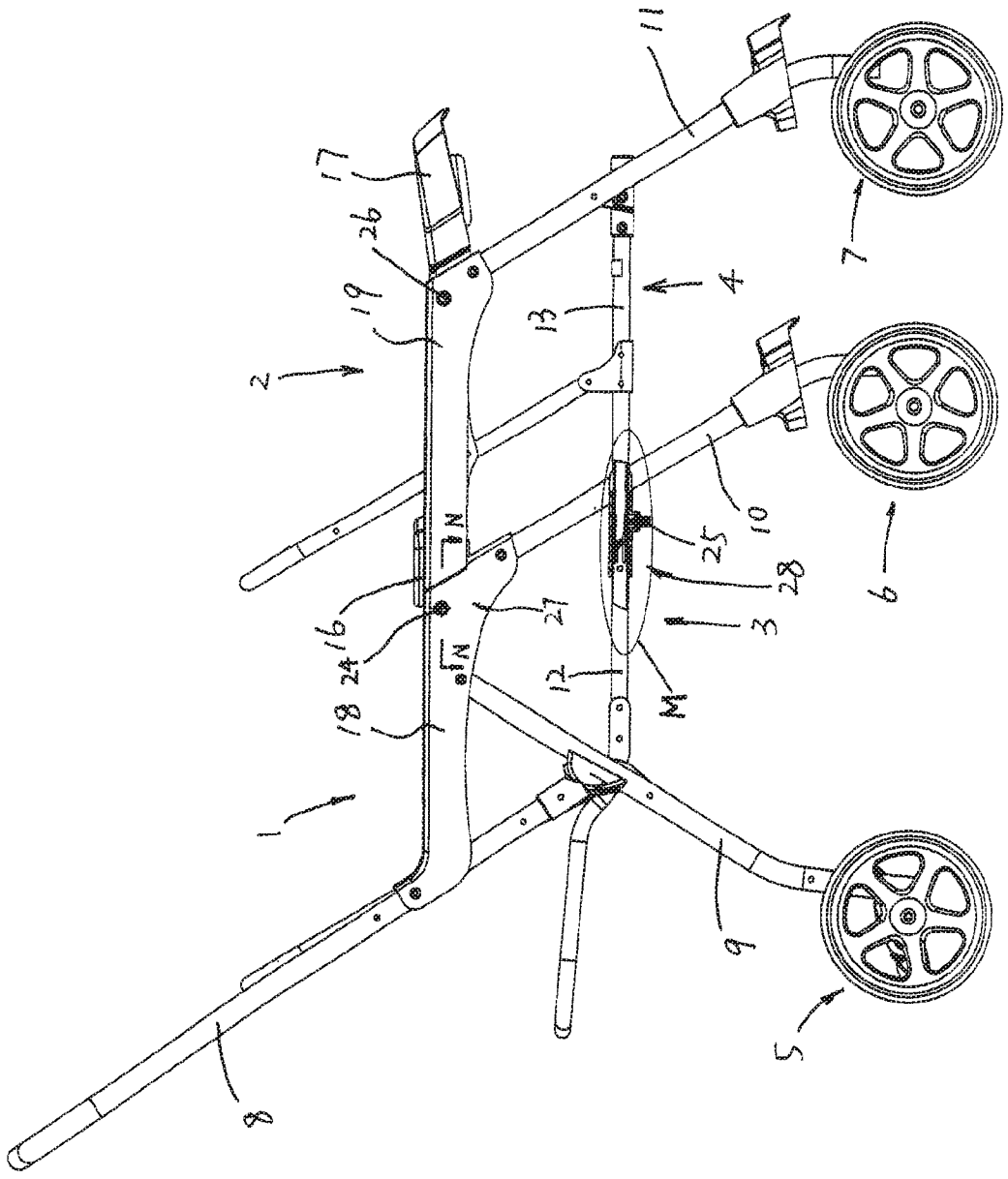


图 9

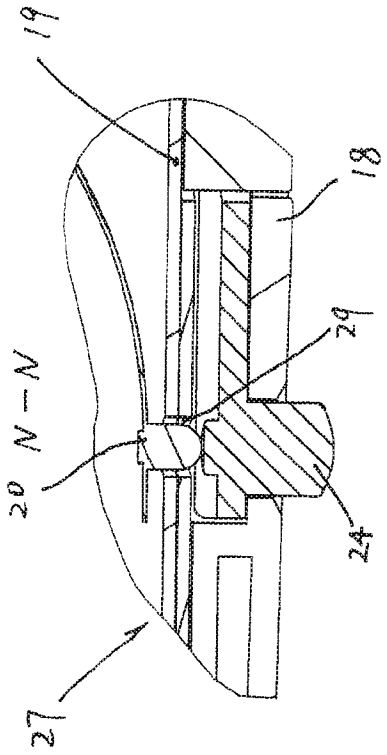


图 10

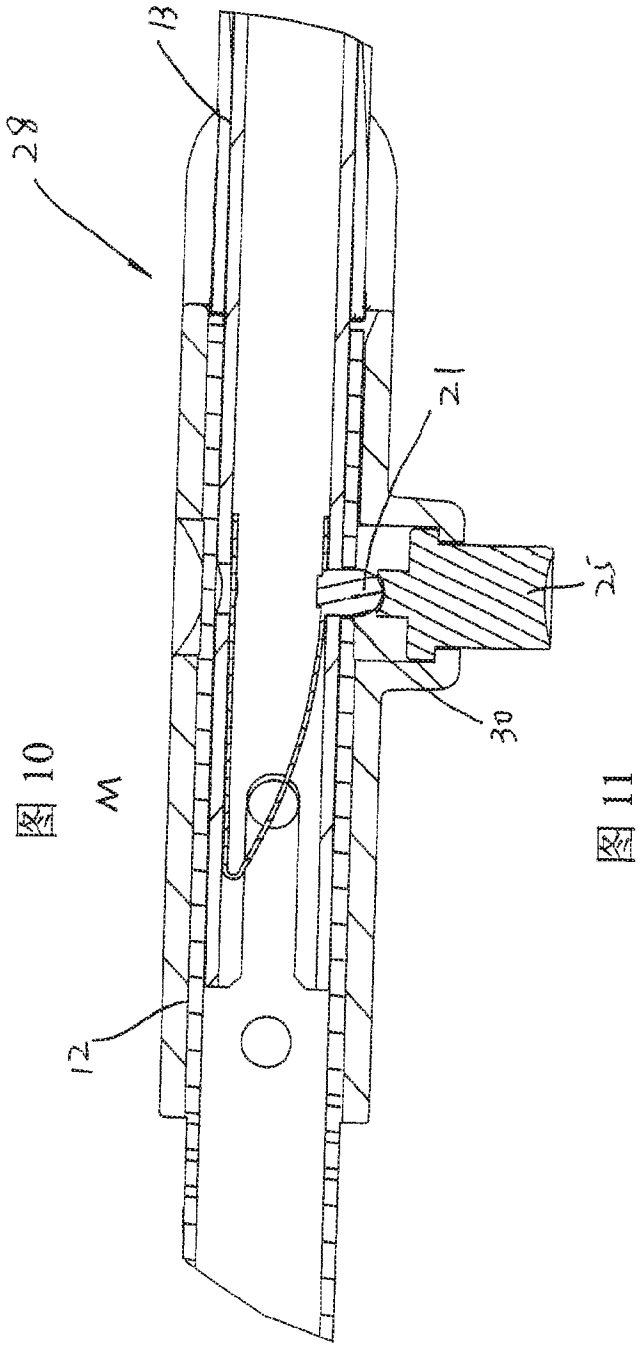


图 11

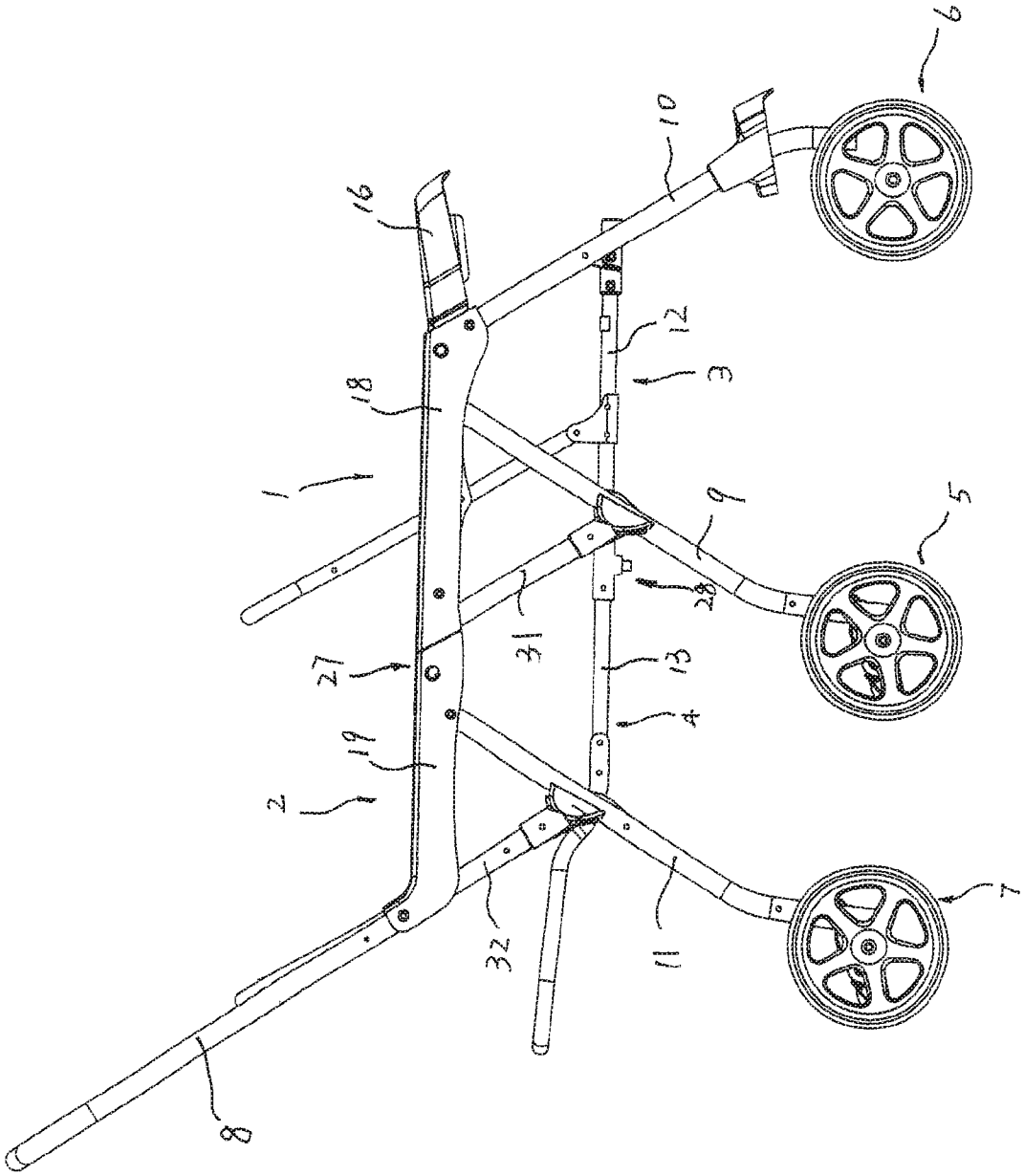


图 12

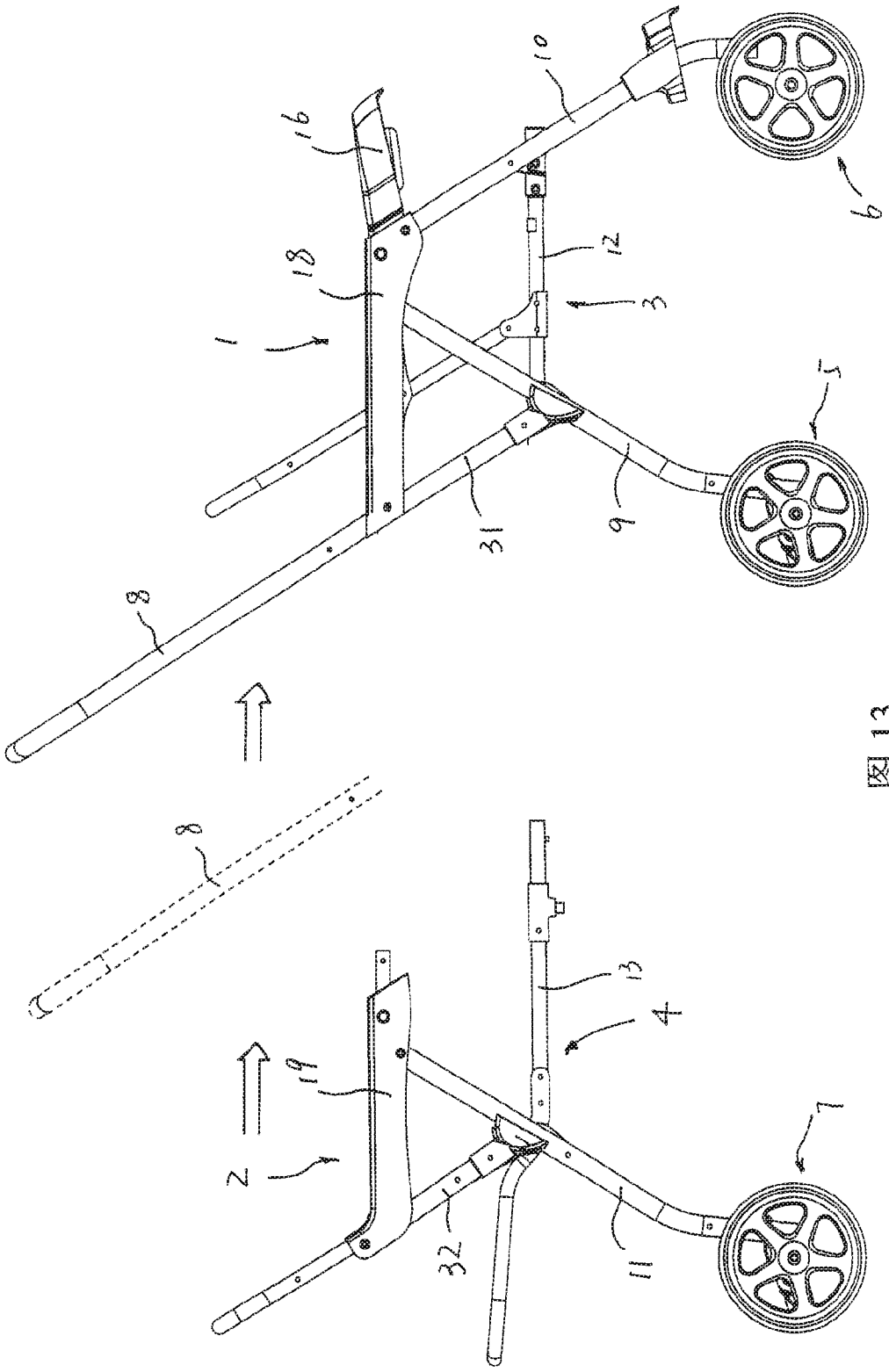


图 13

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

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[12] 实用新型专利说明书

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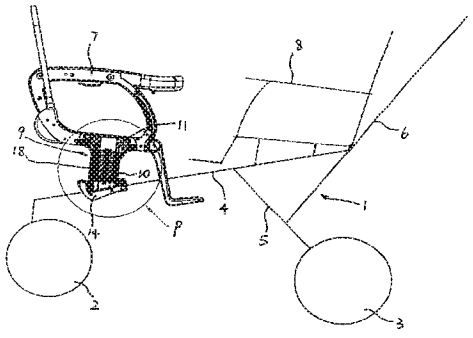
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[54] 实用新型名称

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

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。

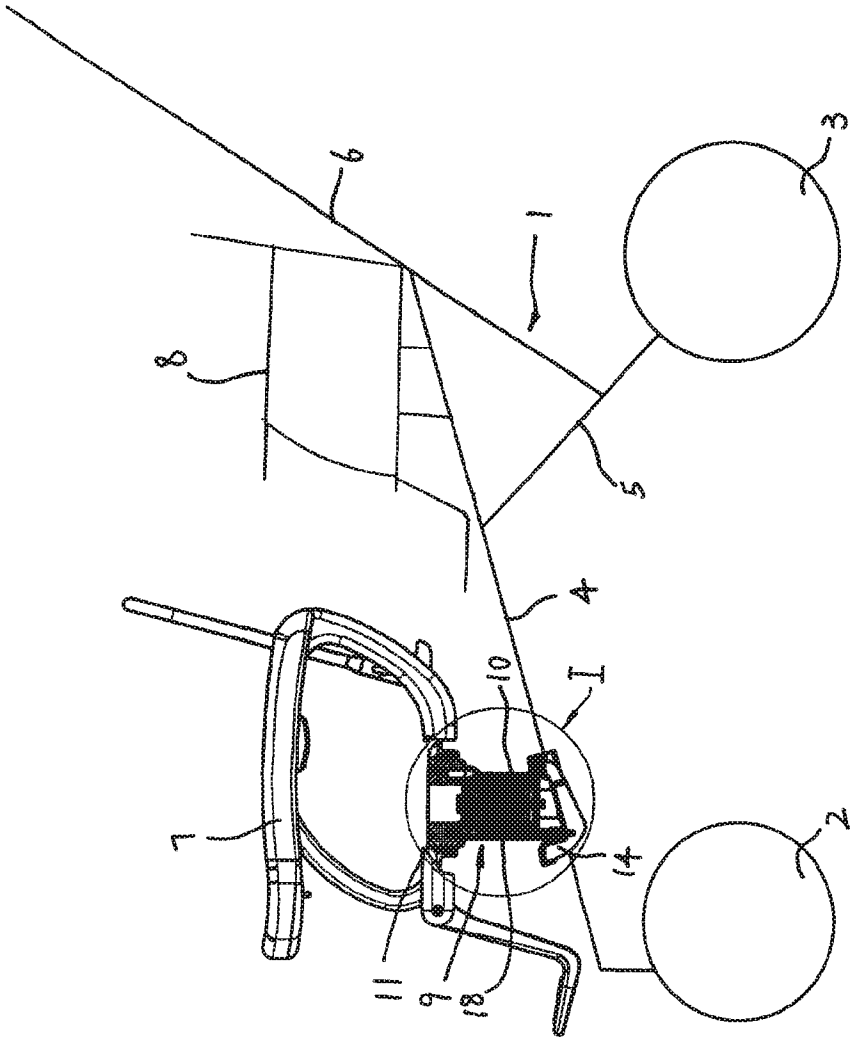


图 1

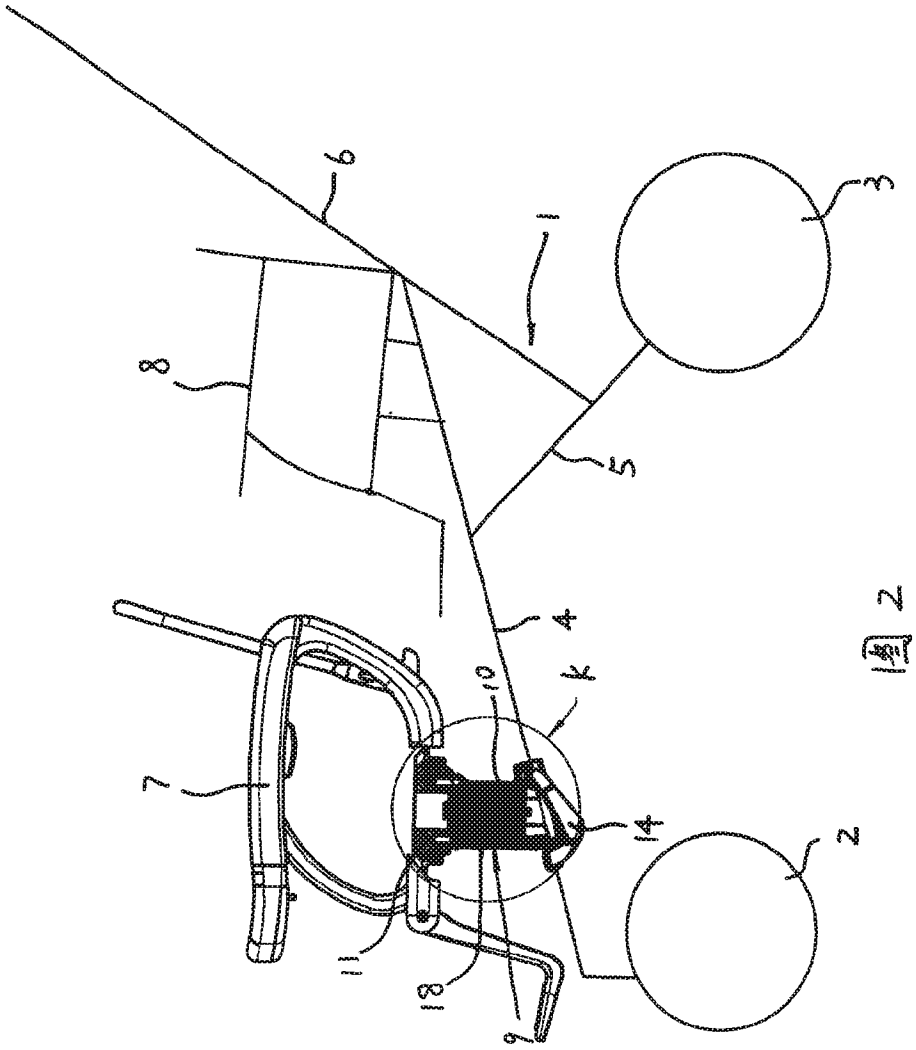


图 2

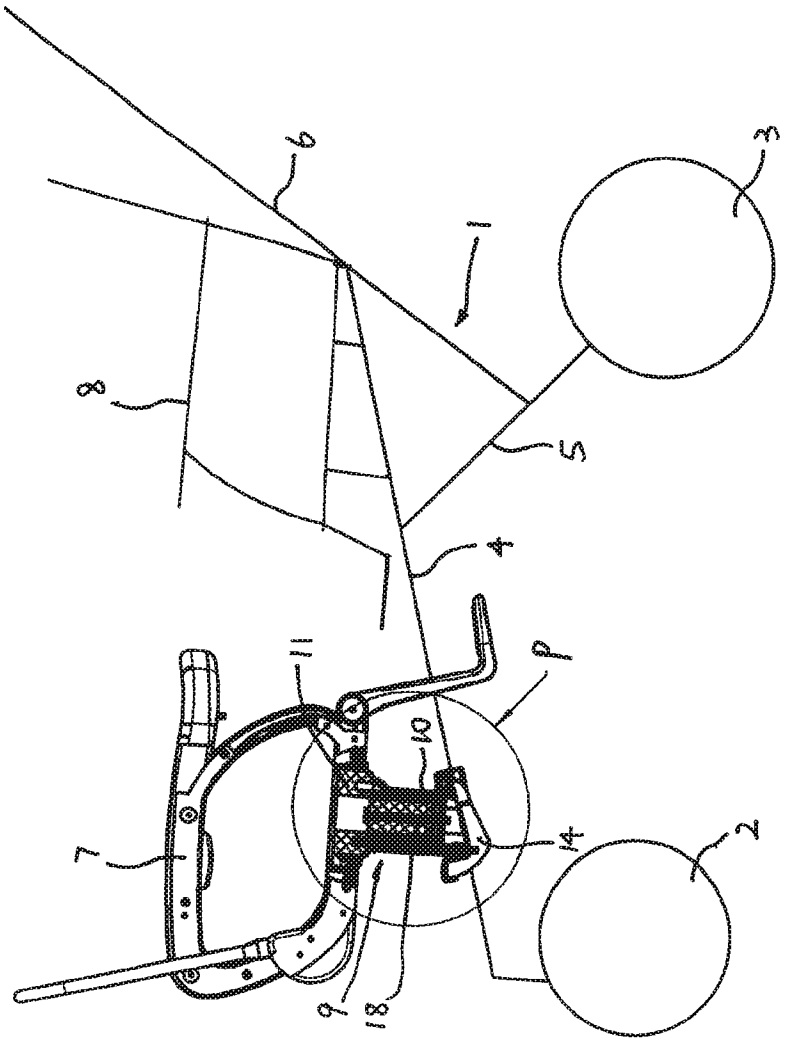


图 3

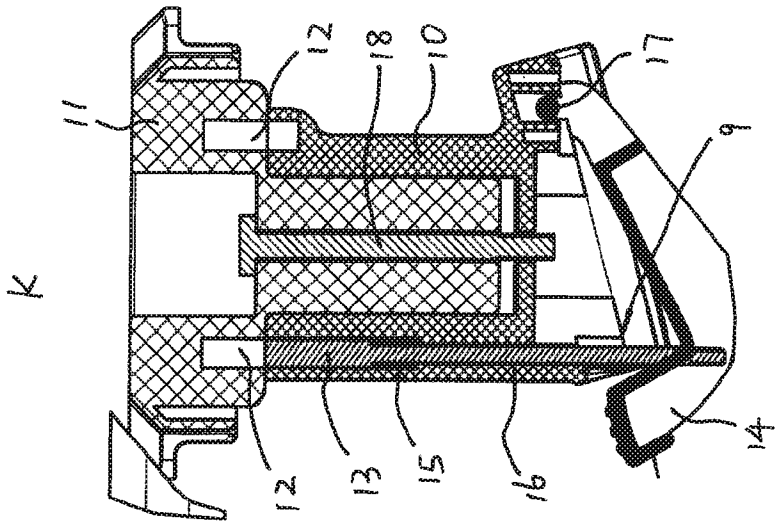


图 5

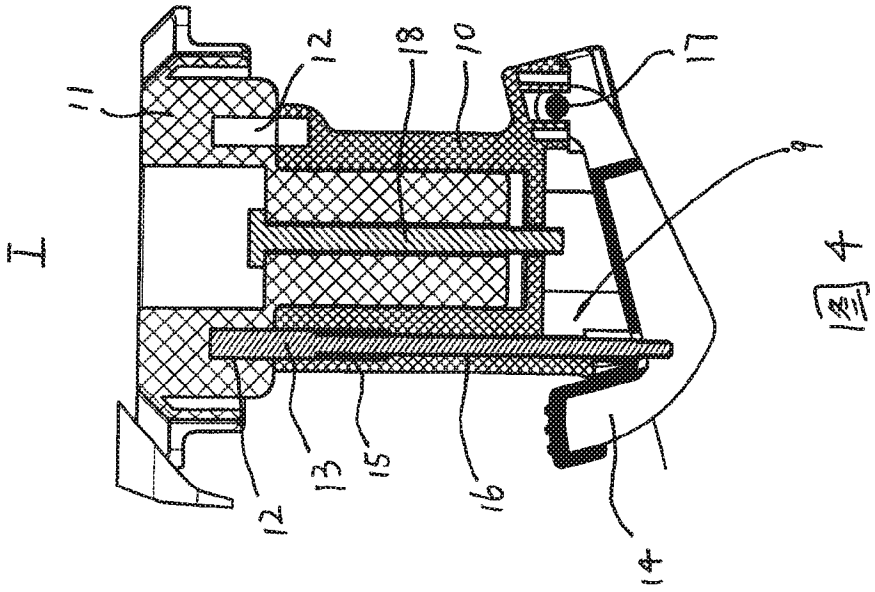


图 4

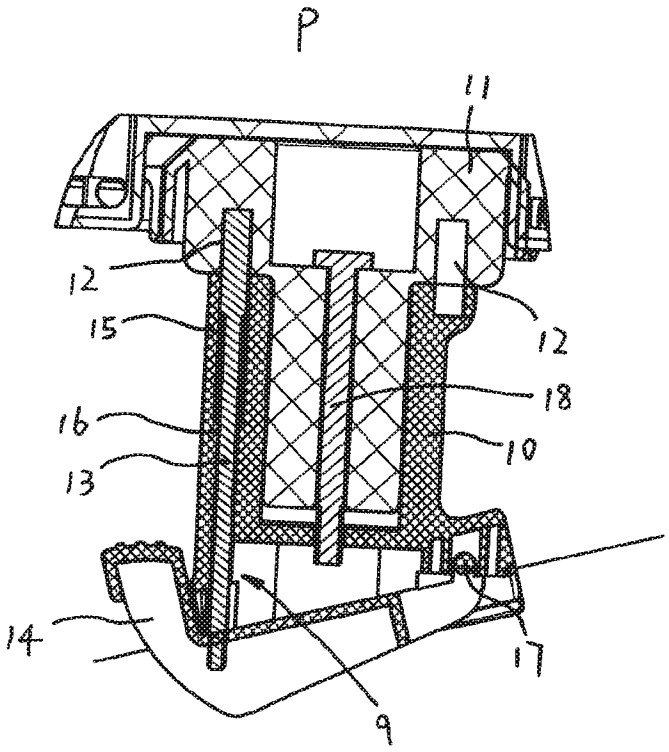


图 6

Espacenet

Bibliographic data: CN2918181 (Y) — 2007-07-04

Carriage for children with front and rear seats

Inventor(s): CHEN ERRUI [CN] ± (ERRUI CHEN)

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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

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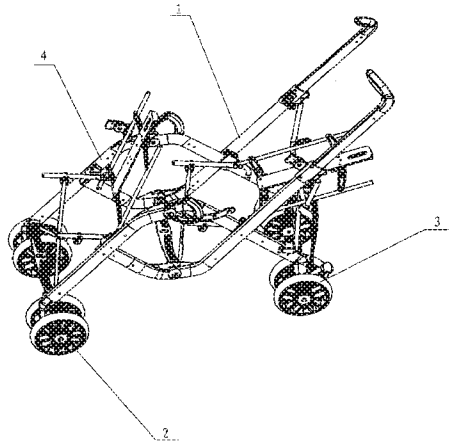
权利要求书 3 页 说明书 8 页 附图 7 页

[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。

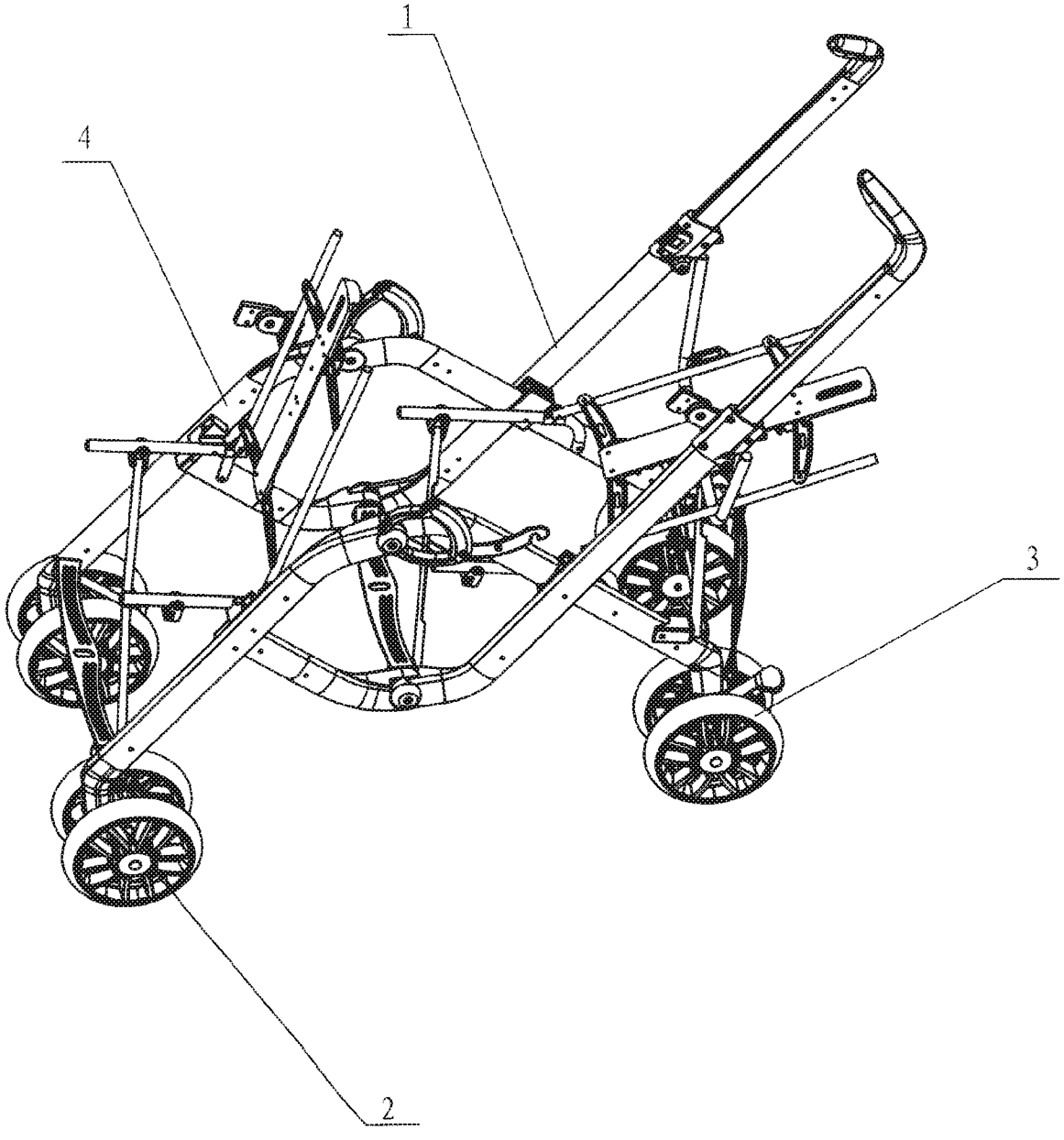


图 1

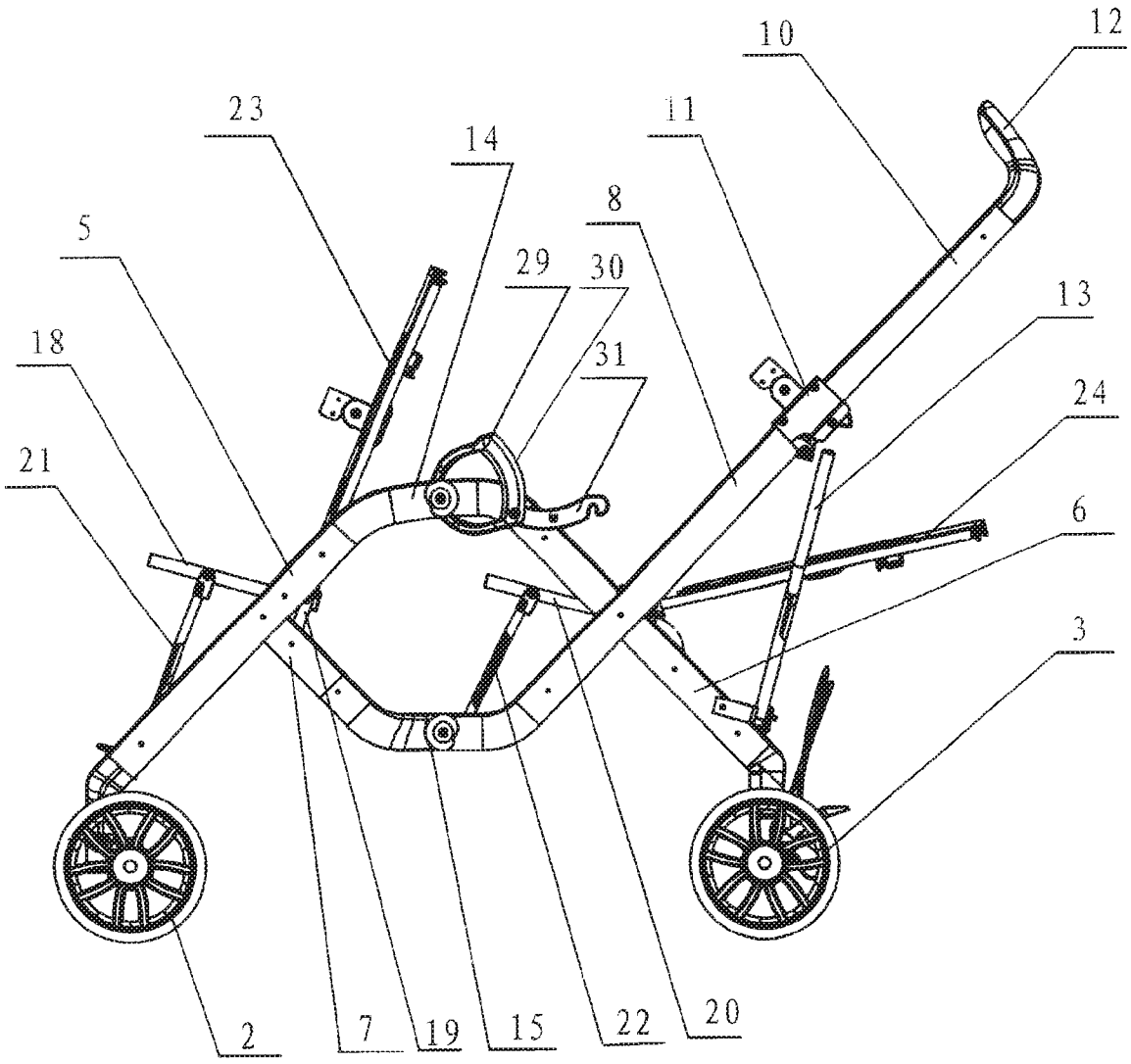


图 2

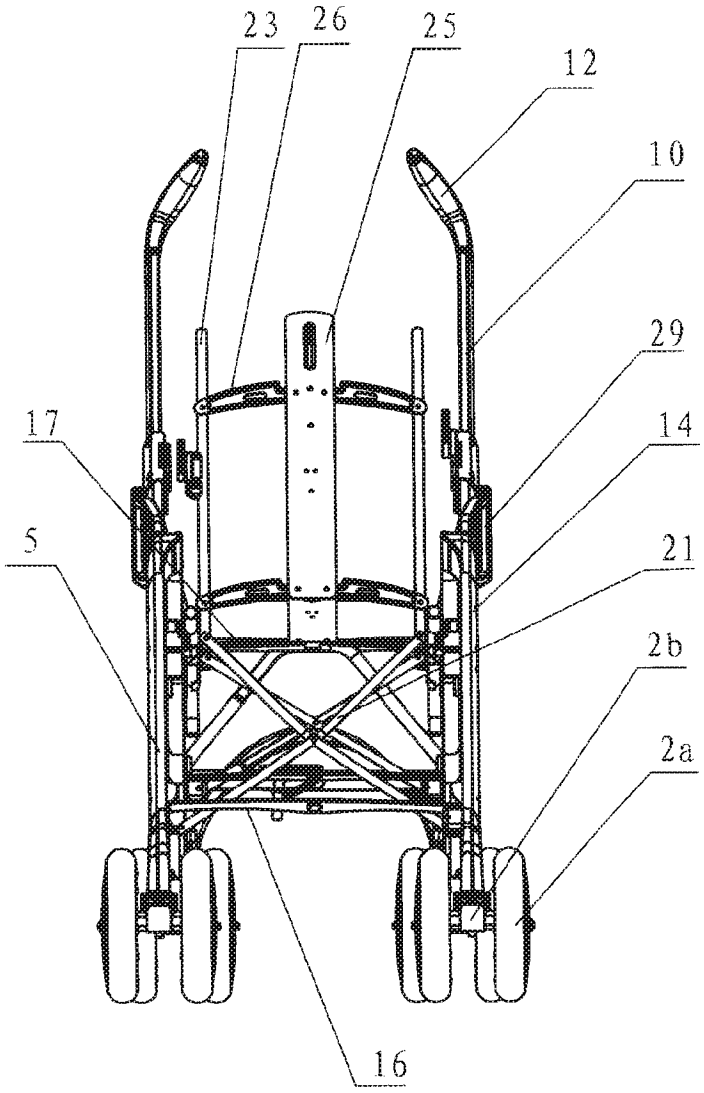


图 3

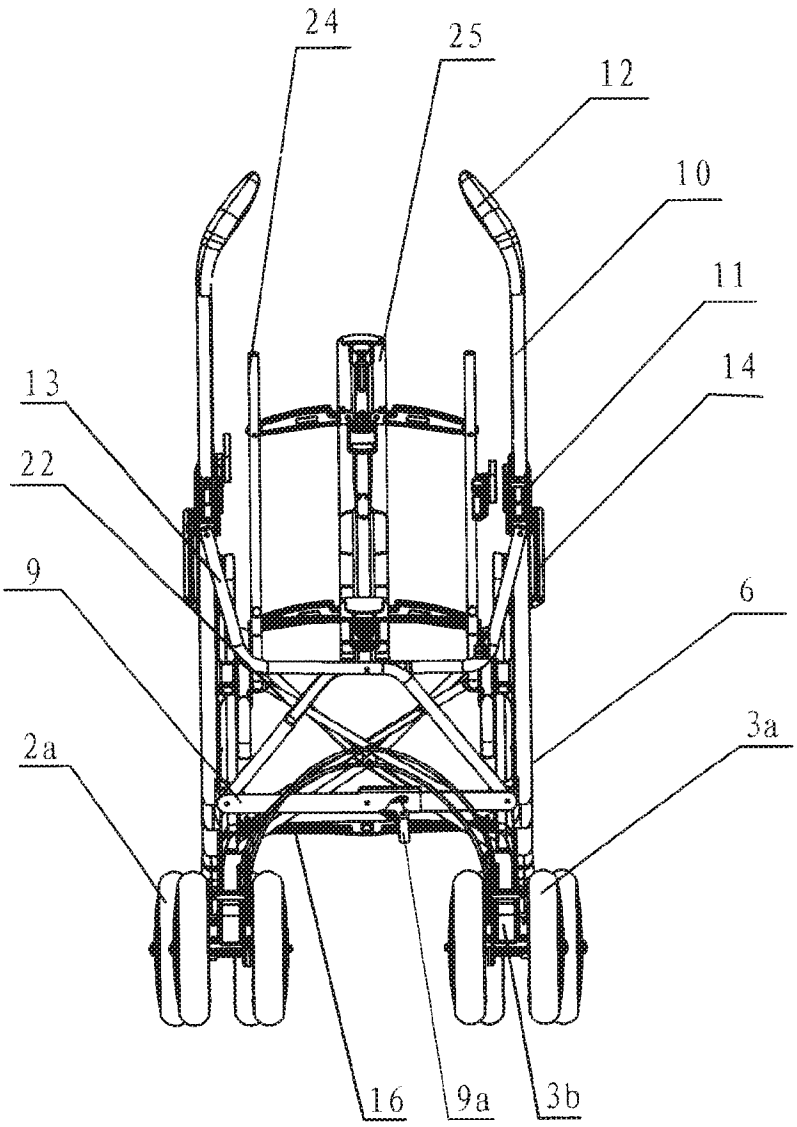


图 4

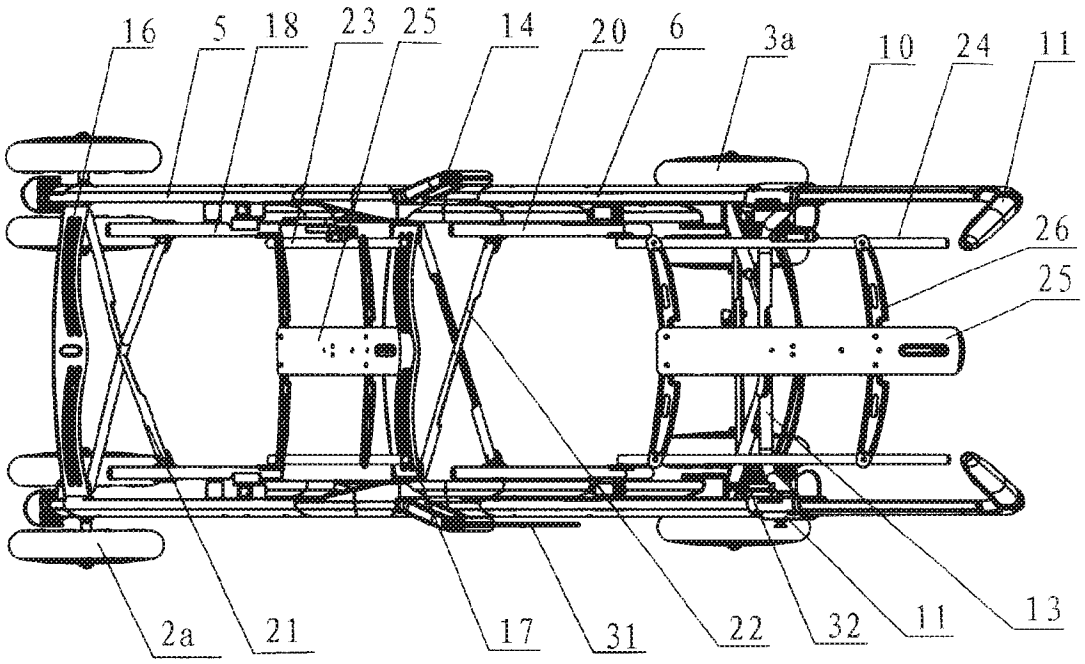


图 5

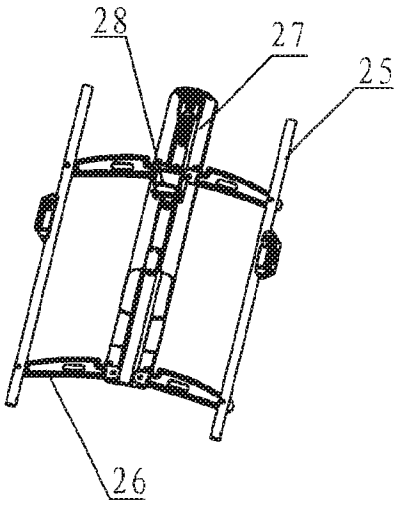


图 6

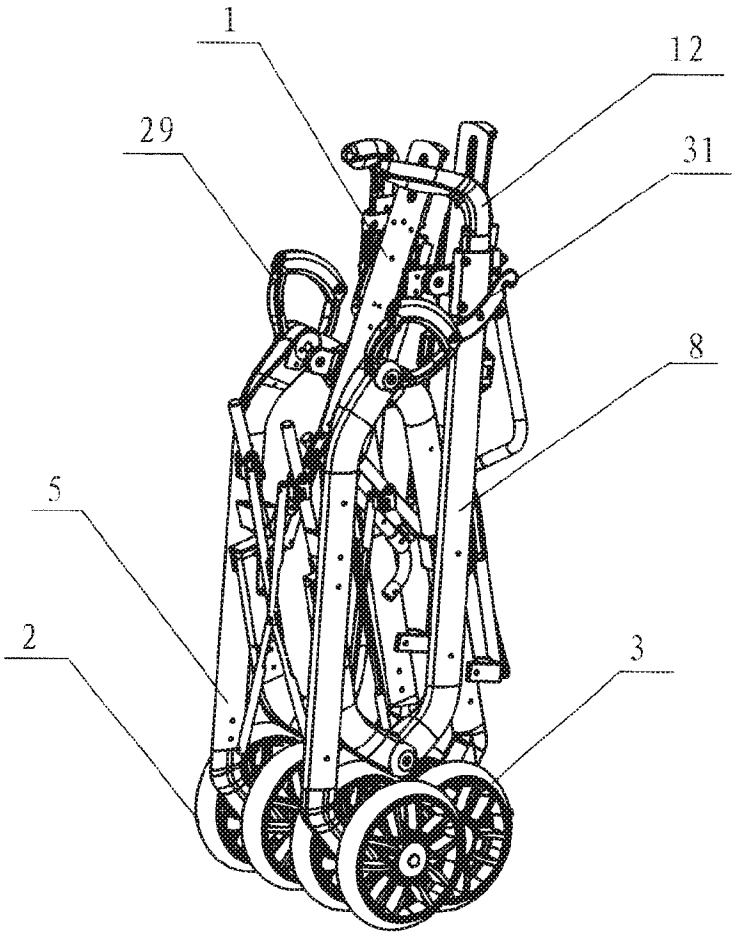


图 7

Espacenet

Bibliographic data: ES2253093 (A1) — 2006-05-16

Small double infantile car has two small car units each of which may be utilized separate from other since car units are removably attached by connectors

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Applicant(s): PLAY SA [ES] ± (PLAY, S.A)

Classification: - international: *B62B9/12*
- cooperative: **B62B7/008**; **B62B7/142**; **B62B7/145**; **B62B9/102**; **B62B9/12**; B62B2207/02 more

Application number: ES20040001973 20040806

Priority number(s): ES20040001973 20040806

Also published as: ES2253093 (B1)

Abstract of ES2253093 (A1)

The car is comprised of two small car units joined together by removable connectors. The removable connectors include a pair of sockets in the front part of one car unit and a pair of steel rods in the rear part of the other car unit. The steel rods are removably insertable into the sockets such that each car unit may be utilized separate from the other.

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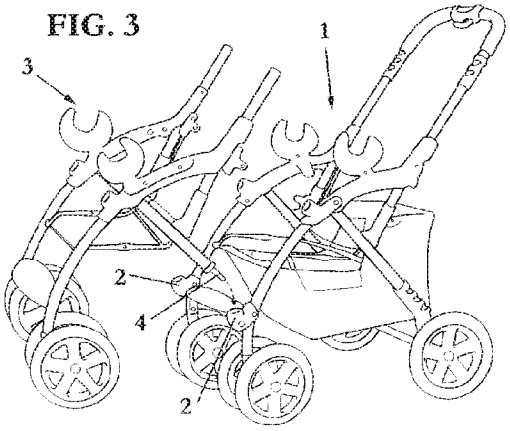
(72) Inventor/es: **Jane Stopp, Joaquim**

(74) Agente: **Ponti Sales, Adelaida**

(54) Título: **Cochecito infantil doble.**

(57) Resumen:
Cochecito infantil doble.
El cochecito comprende un primer cochecito infantil (1) y un segundo cochecito infantil (3) unidos entre sí, y se caracteriza por el hecho de que los dos cochecitos están unidos mediante medios de acoplamiento amovibles (2, 4). Dichos medios de acoplamiento amovibles comprenden un par de casquillos (2) previstos en la parte delantera de dicho primer cochecito infantil (1), donde se alojan un par de varillas (4) previstas en la parte posterior del segundo cochecito infantil (3). Se consigue un cochecito infantil doble que también se puede utilizar de manera individual.

FIG. 3



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DESCRIPCIÓN

Cochecito infantil doble.

La presente invención se refiere a un cochecito infantil doble, que puede utilizarse para llevar dos niños a la vez, o de manera independiente.

Antecedentes de la invención

En la actualidad existen cochecitos infantiles dobles, que habitualmente se utilizan para llevar gemelos, aunque también se pueden usar para llevar niños de diferentes edades.

Estos cochecitos dobles comprenden dos cochecitos infantiles unidos a través de una única estructura, de manera que no se pueden separar.

Esta imposibilidad de separar los cochecitos presenta varios inconvenientes. En primer lugar, no se pueden utilizar los cochecitos por separado, lo que implica que si se han de llevar los dos niños por separado es necesario un cochecito independiente. En segundo lugar, si los niños son de diferente edad, cuando el mayor ya no necesita un cochecito infantil, únicamente se dispone de un cochecito infantil doble, no pudiéndose utilizar de manera individual.

Por lo tanto, es evidente la necesidad de un cochecito infantil que se pueda utilizar como cochecito infantil doble para dos niños a la vez y, al mismo tiempo, si se desea, utilizarlo como dos cochecitos infantiles independientes.

Descripción de la invención

Con el cochecito infantil de la invención se consiguen resolver los inconvenientes citados, presentando otras ventajas que se describirán.

El cochecito infantil doble de la presente invención comprende un primer cochecito infantil y un segundo cochecito infantil unidos entre sí, y se caracteriza por el hecho de que los dos cochecitos infantiles están unidos mediante medios de acoplamiento amovibles.

Gracias a esta característica, el cochecito infantil de la presente invención se puede utilizar con ambos cochecitos unidos o separados, según se desee.

Según una realización preferida, dichos medios de acoplamiento amovibles comprenden un par de casquillos previstos en la parte delantera de dicho primer cochecito infantil, donde se alojan un par de varillas previstas en la parte posterior del segundo cochecito infantil.

De esta manera, el acoplamiento y desacoplamiento de los dos cochecitos puede realizarse cómoda y rápidamente en el momento que se desee utilizar dichos cochecitos unidos o por separado.

Preferentemente, el segundo cochecito infantil comprende un par de ruedas montadas de manera amovible, estando dichas ruedas amovibles de dicho segundo cochecito montadas en dichas varillas.

Ventajosamente, dicho segundo cochecito comprende un manillar montado de manera amovible.

Breve descripción de los dibujos

Para mejor comprensión de cuanto se ha expuesto se acompañan unos dibujos en los que, esquemáticamente y tan sólo a título de ejemplo no limitativo, se representa un caso práctico de realización.

La figura 1 es una vista en perspectiva del primer cochecito de la presente invención;

La figura 2 es una vista en perspectiva del segundo cochecito de la presente invención;

La figura 3 es una vista en perspectiva de los dos cochecitos justo antes de su unión;

La figura 4 es una vista en perspectiva de cochecito doble de la presente invención; y

Las figuras 5 y 6 son vistas en perspectiva de dos cochecitos dobles según dos realizaciones alternativas.

Descripción de una realización preferida

En la figura 1 se ha representado un primer cochecito infantil 1, cuya única diferencia respecto a un cochecito infantil convencional es la presencia de medios de acoplamiento en su parte delantera. En concreto dichos medios de acoplamiento son un par de casquillos 2, cuya función se describirá posteriormente.

El resto del cochecito infantil no se describe, ya que es convencional y no forma parte de la presente invención.

En la figura 2 se ha representado un segundo cochecito infantil 3 que puede acoplarse al primer cochecito infantil 1 citado anteriormente. En este caso, la diferencia entre este segundo cochecito 3 y uno convencional es que comprende medios de acoplamiento en su parte trasera, en concreto un par de varillas 4, que se alojan en los casquillos 2 citados anteriormente cuando se utilizan ambos cochecitos 1, 3 acoplados entre sí, o en las que se colocan las ruedas traseras 5 del segundo cochecito 3, las cuales están montadas de manera amovible.

Además, el manillar 6 también está montado de manera amovible, pudiéndose retirar cuando se utilice el cochecito doble 1, 3.

Como es evidente, los dos cochecitos 1, 3 representados en las figuras 1 y 2 pueden utilizarse de manera independiente. Si se desea utilizarlos conjuntamente, simplemente se han de retirar las ruedas traseras 5 y el manillar 6 del segundo cochecito 3, introduciéndose las varillas 4 en los correspondientes casquillos 2, tal como se muestra en la figura 3. Aunque no se ha representado en las figuras, es evidente que los casquillos 2 comprenden algún sistema de retención para evitar que las varillas 4 se salgan accidentalmente.

Una vez realizada esta operación, el cochecito infantil doble de la presente invención queda tal como se ha representado en la figura 4, listo para utilizarse con dos niños.

Para volver a utilizar los dos cochecitos 1, 3 de manera independiente simplemente hay que realizar la operación inversa a la descrita anteriormente.

En las figuras 5 y 6 se han representado dos ejemplos de utilización del cochecito doble de la presente invención.

En la figura 5, se ha representado el cochecito doble con un asiento trasero 8 y un capazo delantero 7, mientras que en la figura 6 se ha representado con dos asientos 8. Como es sobradamente conocido, el capazo 7 es adecuado para bebés que han de ir echados, mientras que el asiento 8 es adecuado para niños que pueden permanecer sentados.

Es evidente que las combinaciones representadas en las figuras 5 y 6 son solamente a modo de ejemplo, pudiéndose utilizar cualquier combinación adecuada además de las representadas.

A pesar de que se ha hecho referencia a una realización concreta de la invención, es evidente para un experto en la materia que el coche infantil descrito es susceptible de numerosas variaciones y modifica-

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ciones, y que todos los detalles mencionados pueden ser substituidos por otros técnicamente equivalentes, sin apartarse del ámbito de protección definido por las reivindicaciones adjuntas.

REIVINDICACIONES

1. Cochecito infantil doble, que comprende un primer cochecito infantil (1) y un segundo cochecito infantil (3) unidos entre sí, **caracterizado** por el hecho de que los dos cochecitos están unidos mediante medios de acoplamiento amovibles (2, 4).

2. Cochecito infantil doble según la reivindicación 1, **caracterizado** por el hecho de que dichos medios de acoplamiento amovibles comprenden un par de casquillos (2) previstos en la parte delantera de dicho primer cochecito infantil (1), donde se alojan un par de varillas (4) previstas en la parte posterior del segundo cochecito infantil (3).

3. Cochecito infantil doble según la reivindicación 1 ó 2, **caracterizado** por el hecho de que el segundo cochecito infantil (3) comprende un par de ruedas (5) montadas de manera amovible.

4. Cochecito infantil doble según las reivindicaciones 2 y 3, **caracterizado** por el hecho de que dichas ruedas amovibles (5) de dicho segundo cochecito están montadas en dichas varillas (4).

5. Coche infantil doble según la reivindicación 1, **caracterizado** por el hecho de que dicho segundo cochecito (3) comprende un manillar (6) montado de manera amovible.

FIG. 1

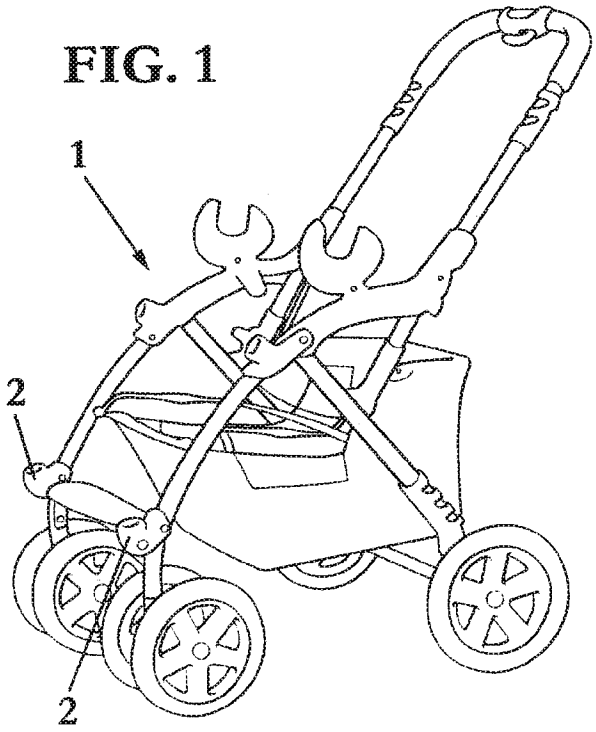


FIG. 2

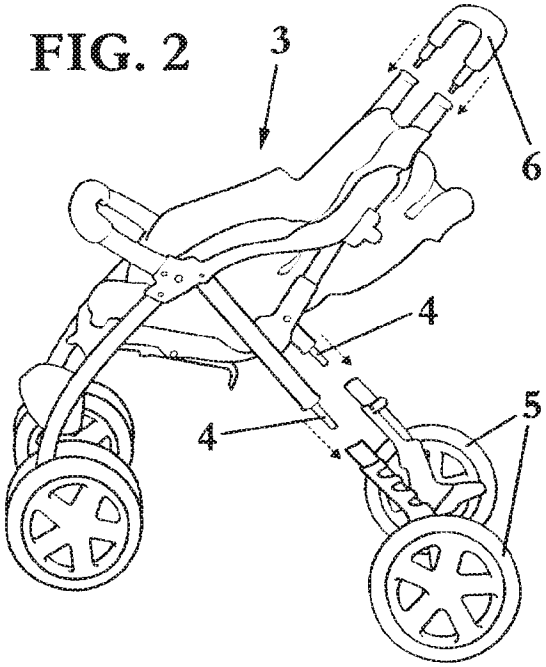


FIG. 3

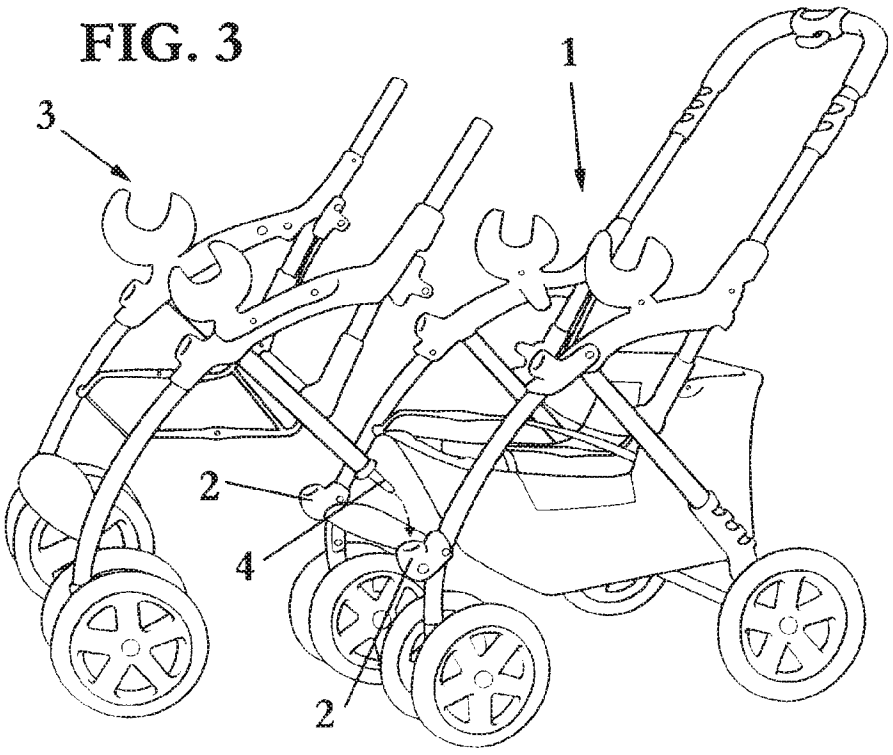


FIG. 4

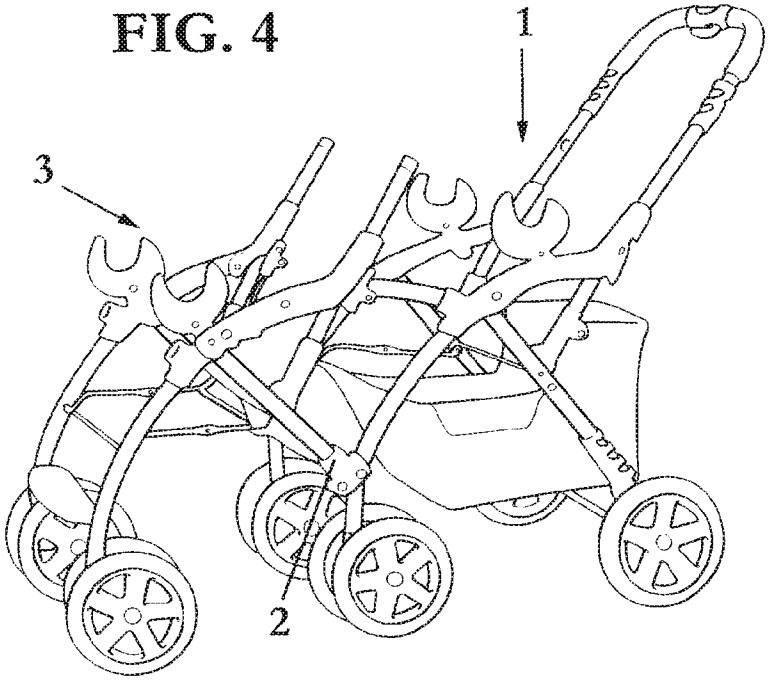


FIG. 5

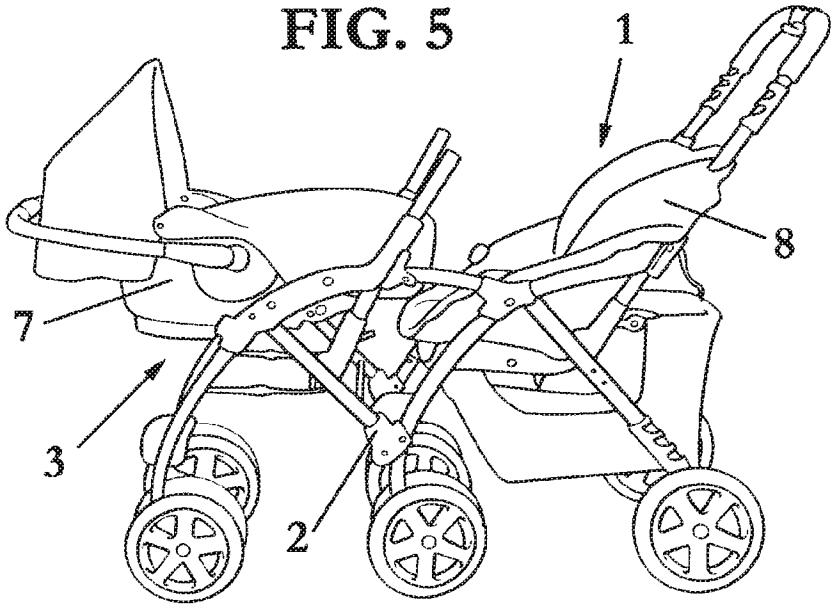
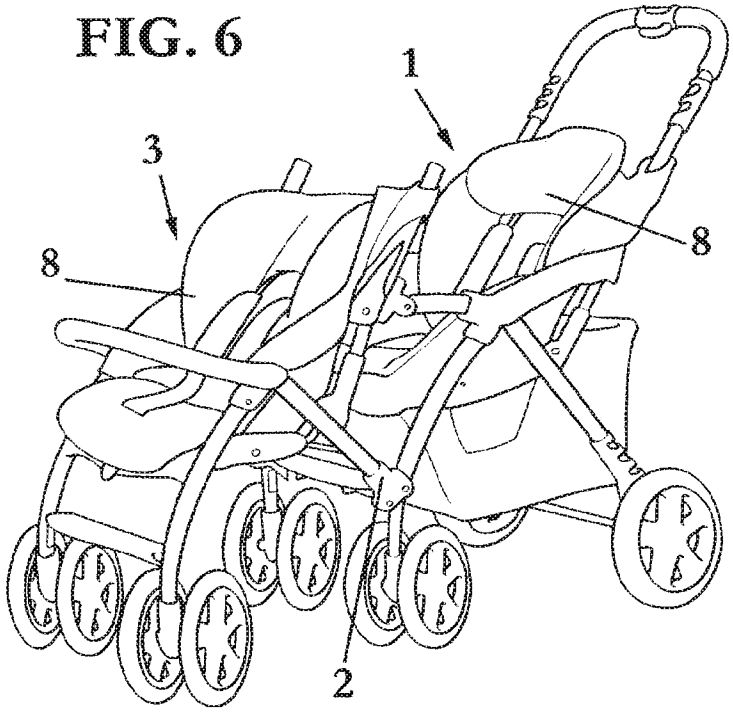


FIG. 6



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(22) Fecha de presentación de la solicitud: **06.08.2004**

(32) Fecha de prioridad:

INFORME SOBRE EL ESTADO DE LA TÉCNICA

(51) **Int. Cl.:** ***B62B 9/12*** (2006.01)

DOCUMENTOS RELEVANTES

Categoría	Documentos citados	Reivindicaciones afectadas
X	GB 2368824 A (LACKEY) 15.05.2002, página 8, línea 29 - página 12, línea 20; figuras 4,5,7.	1,5
A		2
X	US 5522121 A (FRAYND) 04.06.1996, columna 1, líneas 30-37; figura 1.	1
A	US 6449801 B1 (DURRIN) 17.09.2002, columna 1, línea 50 - columna 2, línea 62; figuras 3,4.	3,4

Categoría de los documentos citados

X: de particular relevancia
Y: de particular relevancia combinado con otro/s de la misma categoría
A: refleja el estado de la técnica
O: referido a divulgación no escrita
P: publicado entre la fecha de prioridad y la de presentación de la solicitud
E: documento anterior, pero publicado después de la fecha de presentación de la solicitud

El presente informe ha sido realizado

☒ para todas las reivindicaciones ☐ para las reivindicaciones nº:

Fecha de realización del informe	Examinador	Página
20.04.2006	O. Fraile Paredes	1/1

(12) UK Patent Application (19) GB (11) 2 309 203 (13) A

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(21) Application No 9626714.1

(22) Date of Filing 23.12.1996

(30) Priority Data
(31) U9600110 (32) 16.01.1996 (33) ES

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(Incorporated in Spain)

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(51) INT CL^6
B62B 7/04 // B62B 9/12

(52) UK CL (Edition O)
B7B BTX1 B406 B407

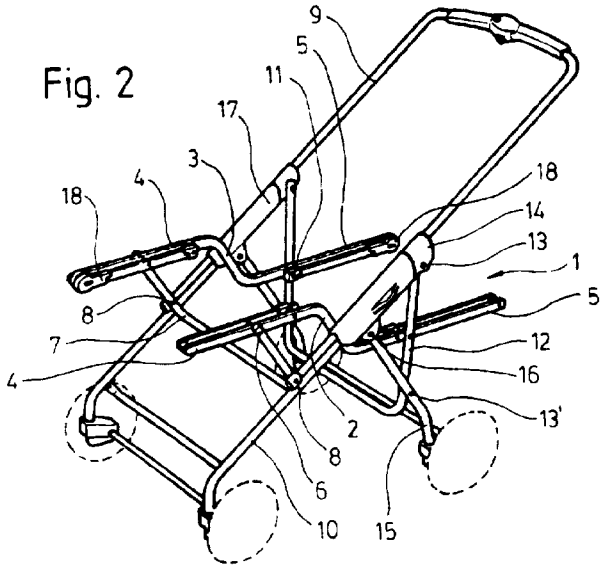
(56) Documents Cited
FR 002615155 A1 US 5033761 A US 4753453 A
US 4728112 A US 4542915 A

(58) Field of Search
UK CL (Edition O) B7B BTF1 BTX1
INT CL^6 B62B 7/00 7/04 9/00 9/10 9/12 9/28
Online: WPI

(54) Compact two seater pushchair

(57) A two-seater pushchair comprises a foldable frame 1 upon which can be mounted two seats (figures 3 and 4) or a seat and a carry cot (figure 5), which frame has two side bars 2, 3 each having an upper portion 4 for mounting one seat/carry cot and a lower portion 5 at a different level for mounting the other seat/carry cot. The seats can be mounted variously to face one another or otherwise (figures 3 to 5). The portions may include devices 18 for locking the seats and/or carry cot in place. The upper portions and lower portions of the side bars may be linked by respective U-shaped supports 7 and 12. A backrest (R figure 3) and legrest (P figure 3) of the seat(s) may recline and a hood (T figures 3A and 5) may be provided on the seat(s)/carry cot.

Fig. 2



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MOCKINGBIRD ET AL. EX1018

Fig. 1

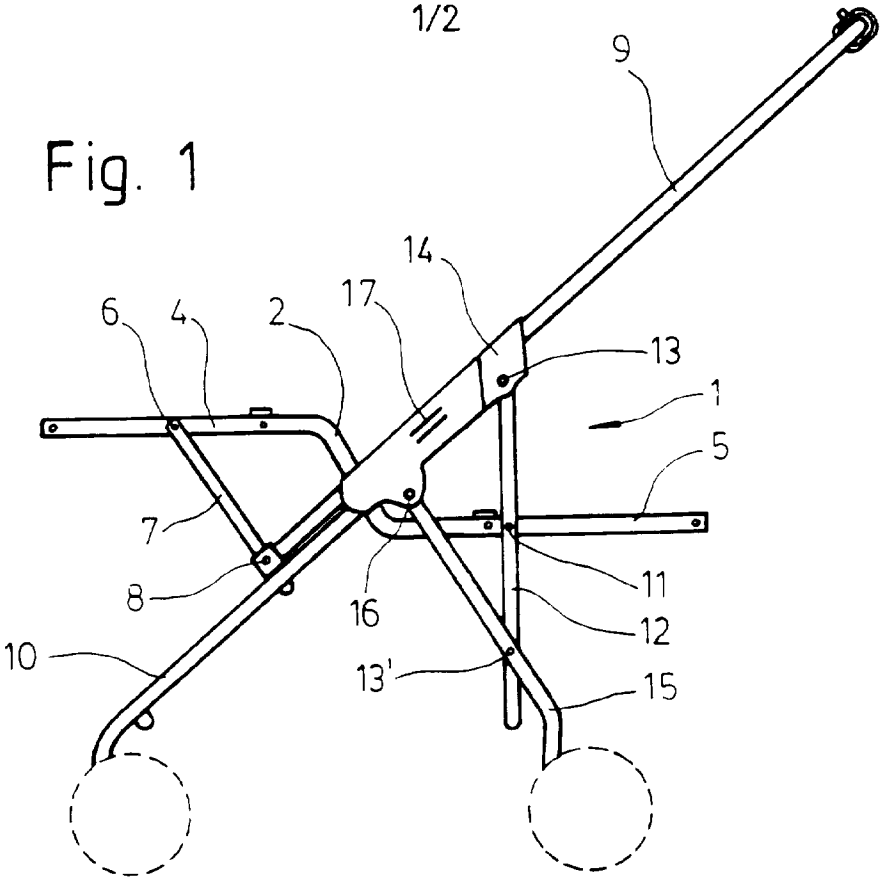
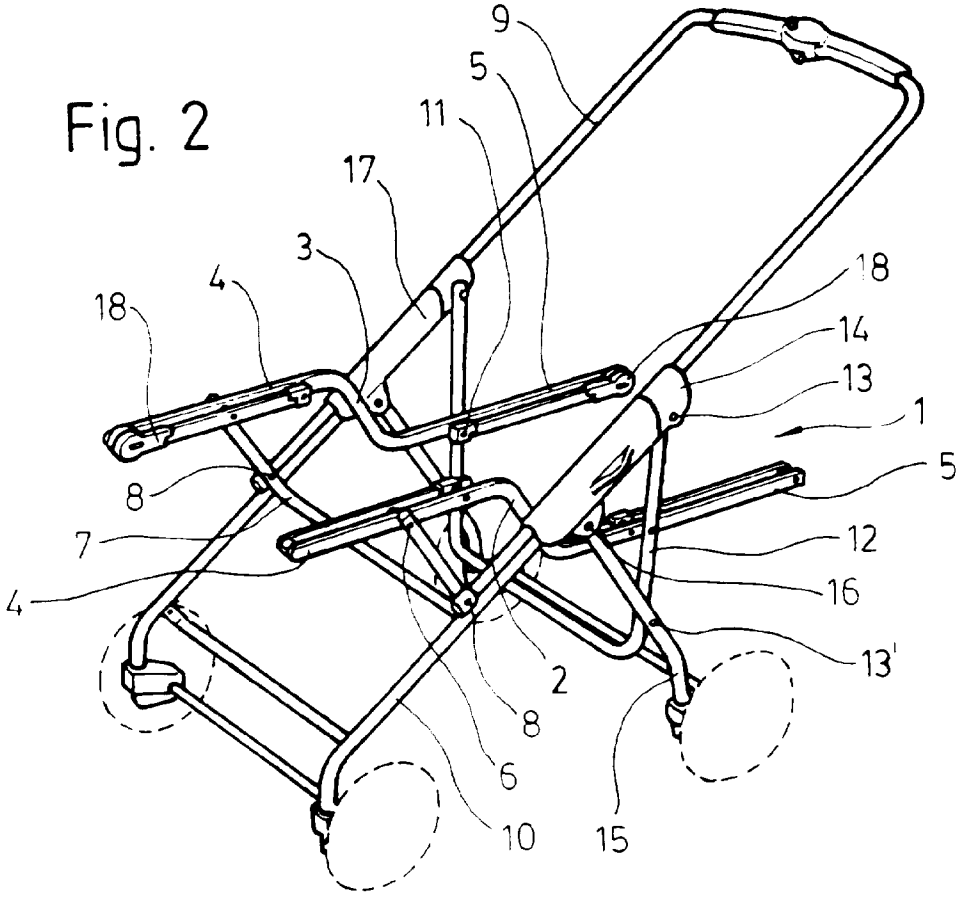

9
14
17
6
4
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13
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8
16
12
10
13'
15

Fig. 2


9
5
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17
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18
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13
1
5
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7
12
4
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13'
2
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15

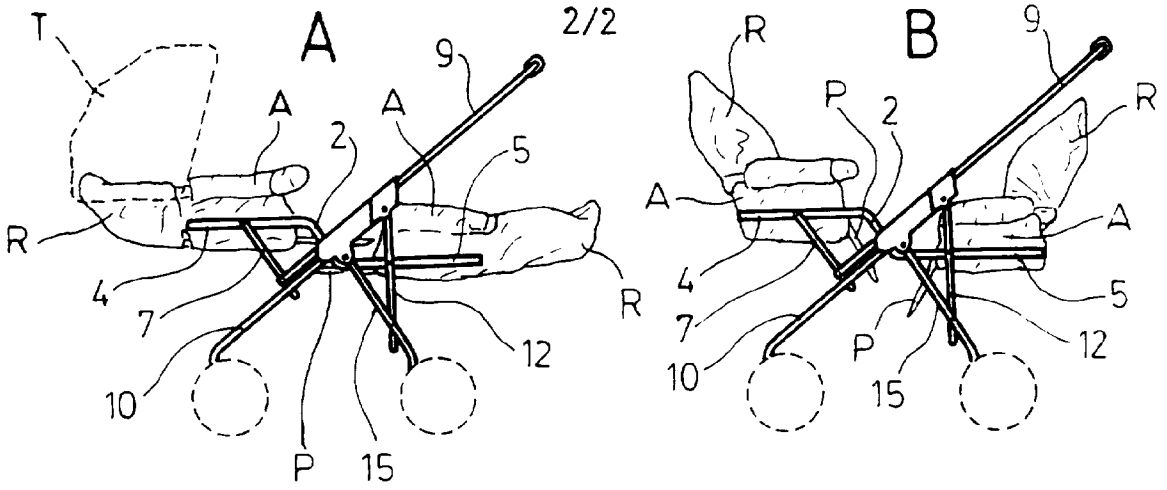


Fig. 3

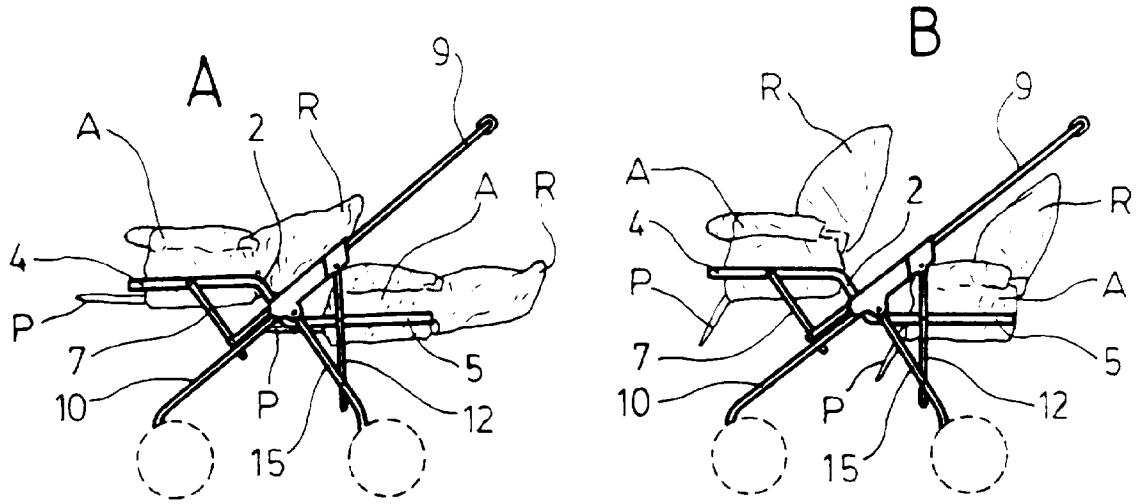


Fig. 4

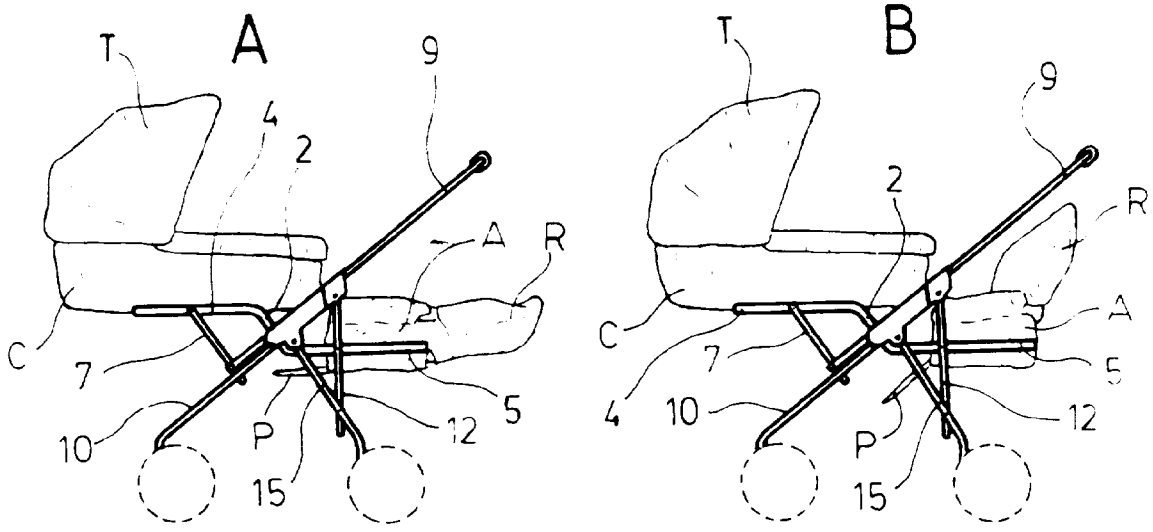


Fig. 5

Two-seater children's pram-pushchair

This invention refers to a two-seater children's pram-pushchair.

Different models of two-seater children's pram-pushchairs are already known, created for twins, usually comprising a frame with four or six sets of wheels upon which one double-width seat or two single seats or two carry-cots are assembled side by side. These seats or carry-cots are usually placed looking forwards or backwards.

The problem with these pram-pushchairs is their width which hinders their passing through normal-width doors. To solve this problem, there are also two-seater pushchairs whose width is similar to that of conventional pram-pushchairs, where the seats are arranged one behind the other. In this case the pushchair is particularly long, making it difficult to fold up and with its not fitting into a car boot. In order to reduce this length in as far as possible, in some cases the matter of the child's comfort has been simplified using seats in which the child cannot lie flat.

The object of this invention is to achieve a two-seater children's pram-pushchair in which the children can lie down without the device being excessively long and of a normal width, with the additional advantage that the children can sit one in front of the other or looking at each other, and with its even being possible to use one seat and one carry-cot for transporting two children of different ages.

For this purpose, the common feature is that the chassis of the pram-pushchair has two side bars, each one of them formed by two stretches on different levels, with the two seats or one seat and one carry-cot being coupled freely on the higher stretches of the two bars and on the lower of them respectively.

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The two stretches of the two side bars on the different levels include a device to lock and unlock the fixture of the seats and carry-cot assembled on them.

These and other features are better understood from the detailed description that follows, to facilitate which two sheets of drawings are attached where a practical case of the embodiment mentioned is shown; this is provided merely as a non-restrictive example of the scope of this present invention.

In the drawings :

Figure 1 shows the side elevation of the frame of the pushchair in question.

Figure 2 shows a perspective view of that frame, and

Figures 3, 4 and 5 represent, schematically, some of the different positions of the seats and carry-cot.

According to the drawings, the pram-pushchair includes a foldable frame -1- presenting, characteristically, two side bars -2- and -3- each one of which formed by facing stretches -4- and -5- on different levels. Of these, stretches -4-, which are higher, are the front ones whereas stretches -5-, which are lower, are the rear ones.

In this case, the side bars are coupled by means of joints to the frame of the pram-pushchair. Thus, the higher front stretches -4- are jointed at an intermediate point -6- at the ends of the branches of a first U-shaped support -7- which is jointed underneath by points -8- to the ends of the branches of the handle in an inverted U-shape -9-, sliding along those branches along the front feet -10- of the frame when the pram-pushchair is folded up.

Meanwhile, the lower rear stretches -5- of the side bars -2- and -3- are jointed at an intermediate point -11- to an intermediate point of the branches of a second support in a U-shape -12- ; at the higher end -13- these

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are jointed to different brackets -14- coupled to the front feet -10- and underneath -13- they are jointed to the rear feet -15- ; these, at their higher end -16- are jointed to different brackets -17- linked to the brackets of the handle -9-.

The stretches -4- and -5- of the side bars are equipped with devices -18- to lock and unlock the fixtures of the corresponding seats -A- comprising a jointed back-rest -R- and leg-rest -P- and a carry-cot -C-; the seats and the carry-cot can be equipped with a hood -T-.

This structure and design of the side bars -2- and -3- make it possible to arrange the seats in front of each other and lying down (figure 3-A) or in front of each other and with the back-rest raised and the leg-rest lowered (figure 3-B), or to have one seat behind the other lying down (Figure 4-A) or with the back-rest raised and the leg-rest lowered (figure 4-B). It is also possible to arrange a carry-cot and a lying seat (Figure 5-A) or with the seat with the back-rest raised and the leg-rest lowered (Figure 5-B). Logically, other combinations can also be made such as for example one seat looking forwards and other looking backwards.

It is to be understood that the frame -1- may present a different structure to the one that is shown here as the essential factor of this pram-pushchair is the coupling of the side bars with its facing stretches on different levels of the frame.

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CLAIMS

1.Two-seater children's pram-pushchair comprising a foldable frame upon which the seats are assembled, characterized in that the frame has two side bars, each one of them formed by facing stretches on different levels, coupling fixedly on the higher stretches of the two bars and on the lower stretches thereof the corresponding seats or one seat and one carry-cot, where the seats can be arranged facing one another or otherwise.

2. Two-seater children's pram-pushchair, according to Claim 1, characterized in that the two stretches on different levels of the two side bars include devices for locking and unlocking the coupling of the seats and carry-cot assembled on them.

3. Two-seater children's pram-pushchair, according to Claim 1, characterized in that the front stretches of the side bars are linked by a joint at an intermediate point of the higher ends of the branches of the first support in a U-shape, articulated underneath the frame of the pram-pushchair.

4. Two-seater children's pram-pushchair, according to claim 1, characterized in that the rear stretches of the side bars are linked in a jointed way on an intermediate point of the branches of a second U-shapep support above and below the frame of the pram-pushchair.

5. Two-seater children's pram-pushchair, substantially as described herein with reference to the drawings.

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Amendments to the claims have been filed as follows

CLAIMS

1. A two-seater children's pram-pushchair comprising a foldable frame adapted to receive two seats, wherein the frame has two side bars, each one of which has two parts located at different heights, the two seats or one seat and one carry-cot being detachably mountable on the upper and lower parts of the side bars in such a manner as to face one another or be located one behind the other.

2. A two-seater children's pram-pushchair according to claim 1, wherein the said two parts of each of the side bars include devices for locking and unlocking the seats or carry-cot detachably mounted on said parts.

3. A two-seater children's pram-pushchair according to claim 1 or claim 2, wherein the upper parts of the side bars are located towards the front and are articulatedly linked at an intermediate point by a U-shaped joint which is articulated at a lower point to the frame of the pram-pushchair.

4. A two-seater children's pram-pushchair according to any one of the preceding claims, wherein the lower parts of the side bars are located towards the rear and are linked at an intermediate point by a second U-shaped joint which is articulatedly located at its upper point and at its lower point to the frame of the pram-pushchair.

5. A two-seater children's pram pushchair substantially as described herein with reference to the drawings.

The Patent Office

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UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

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Documents considered to be relevant:

Category	Identity of document and relevant passage		Relevant to claims
X	US 4728112	(WYNENS) see especially figures 1 & 3	1 at least
X	US 4753453	(SCHILBACH) see especially figures 5-8	1 at least
X	US 4542915	(WHEELER et al) see especially 2	1 at least
X	FR 2615155 A1	(BOIDIN) see especially figures 1 & 2	1 at least
A	US 5033761	(KELLY) see especially figures 2-4	

X	Document indicating lack of novelty or inventive step	A	Document indicating technological background and/or state of the art.
Y	Document indicating lack of inventive step if combined with one or more other documents of same category.	P	Document published on or after the declared priority date but before the filing date of this invention.
&	Member of the same patent family	E	Patent document published on or after, but with priority date earlier than, the filing date of this application.

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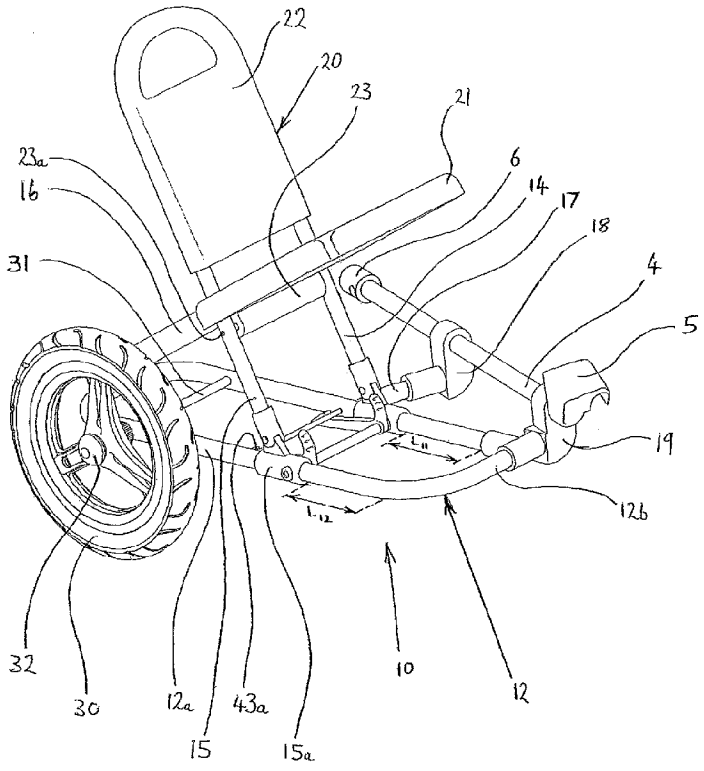
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(54) Title: AUXILIARY PUSHCHAIR SEAT



(57) Abstract: An auxiliary seat (1) attachable to a pushchair (2) to enable it to accommodate two children seated side-by-side and facing in the same direction. The seat comprises a frame (10) having a backrest (22) and a base (21) and a wheel (30) in contact with the ground in an operative position to support a child seated on the base (21) with their back against the backrest (22). The frame is configured so that the backrest (22) and the base fold substantially flat when the auxiliary seat is not in use.

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Auxiliary Pushchair Seat

Description

The present invention relates to a pushchair, and more specifically, to an add-on seating device for pushchairs.

It is often the case with parents having more than one child that the age gap between the children is such that the older child is not fully able to walk by the time the second child is born or is reluctant to do so for an extended period of time. During the first child's initial years, the parents will most probably have bought a single-seat pushchair to transport the child around in until it learns to walk properly. Modern pushchairs can be an expensive outlay, and perhaps difficult to afford, especially for young couples who may be at an early stage of their professional careers or those on low income. Therefore, when the second child is born, the parents find themselves requiring another pushchair so that both children can be transported together. Therefore, they must either buy another single-seat pushchair in addition to the first, which means having to use two pushchairs each time both children are taken out together or, buy a new double-seat pushchair, which means the original single-seat pushchair is then redundant. In either case, it involves another significant financial outlay for the parents.

One solution to this problem is to provide an add-on device that can be attached to the existing single-seat pushchair to adapt it to be able to carry both children simultaneously. Recently, pushchair add-on products have become commercially available and one such device comprises a wheeled platform that attaches to the rear of the pushchair, on which the elder child can stand whilst the younger child is seated.

However, this platform type of device has a number of disadvantages. Firstly, as the device is a platform and not a seat, it requires the elder child to remain standing, which can quickly tire them out and become uncomfortable for them. This has a safety implication as well, since the elder child is not provided with a harness to stop them falling off the device. Secondly, the device is positioned at the rear of the

pushchair between the pushchair and the parent. This means that the parent has to lean forward and stoop over and/or around the standing child in order to push the pushchair, and this can quickly cause backache and stiffness, and is generally uncomfortable over anything but the shortest distances. Thirdly, the wheels of the platform are positioned behind the rear wheels of the pram, which means that it can be difficult to push the pushchair up or down kerbs, as the device hinders the ability of the pushchair to be pivoted about the rear wheel axle. This device can also unbalance the pushchair and cause it to tip over very easily

It is therefore an object of the present invention to provide an add-on pushchair seating device that substantially alleviates or overcomes the problems mentioned above.

According to the present invention, therefore, there is provided an auxiliary seat attachable to a pushchair to enable it to accommodate two children seated side-by-side and facing the same direction, the seat comprising a frame having a backrest and a base and a wheel in contact with the ground in an operative position to support a child seated on the base with their back against the backrest, wherein the frame is configured so that the backrest and the base fold substantially flat when the auxiliary seat is not in use.

In a preferred embodiment, the base and the backrest are pivotable relative to one another such that they are collapsible from the erect operative position to the collapsed folded position by means of a scissor-like mechanism. Conveniently, the scissor-like mechanism includes at least one sliding joint to enable the base and backrest to be erected and collapsed.

Preferably, the backrest is attached to one end of a first support strut and the base is attached to one end of a second support strut, and said first and second support struts are pivotable relative to each other and the end of the first support strut remote from the backrest is connected to the at least one sliding joint.

Advantageously, the auxiliary seat comprises a locking mechanism to retain the seat in the erect operative position, and the locking mechanism preferably retains the seat in the erect operative position by locking the at least one sliding joint in place.

In a preferred embodiment, the locking mechanism comprises a latch extending from the at least one sliding joint, operable to lock onto a fixed shaft on the frame. Preferably, the latch is located at one end of an arm, the arm rotatably mounted to the at least one sliding joint and operable to move from a first locked position in which the latch snags on the fixed shaft, to a second unlocked position in which the latch is clear of the fixed shaft to allow movement of the at least one sliding joint.

The frame is preferably attached to the pushchair by a first clamping means extending from one side of the frame, and the first clamping means is conveniently attached to a first support strut which is hingedly attached to the frame.

Furthermore, the frame may further be attached to the pushchair by a second clamping means extending from said one side of the frame, and the second clamping means may also be hingedly attached to the frame.

In one preferred embodiment, the first and second clamping means are attachable to a supplementary pushchair frame bar which includes further attachment means operable to fix the bar and seat attached thereto, to the conventional pushchair. Alternatively, the first and second clamping means may be attachable to a replacement pushchair frame bar which can be fitted in place of an existing section of frame of a conventional pushchair to fix the seat thereto.

Preferably, the auxiliary seat is releasably attachable to said pushchair, and in a preferred embodiment, it can pivot relative to the pushchair to be folded against the side thereof in a storage position with the wheel off the ground, once the base and backrest of the seat have been folded substantially flat.

Conveniently, the at least one wheel is detachable, and is preferably positioned such that when the auxiliary seat is mounted on the pushchair in an operative position,

the at least one wheel is in alignment with a rear wheel of the pushchair. In a preferred embodiment, the at least one wheel is positioned such that when the auxiliary seat is mounted on the pushchair in an operative position, an axle of the at least one wheel is coaxial with an axle of a rear wheel of the pushchair.

Advantageously, the seat includes a safety harness to retain a child in position thereon.

A preferred embodiment includes a rain cover attached to the seat to at least partially surround a child sitting on the seat, and an alternative embodiment includes a sunshade attached to the seat to shade a child sitting on the seat. A toy steering wheel is conveniently positionable in front of a child sitting on the seat, or a toy hobby-horse style attachment may be positionable in front of a child sitting on the seat.

A preferred embodiment of the present invention will now be described, with reference to the accompanying drawings, in which:

Figure 1 shows a perspective view of a pushchair add-on device according to a first embodiment of the invention, in an erected operative position;
Figure 2 shows the pushchair add-on device of Figure 1 in a collapsed position;
Figure 3 shows a side view of the pushchair add-on device of Figure 1;
Figure 4 shows a side view of the pushchair add-on device of Figure 2;
Figure 5 shows a rear perspective view of the pushchair add-on device of Figures 1 and 3;
Figure 6 shows the pushchair add-on device in the erect position attached to a conventional pushchair; and
Figure 7 shows the pushchair add-on device in the collapsed position attached to a conventional pushchair, and folded up in a storage position.

Referring now to the drawings, a pushchair add-on device 1, for attachment to any type of conventional pushchair 2 (see Figures 6 and 7), is shown, comprising a chassis frame 10, a seat portion 20 and a wheel 30. The chassis 10 comprises first

and second generally curved L-shaped tubular chassis members 11, 12 arranged so that long sides 11a, 12a of each member 11, 12 are parallel to one another, and short sides 11b, 12b are parallel to one another. Each end of each chassis member 11, 12 is connected to a correspondingly opposite end of the other member so as to form a generally rectangular chassis frame 10.

The seat portion 20 comprises a base 21 and a backrest 22. It can also include a seat harness (not shown) comprising a strap extending from either side of the backrest 22 and one extending from the middle of the base 21 at the front thereof, in which all three straps meet in a 'T' – shaped clasp.

The chassis frame 10 includes two collars, 14a, 15a, one slideably received on each of the long sides 11a, 12a of the L-shaped chassis members 11, 12. Each collar 14a, 15a includes a pivot joint integrally formed therewith, and a backrest support stanchion 14, 15 is pivotably attached to each of the collar pivot joints 14a, 15a respectively, and extends therefrom. The backrest 22 is attached at either side to the backrest support stanchions 14, 15 and the backrest 22 is thereby pivotable about the collar pivot joints 14a, 15a.

The chassis 10 also includes a seat support stanchion 16 pivotably attached at one end by a pivot joint 16a to the short side 11b of the first L-shaped chassis member 11 at the rear of the chassis frame 10. The base 21 is rigidly secured to the other end of the seat support stanchion 16 and a lug 23 extends from the rear of the base 21. A hinge rod 23a extends through the lug 23 and each end of the hinge rod 23a extends through the backrest support stanchions 14, 15 respectively. The base 21 is thereby pivotable relative to the backrest support stanchions 14, 15 about said hinge rod 23a and lug 23.

The mechanism described above allows the seat portion 20 to be moveable from a collapsed position shown in Figures 2 and 4 in which the base 21 and backrest 22 lie substantially flat against the chassis frame 10, to an operative position as shown in Figures 1, 3, 5 and 6 in which the seat portion 20 is erected and the plane of the base 21 is substantially at right angles to the plane of the backrest 22. The

arrangement of the components is such that the backrest support stanchions 14, 15 and the seat support stanchion 16, are moveable relative to one another in a scissor-like action, wherein the central pivot point of the scissor action is the hinge rod 23a and the lug 23 on the base 21. The end of the seat support stanchion 16 remote from the base 21 is only pivotable relative to the chassis member 11, and is not moveable laterally relative to it. Therefore, to enable the scissor-action mentioned above, the collar pivot joints 14a, 15a, to which the backrest support stanchions 14, 15 are attached, slide along a section L_{11}, L_{12} of the chassis members 11, 12 respectively as the seat portion 20 is moved from the erect position to the collapsed position.

The chassis 10 further includes a horizontal axle shaft 31 that extends from the long side 11a of the first chassis member 11 through the long side 12a of the second chassis member 12 and protrudes a short distance out of the other side of the second chassis member 12. A section of the protruding end of the axle shaft 31 is threaded in order to receive a retaining nut 32. The wheel 30 includes a central aperture through which the protruding end of the axle shaft 31 can be received. The retaining nut 32 can then be screwed onto the threaded end of the axle shaft 31 to retain the wheel 30 in place whilst allowing it to be freely rotatable about the axle shaft 31. The wheel 30 is therefore easily removable from the axle shaft 31 by removal of the retaining nut 32. It will be appreciated that other such retaining means may be used instead of a screw thread and retaining nut, for example, a snap-fit retaining cap.

A clamp strut 17 is attached at one end to the first chassis member 11 and extends outwardly therefrom away from the second chassis member 12. An attachment clamp 18 is disposed on the other end of the clamp strut 17 and is operable to detachably clamp onto a frame of a conventional pushchair 2. Furthermore, a second attachment clamp 19 is disposed at the end of the short side 12b of the second chassis member 12, and, as with the first attachment clamp, is operable to detachably clamp onto a frame of a conventional pushchair 2. The two attachment clamps 18, 19 together can thereby secure the device 1 of the invention to the side of the conventional pushchair 2. Each attachment clamp 18, 19 is pivotable relative

to the clamp strut 17/chassis member 12 respectively, for reasons which will become apparent from the description hereafter.

The device 1 includes a locking mechanism 40 to enable the seat portion 20 of the device 1 to be retained in the erected operative position (see Figures 5 and 6). The locking mechanism 40 comprises a locking shaft 41 that extends between the slidable collar pivot joints 14a, 15a and is rotatable about its axis relative to the collar pivot joints 14a, 15a. The locking shaft 41 therefore restricts the movement of one collar pivot joint 14a relative to the other 15a, so they can only be moved together and in the same direction. Two locking arms 42, 43 are rigidly secured to the locking shaft 41 and extend rearwardly therefrom, substantially parallel to the long sides 11a, 12a of the chassis members 11, 12. Each arm 42, 43 includes a latch portion 42a, 43a at an end distal from the locking shaft 41. A fixed shaft 44 extends between the chassis members 11, 12 and parallel to the locking shaft 41, and is positioned rearwardly of the locking shaft 41 such that the latch portions 42a, 43a of the arms 42, 43 are just able to be clipped over the fixed shaft 44 and held in this locked position hooked over the fixed shaft 44 by friction therewith. Therefore, when the arms 42, 43 are in this locked position, the collar pivot joints 14a, 15a are prevented from sliding along sections L_{11}, L_{12} of the chassis members 11, 12 respectively, and thereby retain the seat portion 20 in the erect operative position.

As described above, the locking mechanism 40 enables the seat portion 20 of the device 1 to be locked in the erected operative position, and thereby capable of supporting a child thereon in a sitting position next to a child sitting in the pushchair 2 so that they are both facing in the same direction. When the device 1 is not in use, the locking mechanism 40 can be released by unclipping the latch portions 42a, 43a from the fixed shaft 44 and rotating the arms 42, 43 downwards. This can be done by pushing lever release tabs 42b, 43b which are formed on the end of the rotating arms 42, 43 perpendicular thereto and at the end distal from the latch portions 42a, 43a. This will allow the collar pivot joints 14a, 15a to freely slide along sections L_{11}, L_{12} of the chassis members 11, 12 respectively. The base 21 and seat stanchion 16 can then pivot downwards about the pivot joint 16a, and the backrest 22 and backrest stanchions 14, 15 can pivot downwards about the collar

pivot joints 14a, 15a, the backrest stanchions 14, 15 pivoting relative to the seat stanchion 16 about the hinge rod 23a in a scissor-like motion as described above, until the seat portion 20 of the device 1 is in the collapsed position.

Once the device 1 has been put into the collapsed position shown in Figures 2 and 4 and as described above, it can be folded up against the side of the conventional pushchair 2 into the storage position, as shown in Figure 7. This is possible due to the attachment clamps 18, 19 being pivotable relative the clamp strut 17/chassis member 12 respectively, as described above. Once the device 1 has been folded into this storage position, is can be held in place by a retaining means such as a clip (not shown).

With the device 1 in the storage position, the pushchair 2 has a much slimmer profile and will fit through normal doorways with ease. However, if a user wishes to neaten the appearance of the pushchair 2 and device 1 combination further, and make it even slimmer, they may unscrew the wheel retaining nut 32 and remove the wheel 30 from the axle shaft 31.

As can be seen in Figure 6, one of the advantages of the present invention is that when it is attached to a pushchair 2 and is not in the folded storage position, the wheel 30 of the device 1 is aligned with or is coaxial with wheels 3 of the pushchair 2. This means that the pushchair 2 and device 1 combination can be tilted backwards on all three wheels 30, 3 about their common contact line on the ground or their common axis, in order to get up a kerb, for example, and so is much more easily manoeuvrable than a conventional pushchair 2 would be with any of the other known add-on devices.

It is intended that the attachment clamps 18, 19 of the device 1 are suitable to attach to a frame of any conventional pushchair 2. However, some pushchairs currently available may not have side frames compatible with the attachment clamps 18, 19, and so it is envisaged that the device may be supplied with a replacement section of pushchair frame 4 that can be substituted for the relevant section of the original frame to allow the device to be attachable thereto. The specific replacement

section of frame 4 could be pushchair-specific, so that a user could identify which pushchair they already own, and purchase a device of the present invention that comes with the appropriate replacement frame section.

In an alternative attachment mechanism to that described above, a universal supplementary section of frame 4 could be provided. This supplementary section 4 would be attachable to the attachment clamps 18, 19 and could further include pushchair-specific attachment means 5, 6 to couple the device 1, via the supplementary frame section 4, to the pushchair 2. Therefore, instead of replacing a section of the existing pushchair frame, there would be an additional section of frame 4. In this case, the user would identify which pushchair they already own, and purchase a device 1 of the present invention that comes with the appropriate pushchair-specific attachment means 5, 6 to enable the device 1 to be fitted to their pushchair 2.

In a further embodiment of the invention, a strap 7 may be connected between a top part 22a of the backrest 22 and a part of the pushchair 2 which is higher than the top 22a of the backrest 22 (see Figure 6). This strap 7 prevents the auxiliary seat device 1 from pivoting downwards about the attachment clamps 18, 19 relative to the pushchair 2 if the wheel 30 runs over a hole or drops off a kerb, for example. In such a scenario, the weight of the auxiliary seat device 1 (and a child thereon) is transferred through the strap 7 to the pushchair 2 and is balanced out by the weight of said pushchair 2 and of a child in the pushchair seat. It will be appreciated that this means of preventing the auxiliary seat device 1 from pivoting downwards beyond a certain angle does not necessarily need to be a strap 7 as shown in Figure 6. For example, a rigid rod could be used secured to the pushchair 2 and some suitable point on the auxiliary seat device 1.

Other unillustrated embodiments of the present invention may include additional features or accessories. For example, a rain cover could be provided, attachable to the auxiliary seat device 1, to partially or entirely surround a child seated on the device to shelter the child from wind/rain/sleet/snow. The rain cover could

incorporate a supporting frame structure attachable to the device. Alternatively, the device could be provided with a sunshade or parasol.

In addition to the functional accessories mentioned above, the auxiliary seat device 1 may also include an accessory intended to amuse the child whilst the child is in the seat. This could include a toy steering wheel or dashboard arrangement, or a hobby-horse style attachment positionable in front of the child.

Claims

1. An auxiliary seat attachable to a pushchair to enable it to accommodate two children seated side-by-side and facing the same direction, the seat comprising a frame having a backrest and a base and a wheel in contact with the ground in an operative position to support a child seated on the base with their back against the backrest, wherein the frame is configured so that the backrest and the base fold substantially flat when the auxiliary seat is not in use.

2. An auxiliary seat according to claim 1 wherein the base and the backrest are pivotable relative to one another such that they are collapsible from the erect operative position to the collapsed folded position by means of a scissor-like mechanism.

3. An auxiliary seat according to claim 2 wherein the scissor-like mechanism includes at least one sliding joint to enable the base and backrest to be erected and collapsed.

4. An auxiliary seat according to claim 3 wherein the backrest is attached to one end of a first support strut and the base is attached to one end of a second support strut, and in which said first and second support struts are pivotable relative to each other and the end of the first support strut remote from the backrest is connected to the at least one sliding joint.

5. An auxiliary seat according to any preceding claim comprising a locking mechanism to retain the seat in the erect operative position.

6. An auxiliary seat according to claim 3 or claim 4 comprising a locking mechanism to retain the seat in the erect operative position and which locks the at least one sliding joint in place.

7. An auxiliary seat according to claim 6 wherein the locking mechanism comprises a latch extending from the at least one sliding joint, operable to lock onto a fixed shaft on the frame.

8. An auxiliary seat according to claim 7 wherein the latch is located at one end of an arm, the arm rotatably mounted to the at least one sliding joint and operable to move from a first locked position in which the latch snags on the fixed shaft, to a second unlocked position in which the latch is clear of the fixed shaft to allow movement of the at least one sliding joint.

9. An auxiliary seat according to any preceding claim wherein the frame is attached to the pushchair by a first clamping means extending from one side of the frame.

10. An auxiliary seat according to claim 9 wherein the first clamping means is attached to a first support strut which is hingedly attached to the frame.

11. An auxiliary seat according to claim 9 or claim 10 wherein the frame is further attached to the pushchair by a second clamping means extending from said one side of the frame.

12. An auxiliary seat according to claim 11 wherein the second clamping means is hingedly attached to the frame.

13. An auxiliary seat according to claim 11 or claim 12 wherein the first and second clamping means are attachable to a supplementary pushchair frame bar which includes further attachment means operable to fix the bar and seat attached thereto, to the conventional pushchair.

14. An auxiliary seat according to claim 11 or claim 12 wherein the first and second clamping means are attachable to a replacement pushchair frame bar which can be fitted in place of an existing section of frame of a conventional pushchair to fix the seat thereto.

15. An auxiliary seat according to any preceding claim which is releasably attachable to said pushchair.

16. An auxiliary seat according to any preceding claim which can pivot relative to the pushchair to be folded against the side thereof in a storage position with the wheel off the ground, once the base and backrest of the seat have been folded substantially flat.

17. An auxiliary seat according to any preceding claim wherein the at least one wheel is detachable.

18. An auxiliary seat according to any preceding claim wherein the at least one wheel is positioned such that when the auxiliary seat is mounted on the pushchair in an operative position, the at least one wheel is in alignment with a rear wheel of the pushchair.

19. An auxiliary seat according to any preceding claim wherein the at least one wheel is positioned such that when the auxiliary seat is mounted on the pushchair in an operative position, an axle of the at least one wheel is coaxial with an axle of a rear wheel of the pushchair.

20. An auxiliary seat according to any preceding claim wherein the seat includes a safety harness to retain a child in position thereon.

21. An auxiliary seat according to any preceding claim including a rain cover attached to the seat to at least partially surround a child sitting on the seat.

22. An auxiliary seat according to any preceding claim including a sunshade attached to the seat to shade a child sitting on the seat.

23. An auxiliary seat according to any preceding claim including a toy steering wheel positionable in front of a child sitting on the seat.

24. An auxiliary seat according to any preceding claim including a toy hobby-horse style attachment positionable in front of a child sitting on the seat.

25. A pushchair incorporating an auxiliary seat according to any preceding claim.

26. An auxiliary seat substantially as hereinbefore described with reference to the accompanying drawings.

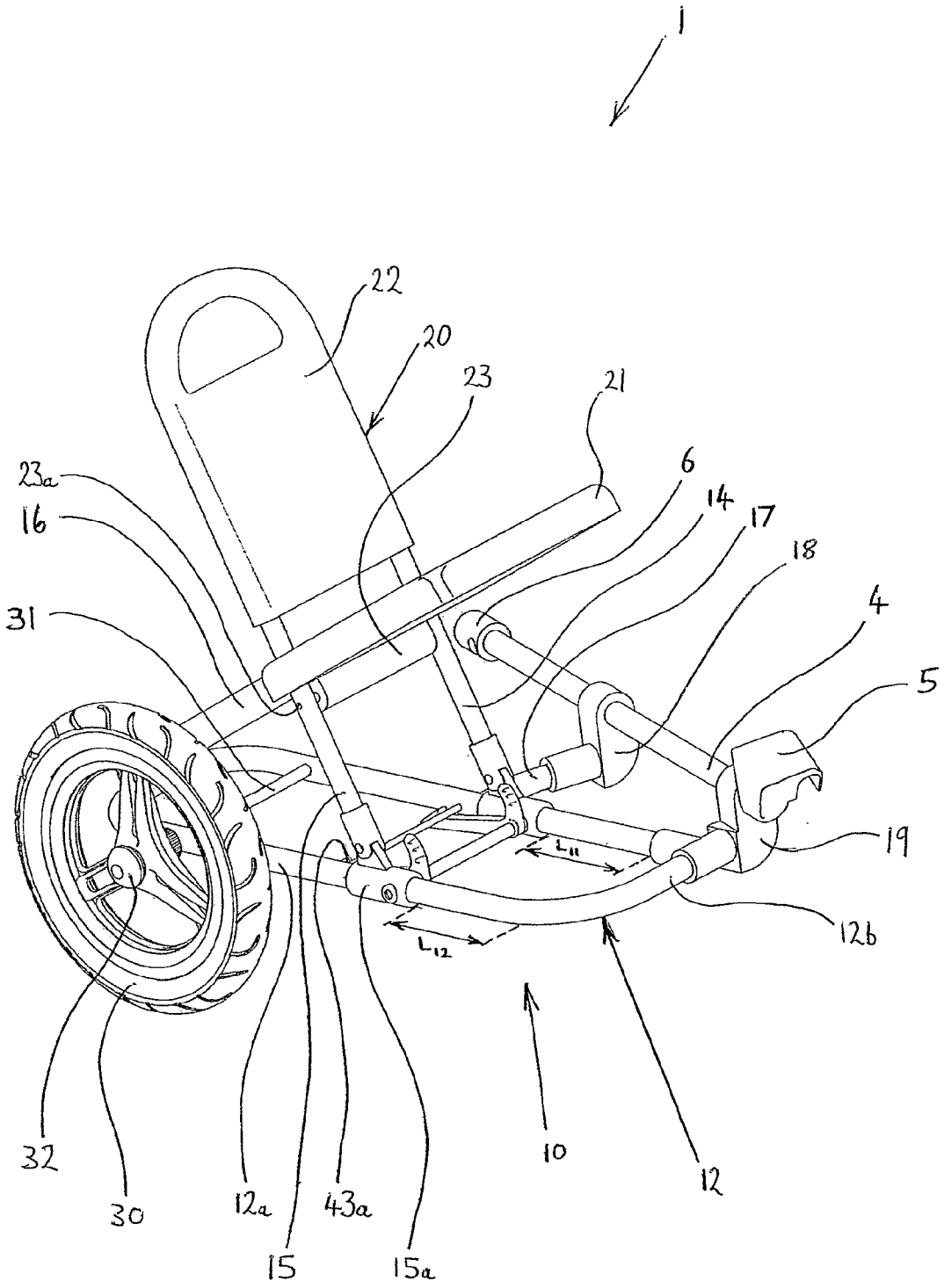

1
22
20
23
21
23a
16
6
14
17
18
31
4
5
19
L_{11}
L_{12}
12b
32
30
12a
43a
15
15a
10
12

FIGURE 1

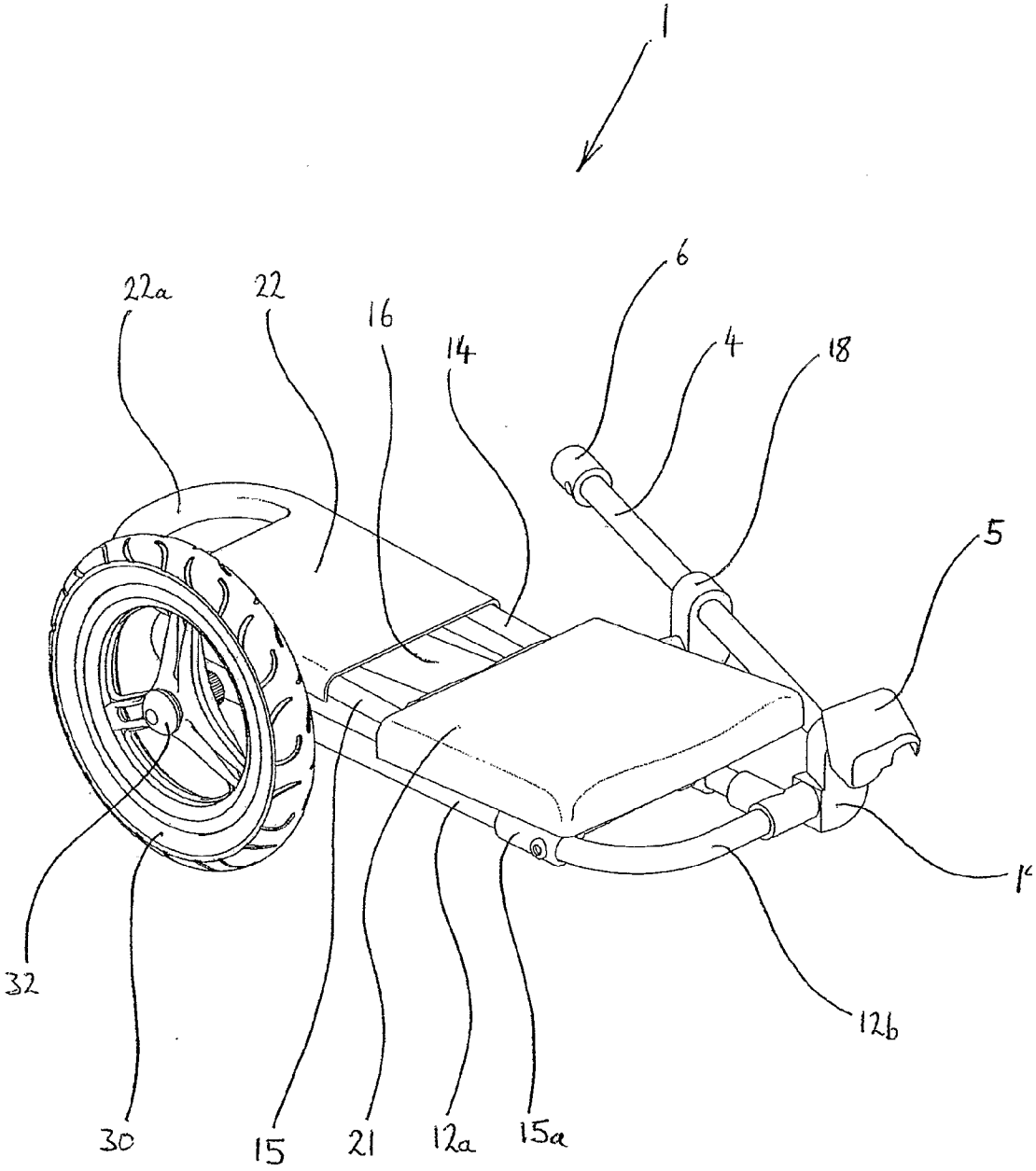


FIGURE 2.

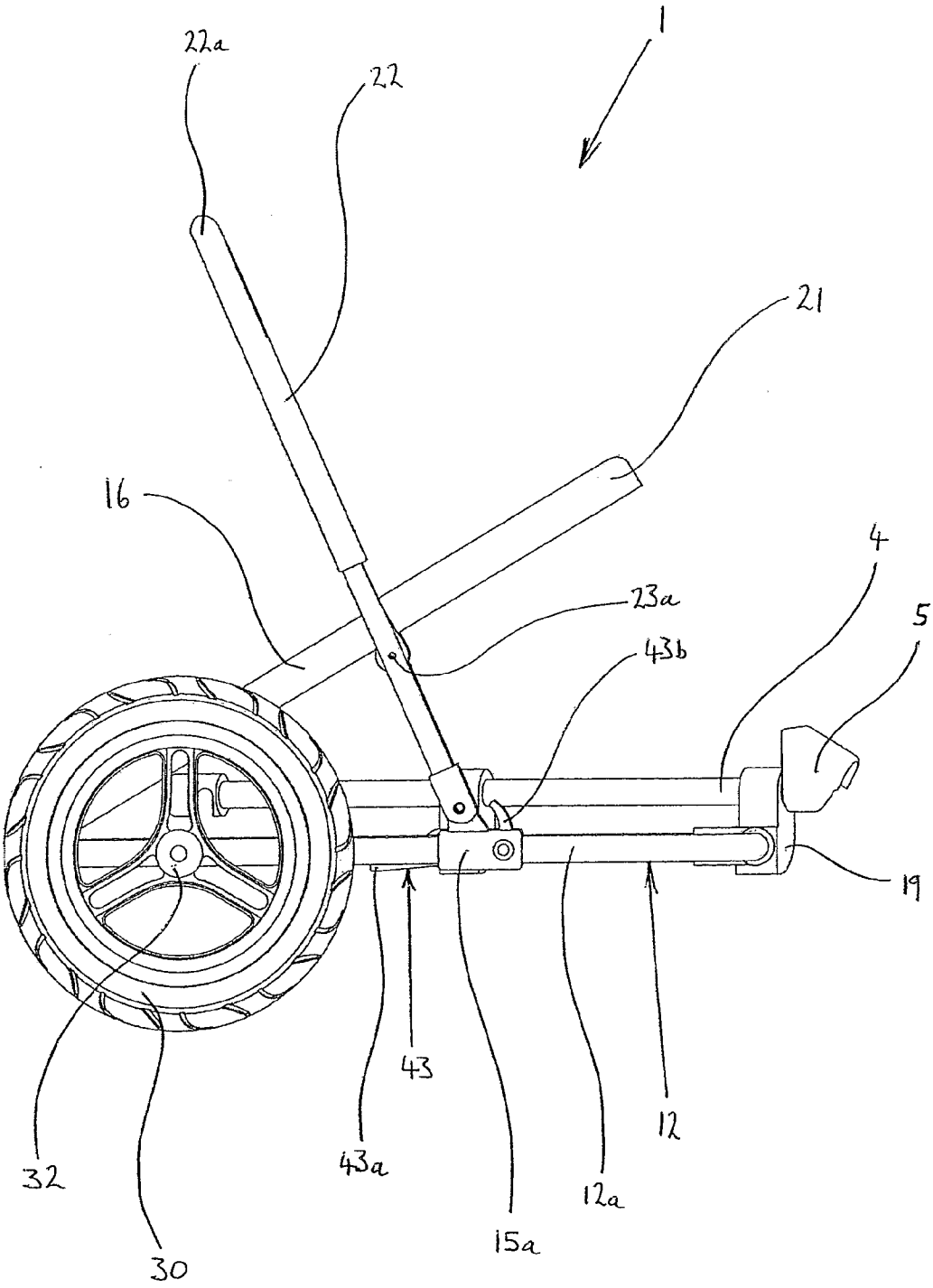


FIGURE 3

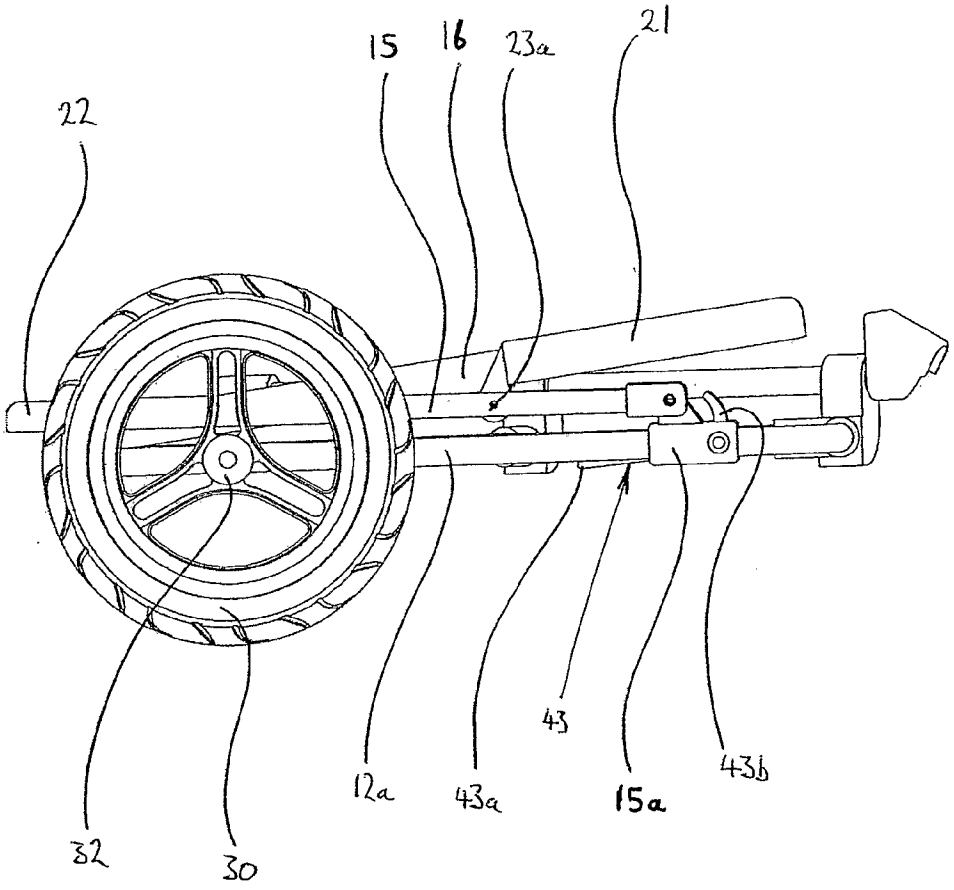


FIGURE 4

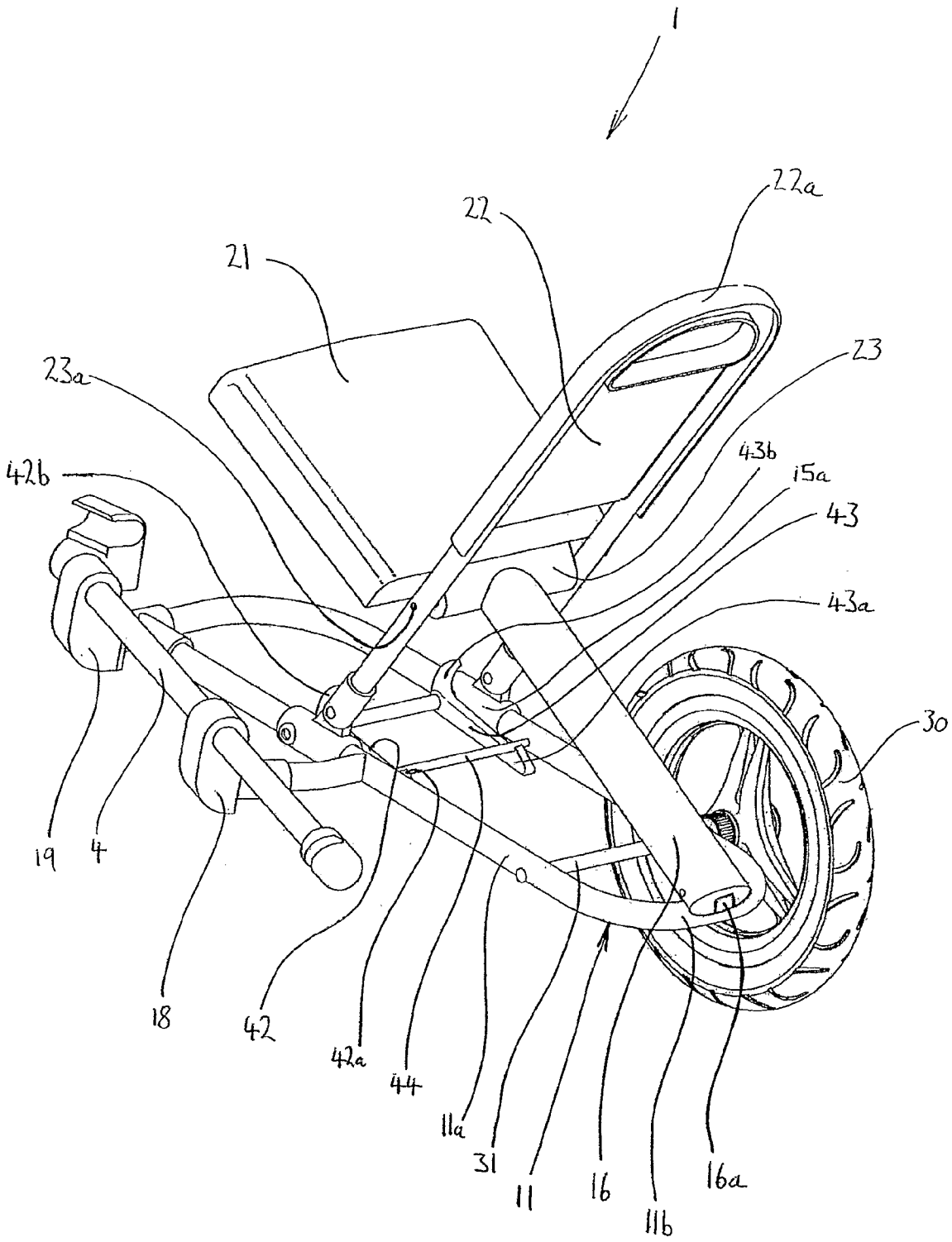

1
22a
22
21
23a
23
42b
43b
15a
43
43a
30
19
4
18
42
42a
44
11a
31
11
16
11b
16a

FIGURE 5

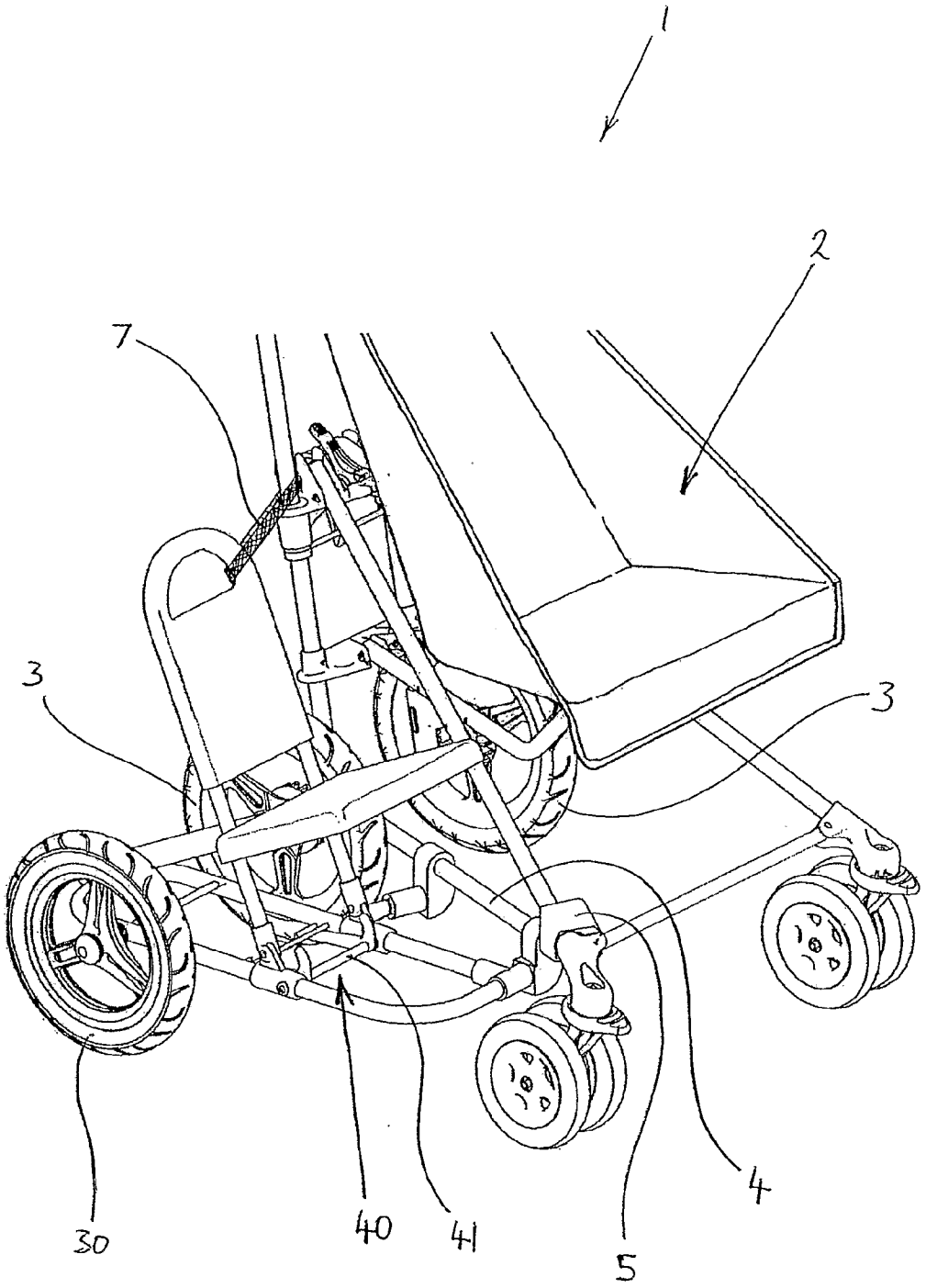


FIGURE 6.

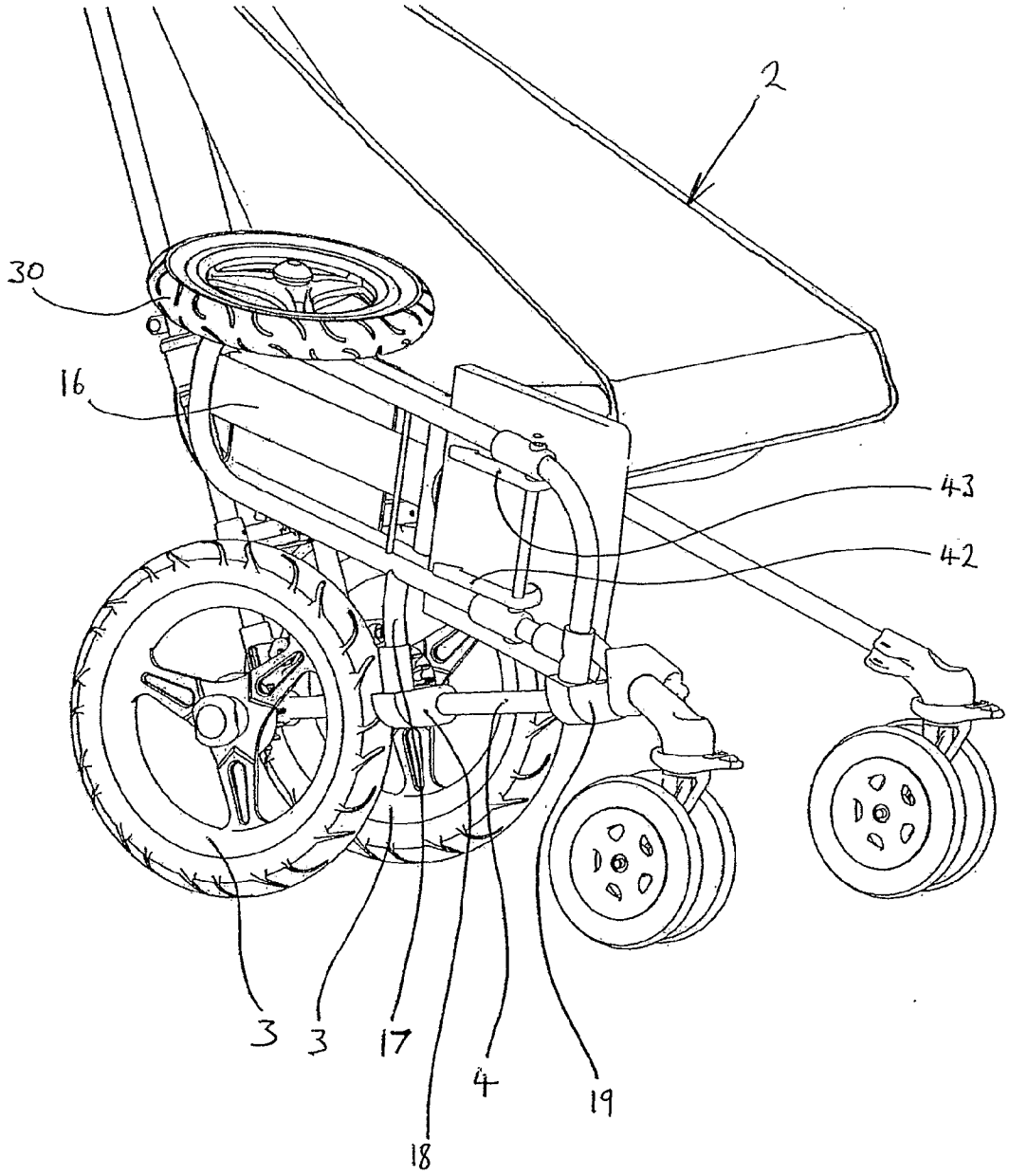


FIGURE 7

INTERNATIONAL SEARCH REPORT

Inte nal Application No
PCT/GB2004/002170

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B62B9/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B62B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 000 645 A (SCHMIDT CARL O) 19 September 1961 (1961-09-19) abstract; figures 1,2,4,7	1,5, 9-18,25, 26
Y	figures 1,2,4,7	2-4,6
Y	US 6 715 783 B1 (HANSON WAYNE H ET AL) 6 April 2004 (2004-04-06) abstract; figures 4,8,10	2-4,6
A	figures	1
A	DE 40 33 548 A1 (TROAX-AXO AB, HILLERSTORP, SE) 25 April 1991 (1991-04-25) abstract; figure 1	1-4

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[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

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

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"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
8 June 2005	15/06/2005

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Lindner, V

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 89 08 113 U1 (COMBIPRODUKT TEXTILVERARBEITUNGS GMBH, 5750 MENDEN, DE) 10 August 1989 (1989-08-10) abstract; figure 1	1-4
A	US 5 125 712 A (STAMOUTSOS ET AL) 30 June 1992 (1992-06-30) abstract; figures	1,20-24
A	US 2003/209885 A1 (SZMIDT LESZEK G ET AL) 13 November 2003 (2003-11-13) abstract; figures	1,20-24
A	DE 202 10 943 U1 (WEGNER, CHRISTIANE) 21 November 2002 (2002-11-21) abstract; figure 1	1

INTERNATIONAL SEARCH REPORT

...information on patent family members

Inte[illegible]al Application No
PCT/GB2004/002170

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 3000645	A	19-09-1961	NONE		
US 6715783	B1	06-04-2004	AU	1353701 A	14-05-2001
			WO	0132493 A1	10-05-2001
DE 4033548	A1	25-04-1991	SE	468429 B	18-01-1993
			FR	2653401 A1	26-04-1991
			NO	904526 A ,B,	22-04-1991
			SE	8903477 A	21-04-1991
DE 8908113	U1	10-08-1989	NONE		
US 5125712	A	30-06-1992	NONE		
US 2003209885	A1	13-11-2003	US	2004178593 A1	16-09-2004
DE 20210943	U1	21-11-2002	DE	10318434 A1	26-08-2004

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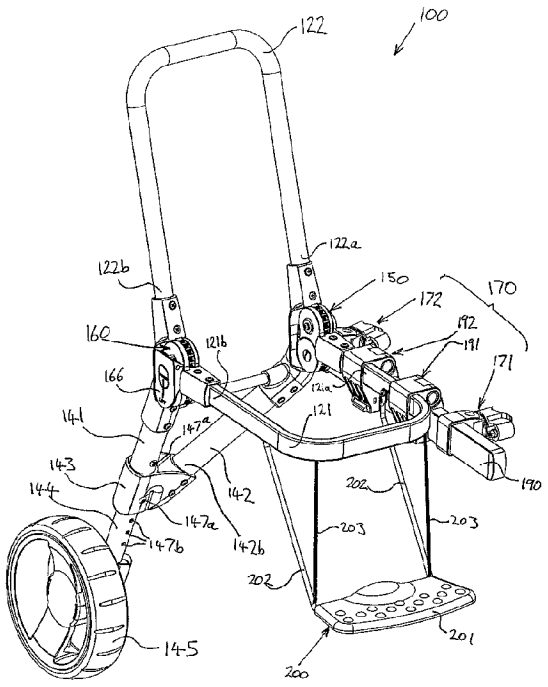
(74) Agents: **GREY, Ian** et al.; Venner Shipley LLP, 20 Little Britain, London EC1A 7DH (GB).

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[Continued on next page]

(54) Title: AUXILIARY PUSHCHAIR SEAT



(57) Abstract: An auxiliary seat (1) attachable to a pushchair (2) to enable it to accommodate two children seated side-by-side. The seat comprises a frame (10) having a backrest (22) and a base (21) and a wheel (30) in contact with the ground in an operative position. A child seated on the base is supported with their back against the backrest (22). The frame (10) is configured so that the backrest (22) and the base (21) fold substantially flat when the auxiliary seat is not in use. The auxiliary seat (1), including the base (21) and backrest (22), can pivot relative to the pushchair (2) to be folded against the side thereof in a storage position with the wheel (30) off the ground, once the base (21) and backrest (22) of the seat have been folded substantially flat.

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MOCKINGBIRD ET AL. EX1018

Published:
— *with international search report*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Auxiliary Pushchair Seat

Description

The present invention relates to a pushchair, and more specifically, to an add-on seating device for pushchairs.

It is often the case with parents having more than one child that the age gap between the children is such that the older child is not fully able to walk by the time the second child is born or is reluctant to do so for an extended period of time. During the first child's initial years, the parents will most probably have bought a single-seat pushchair to transport the child around in until it learns to walk properly. Modern pushchairs can be an expensive outlay, and perhaps difficult to afford, especially for young couples or those on low income. Therefore, when the second child is born, the parents find themselves requiring another pushchair so that both children can be transported together. Therefore, they must either buy another single-seat pushchair in addition to the first, which means having to use two pushchairs each time both children are taken out together or, buy a new double-seat pushchair, which means the original single-seat pushchair is then redundant. In either case, it involves another significant financial outlay for the parents.

One solution to this problem is to provide an add-on device that can be attached to the existing single-seat pushchair to adapt it to be able to carry both children simultaneously. Recently, pushchair add-on products have become commercially available and one such device comprises a wheeled platform that attaches to the rear of the pushchair, on which the elder child can stand whilst the younger child is seated.

However, this platform type of device has a number of disadvantages. Firstly, as the device is a platform and not a seat, it requires the elder child to remain standing, which can quickly tire them out and become uncomfortable for them. This has a safety implication as well, since the elder child is not provided with a harness to stop them falling off the device. Secondly, the device is positioned at the rear of the

pushchair between the pushchair and the parent. This means that the parent has to lean forward and stoop over and/or around the standing child in order to push the pushchair, and this can quickly cause backache and stiffness, and is generally uncomfortable over anything but the shortest distances. Thirdly, the wheels of the platform are positioned behind the rear wheels of the pram, which means that it can be difficult to push the pushchair up or down kerbs, as the device hinders the ability of the pushchair to be pivoted about the rear wheel axle. This device can also unbalance the pushchair and cause it to tip over very easily

It is therefore an object of the present invention to provide an add-on pushchair seating device that substantially alleviates or overcomes the problems mentioned above.

Accordingly, the present invention provides an auxiliary seat attachable to a pushchair to enable it to accommodate two children seated side-by-side, the seat comprising a frame having a backrest and a base and a wheel in contact with the ground in an operative position to support a child seated on the base with their back against the backrest, wherein the frame is configured so that the backrest and the base fold substantially flat when the auxiliary seat is not in use and wherein the auxiliary seat, including the base and backrest, can pivot relative to the pushchair to be folded against the side thereof in a storage position with the wheel off the ground, once the base and backrest of the seat have been folded substantially flat.

In a preferred embodiment, the base and the backrest are pivotable relative to one another such that they are collapsible from the erect operative position to the collapsed folded position by means of a scissor-like mechanism, and the scissor-like mechanism preferably includes at least one sliding joint to enable the base and backrest to be erected and collapsed.

Conveniently, the backrest is attached to one end of a first support strut and the base is attached to one end of a second support strut, and in which said first and second support struts are pivotable relative to each other and the end of the first support strut remote from the backrest is connected to the at least one sliding joint.

A locking mechanism is preferably provided to retain the seat in the erect operative position, and preferably, a locking mechanism locks the at least one sliding joint in place and may comprise a latch extending from the at least one sliding joint, operable to lock onto a fixed shaft on the frame. The latch is preferably located at one end of an arm, the arm rotatably mounted to the at least one sliding joint and operable to move from a first locked position in which the latch snags on the fixed shaft, to a second unlocked position in which the latch is clear of the fixed shaft to allow movement of the at least one sliding joint.

In an alternative embodiment of the invention, the backrest and the base are pivotably connected to one another by hinge joints to be pivotable from the erect operative position to the collapsed storage position in which the backrest lies flat against the base.

The base conveniently comprises a base frame and a seat covering attached thereto, and the backrest preferably comprises a backrest frame with a backrest covering attached thereto.

In a preferred embodiment, the wheel is secured to the frame by a pivotable wheel mechanism which can pivot from an extended operative position to a folded storage position in which the wheel mechanism lies substantially flat against the frame.

The wheel mechanism preferably includes a telescopic strut to allow the distance of the wheel from the frame to be telescopically adjusted independently of the pivoting of the wheel mechanism from the operative position to the storage position, and the telescopic strut conveniently includes a locking mechanism to lock the strut in the desired position.

In a preferred embodiment, in the storage position, the wheel mechanism lies flat against the base on the opposite side thereto to the backrest.

The wheel mechanism is preferably connected to the frame at said hinge joints, and the backrest and the wheel mechanism are advantageously mechanically connected to one another to be moveable from their respective operative positions to their folded storage position together.

At least one hinge joint preferably includes a locking means to lock the backrest, and preferably also the associated wheel mechanism, in the operative position or in the storage position. The locking means preferably includes a pair of ratchet plates operated by a cam lever to move from a locked position in which the ratchets of each plate engage with each other, to an unlocked position in which the ratchets of each plate are out of engagement with each other to allow the backrest and/or wheel mechanism to pivot about the hinge joints.

The frame may be attached to the pushchair by a first clamping means extending from one side of the frame, and the first clamping means may be attached to a first support strut which is hingedly attached to the frame. The frame is preferably further attached to the pushchair by a second clamping means extending from said one side of the frame and the second clamping means is conventiently hingedly attached to the frame. The first and second clamping means are preferably attachable to a supplementary pushchair frame bar which includes further attachment means operable to fix the bar and seat attached thereto, to the conventional pushchair. Alternatively, the first and second clamping means may be attachable to a replacement pushchair frame bar which can be fitted in place of an existing section of frame of a conventional pushchair to fix the seat thereto.

The auxiliary seat may include at least one clamp to secure the add-on seat to a frame of a pushchair, and the at least one clamp is preferably attached to a connection bar, and the frame is attached to the connection bar by at least one hinge connector to be pivotable relative to the connection bar. The at least one clamp and/or the at least one hinge connector are preferably slidable relative to the connection bar allow the position of the frame to be adjusted relative to the pushchair. The frame and connection bar are advantageously releasably attached to

the connection bar. At least one hinge connector preferably includes a locking mechanism to lock the auxiliary seat in the operative position.

The auxiliary seat of the invention is preferably releasably attachable to said pushchair. A preferred embodiment of the invention includes a locking mechanism to secure the auxiliary seat in the storage position.

In a preferred embodiment, the at least one wheel is detachable, and the at least one wheel is preferably positioned such that when the auxiliary seat is mounted on the pushchair in an operative position, the at least one wheel is in alignment with a rear wheel of the pushchair, and more preferably, coaxial with an axle of a rear wheel of the pushchair.

The seat conveniently includes a safety harness to retain a child in position thereon, and may also include a rain cover attached to the seat to at least partially surround a child sitting on the seat. A sunshade may also be attached to the seat to shade a child sitting on the seat, and a toy steering wheel or a toy hobby-horse style attachment may be positionable in front of a child sitting on the seat.

Preferred embodiments of the present invention will now be described, by way of examples only, with reference to the accompanying drawings, in which:

Figure 1 shows a perspective view of a pushchair add-on device according to a first embodiment of the invention, in an erected operative position;
Figure 2 shows the pushchair add-on device of Figure 1 in a collapsed position;
Figure 3 shows a side view of the pushchair add-on device of Figure 1;
Figure 4 shows a side view of the pushchair add-on device of Figure 2;
Figure 5 shows a rear perspective view of the pushchair add-on device of Figures 1 and 3;
Figure 6 shows the pushchair add-on device in the erect position attached to a conventional pushchair;
Figure 7 shows the pushchair add-on device in the collapsed position attached to a conventional pushchair, and folded up in a storage position;

Figure 8 is a perspective view of a second embodiment of a pushchair add-on device according to the invention, in an operative position with the base and backrest removed;

Figure 9 is a plan view from above of the seat of Figure 8;

Figure 10 is a side view of the seat of Figures 8 and 9;

Figure 11 is a front view of the seat of Figures 8 – 10;

Figure 12 is a perspective view of the seat of Figures 8 – 11 in a collapsed position;

Figure 13 is a plan view from above of the seat of Figure 12;

Figure 14 is a side view of the seat of Figures 12 and 13;

Figure 15 is a front view of the seat of Figures 12 – 14;

Figure 16 is a perspective view of the seat of Figures 8 – 15, collapsed and folded up in a storage position;

Figure 17 is a plan view from above of the seat of Figure 16;

Figure 18 is a side view of the seat of Figures 16 and 17;

Figure 19 is a front view of the seat of Figures 16 – 18;

Figures 20A – 20B are side views of the left hinge bracket;

Figure 21 is an exploded perspective view of the left hinge bracket of Figures 20A and 20B;

Figures 22A – 22E are various perspective views of the right hinge bracket showing the locking mechanism;

Figure 23 is an exploded perspective view of the right hinge bracket of Figures 22A – 22E;

Figure 24 is an exploded perspective view of a frame clamp;

Figure 25 is a plan view from above of an assembled frame clamp of Figure 24;

Figure 26 is a side view of the frame clamp of Figure 25;

Figure 27 is an exploded perspective view of a hinged frame clip;

Figure 28 is an end view of an assembled frame clip of Figure 27;

Figure 29 is a side view of the frame clip of Figure 28;

Figure 30 is an exploded perspective view of the wheel; and

Figure 31 is a perspective view of the seat of Figures 8 – 19 with the base and backrest covers in place.

Referring now to Figures 1 – 7 of the drawings, a pushchair add-on device 1, for attachment to any type of conventional pushchair 2 (see Figures 6 and 7), is shown, comprising a chassis frame 10, a seat portion 20 and a wheel 30. The chassis 10 comprises first and second generally curved L-shaped tubular chassis members 11, 12 arranged so that long sides 11a, 12a of each member 11, 12 are parallel to one another, and short sides 11b, 12b are parallel to one another. Each end of each chassis member 11, 12 is connected to a correspondingly opposite end of the other member so as to form a generally rectangular chassis frame 10.

The seat portion 20 comprises a base 21 and a backrest 22. It can also include a seat harness (not shown) comprising a strap extending from either side of the backrest 22 and one extending from the middle of the base 21 at the front thereof, in which all three straps meet in a 'T' – shaped clasp.

The chassis frame 10 includes two collars, 14a, 15a, one slideably received on each of the long sides 11a, 12a of the L-shaped chassis members 11, 12. Each collar 14a, 15a includes a pivot joint integrally formed therewith, and a backrest support stanchion 14, 15 is pivotably attached to each of the collar pivot joints 14a, 15a respectively, and extends therefrom. The backrest 22 is attached at either side to the backrest support stanchions 14, 15 and the backrest 22 is thereby pivotable about the collar pivot joints 14a, 15a.

The chassis 10 also includes a seat support stanchion 16 pivotably attached at one end by a pivot joint 16a to the short side 11b of the first L-shaped chassis member 11 at the rear of the chassis frame 10. The base 21 is rigidly secured to the other end of the seat support stanchion 16 and a lug 23 extends from the rear of the base 21. A hinge rod 23a extends through the lug 23 and each end of the hinge rod 23a extends through the backrest support stanchions 14, 15 respectively. The base 21 is thereby pivotable relative to the backrest support stanchions 14, 15 about said hinge rod 23a and lug 23.

The mechanism described above allows the seat portion 20 to be moveable from a collapsed position shown in Figures 2 and 4 in which the base 21 and backrest 22 lie

substantially flat against the chassis frame 10, to an operative position as shown in Figures 1, 3, 5 and 6 in which the seat portion 20 is erected and the plane of the base 21 is substantially at right angles to the plane of the backrest 22. The arrangement of the components is such that the backrest support stanchions 14, 15 and the seat support stanchion 16, are moveable relative to one another in a scissor-like action, wherein the central pivot point of the scissor action is the hinge rod 23a and the lug 23 on the base 21. The end of the seat support stanchion 16 remote from the base 21 is only pivotable relative to the chassis member 11, and is not moveable laterally relative to it. Therefore, to enable the scissor-action mentioned above, the collar pivot joints 14a, 15a, to which the backrest support stanchions 14, 15 are attached, slide along a section L_{11}, L_{12} of the chassis members 11, 12 respectively as the seat portion 20 is moved from the erect position to the collapsed position.

The chassis 10 further includes a horizontal axle shaft 31 that extends from the long side 11a of the first chassis member 11 through the long side 12a of the second chassis member 12 and protrudes a short distance out of the other side of the second chassis member 12. A section of the protruding end of the axle shaft 31 is threaded in order to receive a retaining nut 32. The wheel 30 includes a central aperture through which the protruding end of the axle shaft 31 can be received. The retaining nut 32 can then be screwed onto the threaded end of the axle shaft 31 to retain the wheel 30 in place whilst allowing it to be freely rotatable about the axle shaft 31. The wheel 30 is therefore easily removable from the axle shaft 31 by removal of the retaining nut 32. It will be appreciated that other such retaining means may be used instead of a screw thread and retaining nut, for example, a snap-fit retaining cap.

A clamp strut 17 is attached at one end to the first chassis member 11 and extends outwardly therefrom away from the second chassis member 12. An attachment clamp 18 is disposed on the other end of the clamp strut 17 and is operable to detachably clamp onto a frame of a conventional pushchair 2. Furthermore, a second attachment clamp 19 is disposed at the end of the short side 12b of the second chassis member 12, and, as with the first attachment clamp, is operable to

detachably clamp onto a frame of a conventional pushchair 2. The two attachment clamps 18, 19 together can thereby secure the device 1 of the invention to the side of the conventional pushchair 2. Each attachment clamp 18, 19 is pivotable relative to the clamp strut 17/chassis member 12 respectively, for reasons which will become apparent from the description hereafter.

The device 1 includes a locking mechanism 40 to enable the seat portion 20 of the device 1 to be retained in the erected operative position (see Figures 5 and 6). The locking mechanism 40 comprises a locking shaft 41 that extends between the slidable collar pivot joints 14a, 15a and is rotatable about its axis relative to the collar pivot joints 14a, 15a. The locking shaft 41 therefore restricts the movement of one collar pivot joint 14a relative to the other 15a, so they can only be moved together and in the same direction. Two locking arms 42, 43 are rigidly secured to the locking shaft 41 and extend rearwardly therefrom, substantially parallel to the long sides 11a, 12a of the chassis members 11, 12. Each arm 42, 43 includes a latch portion 42a, 43a at an end distal from the locking shaft 41. A fixed shaft 44 extends between the chassis members 11, 12 and parallel to the locking shaft 41, and is positioned rearwardly of the locking shaft 41 such that the latch portions 42a, 43a of the arms 42, 43 are just able to be clipped over the fixed shaft 44 and held in this locked position hooked over the fixed shaft 44 by friction therewith. Therefore, when the arms 42, 43 are in this locked position, the collar pivot joints 14a, 15a are prevented from sliding along sections L_{11}, L_{12} of the chassis members 11, 12 respectively, and thereby retain the seat portion 20 in the erect operative position.

As described above, the locking mechanism 40 enables the seat portion 20 of the device 1 to be locked in the erected operative position, and thereby capable of supporting a child thereon in a sitting position next to a child sitting in the pushchair 2 so that they are both facing in the same direction. When the device 1 is not in use, the locking mechanism 40 can be released by unclipping the latch portions 42a, 43a from the fixed shaft 44 and rotating the arms 42, 43 downwards. This can be done by pushing lever release tabs 42b, 43b which are formed on the end of the rotating arms 42, 43 perpendicular thereto and at the end distal from the latch portions 42a, 43a. This will allow the collar pivot joints 14a, 15a to freely slide

along sections L_{11}, L_{12} of the chassis members 11, 12 respectively. The base 21 and seat stanchion 16 can then pivot downwards about the pivot joint 16a, and the backrest 22 and backrest stanchions 14, 15 can pivot downwards about the collar pivot joints 14a, 15a, the backrest stanchions 14, 15 pivoting relative to the seat stanchion 16 about the hinge rod 23a in a scissor-like motion as described above, until the seat portion 20 of the device 1 is in the collapsed position.

Once the device 1 has been put into the collapsed position shown in Figures 2 and 4 and as described above, it can be folded up against the side of the conventional pushchair 2 into the storage position, as shown in Figure 7. This is possible due to the attachment clamps 18, 19 being pivotable relative the clamp strut 17/chassis member 12 respectively, as described above. Once the device 1 has been folded into this storage position, is can be held in place by a retaining means such as a clip (not shown).

With the device 1 in the storage position, the pushchair 2 has a much slimmer profile and will fit through normal doorways with ease. However, if a user wishes to neaten the appearance of the pushchair 2 and device 1 combination further, and make it even slimmer, they may unscrew the wheel retaining nut 32 and remove the wheel 30 from the axle shaft 31.

As can be seen in Figure 6, one of the advantages of the present invention is that when it is attached to a pushchair 2 and is not in the folded storage position, the wheel 30 of the device 1 is aligned with or is coaxial with wheels 3 of the pushchair 2. This means that the pushchair 2 and device 1 combination can be tilted backwards on all three wheels 30, 3 about their common contact line on the ground or their common axis, in order to get up a kerb, for example, and so is much more easily manoeuvrable than a conventional pushchair 2 would be with any of the other known add-on devices.

It is intended that the attachment clamps 18, 19 of the device 1 are suitable to attach to a frame of any conventional pushchair 2. However, some pushchairs currently available may not have side frames compatible with the attachment clamps

18, 19, and so it is envisaged that the device may be supplied with a replacement section of pushchair frame 4 that can be substituted for the relevant section of the original frame to allow the device to be attachable thereto. The specific replacement section of frame 4 could be pushchair-specific, so that a user could identify which pushchair they already own, and purchase a device of the present invention that comes with the appropriate replacement frame section.

In an alternative attachment mechanism to that described above, a universal supplementary section of frame 4 could be provided. This supplementary section 4 would be attachable to the attachment clamps 18, 19 and could further include pushchair-specific attachment means 5, 6 to couple the device 1, via the supplementary frame section 4, to the pushchair 2. Therefore, instead of replacing a section of the existing pushchair frame, there would be an additional section of frame 4. In this case, the user would identify which pushchair they already own, and purchase a device 1 of the present invention that comes with the appropriate pushchair-specific attachment means 5, 6 to enable the device 1 to be fitted to their pushchair 2.

In a further embodiment of the invention, a strap 7 may be connected between a top part 22a of the backrest 22 and a part of the pushchair 2 which is higher than the top 22a of the backrest 22 (see Figure 6). This strap 7 prevents the auxiliary seat device 1 from pivoting downwards about the attachment clamps 18, 19 relative to the pushchair 2 if the wheel 30 runs over a hole or drops off a kerb, for example. In such a scenario, the weight of the auxiliary seat device 1 (and a child thereon) is transferred through the strap 7 to the pushchair 2 and is balanced out by the weight of said pushchair 2 and of a child in the pushchair seat. It will be appreciated that this means of preventing the auxiliary seat device 1 from pivoting downwards beyond a certain angle does not necessarily need to be a strap 7 as shown in Figure 6. For example, a rigid rod could be used secured to the pushchair 2 and some suitable point on the auxiliary seat device 1.

Referring now to Figures 8 – 31, a second embodiment 100 of an add-on pushchair seat of the invention is shown. As with the first embodiment described above, the

second embodiment is also attachable to a frame of any conventional pushchair to provide a secondary side seat for a second child to sit on, in addition to a first child seated in the pushchair itself.

The second embodiment of an add-on seat 100 of the invention generally comprises a folding support frame 120 having a seat or base frame member 121 and a backrest frame member 122, and a wheel mechanism 140 including a wheel 145 in contact with the ground when the add-on seat 100 is in an operative position. An attachment mechanism 170 is provided to enable the add-on seat 100 to be secured to a conventional pushchair.

The base frame member 121 and the backrest frame member 122 are both substantially 'U'-shape frame members, each having a respective first (left-side) distal end 121a, 122a, and respective second (right-side) distal end 121b, 122b. The base frame member 121 and the backrest frame member 122 are pivotally connected to each other at their first distal ends 121a, 122a and at their second distal ends 121b, 122b by left and right hinge brackets 150, 160 respectively.

A seat covering 123 is attached to the base frame member 121, and a backrest covering 124 is attached to the backrest frame member 122 (see Figure 31). The seat covering 123 provides the seat for a child to sit on when the add-on seat 100 is in use, and the backrest covering 124 provides a surface for the seated child to lean against. Both the seat covering 123 and the backrest covering 124 are preferably made of a flexible material such as a fabric or a flexible plastic and are attached to each other at their adjacent edges 123a, 124a. The seat covering 123 and the backrest covering 124 are both tensioned across the base frame member 121 and backrest frame member 122 respectively. Alternatively, the seat covering and backrest covering could be made from a rigid plastic material.

A wheel mechanism 140 is connected to the folding support frame 120 at the hinge brackets 150, 160 and comprises a main wheel strut 141 pivotally attached at one end 141a to the right hinge bracket 160, and a diagonal bracing strut 142 pivotally attached at one end 142a to the left hinge bracket 150. The other end 142b of the

bracing strut 142 is secured to the other end 141b of the main wheel strut 141 by a V-shaped moulded connector 143. This enables the main wheel strut 141 and the bracing strut 142 to be pivotable together about the left and right hinge brackets 150, 160 from an operative position in which they extend away from the frame 120 (see Figures 8 – 11), to a collapsed position (see Figures 12 – 15) and a storage position (see Figures 16 – 19) in which they lie flat against the base frame member 121 of the folding support frame 120.

A third sliding wheel strut 144 is telescopically received in the main wheel strut 141 and is slidable relative thereto to move in and out thereof. A wheel 145 is rotatably and detachably attached to an axle 146 at the free end 144a of the sliding strut 144 remote from the main wheel strut 141. An axle bracket 146a is secured to the free end 144a of the sliding wheel strut 144 to support the axle 146 thereon. The sliding strut 144 is locked in a desired position within the main strut 141 by means of securing bolts 147a extending though the main strut 141 and through apertures 147b in the sliding strut 144. To alter the position of the sliding strut 144 within the main strut 141, and thereby the distance of the wheel 145 from the hinge brackets 150, 160, the securing bolts 147a are removed, the sliding strut 144 moved to the new position with the appropriate apertures 147b aligned with the bolts 147a in the main strut 141, and the bolts 147a are screwed in again through the apertures 147b. It will be appreciated that other unillustrated means of securing the sliding strut 144 within the main strut 141 are possible, for example, spring-biased buttons on the sliding strut 144 being received in apertures in the main strut 141. In such an embodiment, the sliding strut 144 could be adjusted by depressing the buttons into the sliding strut 144 so that they are clear of the holes in the main strut 141, and when the sliding strut 144 was located in the new desired position, the buttons would spring out into the nearest holes in the main strut 141 under spring bias to lock the sliding strut 144 in position.

The wheel 145 is releasably attached to the axle 146, and includes the attachement mechanism as shown in Figure 30. The wheel 145 comprises a tyre 145a attached to a rim 145b. The rim 145b has a spring-biased button 145c at its centre (see Figure 10 for example) which can be depressed into the rim 145b. The wheel also

comprises two bearings 148 and two over-lapping axle-plates 149a, 149b, each with a hole therethrough, all contained within the rim 145b by a retaining plate 145d. In use, the wheel 145 is secured to the axle 146 by depressing the button 145c which is configured so as to push the two axle-plates 149a, 149b together so that the holes in each plate are aligned. The axle 146 can then be passed through a hole in the retaining plate 145d, through the first bearing 148, through the aligned holes in the axle-plates 149a, 149b, and through the second bearing 148. The button 145c is then released and the axle-plates move apart under the action of resilient spring arms on their sides pushing against a portion of the rim 145b, and lips on the axle-plates 149a, 149b then locate in a circumferential groove (not shown) in the axle 146 to hold the wheel 145 onto the axle 146. To release the wheel 145 from the axle 146, the process described above is reversed.

The left and right hinge brackets 150, 160 will now be described in more detail with reference to Figures 20 – 23. The left hinge bracket 150 comprises a housing plate 151, a backrest arm 152 and a wheel strut arm 153. The backrest arm 152 and the wheel strut arm 153 each include an integrally formed toothed cog portion 152a, 153a, and are rotatably secured to the housing plate 151 with the teeth of each cog portion 152a, 153a meshing. Therefore, when one arm is rotated, it causes the other arm to rotate. In use, the left side distal end 122a of the backrest frame member 122 is secured in an aperture in the backrest arm 152, and the one end 142a of the diagonal bracing strut 142 is secured in an aperture in the wheel strut arm 153. The housing plate 151 includes an aperture 151a which, in use, receives the left distal end 121a of the base frame member 121. The toothed cog portion 152a of the backrest arm 152 also includes a central aperture 152c, around which ratchet ridges 152d are radially arranged. A ratchet plate 154 is connected to the toothed cog portion 152a and has its own set of ratchet ridges 154a which engage with the ratchet ridges 152d of the toothed cog portion 152a so that the ratchet plate 154 rotates when the toothed cog portion 152a of the backrest arm 152 rotates. A wire guide 155 is attached to the side of the ratchet plate 154 remote from the toothed cog portion 152a, and a wire 156 extends from the ratchet plate 154, through the wire guide 155 and through a guide lug 151b on the left housing plate 151. The wire 156 is attached to the ratchet plate 154 such that when the left backrest arm 152 is

pivoted from the operative position to the collapsed position, the wire 156 is pulled through the wire guide 155 and though the guide lug 151b, for reasons which will be explained in more detail below.

The right hinge bracket 160 is similar to the left hinge bracket 150 and comprises a backrest arm 162 and a wheel strut arm 163. The backrest arm 162 and the wheel strut arm 163 each include an integrally formed toothed cog portion 162a, 163a, and are rotatably secured to the housing plate 161 with the teeth of each cog portion 162a, 163a meshing. Therefore, when one arm is rotated, it causes the other arm to rotate. In use, the right side distal end 122b of the backrest frame member 122 is secured in an aperture in the backrest arm 162, and the one end 141a of the main wheel strut 141 is secured in an aperture in the wheel strut arm 163. The housing plate 161 includes an aperture 161a which, in use, receives the right distal end 121b of the base frame member 121. Any suitable means may be used to secure the backrest frame member 122 in the backrest arms 152, 162 and the diagonal bracing strut 142 and the main wheel strut 141 in the wheel strut arms 153, 163, such as screws, rivets or bolts. Similarly, the same suitable means can be used to secure the base frame member 121 to the apertures 151a, 161a in the left and right housing plates 151, 161 respectively.

The above arrangement allows the base and backrest frame members 121, 122 to be pivotable relative to one another about the hinge brackets 150, 160 from an operative position (see Figures 8 – 11), in which each frame member 121, 122 is spaced from the other, to a collapsed position and a storage position, in which the backrest frame member 122 is folded substantially flat and lies against the base frame member 121 (see Figures 12 - 19). In the operative position, the backrest arms 152, 162 and the wheel strut arms 153, 163 extend away from each other (see Figures 20A and 22A) and are at their maximum angular displacement from the base frame member 121, limited by end faces 152b, 162b of the backrest arms 152, 162 adjacent the toothed cog portions 152a, 162a, contacting end faces 153b, 163b of the wheel strut arms 153, 163 adjacent the toothed cog portions 153a, 163a (indicated at arrows 'A'). In the collapsed position and the storage position, the backrest arms 152, 162 and the wheel strut arms 153, 163 lie close to each other

either side of their respective housing plate 151, 161 (see Figures 20B and 22E). The backrest arms 152, 162 and the wheel strut arms 152, 163 can be locked in the operative or storage position by a locking mechanism, described in detail below.

The right hinge bracket 160 includes a locking mechanism to lock the backrest arm 162 and the wheel strut arm 163 in a chosen position relative to each other. The locking mechanism comprises a locking plate 164 with a central post 164a, a spring 165 and a locking lever 166. The toothed cog portion 162a of the backrest arm has a central aperture 162c, around which ratchet ridges 162d are radially arranged. The locking plate 164 has a corresponding set of ratchet ridges (not shown) radially disposed around where the central post 164a joins the locking plate 164. The ratchet ridges 162d are located on the side of the toothed cog 162a that faces the ratchet ridges on the locking plate 164. The backrest arm 162 is rotatably attached to the housing plate 161 by the post 164a of the locking plate 164 passing though the spring 165, through the aperture 162c in the centre of the toothed cog portion 162a, through an aperture 161b in the housing plate 161 and is secured to the locking lever 166 by a pin 167 which extends though the locking lever 166 and through an aperture in the end of the post 164a.

Once assembled as described above, the locking lever 166 is pivotable about the pin 167. However, the distance $D_{unlocked}$ between the axis of the pin 167 and an upper angled face 166b of the locking lever 166 is less than a distance D_{locked} between the axis of the pin 167 and a rear face 166c of the locking lever 166. Therefore, when the locking lever 166 is moved from a locked position (see Figures 22A and 22E) to an unlocked position (see Figures 22C and 22D), the locking lever 166 acts as a cam against the housing plate 161 and the pin 167 moves towards the housing plate 161 by a distance equal to $[D_{locked} - D_{unlocked}]$. This moves the post 164a and therefore the locking plate 164 away from the toothed cog portion 162a by a corresponding distance which is sufficient to ensure that the two sets of ratchet ridges are spaced from one another. The backrest arm 162 and the wheel strut arm 163 are therefore free to rotate relative to the housing plate 161. The spring 165 ensures that the locking plate 164 is held away from the toothed cog portion 162a when the locking lever 166 is in the unlocked position.

When the locking lever 166 is moved from the unlocked position to the locked position, the cam action moves the pin 167 by a distance equal to $[D_{locked} - D_{unlocked}]$ away from the housing plate 161. This pulls the central post 164a and the locking plate 164 towards the toothed cog portion 162a and the ratchet ridges 162d on the toothed cog portion 162a into engagement with the ratchet ridges on the locking plate 164. Neither the locking plate 164 nor the locking lever 166 can rotate about the axis of the central post 164a. The locking plate 164 is shaped to abut a portion of the housing plate 161 and is thereby prevented from rotating relative to the housing plate 161. The wheel strut arm 163 is rotatably attached to the housing plate 161 by a shaft 168. The end of the shaft 168 proximate the locking lever 166 has a mushroom head 168a which projects from the end of the shaft 168 away from the wheel strut arm 163. The locking lever 166 includes a locking aperture 166a to receive the mushroom head 168a at the end of the shaft 168, and a latch mechanism within the locking lever 166 (not shown) engages with the rim of the mushroom head 168a to secure the locking lever 166 thereto. The locking lever also includes a release button 169 which disengages the latch mechanism from the mushroom head 168a to allow the locking lever to be pivoted about the pin 167 as described above. Therefore, when the locking lever 166 is secured to the mushroom head 168a at the end of the shaft 168 as described above, it is unable to rotate about the axis of the central post 164a. As a result, the backrest arm 162 and the wheel strut arm 163 are locked in position until the locking lever 166 is again moved to the unlocked position as described above, so that the ratchet ridges are moved out of engagement with each other. As the backrest frame member 122 connects the left backrest arm 152 to the right backrest arm 162, and the wheel struts 141, 142 connect the left wheel strut arm 153 to the right wheel strut arm 163, the locking mechanism locks the movement of the both the wheel mechanism 140 and the backrest frame member 122 about the hinge brackets 150, 160.

The add-on seat 100 is provided with an attachment mechanism 170 to enable it to be secured to a conventional pushchair. The attachment mechanism 170 comprises front and rear pushchair clamps 171, 172, a connection bar 190, and front and rear hinges 191, 192. The pushchair clamps 171, 172 can be secured to a side frame of a

pushchair and are releasably attachable to the connection bar 190. They are also designed to be able to be securely attached to pushchair frames of different cross-sections and dimensions, for example, they can attach to circular, oval, square and rectangular cross-section pushchair frames. The front and rear hinges 191, 192 are pivotally attached to the base frame member 121 and also to the connection bar 190. Therefore, when the two pushchair clamps 171, 172 are secured to the pushchair frame and to the connection bar 190, and the two hinges 191, 192 are secured to the base frame member 121 and to the connection bar 190, the add-on seat 100 is secured to the pushchair.

The connection bar 190 may also be provided with an articulated section 190a (see Figures 9 and 10) which is of the same cross-sectional dimension as the connection bar 190, but which is connected to one end thereof by an articulated joint 190b to be pivotable about a vertical axis of the joint 190b relative to the connection bar 190. This articulated section is designed to enable the add-on seat 100 to be connected to a pushchair whose side frame may not lie parallel with the forward direction of travel of the pushchair. For example, modern three-wheeled pushchairs have two rear wheels and the side frames taper inwards towards a single front wheel. To enable the add-on seat 100 to be attached to such a pushchair, the rear pushchair clamp 172 can be connected to the rear of the side frame of the pushchair and to the rear of the connection bar 190, and the front pushchair clamp 171 can be connected to the front of the pushchair and to the articulated section 190a of the connection bar 190, so that the front pushchair clamp 171 and articulated section 190a would be inset from the rear pushchair clamp 172 due to the shape of the pushchair. The articulated section 190a of the connection bar 190 would thus be pivoted towards the pushchair at an angle to the connection bar 190. The add-on seat 100 would still be secured to the pushchair, but the connection bar 190, and therefore the folding support frame 120 and wheel mechanism 140, would be in alignment with the direction of travel of the pushchair, and not angled inwards parallel to the tapered side of the pushchair. It will be appreciated that the articulated section 190a could equally be connected to the rearmost end of the connection bar 190 instead of the front end if necessary, for example, if the side of

the pushchair to which is it so be attached, tapered inwardly towards the rear of the pushchair.

The two pushchair clamps 171, 172 are identical and so only one will be described in detail hereafter. The pushchair clamps 171, 172 comprise a first body 173 with a flexible metal band 174 ridgedly secured at one end 174a to one side of the first body 173, and the other free end 174b removably received in an aperture 173a in the opposite side of the first body 173. The aperture 173a houses a threaded screw 175 and the other free end 174b of the band 174 is received in the aperture 173a in contact with the threaded screw 175. The side of the band 174 adjacent the threaded screw 175 is provided with a series of parallel grooves 174c which cooperate with the thread of the threaded screw 175 such that when the threaded screw 175 is turned clockwise, the band 174 is pulled through the aperture 173a, reducing the size of the loop of band 174 between the rigidly secured one end 174a of the band 174 and the threaded screw 175. Conversely, when the threaded screw is turned anticlockwise, the other free end 174b of the band 174 is pushed through the aperture 173a, enlarging the size of the loop of band 174 between the rigidly secured one end 174a of the band 174 and the threaded screw 175, until the other end 174b of the band 174 is pushed free of the threaded screw 175. This function is similar to that of known 'jubilee clips'.

A second body 176 is secured to the first body 173 and can rotate relative to the first body 173 so that the second body 176 can be positioned in a specific orientation about a horizontal axis, regardless of at which angle the first body 173 is secured to a pushchair. The second body 176 includes a front opening to an internal cavity, and an upper and lower circular hole 176a, 176b in the upper and lower faces respectively leading to the internal cavity. A shaft 177 is disposed vertically within the internal cavity and includes side wings 177a which are received in corresponding slots 177b in the side walls of the internal cavity. A bolt 178 extends through a hole in the middle of the shaft 177 and through the rear wall of the second body portion 176, and is secured to the first body portion 173, providing the rotateable coupling described above. Upper and lower ends of the shaft 177 are provided with buttons 179a, 179b respectively, which are slidably received thereon and biased away from

each other by upper and lower springs 180a, 180b respectively. When assembled, the upper and lower buttons 179a, 179b extend through the upper and lower holes 176a, 176b and are prevented from being pushed all of the way through their respective hole by a lip 181a, 181b at the base of each button which abuts the rim of the hole 176a, 176b on the inside of the internal cavity.

The pushchair clamps 171, 172 further include a third body 182 comprising a box section with a rectangular aperture 183 therethrough, and upper and lower arms 184a, 184b extending perpendicularly from the upper and lower faces of the box section. Each arm 184a, 184b has a circular aperture 185a, 185b therethrough sized slightly larger than the diameter of the buttons 179a, 179b of the second body 176. The third body 182 can be releasably secured to the second body 176 by depressing the buttons 179a, 179b towards each other so that they sit within the apertures 176a, 176b, and then sliding the third body 182 to engage with the second body 176 with the upper and lower arms 184a, 184b above and below the upper and lower surfaces of the second body 176. When the upper and lower circular holes 176a, 176b in the second body 176 are aligned with the upper and lower circular apertures 185a, 185b in the arms 184a, 184b respectively, the buttons 179a, 179b can spring outwards under the biasing force of the springs 180a, 180b through both upper and lower holes 176a, 176b and upper and lower apertures 185a, 185b to secure the second and third bodies 176, 182 together.

The front and rear hinges 191, 192 are similar to each other and will be described in detail hereafter. Both hinges 191, 192 comprise a first part 193 and a second part 194, pivotally connected to one another by a hinge rod 195 and pivotable relative to one another from an operative position in which the first and second part 193, 194 lie adjacent to each other, to a storage position in which the first and second parts 193, 194 extend away from each other.

The first part 193 has a rectangular aperture 193a therethrough of the same cross sectional dimension as that of the base frame member 121 to allow, in use, the base frame member 121 to make a press fit in the aperture 193a to be secured thereto. The second part 194 has a rectangular aperture 194a therethrough of the same cross

sectional dimension as that of the connection bar 190 to allow, in use, the connection bar 190 to make a press fit in the aperture 194a to be secured thereto.

The first part 193 of the rear hinge 192 has a latch plate 198 which is received in a slot 196 in the bottom of the first part 193, and is spring biased out of the slot 196. The latch plate 198 is prevented from being pushed out of the slot 196 by a small retaining pin 198a which is located in a small vertical slot 193b in the side of the first part 193 of the hinge 192. The second part 194 has a flange 197 extending perpendicularly from the side of the second part 194 opposite the latch plate 198, and an upstanding lip 197a extends from the flange 197. As the hinge 192 is pivoted to the operative position, the lip 197a contacts the latch-plate 198 and pushes it upwards against the force of the spring bias, until the lip 197a passes the latch plate 198 and the latch plate 198 clicks into place between the lip 197a and the second part 194 of the hinge 192. The hinge 192 is thereby retained in the operative position until the latch plate 198 is lifted up and retracted into the slot 196 to release the lip 197a and allow the first and second parts 193, 194 to pivot freely. The latch plate 198 is attached to the wire 156 from the left hinge bracket 150 at a wire fastening point 198b on the top of the latch plate 198. The wire 156 extends from the wire fastening point, through the slot 196, out of the first part 193 of the rear hinge 192 and to the guide lug 151b, the wire guide 155 and ratchet plate 154 as described previously. Therefore, when the wire 156 is pulled by rotation of the ratchet plate 154 on rotation of the backrest arm 152, the latch plate 198 is pulled upwards in the direction of arrow 'B' into the slot.

The front hinge 191 does not have the latch plate 198 and lip 197a arrangement of the rear hinge 192. Instead, the front hinge only has a flange without an upstanding lip, and when the front hinge 191 is in the operative position, a lower face of the first part 193 sits on the flange 197 and is supported by it, but is not locked in that position. However, it is possible, in an alternative embodiment of the invention, for both front and rear hinges 191, 192 to include the latch 198 and lip 197a arrangement of the rear hinge 192.

The pushchair also includes a footrest 200, comprising a foot plate 201 and two support arms 202 pivotably attached to the base frame member 121. The footrest 200 can pivot from an operative position in which a seated child can rest their feet on the foot plate 201 (see Figures 8 – 11), to a folded position in which the footrest 200 is folded flat against the base frame member 121 (see Figures 12 – 19). The footrest 200 can be retained in the folded position by the wheel struts 153, 163 sandwiching it between them and the base frame member 121. The footrest also includes two wires or strings 203 extending from the footplate 201, or proximate the footplate 201, to the base frame member 121 to limit the maximum degree to which the footrest 200 can pivot away from the base frame member 121.

The add-on pushchair seat 100 of the invention is used as described hereafter. First, the two pushchair clamps 171, 172 are secured to the side frame of a pushchair. Once in place, the clamps 171, 172 are designed to remain secured to the pushchair at all times, even when the add-on seat 100 is not attached to the pushchair, and also when the pushchair itself is folded away for storage. The pushchair clamps 171, 172 are secured to the pushchair by unscrewing the threaded screw 175 so that the free end 174b of the steel band 174 is free of the first body 173. The steel band is then passed around an appropriate part of the pushchair frame and the free end 174b of the band 174 pushed into the aperture 173a so that the grooves 174c in the band 174 engage with the thread of the screw 175. The threaded screw 175 is then rotated clockwise to pull the band through the aperture 173a in the first body 173, which tightens the band 174 around the frame of the pushchair and grips the frame clamp 171, 172 thereto. An important feature of this system is that the pushchair clamps 171, 172 are attachable to pushchair frames of varying shapes and sizes, allowing the add-on seat 100 of the invention to be universally used with any commercially available pushchair. Although the add-on seat is adjustable to allow the pushchair clamps to be positioned at a range of heights on the side of the pushchair frame, it is important that each pushchair clamp 171, 172 is placed at the same height as the other.

Next, the second bodies 176 are rotated about their securing bolts 178 so that each one is positioned with the upper button 179a directly above the lower button 179b

and the axis of the shaft 177 lying vertically. The two third bodies 182 are secured to the connection bar 190 and/or the articulated section 190a of the connection bar 190 if necessary, with the connection bar 190 and articulated section 190a making a press fit in the rectangular apertures 183. The third bodies 182 can be forced to slide along the connection bar 190 and articulated section 190a against the resistance of the press fit, so that they are horizontally spaced to align with the first and second bodies 173, 176 on the pushchair. The third bodies 182 are then attached to the second bodies 176 as described above, by depressing the upper and lower buttons 179a, 179b, sliding the upper and lower arms 184a, 184b above and below the upper and lower surfaces of the second bodies 176, and releasing the buttons 179a, 179b so that they spring though the upper and lower holes 176a, 176b in the second bodies 176, and also through the upper and lower apertures 185a, 185b in the arms 184a, 184b respectively. The third bodies 182 are thereby secured to the first and second bodies 173, 176, and so the connection bar 190 and articulated section is secured to the pushchair frame. As described above, the hinges 191, 192 are also secured to the connection bar 190 and to the base frame member 121, thereby connecting the whole add-on seat 100 to the pushchair.

The add-on seat 100 must be adjusted so that it is positioned correctly with respect to the pushchair. First the whole device is folded into the operative position as shown in Figures 8 – 11, with hinges 191, 192 in the operative position so the base frame member 121 is positioned in a horizontal plane, the backrest frame member 122 folded away from the base frame member 121, and the wheel mechanism 140 fully folded away from the base frame member 121. Next, the sliding wheel strut 144 is telescopically adjusted within the main wheel strut 141 until the wheel 145 contacts the ground. It will be appreciated that if the pushchair clamps 171, 172 are positioned either higher or lower on the pushchair frame, the sliding wheel strut 144 will need to be either extended out of, or retracted into the main wheel strut 141 for the wheel 145 to contact the ground. Once the sliding wheel strut 144 is in the correct position, it is secured in that position by the securing bolts 147a extending though the main strut 141 and through apertures 147b in the sliding strut 144. Finally, the add-on seat 100 is positioned so that the wheel 145 is aligned with the rear wheels of the pushchair to which it is attached. This can be done by sliding

either the hinges 191, 192 along the connection bar 190 and/or articulated section 190a, or by sliding the third bodies 182 of the pushchair clamps 171, 172 along the connection bar 190. This allows the add-on seat 100 to be moved forwards or backwards with respect to the pushchair, until the correct position is obtained.

It is an important feature of the add-on seat 100 of the invention that it is constructed so that the rear wheel 145 and axle 146 can be positioned in line with and/or co-axial with the rear wheels of the pushchair. This enables the pushchair and attached add-on seat 100 to easily mount kerbs because a user can tilt the pushchair backwards towards themselves so that the pushchair and add-on seat 100 all pivot about a common axis – i.e. the line of contact on the ground of the pushchair wheels and the add-on seat 100 wheel 145. If the wheel 145 of the invention is not aligned with the rear wheels of the pushchair, the combined apparatus of the pushchair and add-on seat 100 would not tilt backwards (or forwards, to descend kerbs) easily.

It will be appreciated that if the height at which the add-on seat 100 is attached on the pushchair is changed, then the extension of the sliding wheel strut 144 within the main wheel strut 141, and the position of the base frame member 121 relative to the pushchair will have to be changed if the wheel 145 is to remain in line/co-axial with the rear wheels of the pushchair. More specifically, if the pushchair clamps 171, 172 are positioned higher up on the pushchair, the sliding wheel strut 144 will need to be extended out of the main wheel strut 141 further so that the wheel 145 contacts the ground, and consequently, the wheel 145 will be positioned further back relative to the pushchair. The base frame member 121 will then need to be moved forwards relative to the pushchair to re-align the wheel 145 with the wheels of the pushchair. Conversely, if the pushchair clamps 171, 172 are positioned lower down on the pushchair, the sliding wheel strut 144 will need to be retracted into the main wheel strut 141 for the wheel 145 to contact the ground, and consequently, the wheel 145 will be positioned further forwards relative to the pushchair. Therefore, the base frame member 121 will then need to be moved backwards relative to the pushchair to re-align the wheel 145 with the wheels of the pushchair.

Once in this operative position, the backrest frame member 122 is locked relative to the base frame 121 by the cam action of the locking lever 166 pulling the ratchet ridges of the locking mechanism into engagement as described above. The locking lever 166 is also held in the locked position by the internal latch engaging with the mushroom head 168a of the shaft 168 of the right hinge bracket 160, as described above. A child can then sit on the seat covering 123 with their back against the backrest covering 124 to be transported around on the add-on seat.

When the pushchair is to be used to carry only one child and the add-on seat 100 is not required, the add-on seat 100 can be folded from the operative position to a collapsed position (as shown in Figures 12 – 15) and then folded up to a storage position (as shown in Figures 16 - 19) as described hereafter.

The release button 169 is depressed (Figure 22B), releasing the internal latch within the locking lever 166 which allows the locking lever 166 to pivot about the pin 167 (Figure 22C) and free the mushroom head 168a of the shaft 168 from the locking aperture 166a. As described above, this cam action of the locking lever 166a allows the locking plate 164 to move away from the toothed cog portion 162a of the backrest arm 162 under the biasing force of the spring 165, and thereby disengage the ratchet ridges 162d on the toothed cog portion 162a from the ratchet ridges on the locking plate 164. This allows the two backrest arms 152, 162 and the two wheel strut arms 153, 163 to pivot about the hinge brackets 150, 160 respectively (Figure 22D), and therefore allows the associated backrest frame member 122 and wheel mechanism 140 to pivot about the hinge brackets 150, 160.

The wheel mechanism 140 and the backrest frame member 122 can then be folded into the collapsed position in which they both lie flat against the base frame member 121 (see Figures 12 – 15). Once in this collapsed position, the locking lever 166 can be pivoted back to the locked position (Figure 22E), pulling the locking plate 164 back towards the locking lever 166 and thereby engaging the ratchet ridges 162d on the toothed cog 162a with the ratchet ridges on the locking plate 164. This locks the backrest arms 152, 162 and associated backrest frame member 122, and the wheel strut arms 153, 163 and associated wheel mechanism 140, in the collapsed

position. As mentioned previously, the footrest 200 is folded up with the wheel mechanism 140 in the collapsed position and is held between the main and bracing wheel struts 141, 142 and the base frame member 121.

Once in the collapsed position as described above, the add-on seat 100 can be folded up against the side of the pushchair into the storage position (see Figures 16 – 19). By moving the backrest frame member 122 to the folded collapsed position as described above, the wire 156 is pulled though the wire guide 155 and though the guide lug 151b, which pulls the latch plate 198 into the slot 196 in the rear hinge 192 to release the lip 197a, and thereby release the second part 194, of the rear hinge 192 from the first part 193. The collapsed folding support frame 120 and wheel mechanism 140 can then be pivoted upwards about the front and rear hinges 191, 192 to the storage position to lie flat against the side of the pushchair in a substantially vertical plane.

The add-on seat can be retained in the storage position described above by using a strap (not shown) to hold it to the pushchair. In addition, the wheel 145 can be removed from the axle as described above, and attached to a 'false axle' 146b protruding from the side of the connection bar 190 (see Figures 16 and 18). The side of the wheel 145 thereby abuts the hinges 191, 192 and prevents them from pivoting back to the operative position.

If the pushchair is to be transported, for example, in the boot of a car, it will most probably be necessary to remove the main body of the add-on seat 100 from the pushchair to allow the pushchair to be folded. This is done by detaching the third bodies 182 from the second bodies 176 of the pushchair clamps 171, 172 as described above. The only part of the add-one seat 100 that then remains attached to the pushchair is the first and second bodies 173, 176 of the pushchair clamps 171, 172 which are intended to be small enough to not hinder the folding mechanism of modern pushchairs.

Other unillustrated embodiments of the present invention may include additional features or accessories. For example, a rain cover could be provided, attachable to

the auxiliary seat device 1/100, to partially or entirely surround a child seated on the device to shelter the child from wind/rain/sleet/snow. The rain cover could incorporate a supporting frame structure attachable to the device. Alternatively, the device could be provided with a sunshade or parasol.

The add-on seat 1/100 would preferably include a seat belt or a 3- or 5- point safety harness to secure around the child's waist and/or shoulders when seated, to prevent the child from falling off the seat and being injured.

The wheel struts 141, 142, 144 and folding frame members 121, 122 are intended to be made from light-weight steel tubing for optimum strength and rigidity, whilst also remaining light enough to carry easily. This also has the benefit of minimising the weight of the accessory exerted on the side of the pushchair so that when it is in the storage position, it does not cause the pushchair to tip over. It is also envisaged that the seat cover 123 and the backrest cover 124 are easily removable for cleaning, and replaceable when worn or to change the aesthetic appearance of the invention.

In addition to the functional accessories mentioned above, the auxiliary seat device 1 may also include an accessory intended to amuse the child whilst the child is in the seat. This could include a toy steering wheel or dashboard arrangement, or a hobby-horse style attachment positionable in front of the child.

Claims

1. An auxiliary seat attachable to a pushchair to enable it to accommodate two children seated side-by-side, the seat comprising a frame having a backrest and a base and a wheel in contact with the ground in an operative position to support a child seated on the base with their back against the backrest, wherein the frame is configured so that the backrest and the base fold substantially flat when the auxiliary seat is not in use and wherein the auxiliary seat, including the base and backrest, can pivot relative to the pushchair to be folded against the side thereof in a storage position with the wheel off the ground, once the base and backrest of the seat have been folded substantially flat.

2. An auxiliary seat according to claim 1 wherein the base and the backrest are pivotable relative to one another such that they are collapsible from the erect operative position to the collapsed folded position by means of a scissor-like mechanism.

3. An auxiliary seat according to claim 2 wherein the scissor-like mechanism includes at least one sliding joint to enable the base and backrest to be erected and collapsed.

4. An auxiliary seat according to claim 3 wherein the backrest is attached to one end of a first support strut and the base is attached to one end of a second support strut, and in which said first and second support struts are pivotable relative to each other and the end of the first support strut remote from the backrest is connected to the at least one sliding joint.

5. An auxiliary seat according to any preceding claim comprising a locking mechanism to retain the seat in the erect operative position.

6. An auxiliary seat according to claim 3 or claim 4 comprising a locking mechanism to retain the seat in the erect operative position and which locks the at least one sliding joint in place.

7. An auxiliary seat according to claim 6 wherein the locking mechanism comprises a latch extending from the at least one sliding joint, operable to lock onto a fixed shaft on the frame.

8. An auxiliary seat according to claim 7 wherein the latch is located at one end of an arm, the arm rotatably mounted to the at least one sliding joint and operable to move from a first locked position in which the latch snags on the fixed shaft, to a second unlocked position in which the latch is clear of the fixed shaft to allow movement of the at least one sliding joint.

9. An auxiliary seat according to claim 1 wherein the backrest and the base are pivotably connected to one another by hinge joints to be pivotable from the erect operative position to the collapsed storage position in which the backrest lies flat against the base.

10. An auxiliary seat according to claim 9 wherein the base comprises a base frame and a seat coving attached thereto.

11. An auxiliary seat according to claim 9 or claim 10 wherein the backrest comprises a backrest frame with a backrest covering attached thereto.

12. An auxiliary seat according to any of claims 9 – 11 wherein the wheel is secured to the frame by a pivotable wheel mechanism which can pivot from an extended operative position to a folded storage position in which the wheel mechanism lies substantially flat against the frame.

13. An auxiliary seat according to claim 12 wherein the wheel mechanism includes a telescopic strut to allow the distance of the wheel from the frame to be telescopically adjusted independently of the pivoting of the wheel mechanism between the operative position and the storage position.

14. An auxiliary seat according to claim 13 wherein the telescopic strut includes a locking mechanism to lock the strut in the desired position.

15. An auxiliary seat according to any of claims 12 to 14 wherein, in the storage position, the wheel mechanism lies flat against the base on the opposite side thereto to the backrest.

16. An auxiliary seat according to any of claims 12 to 15 wherein the wheel mechanism is connected to the frame at said hinge joints.

17. An auxiliary seat according to claim 16 wherein the backrest and the wheel mechanism are mechanically connected to one another to be moveable together between their respective operative position and their folded storage position.

18. An auxiliary seat according to claim 16 wherein at least one hinge joint includes a locking means to lock the backrest in the operative position or in the storage position.

19. An auxiliary seat according to claim 17 wherein at least one hinge joint includes a locking means to lock the backrest and the mechanically associated wheel mechanism in the operative position or in the storage position.

20. An auxiliary seat according to claim 18 or claim 19 wherein the locking means includes a pair of ratchet plates operated by a cam lever to move from a locked position in which the ratchets of each plate engage with each other, to an unlocked position in which the ratchets of each plate are out of engagement with each other to allow the backrest and/or wheel mechanism to pivot about the hinge joints.

21. An auxiliary seat according to any preceding claim wherein the frame is attached to the pushchair by a first clamping means extending from one side of the frame.

22. An auxiliary seat according to claim 21 wherein the first clamping means is attached to a first support strut which is hingedly attached to the frame.

23. An auxiliary seat according to claim 21 or claim 22 wherein the frame is further attached to the pushchair by a second clamping means extending from said one side of the frame.

24. An auxiliary seat according to claim 23 wherein the second clamping means is hingedly attached to the frame.

25. An auxiliary seat according to claim 23 or claim 24 wherein the first and second clamping means are attachable to a supplementary pushchair frame bar which includes further attachment means operable to fix the bar and seat attached thereto, to the conventional pushchair.

26. An auxiliary seat according to claim 23 or claim 24 wherein the first and second clamping means are attachable to a replacement pushchair frame bar which can be fitted in place of an existing section of frame of a conventional pushchair to fix the seat thereto.

27. An auxiliary seat according to any of claims 1 – 20 including at least one clamp to secure the add-on seat to a frame of a pushchair.

28. An auxiliary seat according to claim 27 wherein the at least one clamp is attached to a connection bar, and the frame is attached to the connection bar by at least one hinge connector to be pivotable relative to the connection bar.

29. An auxiliary seat according to claim 28 wherein the at least one clamp and/or the at least one hinge connector are slidable relative to the connection bar to allow the position of the frame to be adjusted relative to the pushchair.

30. An auxiliary seat according to claim 28 or 29 wherein the frame, at least one hinge connector and connection bar are releasably attached to the at least one clamp.

31. An auxiliary seat according to any of claims 28 to 30 wherein the at least one hinge connector includes a locking mechanism to lock the auxiliary seat in the operative position.

32. An auxiliary seat according to any preceding claim which is releasably attachable to said pushchair.

33. An auxiliary seat according to any preceding claim wherein the at least one wheel is detachable.

34. An auxiliary seat according to any preceding claim including locking mechanism to secure the auxiliary seat in the storage position.

35. An auxiliary seat according to any preceding claim wherein the at least one wheel is positioned such that when the auxiliary seat is mounted on the pushchair in an operative position, the at least one wheel is in alignment with a rear wheel of the pushchair.

36. An auxiliary seat according to any preceding claim wherein the at least one wheel is positioned such that when the auxiliary seat is mounted on the pushchair in an operative position, an axle of the at least one wheel is coaxial with an axle of a rear wheel of the pushchair.

37. An auxiliary seat according to any preceding claim attachable to a pushchair to enable two children to be seated side-by-side and facing the same direction.

38. An auxiliary seat according to any preceding claim wherein the seat includes a safety harness to retain a child in position thereon.

39. An auxiliary seat according to any preceding claim including a rain cover attached to the seat to at least partially surround a child sitting on the seat.

40. An auxiliary seat according to any preceding claim including a sunshade attached to the seat to shade a child sitting on the seat.

41. An auxiliary seat according to any preceding claim including a toy steering wheel positionable in front of a child sitting on the seat.

42. An auxiliary seat according to any preceding claim including a toy hobby-horse style attachment positionable in front of a child sitting on the seat.

43. A pushchair incorporating an auxiliary seat according to any preceding claim.

44. An auxiliary seat substantially as hereinbefore described with reference to the accompanying drawings.

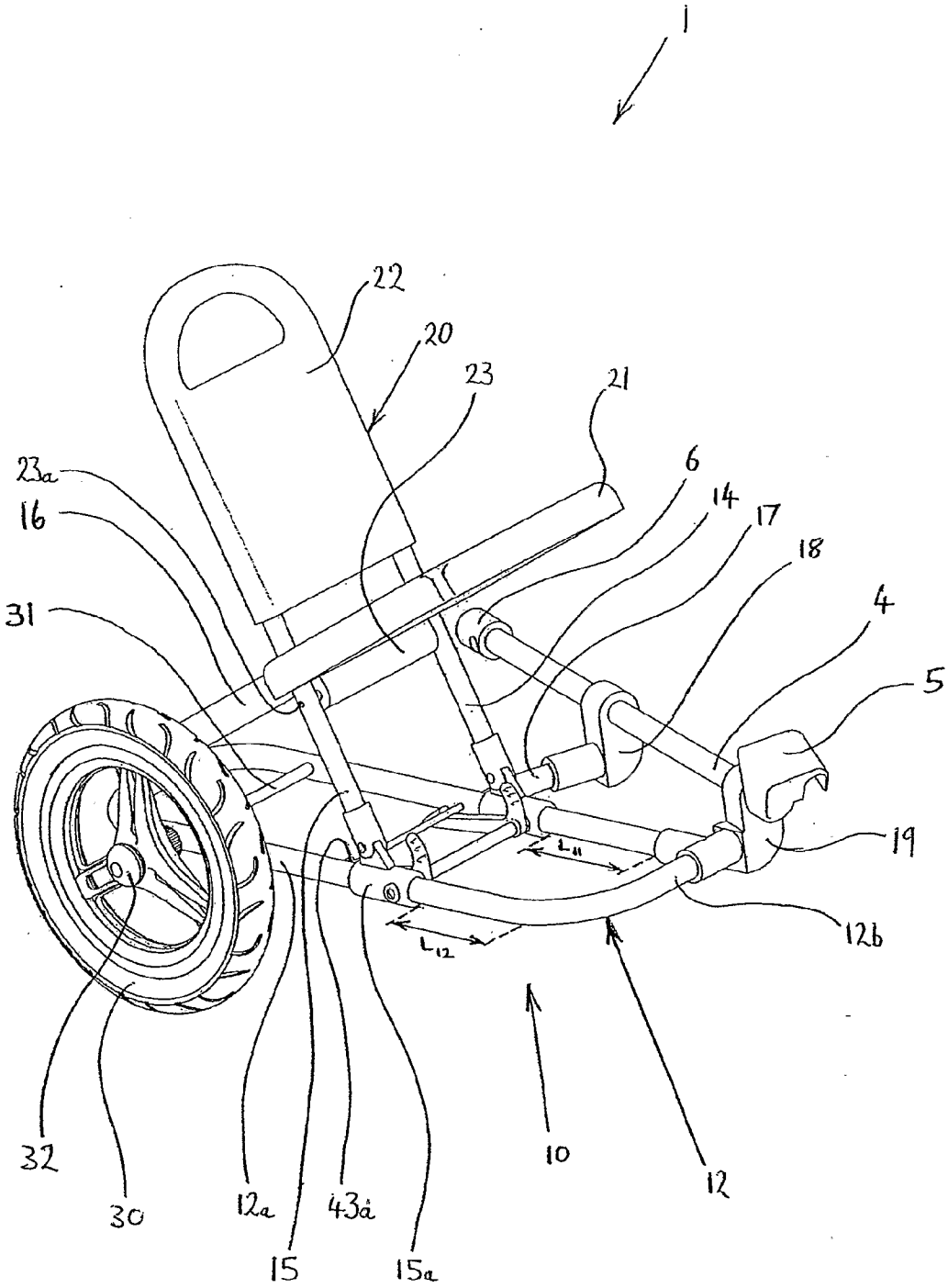


FIGURE 1

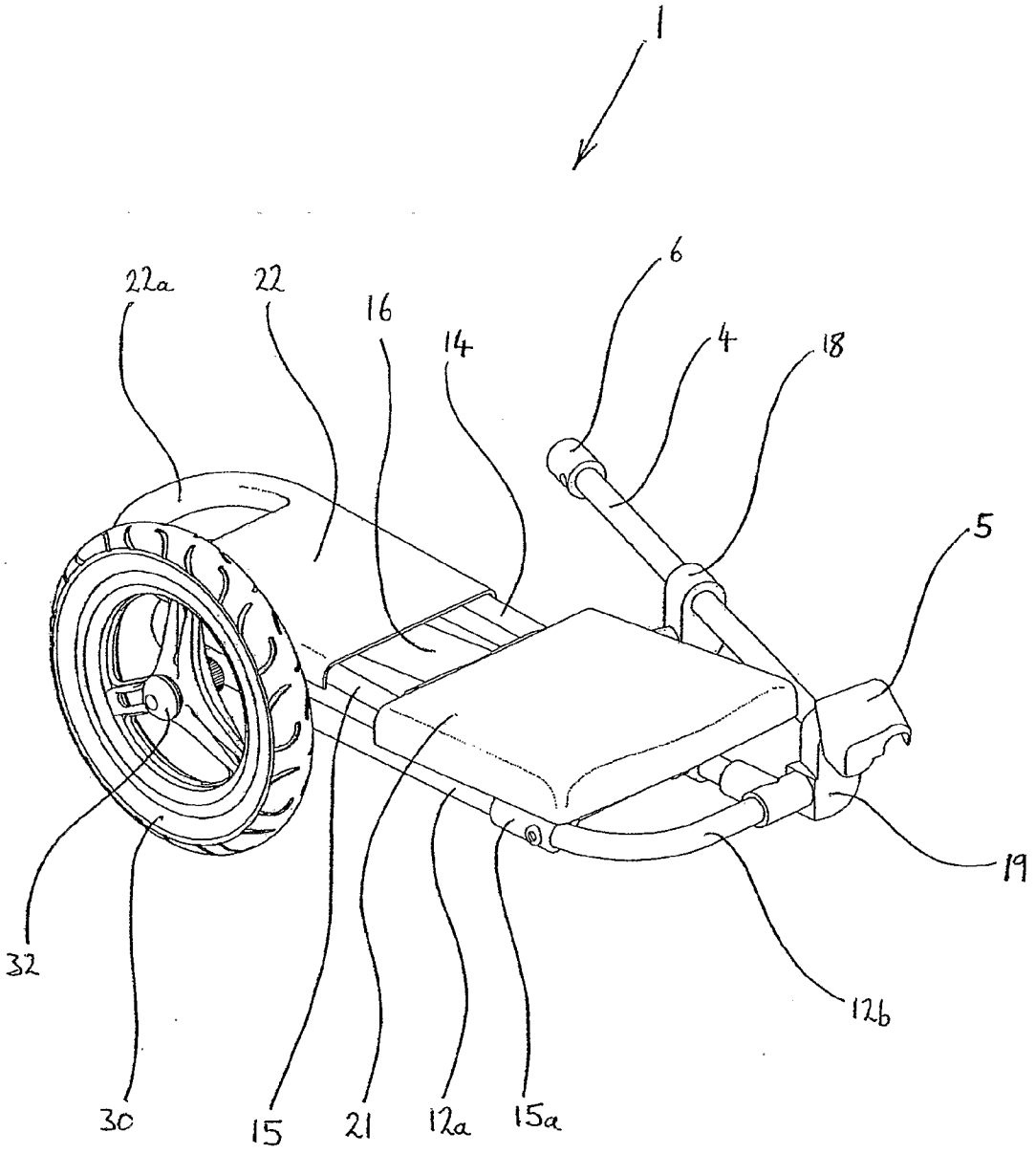


FIGURE 2.

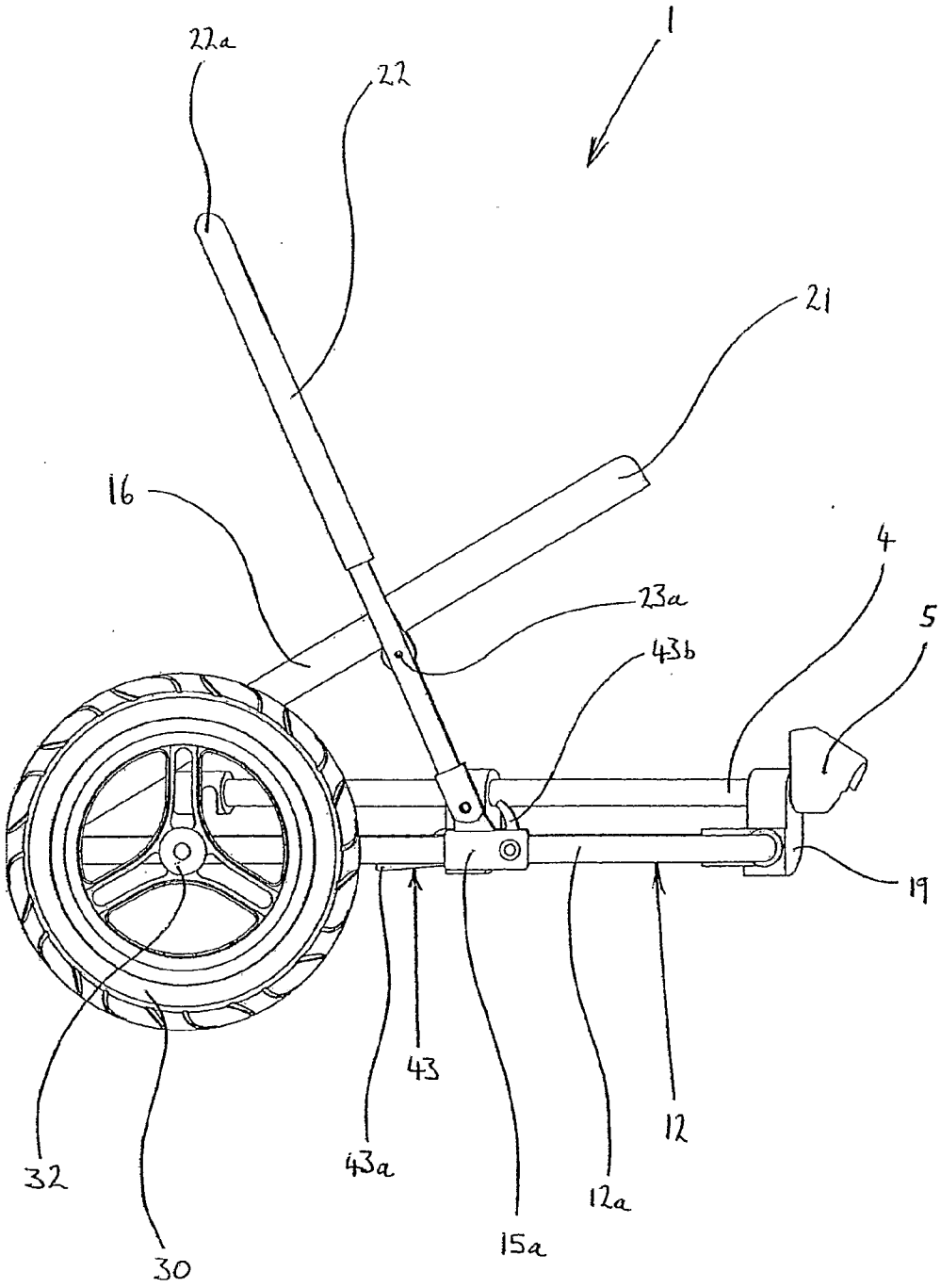


FIGURE 3

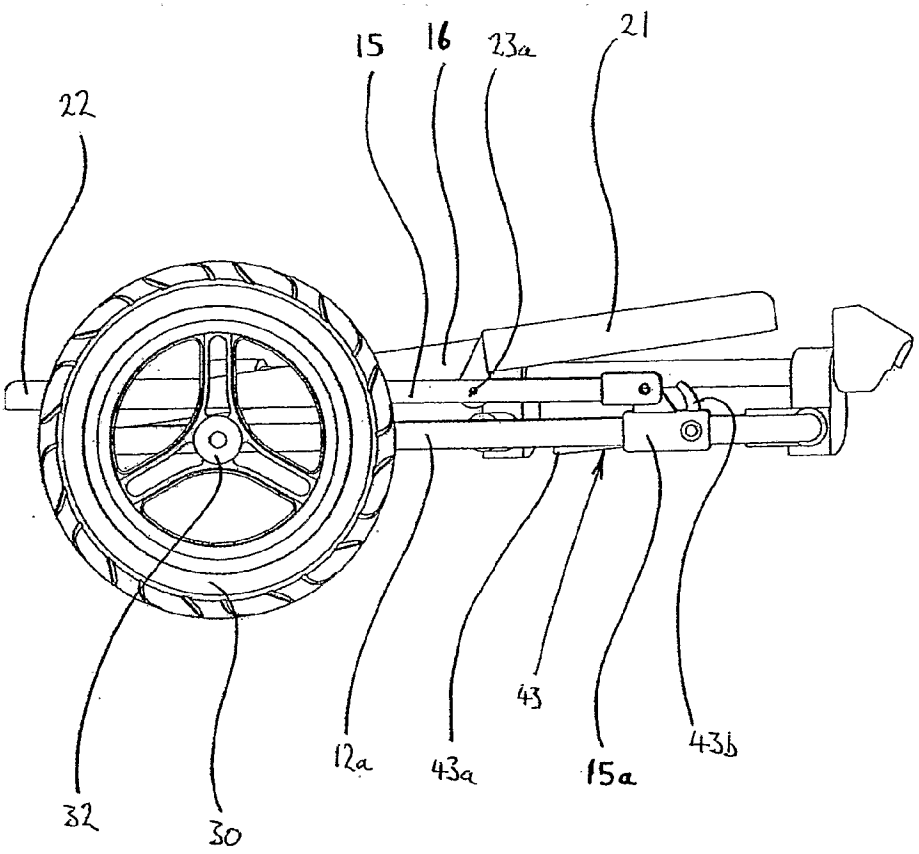


FIGURE 4

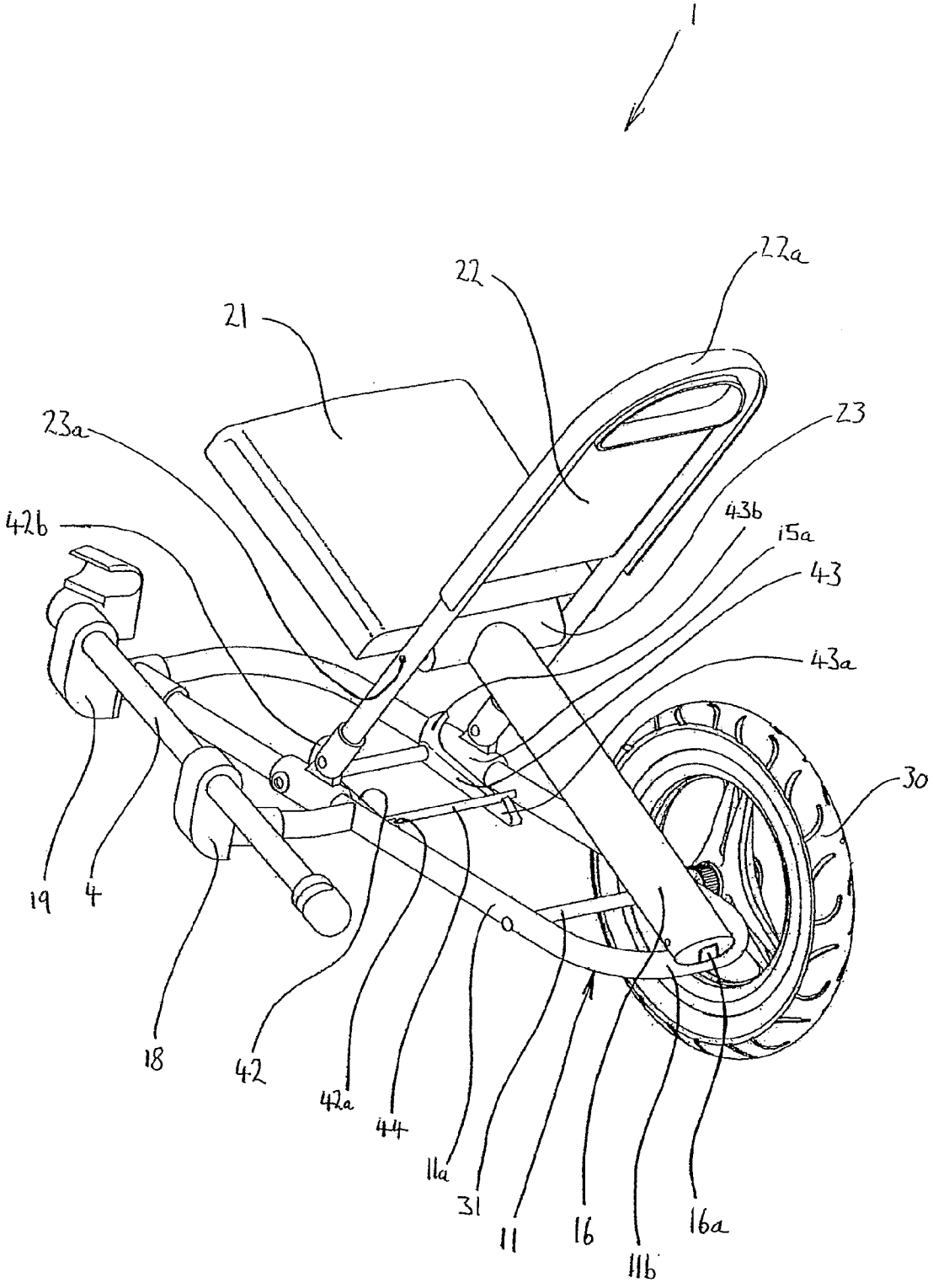

1
22a
22
21
23a
23
42b
43b
15a
43
43a
30
19
4
18
42
42a
44
11a
31
11
16
11b
16a

FIGURE 5

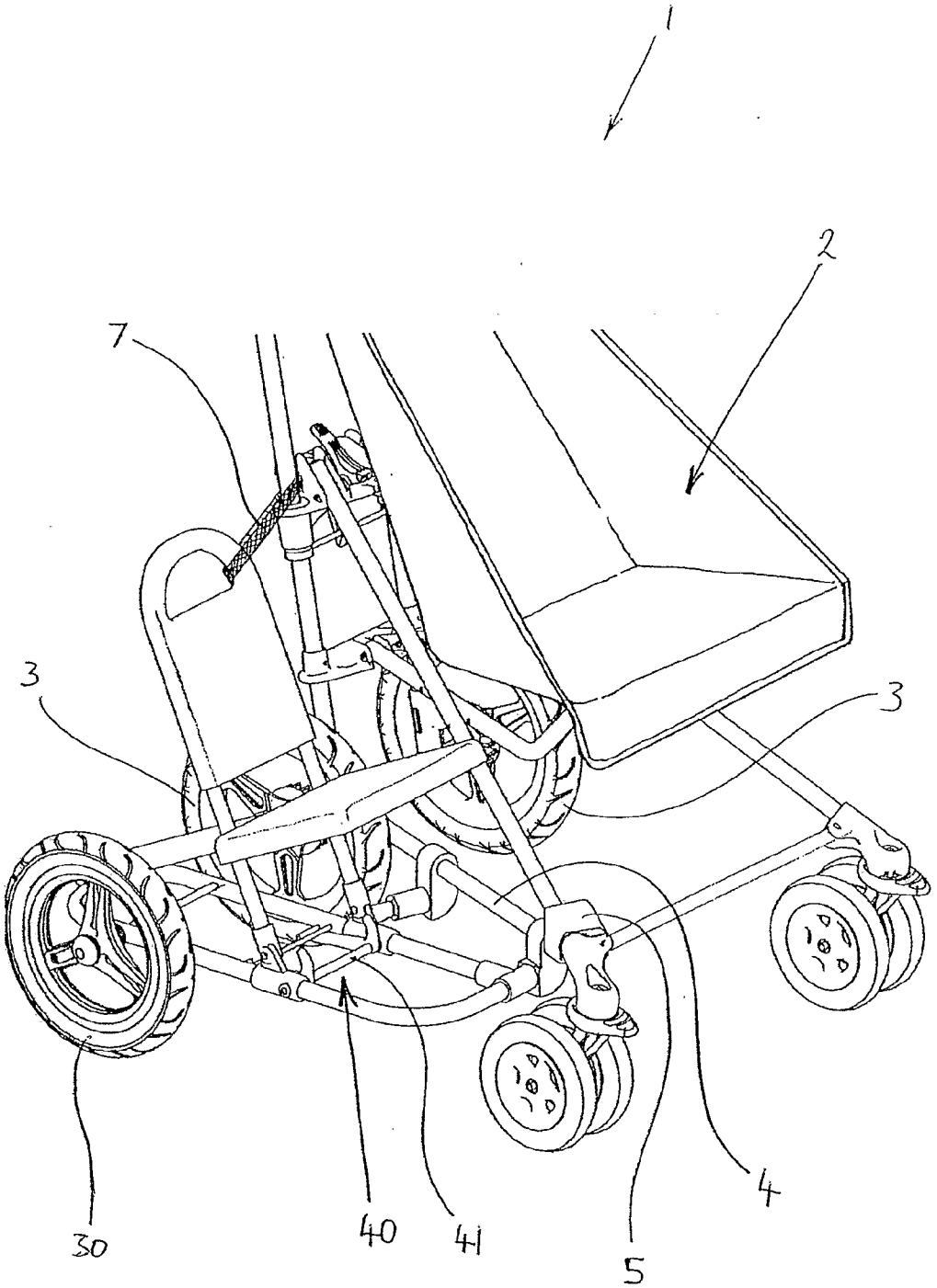


FIGURE 6.

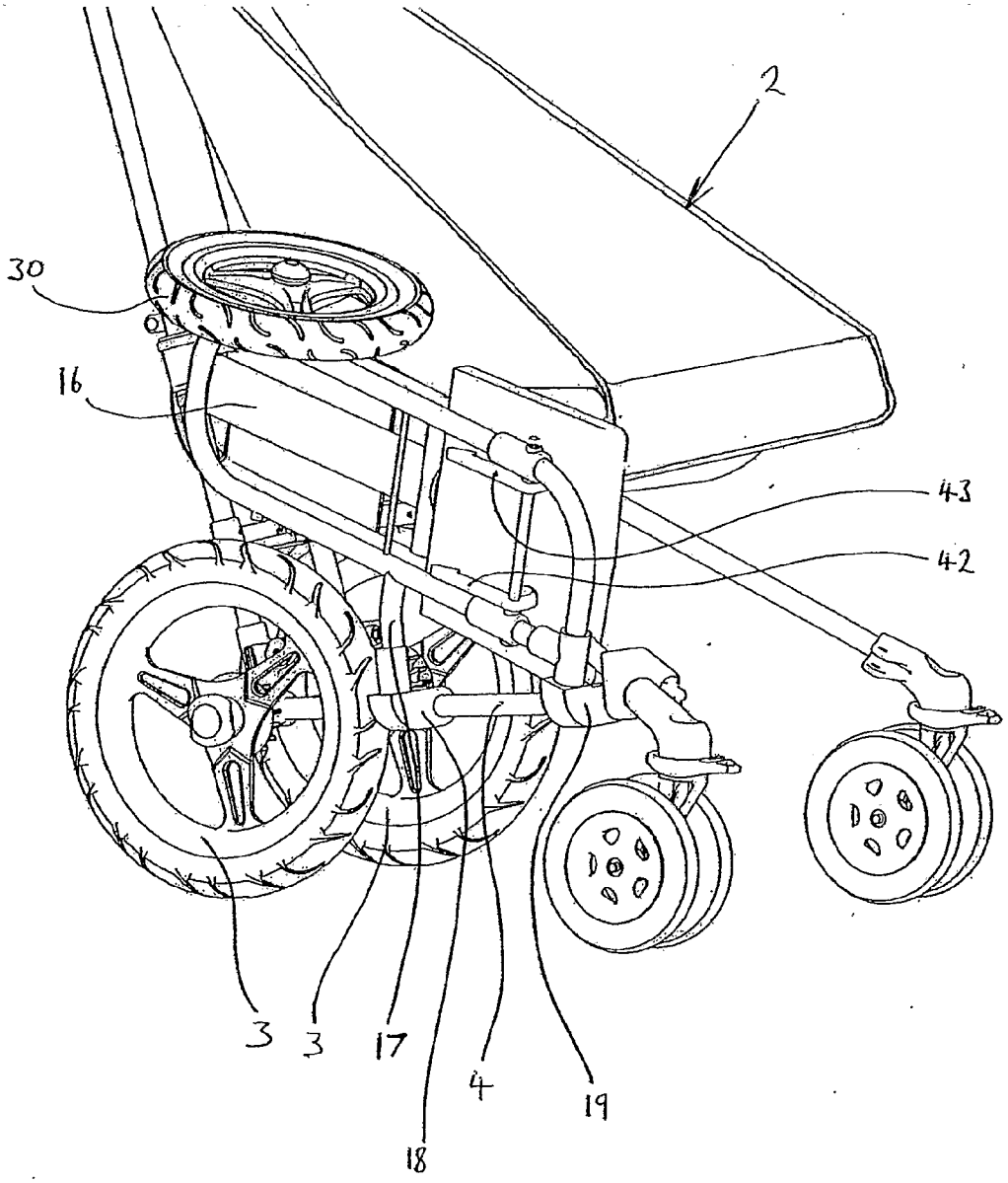


FIGURE 7

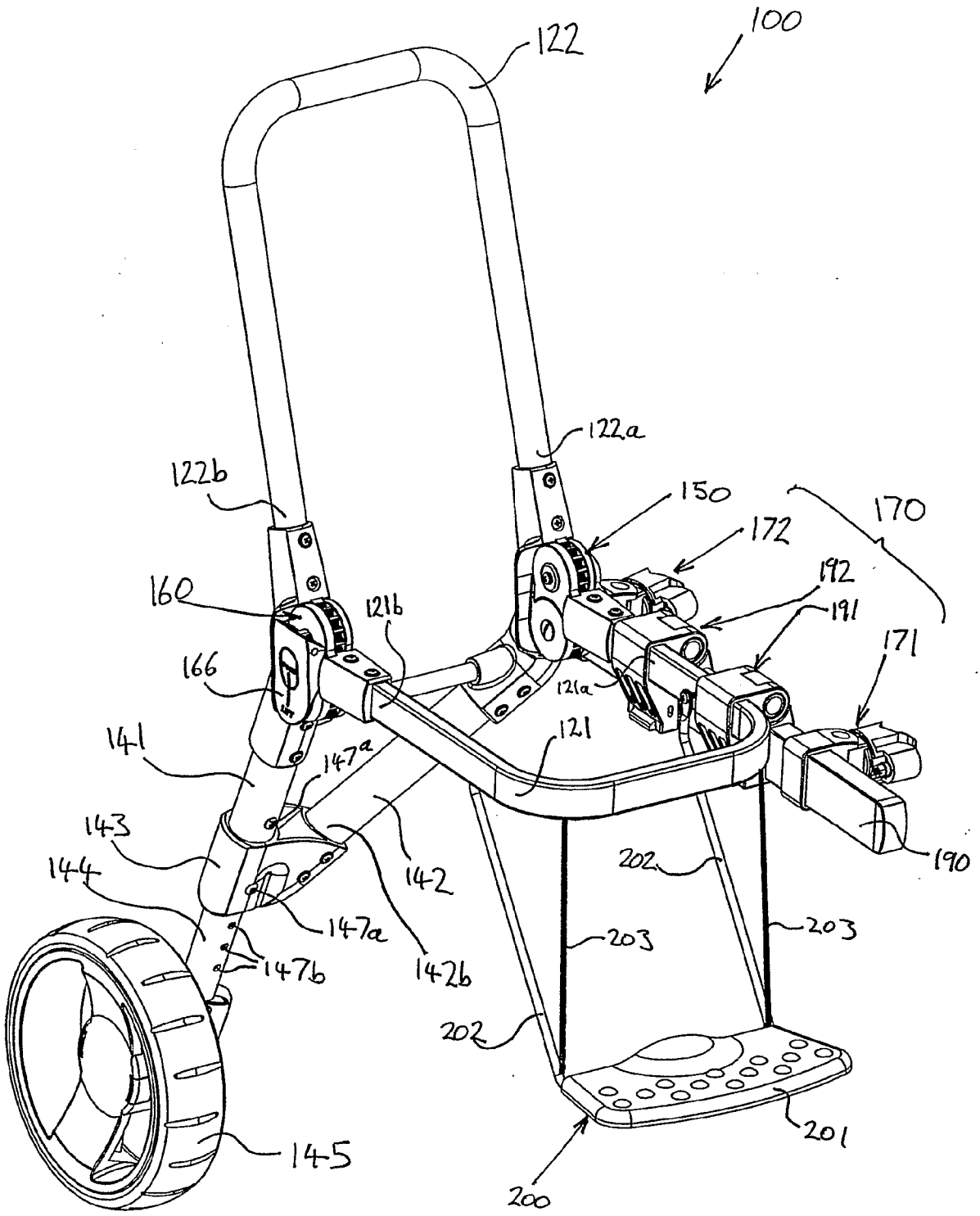

100
122
122a
122b
150
170
172
192
191
171
160
121b
166
121a
121
141
147a
143
144
142
147a
147b
142b
202
203
203
202
201
145
200
190

FIGURE 8

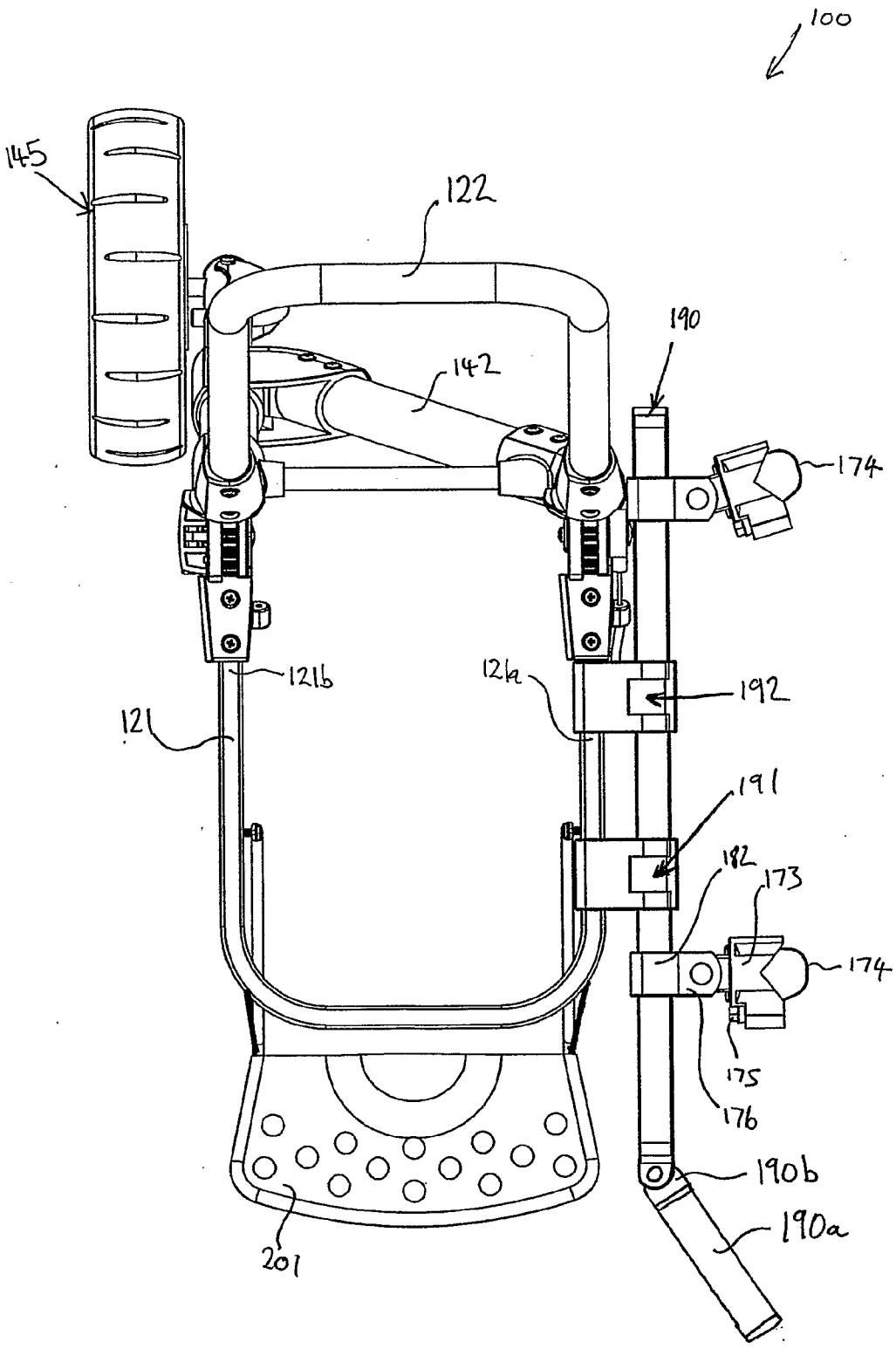

100
145
122
190
142
174
121b
124
192
121
191
182
173
174
175
176
190b
190a
201

FIGURE 9

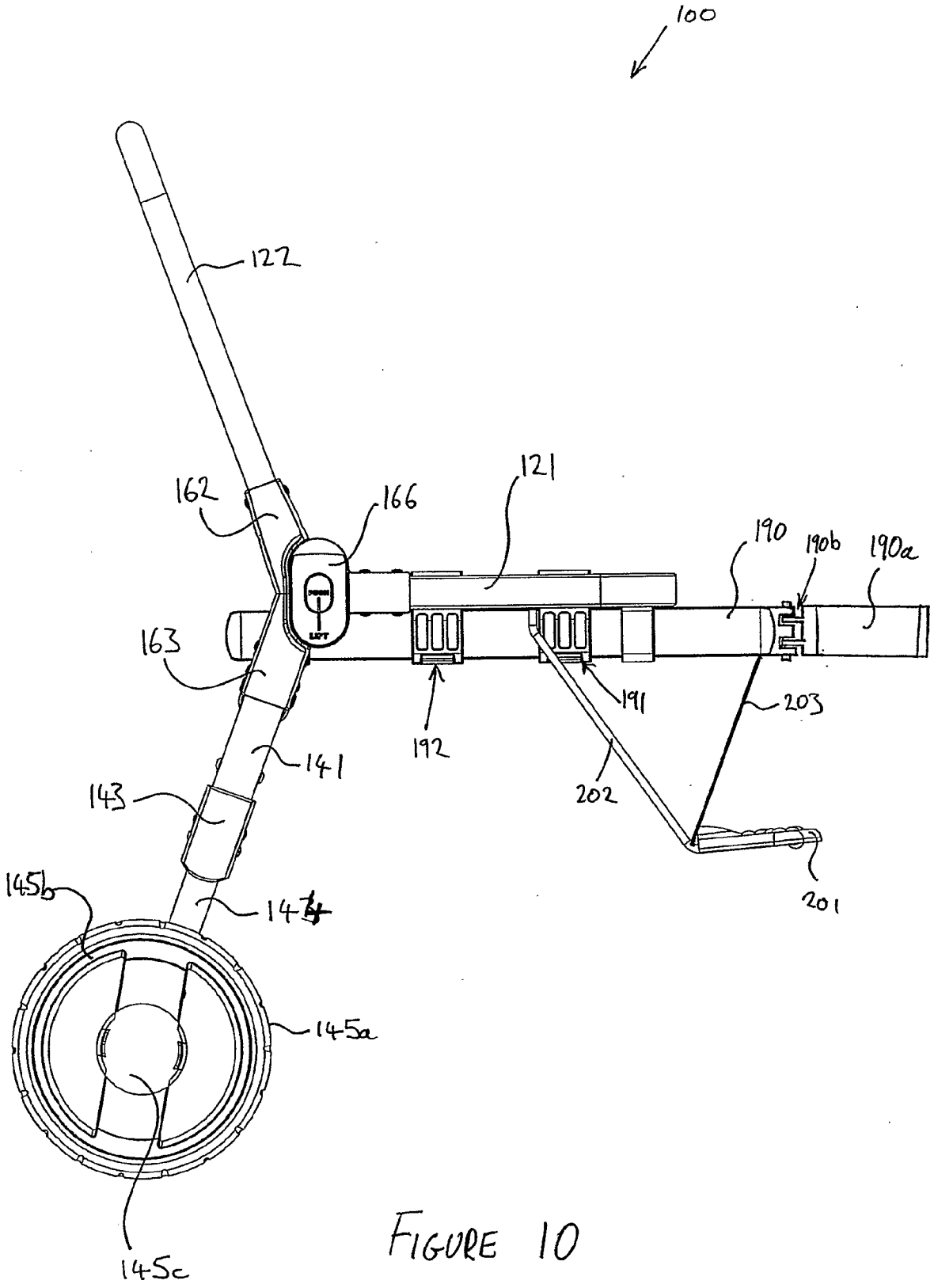

100
122
162
166
121
190
190b
190a
163
191
203
192
202
141
143
145b
147
145a
145c
201

FIGURE 10

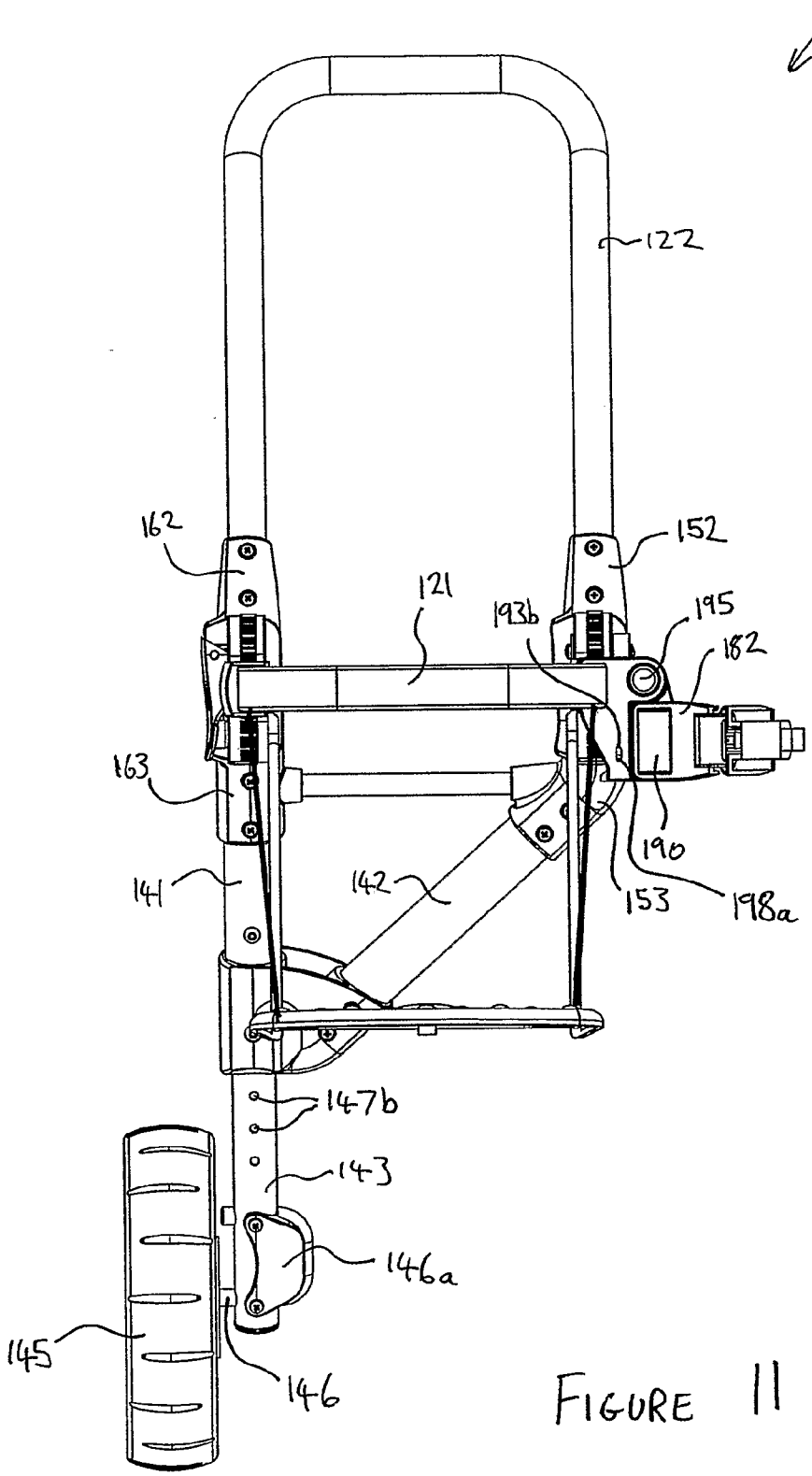

100
122
162
152
121
193b
195
182
163
190
141
142
153
198a
147b
143
146a
145
146

FIGURE 11

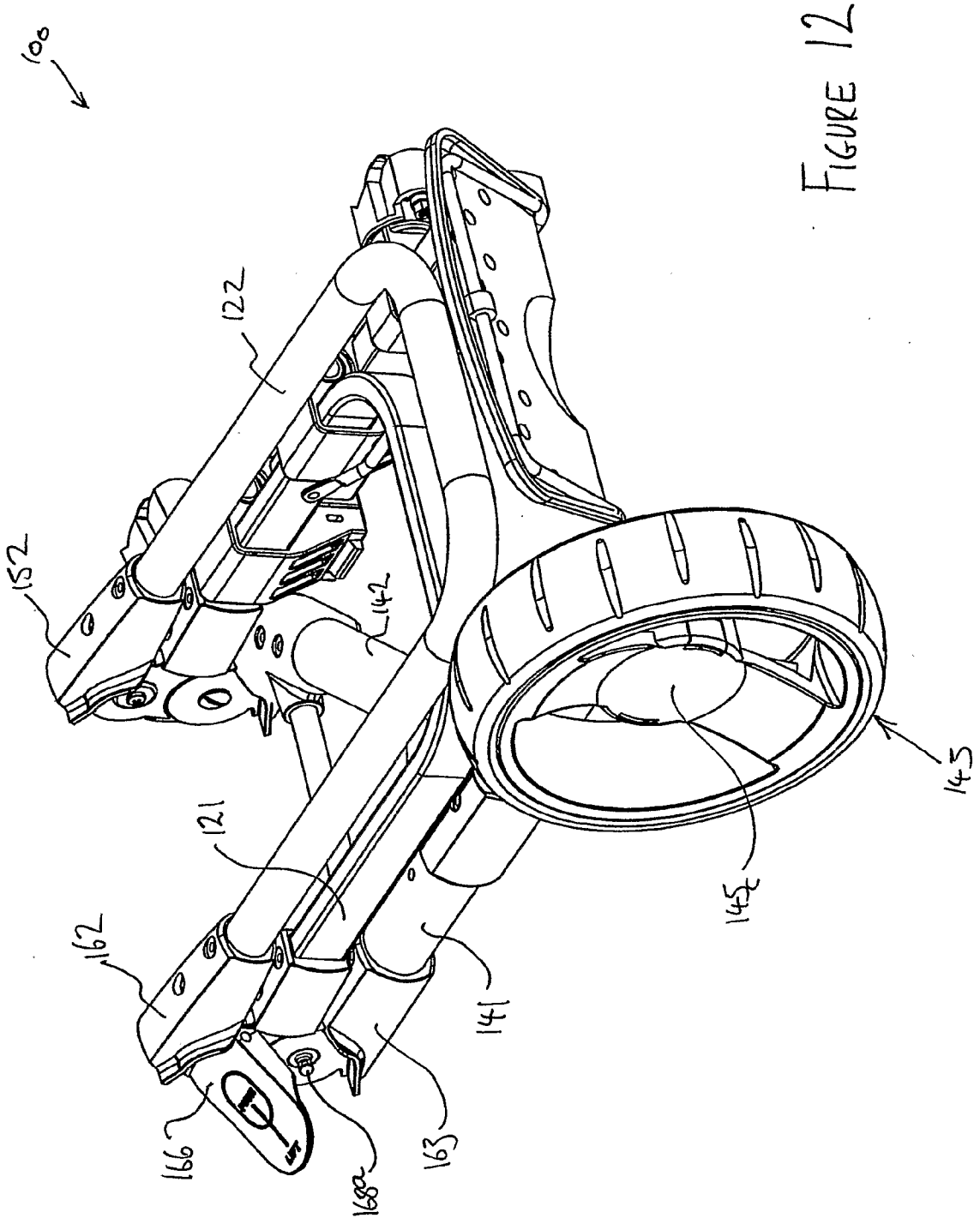


FIGURE 12

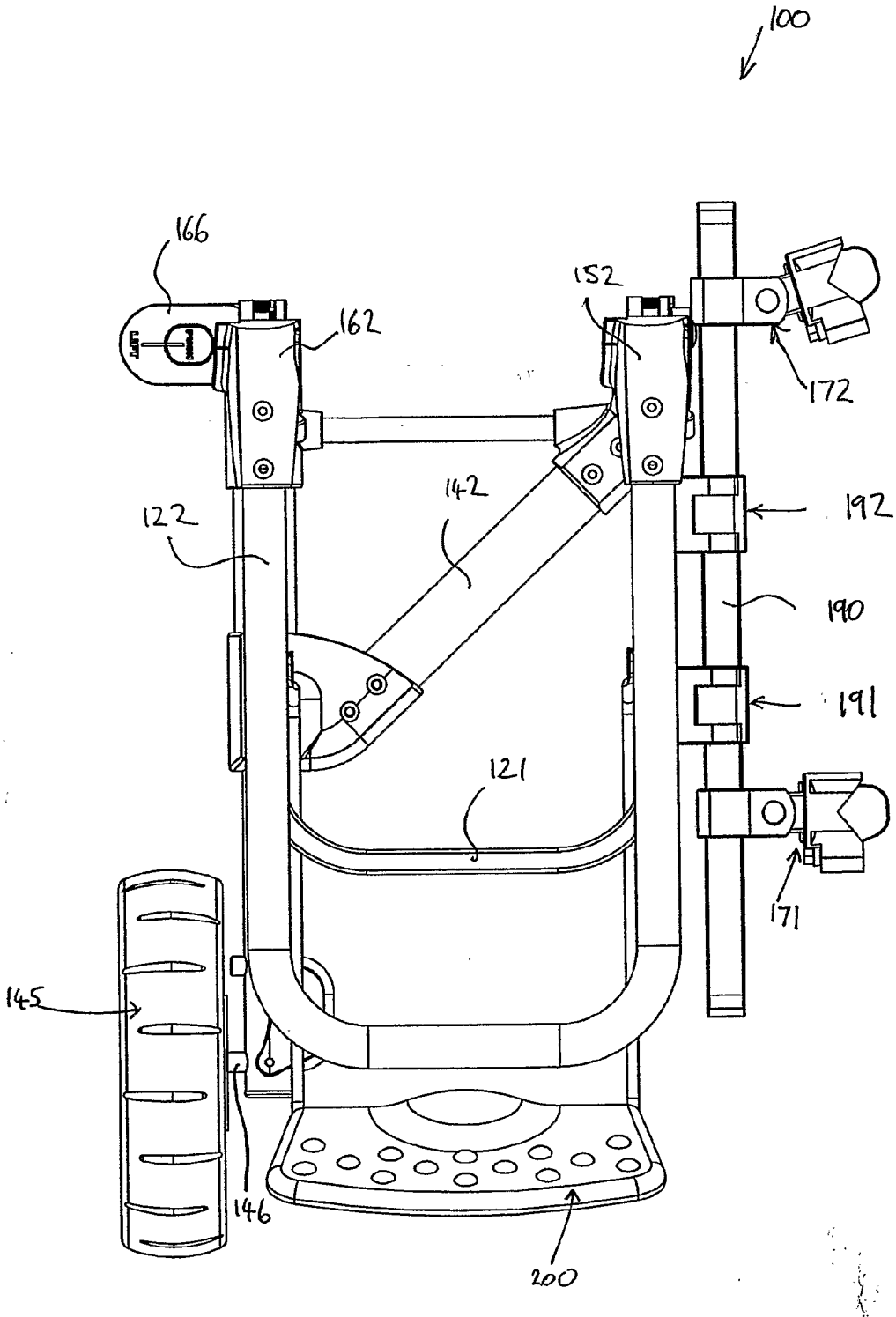


FIGURE 13

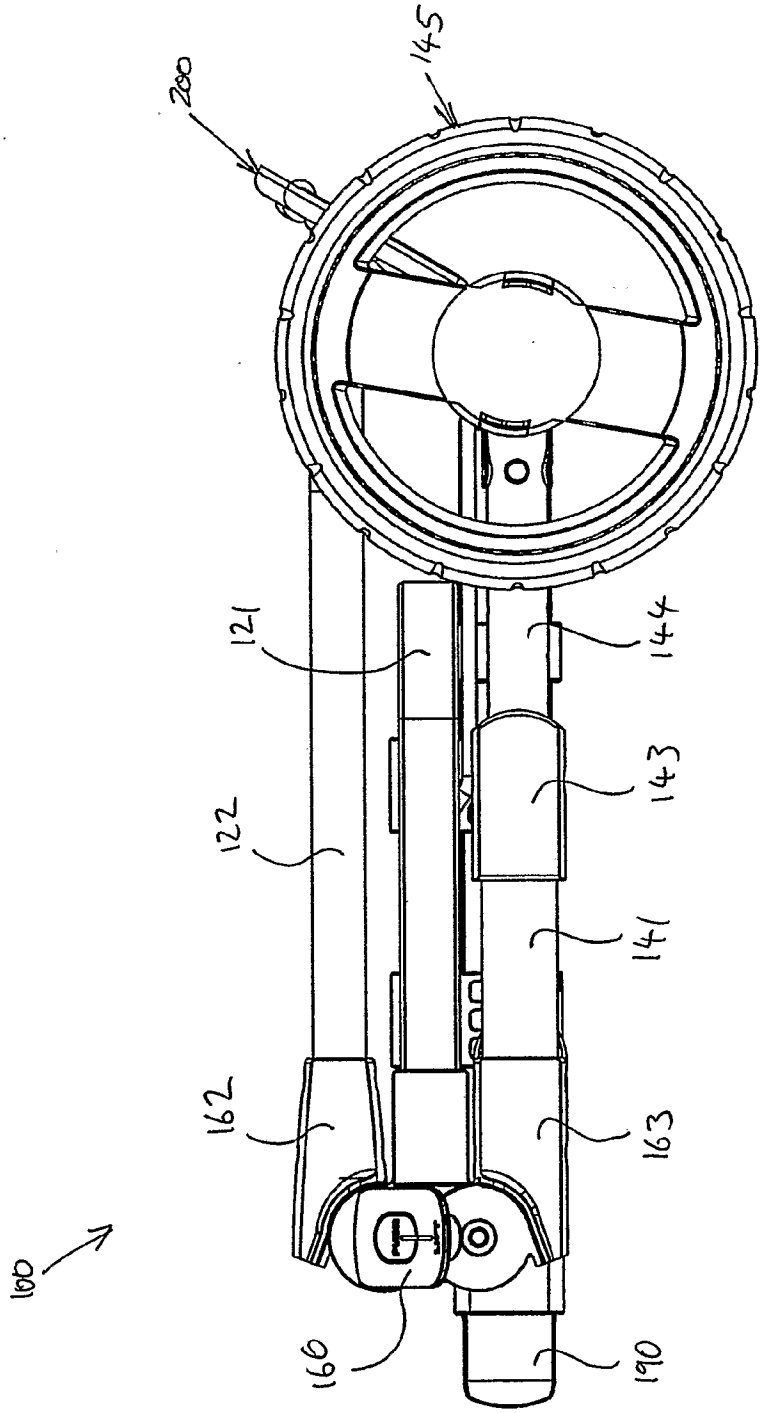


FIGURE 14

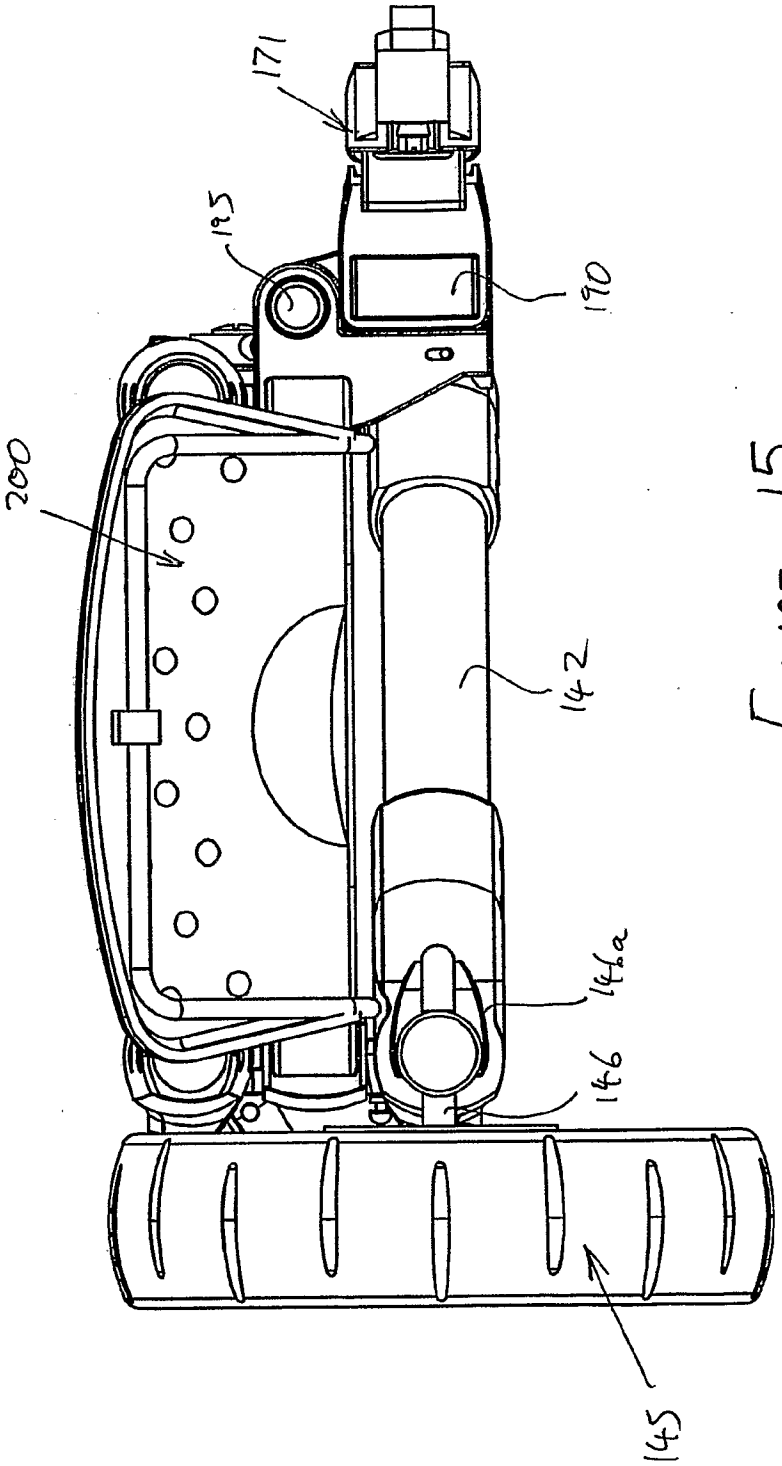


FIGURE 15

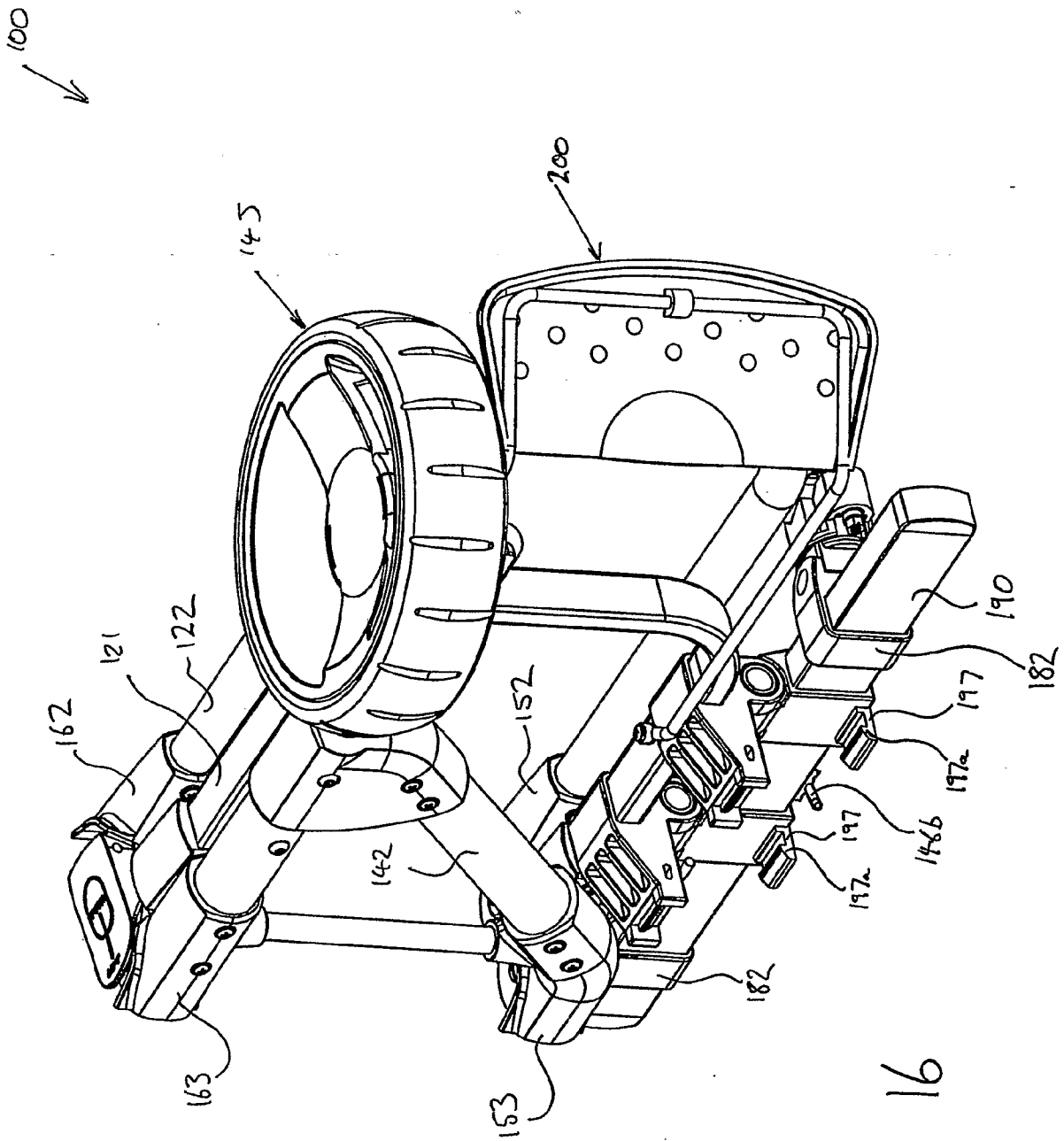

100
200
145
190
182
197
197a
146
197
197a
182
152
142
162
121
122
163
153

FIGURE 16

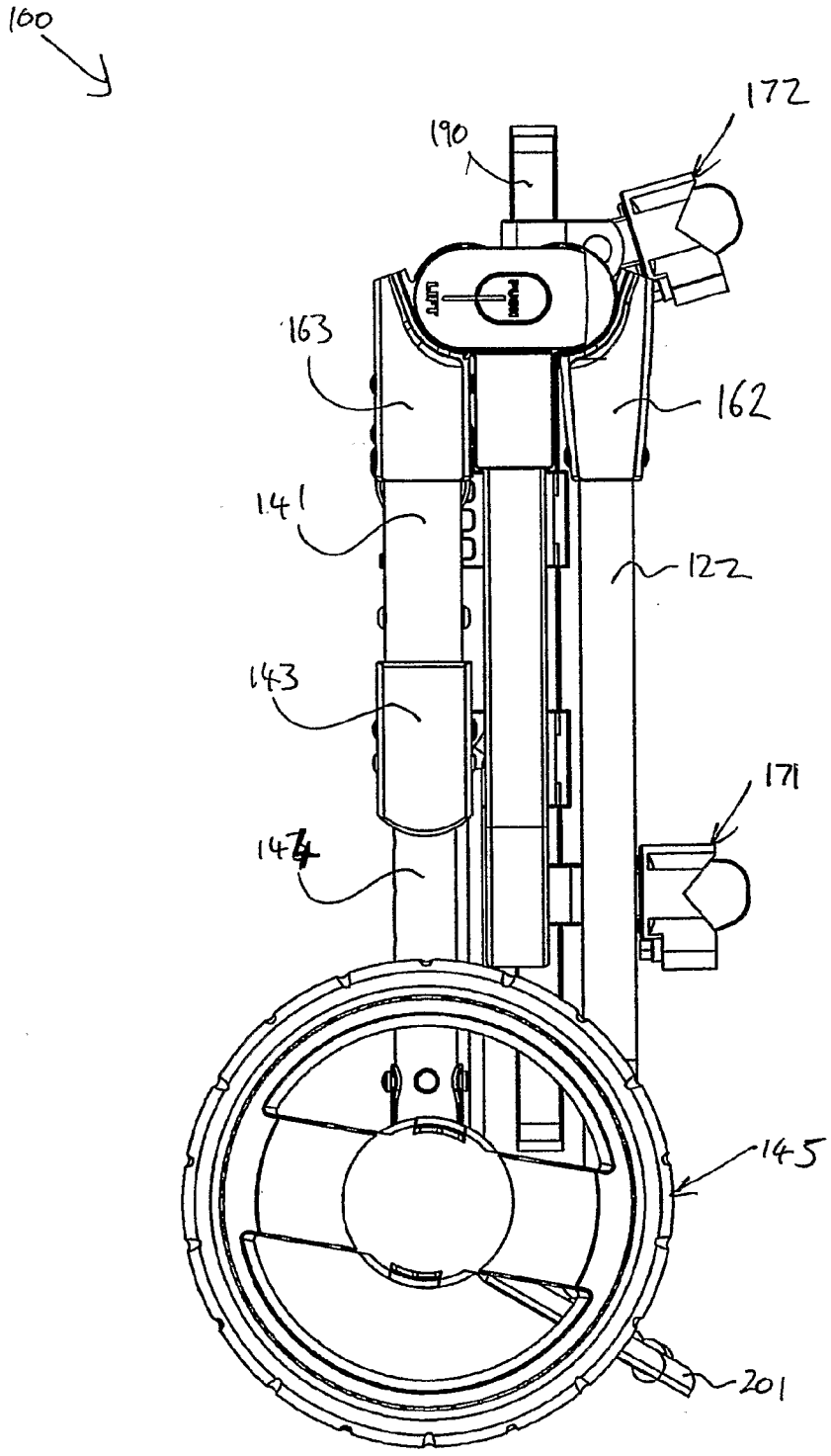


FIGURE 17

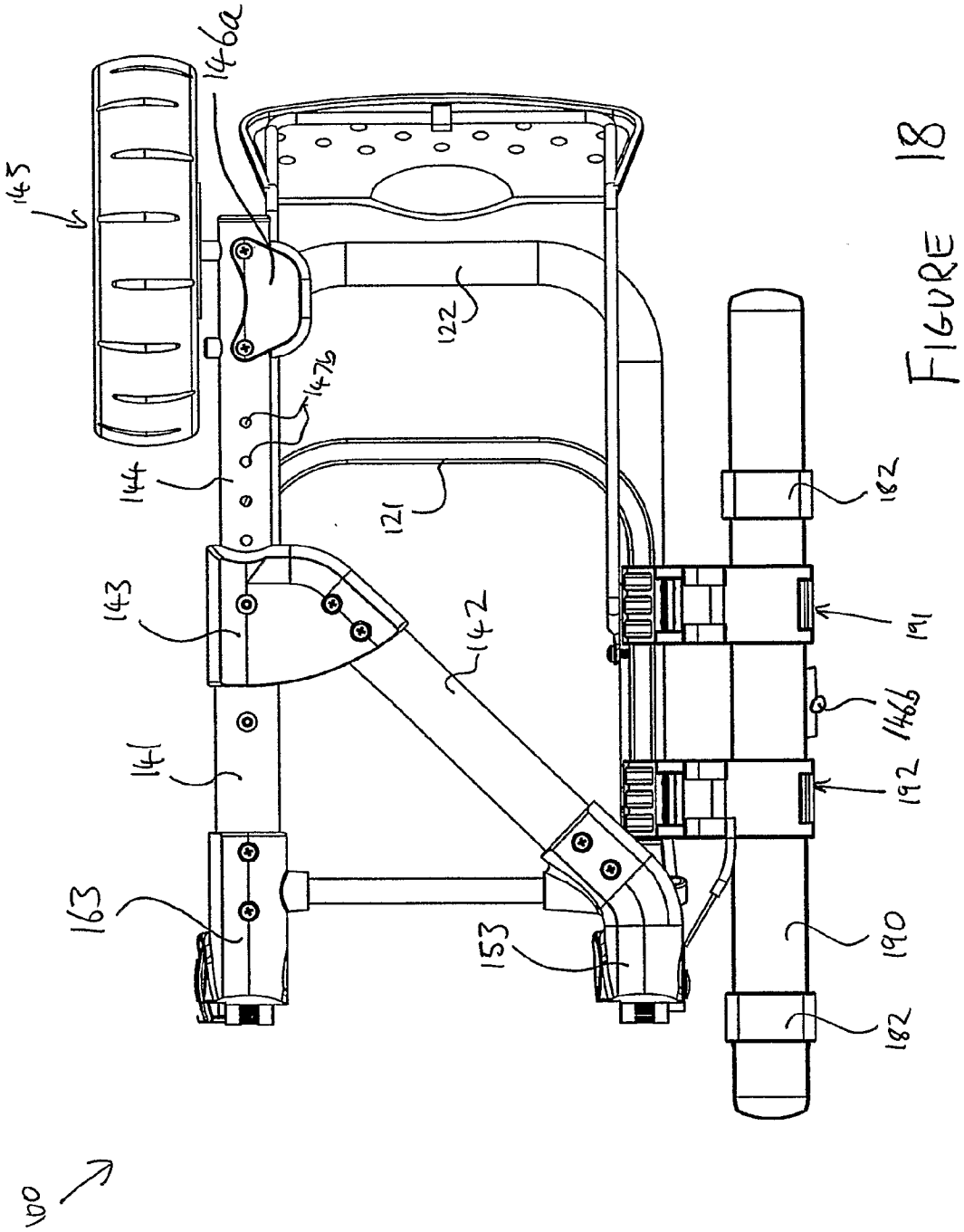

145
146a
122
147b
144
121
182
143
142
191
146b
141
192
163
153
190
182
100

FIGURE 18

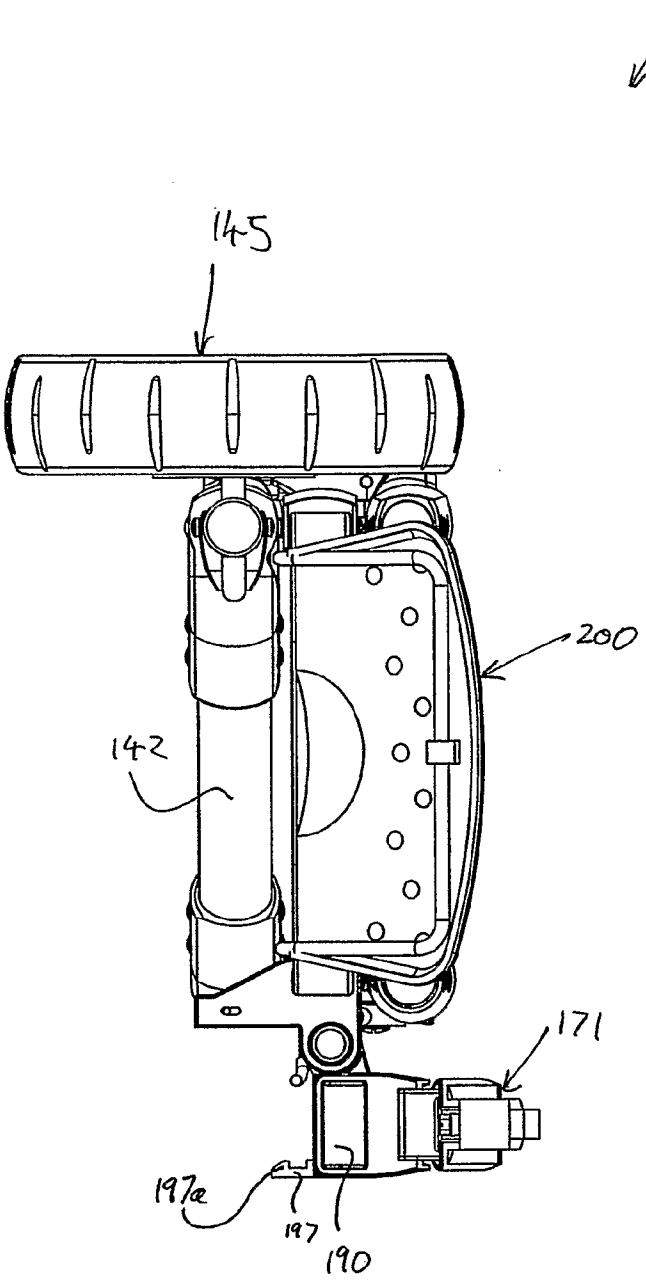


FIGURE 19

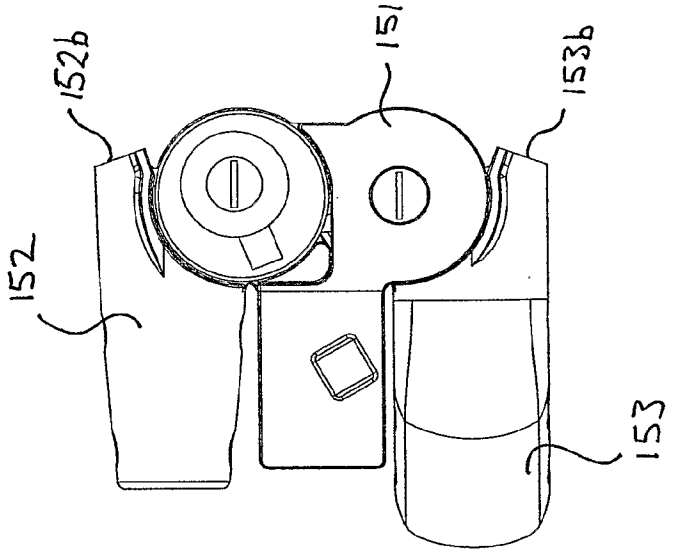


FIGURE 20B

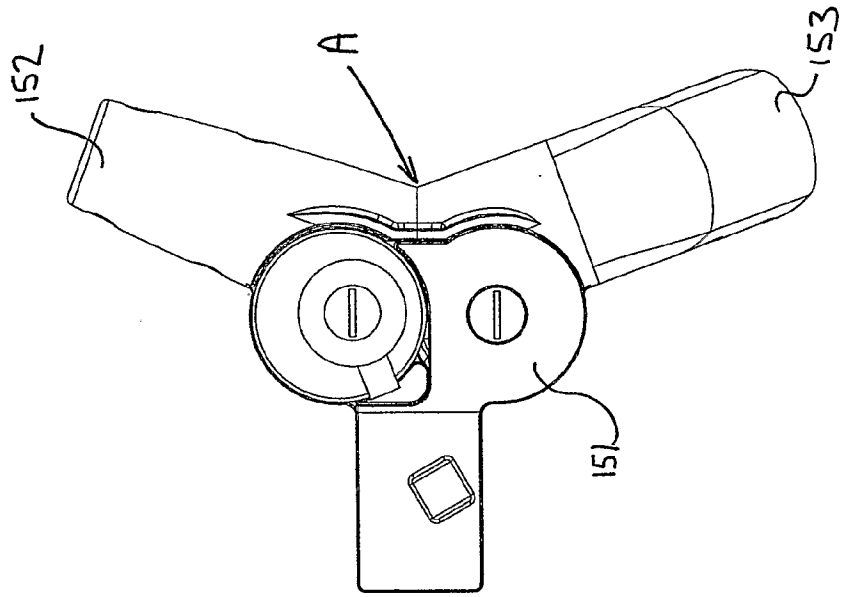


FIGURE 20A

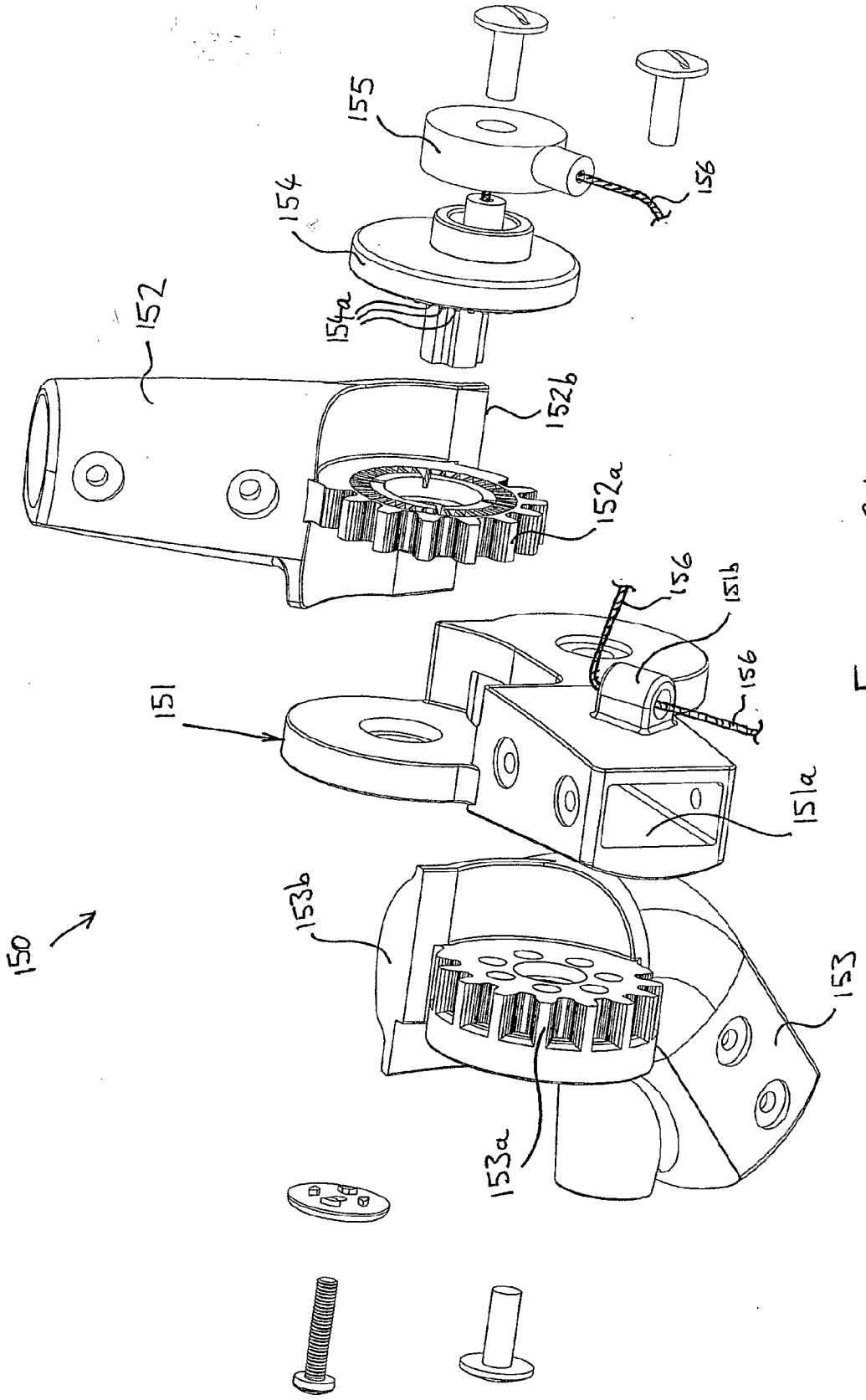

155
156
154
154a
152
152b
152a
156
151b
156
151
151a
153b
150
153
153a

FIGURE 21

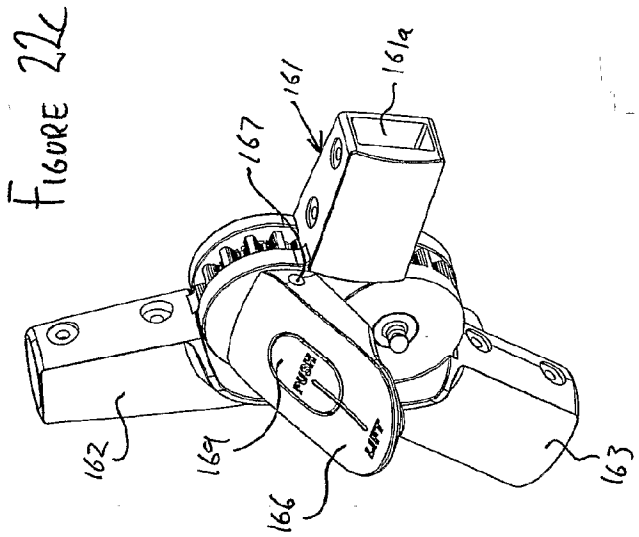


FIGURE 22C

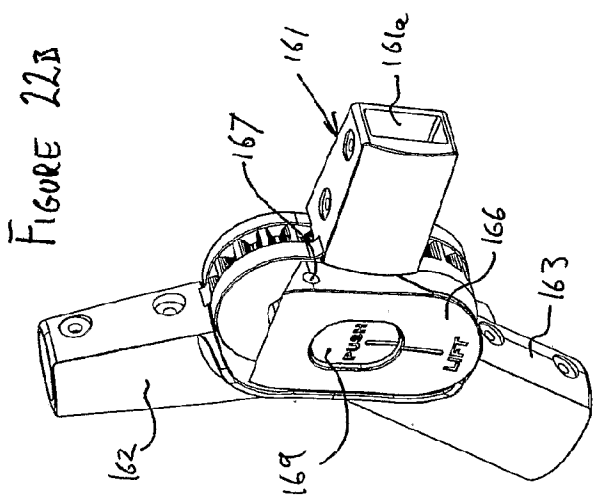


FIGURE 22B

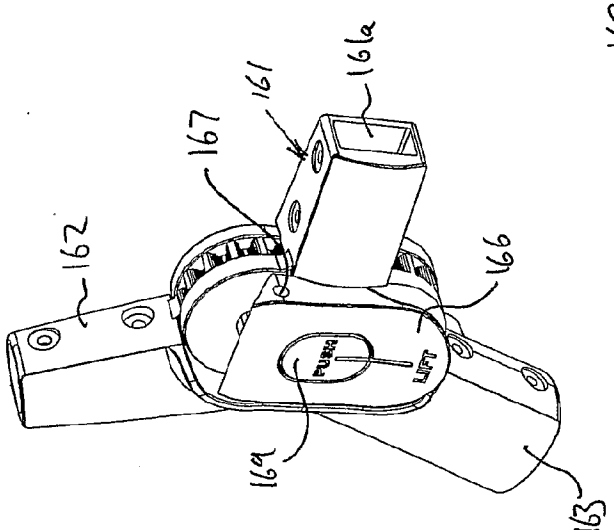


FIGURE 22A

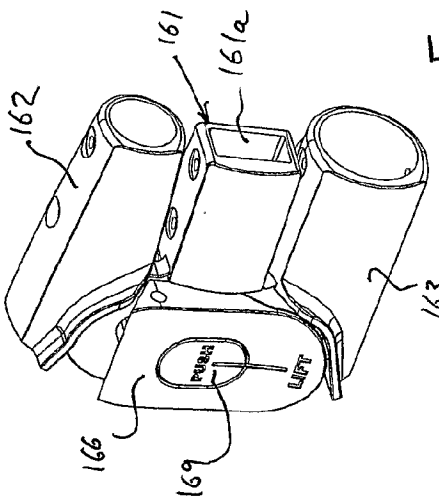


FIGURE 22E

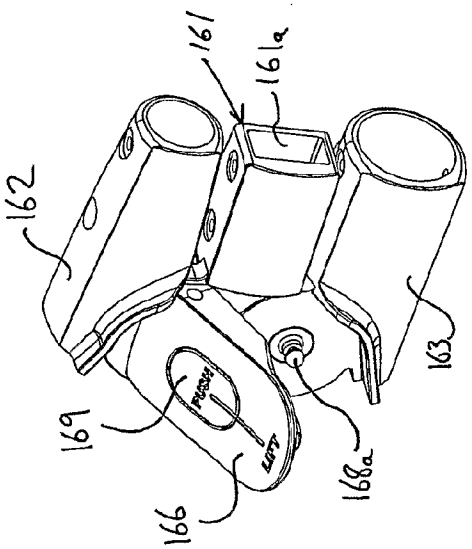


FIGURE 22D

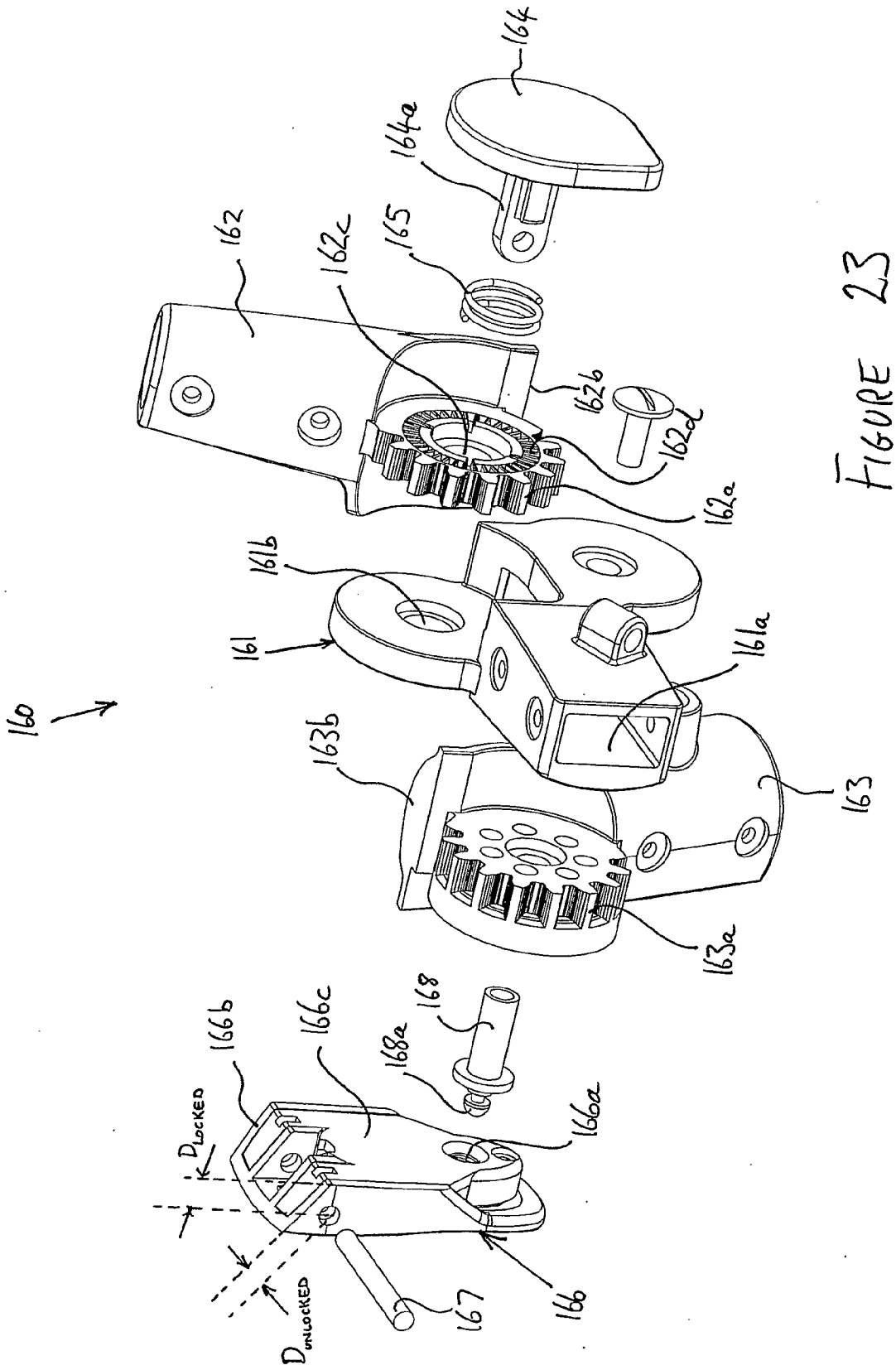

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162d
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$D_{UNLOCKED}$

FIGURE 23

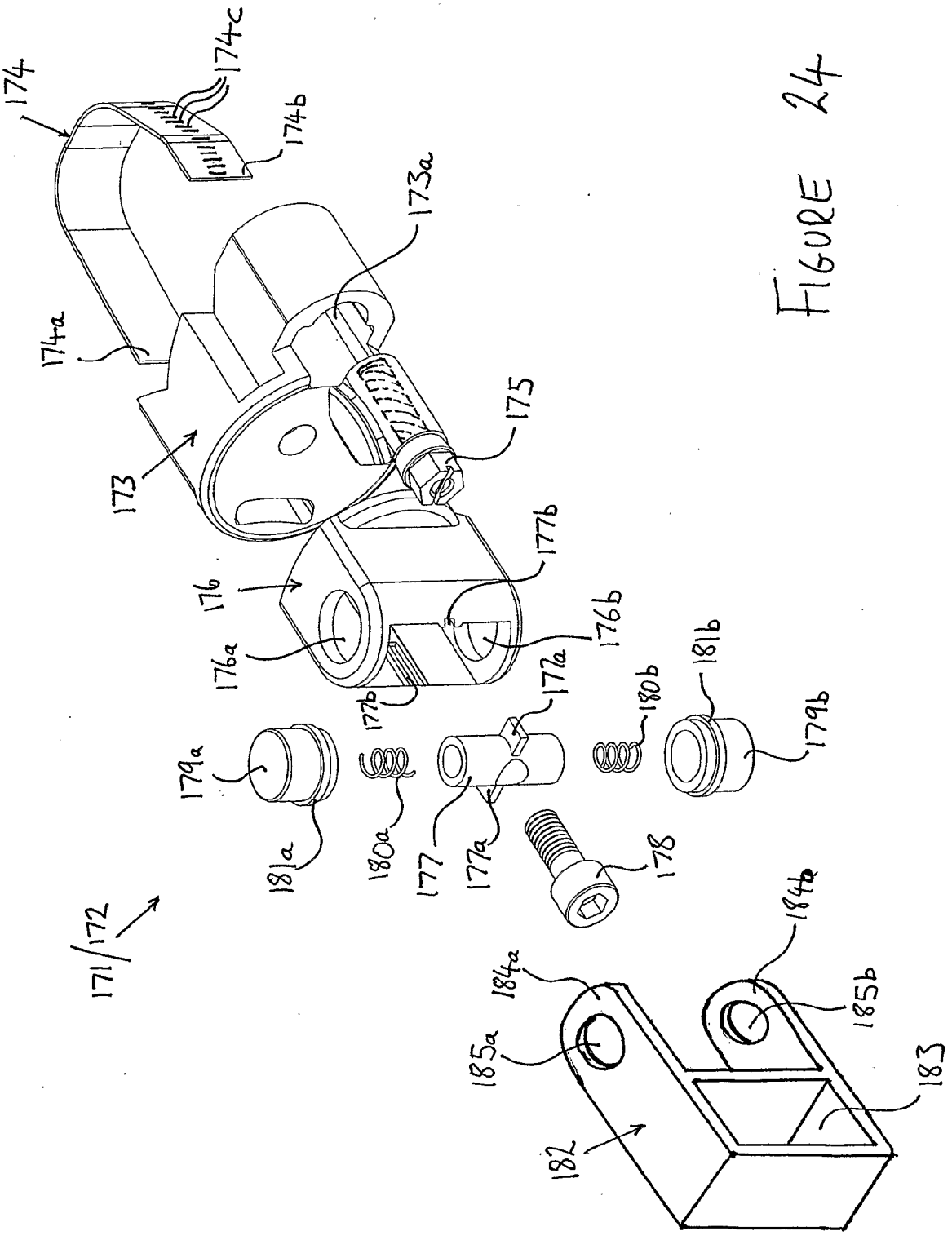

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174c
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FIGURE 24

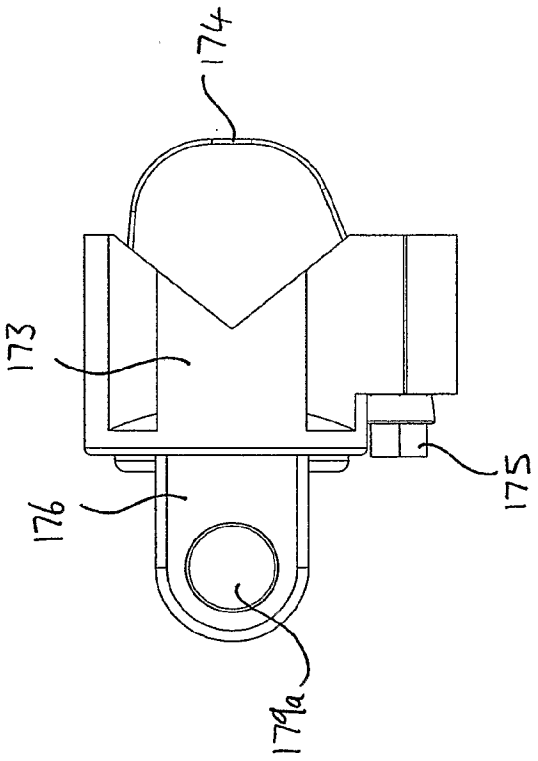


FIGURE 25

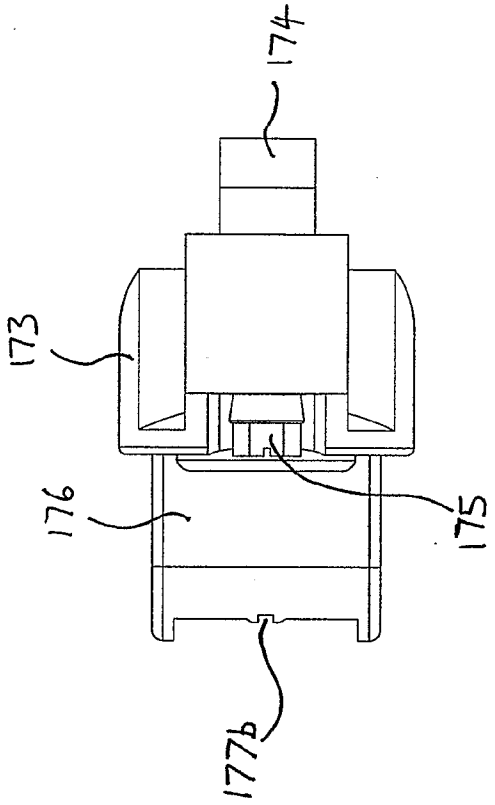


FIGURE 26

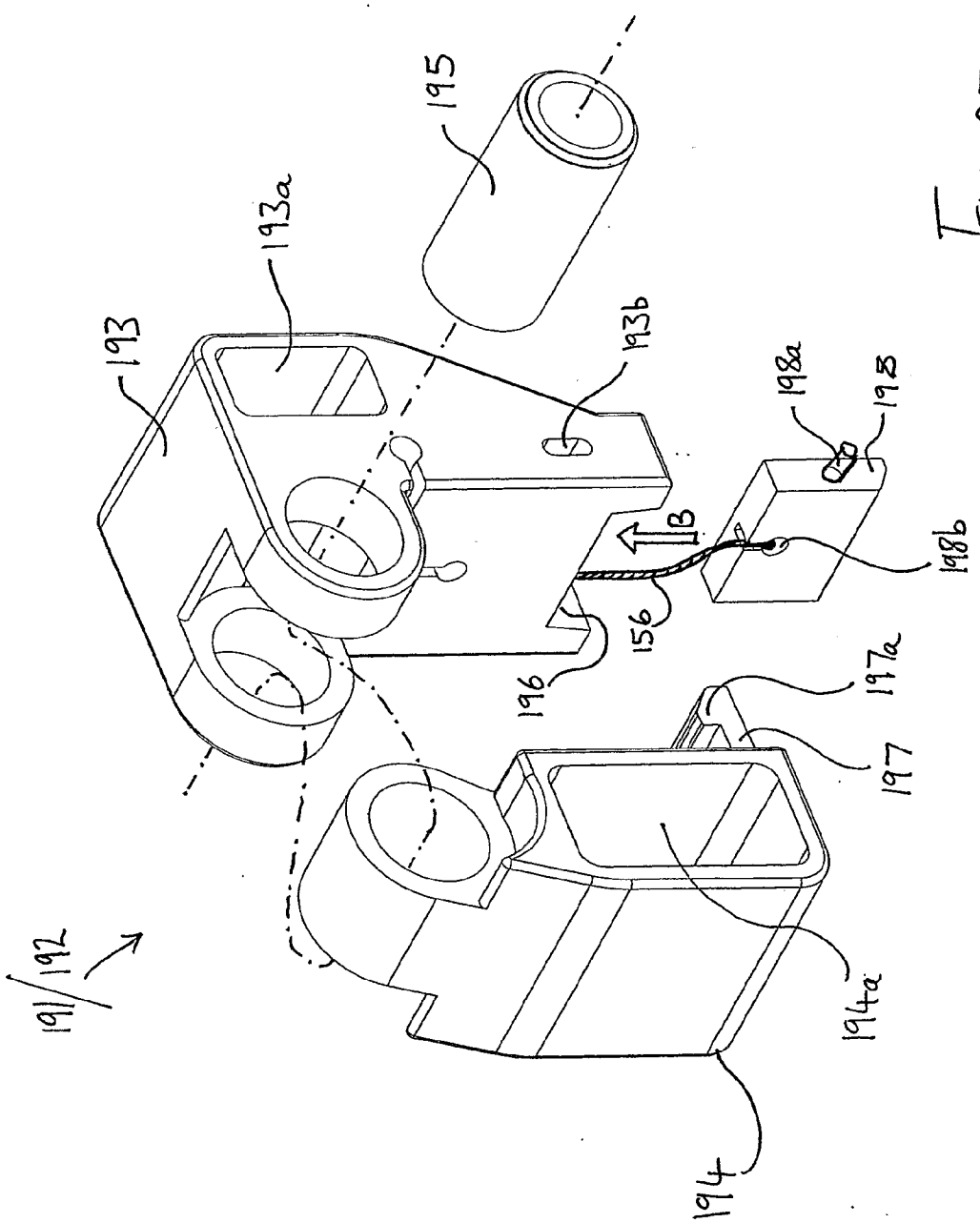

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198b
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FIGURE 27

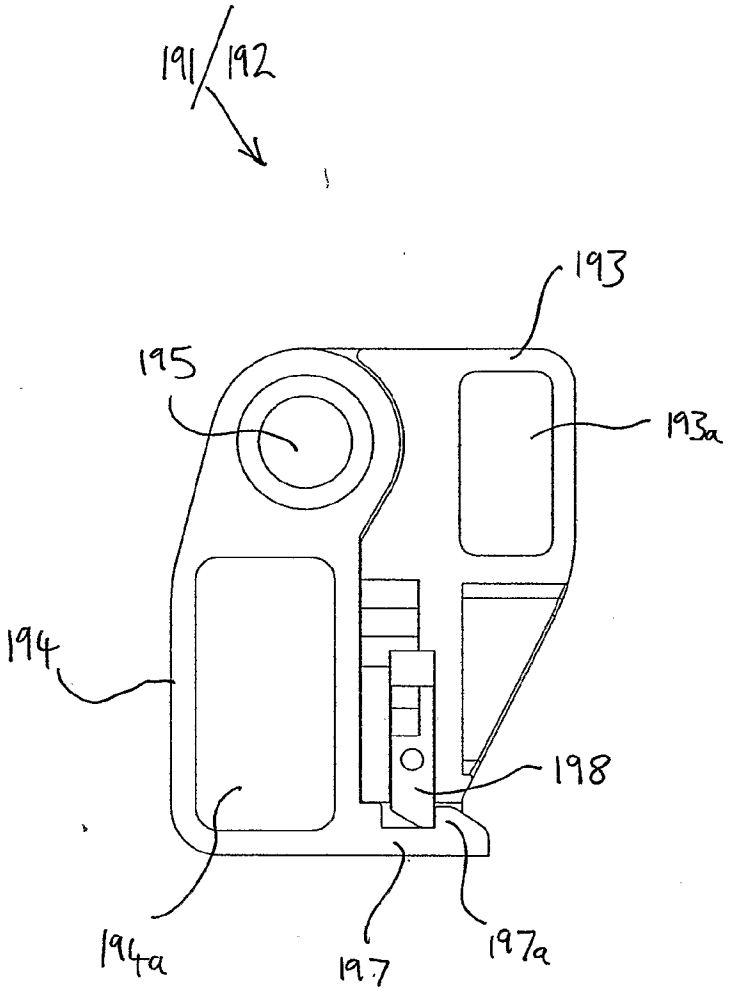


FIGURE 28

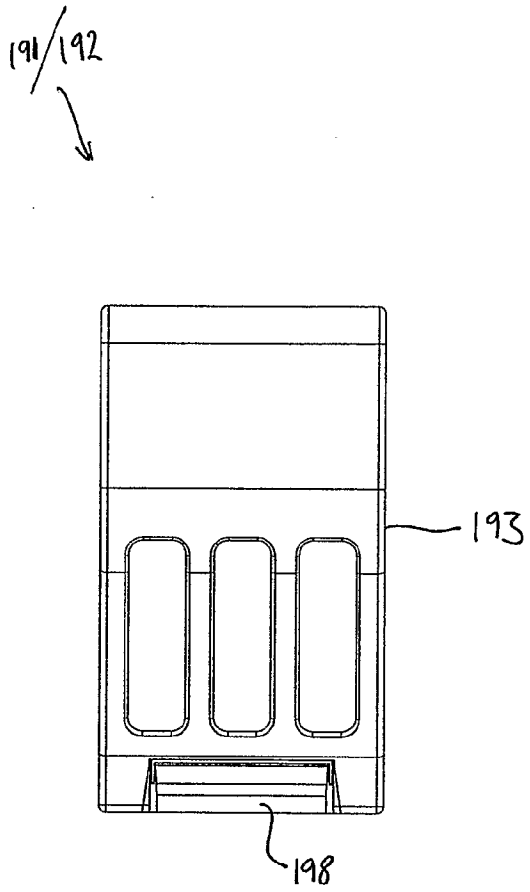


FIGURE 29

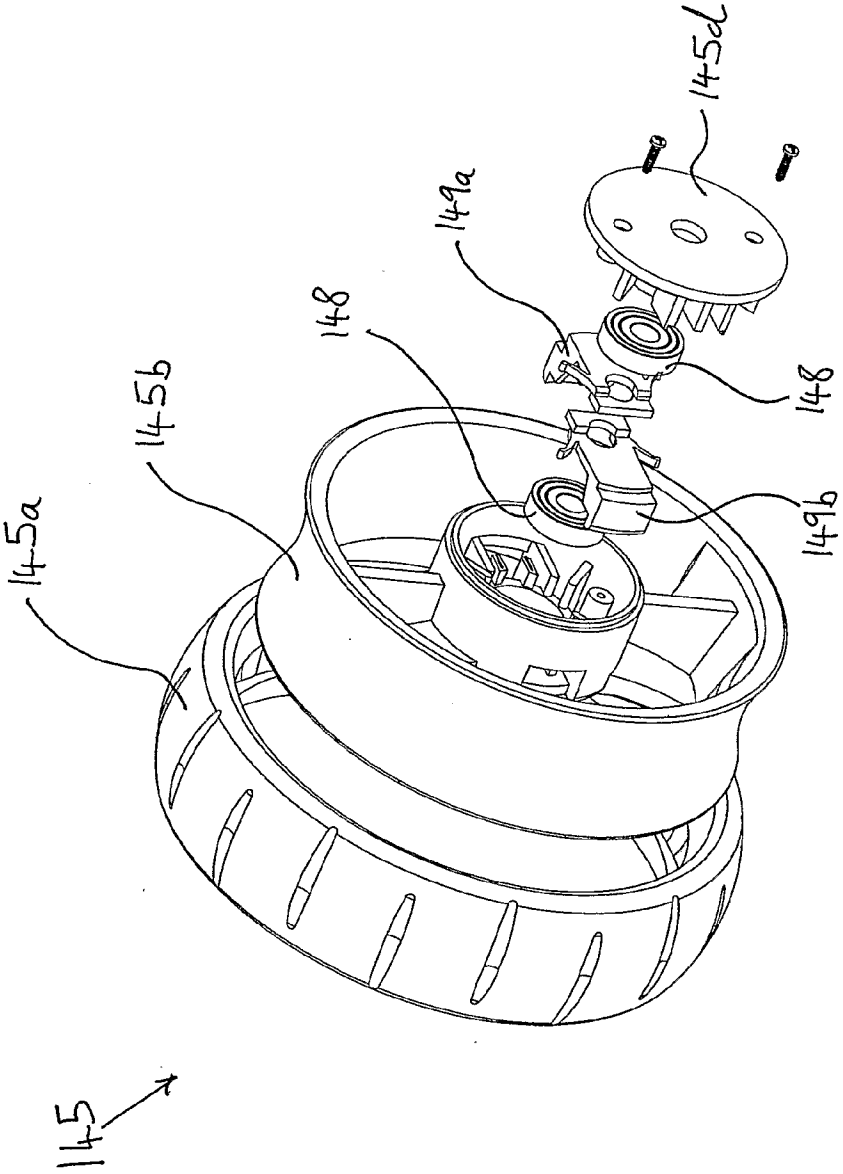


FIGURE 30

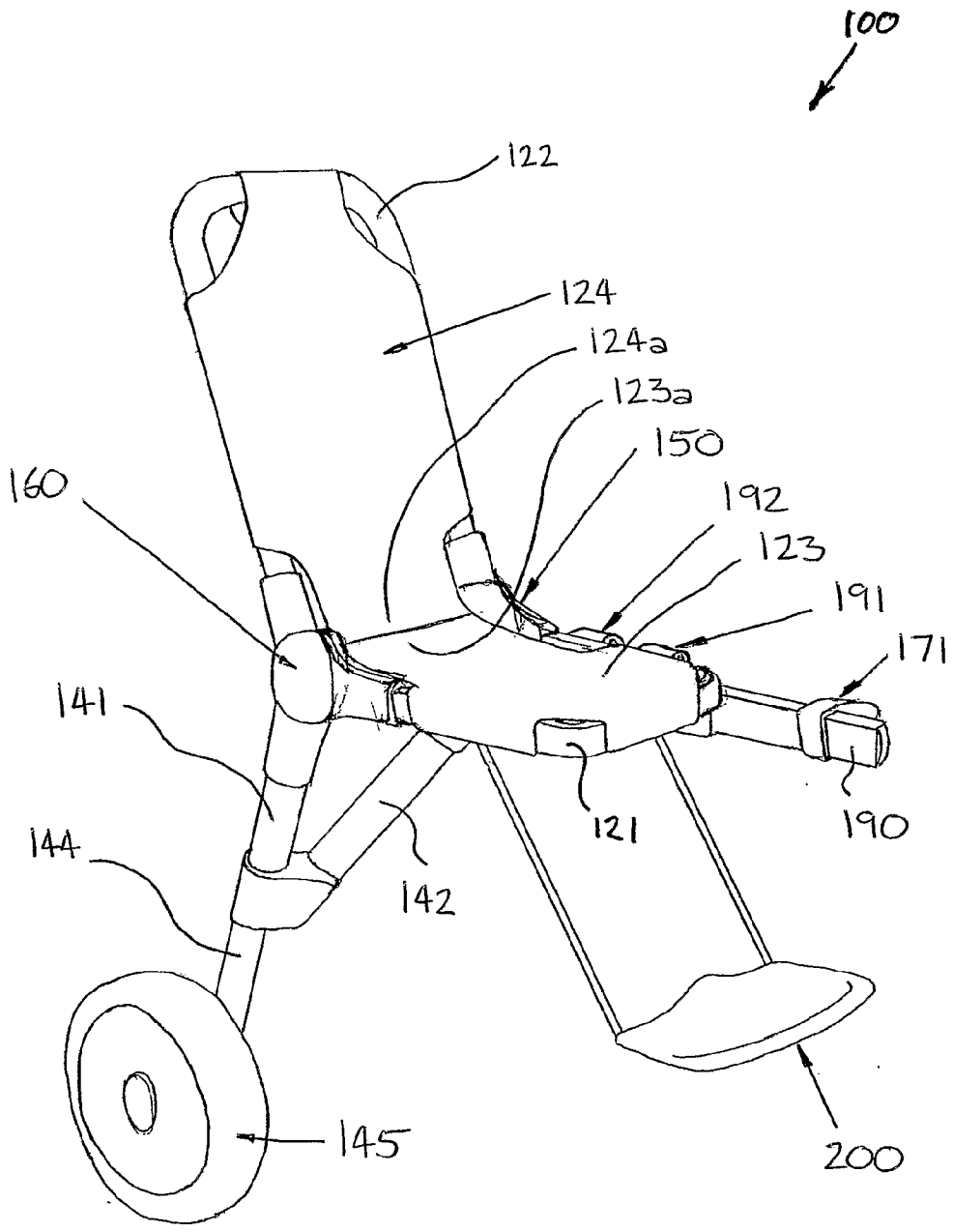

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124a
123a
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FIGURE 31

INTERNATIONAL SEARCH REPORT

Inter Application No
PCT/GB2005/001276

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B62B9/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B62B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 3 000 645 A (SCHMIDT CARL O) 19 September 1961 (1961-09-19) abstract; figures 1,2,4,7	1,5, 9-12, 15-19, 21-28, 30-35, 37,43,44
Y	figures 1,2,4,7	2-4,6
Y	US 6 715 783 B1 (HANSON WAYNE H ET AL) 6 April 2004 (2004-04-06) abstract; figures 4,8,10	2-4,6
A	figures	1
A	DE 40 33 548 A1 (TROAX-AXO AB, HILLERSTORP, SE) 25 April 1991 (1991-04-25) abstract; figure 1	1-4

-/--

[X] Further documents are listed in the continuation of box C.

[X] Patent family members are listed in annex.

° Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
8 June 2005	15/06/2005

Name and mailing address of the ISA	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016	Lindner, V

Form PCT/ISA/210 (second sheet) (January 2004)

MOCKINGBIRD ET AL. EX1018

INTERNATIONAL SEARCH REPORT

Inte Application No
PCT/GB2005/001276

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 89 08 113 U1 (COMBIPRODUKT TEXTILVERARBEITUNGS GMBH, 5750 MENDEN, DE) 10 August 1989 (1989-08-10) abstract; figure 1	1-4
A	US 5 125 712 A (STAMOUTSOS ET AL) 30 June 1992 (1992-06-30) abstract; figures	1,38-42
A	US 2003/209885 A1 (SZMIDT LESZEK G ET AL) 13 November 2003 (2003-11-13) abstract; figures	1,38-42
A	DE 202 10 943 U1 (WEGNER, CHRISTIANE) 21 November 2002 (2002-11-21) abstract; figure 1	1

Form PCT/ISA/210 (continuation of second sheet) (January 2004)

MOCKINGBIRD ET AL. EX1018

INTERNATIONAL SEARCH REPORT

Inte Application No
PCT/GB2005/001276

Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 3000645	A	19-09-1961	NONE		
US 6715783	B1	06-04-2004	AU	1353701 A	14-05-2001
			WO	0132493 A1	10-05-2001
DE 4033548	A1	25-04-1991	SE	468429 B	18-01-1993
			FR	2653401 A1	26-04-1991
			NO	904526 A ,B,	22-04-1991
			SE	8903477 A	21-04-1991
DE 8908113	U1	10-08-1989	NONE		
US 5125712	A	30-06-1992	NONE		
US 2003209885	A1	13-11-2003	US	2004178593 A1	16-09-2004
DE 20210943	U1	21-11-2002	DE	10318434 A1	26-08-2004

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B62B 7/00 (2006.01)

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PCT/US2009/066817

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4 December 2009 (04.12.2009)

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(30) Priority Data:
61/119,920 4 December 2008 (04.12.2008) US

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(72) Inventor; and

(75) Inventor/Applicant *(for US only)*: **ZEHFUSS, Mark** [US/US]; 5120 Austin Healey Drive, Glen Allen, VA 23059 (US).

(74) Agent: **PIKE, Bernard, G.**; Troutman Sanders LLP, Patent & Trademark Department, 600 Peachtree Street, N.E., Suite 5200, Atlanta, GA 30308-2216 (US).

(81) Designated States *(unless otherwise indicated, for every kind of national protection available)*: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States *(unless otherwise indicated, for every kind of regional protection available)*: ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SEAT ATTACHMENT FOR A STROLLER

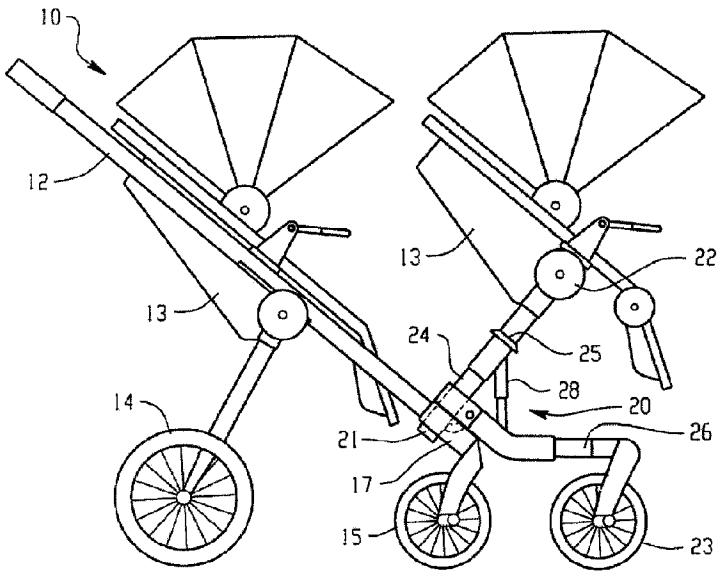


Fig. 3

(57) Abstract: 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.

WO 2010/065884 A1

Published:

— *with international search report (Art. 21(3))*

TITLE

SEAT ATTACHMENT FOR A STROLLER

INVENTOR

Mark Zehfuss

TECHNICAL FIELD

[0001] The invention is directed to a seat attachment for a stroller, single stroller and double strollers. Such a seat attachment may be used to convert a single stroller into a double stroller. More specifically, embodiments of the invention are directed 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. Embodiments of the seat attachment are capable of reversibly converting a single stroller into a double stroller.

BACKGROUND

[0002] Parents with multiple young children may have difficulty transporting their children from place to place. Children are slow, easily distracted and, therefore, may lag behind their parents while the parents are trying to complete shopping tasks or get exercise in a limited amount of time. In response, many parents have purchased double strollers allowing the parent or other guardian to push two children simultaneously and thus allow them to more efficiently run errands, take walks, or jog. As such, a double stroller allows the parents or guardians more freedom than they would have with only a single stroller, especially while trying to manage two sleeping children.

[0003] Though double strollers have certain advantages, double strollers also have disadvantages. Double strollers are substantially larger than single strollers and are, therefore, more difficult to maneuver through doors and down aisles in stores. Typically, the benefits of being able to accommodate two children greatly offset these disadvantages. However, when the parent or guardian has only one child with them, the benefits of the double stroller are not realized but the disadvantages still exist.

[0004] Therefore, parents often buy two or more strollers to use at different times; a single stroller for times when they only have one child with them and a double stroller for

when they need a stroller that will accommodate two children. This often creates its own set of problems. The multiple strollers must be stored and there is seldom room for both a folded double stroller and a folded single stroller in the trunk of a typical car or back of a sport utility vehicle.

[0005] Stroller manufacturers have attempted to solve this problem by providing a place for a second child to stand on the back of a single stroller or attachments that provide another seat for the second child that hangs under and slightly behind the seat of the single stroller. This provides a second seat for a child but the child is tucked close to the back of the front seat which may be uncomfortable, reduce the capacity of the under seat storage, and prevent the parent from hanging a bag on the handle bars.

[0006] There exists a need for a single stroller that may be conveniently converted to a double stroller. There is also a need for a conversion kit that converts the single stroller into a full double stroller that is capable of accommodating two children without loss of convenience for the parent or guardian.

SUMMARY OF THE INVENTION

[0007] Strollers are typically single strollers (strollers having one seat for transporting one child) or may also be double strollers (strollers having two seats for transporting two children). Embodiments of the invention are directed to a seat attachment for a stroller comprising an connector portion capable of connecting directly to a stroller frame or to an attachment frame member connected to the stroller frame; and a seat support element capable of supporting a seat. In certain embodiments, the attachment for a stroller comprises an attachment frame member having a first end and a second end. The first end may be capable of connecting the seat attachment to a stroller frame and the second end may be capable of connecting to the seat support element. The seat support element is thus capable of supporting a seat on the strolle. In more specific embodiments, the seat may be supported in either a forward or backward position.

[0008] Another embodiment comprises a stroller and seat attachment for the stroller, wherein the stroller comprises an attachment frame member connected to the frame of the stroller and the seat attachment for the stroller comprises a connector portion. The attachment frame member and the connector portion comprise components that are capable of being securely connected together. In certain embodiments, the attachment frame member and the connector portion comprise components that are capable of being securely and releasably connected together. In this manner, the seat attachment may be attached to the

stroller and a seat, as defined above, may be connected to the seat attachment, thus reversibly converting the single stroller into a double stroller.

[0009] In a further embodiment, the seat attachment for the stroller further comprises at least one wheel. The wheel may be connected to the seat attachment by a wheel support frame which may be rigidly attached or may be pivotally attached to the seat attachment. The wheel support frame may be connected to any section of the seat attachment, preferably the wheel support frame is pivotally connected to the back portion of the seat attachment in an area adjacent to the connector portion or connected near the middle of the attachment portion.

[0010] Embodiments of the seat attachment for a stroller may further comprise a folding mechanism. The folding mechanism may comprise a sliding member slidingly connected to the attachment portion and a folding frame member or strut having a first end connected to the sliding member and a second end connected to the wheel support frame. The folding mechanism allows the wheel support frame to pivot from a first position (in-use position), to a second position (a folded position). The attachment for the stroller also may comprise a locking mechanism that secures the attachment to a stroller in the in-use position and unlocks the attachment to allow the attachment to be connected or removed from the stroller when in the folded position. The locking mechanism may be a small protrusion attached to the wheel support frame that engages a corresponding aperture in the stroller or the stroller attachment portion to secure the attachment to the stroller. In the folded position, the protrusion is not engaged in the aperture.

[0011] A further aspect is directed to a double stroller. The double stroller may comprise a frame, wherein the frame comprises a handle portion, a front wheel support portion, a back wheel support portion, and a folding mechanism. Embodiments of the double stroller comprise a stroller frame comprising wheels, the frame, a first seat and a connector portion connected to the frame. The double stroller may further comprise a seat attachment frame comprising a wheel, a second seat, and a second attachment portion capable of connecting to the connector portion of the stroller frame. The second attachment portion may be releasably connected to the connector portion. Further, the second seat may be releasably connected to the seat attachment frame and is capable of supporting the second seat in either a forward or backward position.

[0012] A further embodiment of the double stroller comprises a first seat attachment capable of releasably supporting a first child seat and a second seat attachment capable of releasably supporting a second child seat. The seat attachments may comprise two seat connector portions for supporting the seat on both sides.

[0013] An still further embodiment of the double stroller comprises at least one first seat attachment adjacent to the front wheel support portion and a second seat attachment adjacent to each folding mechanism and/or the handle portion. The first seat attachment may be above at least one front wheel connected to the wheel support portion.

[0014] A still further embodiment of the stroller comprises a frame, at least one front wheel, at least one rear wheel, a first stroller seat with at least one first attachment portion permanently attached to the frame; and at least one releasably connected second seat attachment portion capable of supporting a second seat in front of the first stroller seat. As in other embodiments, the seat attachment may comprise two seat connectors. Either or both seat attachment portions may be a single part with two seat connectors or two separate pieces each comprising a seat connector.

[0015] In any of the above embodiments, the stroller, double stroller or attachment may comprise one or more of the following features; a sleeve for removably receiving the attachment portion. The seat attachment portion may comprise a protrusion having a complementary shape to the sleeve for inserting into the sleeve. Further, the second seat may be integral to the seat attachment.

[0016] Aspects of the stroller, double stroller and attachment are presented in various embodiments, however one skilled in the art will understand various variation and interchangeability of the components of the various embodiments which are intended to be included in the scope of the invention.

BRIEF DESCRIPTION OF THE FIGURES

[0017] Figure 1 shows an embodiment of a single stroller;

[0018] Figure 2 shows an embodiment of a seat attachment to convert a single stroller into a double stroller;

[0019] Figure 3 shows the combination of the single stroller of Figure 1 attached to the seat attachment of Figure 2;

[0020] Figure 4 shows an embodiment of a seat attachment capable of supporting a car seat on an attachment of Figure 2;

[0021] Figure 5 shows a combination of the single stroller of Figure 1 attached to an embodiment of the attachment in the form of a tricycle-like riding device; and

[0022] Figure 6A shows an accessory attachment for supporting an accessory on a stroller; Figure 6B shows a bag or purse for attaching to the accessory attachment of Figure 6A.

[0023] Figure 7 shows an attachment for supporting a seat comprising one wheel.

[0024] Figure 8 shows an embodiment of a stroller reversibly that is capable of being converted from a single stroller to a double stroller comprising an attachment portion that does not comprise a wheel.

[0025] Figures 9A, 9B, 9C, 9D, 9E, and 9F show various configurations of the embodiments of the stroller shown in Figure 8.

DESCRIPTION

[0026] The invention relates to an accessory, attachment, or conversion kit (hereinafter "seat attachment") for a stroller. 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 comprises at least one connector portion capable of connecting to a stroller frame and a seat support element capable of supporting a seat. The seat attachment may optionally comprise at least one wheel for additional support and stability, however, for more convenience, embodiments of the attachment do not include a wheel. In certain embodiments, a wheel may stabilize the double stroller, but in other embodiments of the attachment the wheel may not be desirable or necessary. Additional embodiments of the attachment comprise a cart, wagon, tricycle-like attachment, or other riding toy that may be connected to the stroller, for example. A tricycle-like attachment would allow a child to ride or be pushed in front of the stroller.

[0027] A side view of an embodiment a single stroller 10 is shown in Figure 1. As a note, Figure 1 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 single stroller 10 comprises a frame 12 that supports seat 13. The frame 12 may, optionally, include at least one, preferably two, folding mechanism 16 that allows the stroller 10 to be folded to a more convenient size for storing or transporting the stroller 10.

[0028] In this embodiment, 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 being of connected and disconnected by the user of the stroller 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. On stroller 10 of Figure 1, the frame 12 is supported on a pair of back wheels 14 and a pair of front wheels 15. In this embodiment, back wheels 14 are fixed and do not swivel or pivot on the frame. The pair of front wheels 15 on the single stroller 10 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. It should be noted that a single stroller does not require pairs of front or rear wheels and either the front pair of wheels 15 or the back pair of wheels 14 may be substituted with a single wheel. Conventionally, many single strollers, including umbrella strollers, jogging strollers, all-terrain strollers, as well as other strollers may only include one front wheel. Embodiments of the seat attachment of the invention may be capable of converting any style of stroller to a double stroller, including strollers with one or two front wheels.

[0029] The embodiment of the stroller 10 comprises two attachment frame members 17. The connector portions are preferably on the front of the stroller to allow the seat attachment and the seat to be connected to the front of the stroller 10. The attachment frame members 17 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. Only one seat attachment is shown in Figure 3, the stroller 10 would use two seat attachments as shown in Figure 3 or one seat attachment comprising two seat support elements. The embodiment of the stroller 10 has a left side and right side attachment frame members 17. An embodiment

of a seat attachment of stroller 10 will comprise corresponding connector portions capable of connecting to the stroller frame at the attachment frame members 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. Embodiments of the seat attachment may therefore be used to convert a double stroller into a triple stroller, if desired.

[0030] An embodiment of a seat attachment 20 of the invention is shown in Figure 2. The seat attachment of Figure 2 is in an unlocked and folded configuration. The seat attachment 20 comprises a pair of connector portions 21 capable of connecting to the attachment frame members 12, two seat attachment elements 22 capable of supporting a seat; and a wheel 23. In this embodiment, the connector portions 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. Other embodiments of the seat attachment may include more than one wheel, one connector portion, one seat support element, or combinations of these elements. In an embodiment of the stroller with one wheel, the attachment frame member may be on the forks of the front wheel, for example.

[0031] The seat attachment 20 comprises 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 is connected to the seat support element 22. The embodiment of the seat attachment 20 comprises 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 frame members 17. The pivotal connection 27 allows the seat attachment to be folded and conveniently stored or transported but is not necessary for the invention. The pivotal connection is optional and provides more convenience, however, embodiments of the attachment may comprise 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 wherein a stronger seat attachment may be desired such as with all-terrain or jogging strollers, for example. The wheel support frame may be connected at any point on the attachment frame, preferably the wheel support frame is connected near the connector portion 21 or near the middle of the attachment frame 24.

[0032] An embodiment of the seat attachment without a wheel may include connector portion 21 or attachment frame member 24, and seat attachment member 22, for example. In such an embodiment, there would be no need for pivotal connection 27, wheel support frame 26, sliding connector 25, or wheel 23.

[0033] The seat attachment 20 comprises a folding mechanism comprising a sliding connector 25 connected to a first end of strut 28. A second end of strut 28 is 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, 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, the embodiment of the seat attachment 20 comprises a locking mechanism 27 that is capable of securing the seat attachment 20 to a stroller, such as stroller 10 shown in Figure 1. The locking mechanism 29 is engaged by moving the sliding connector 25 to the in-use position in which the wheel support frame 28 and wheel 23 are extended. In an embodiment of the seat attachment 20 for the stroller 10, the wheel of the seat attachment 20 is pivotally connected to the connector portion and when the wheel 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 stroller 10 may be conveniently used as a single stroller. As designed, the seat attachment 20 may be reconnected to stroller 10 for use as a double stroller. In any embodiment of the invention, 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 may comprise 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 or slot, for example. In embodiment 20 shown in Figure 2, the locking mechanism 29 pivots with wheel support frame 26 as the 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 of stroller 10 shown in Figure 1. As such, the attachment 20 may be attached to stroller 10 by positioning attachment portion 21 of attachment 20 in slot 18 of attachment portion 17 of stroller 10. The sliding connector 25 may be moved to the in-use position, wheel support frame is moved and locking mechanism 29 is positioned into locking slot 19 of stroller 10.

[0034] The connector portion 21 of the embodiment of the seat attachment 20 has a cylindrical shape. The connector portion 21 may be inserted into a cylindrical recess 18 of the attachment frame member 17 of stroller 10 of Figure 1 to secure the seat attachment and convert the single stroller into a double stroller, as shown in Figure 3. Other embodiments of

the seat attachment may include any type of connector portion. The connector portion 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 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 of the stroller has a complimentary and cooperating shape that allows the connector portion to be secured to the attachment portion of the stroller.

[0035] In Figure 3, the seat attachment 20 of Figure 2 is shown connected to the single stroller 10 of Figure 1 forming 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 of the seat attachment may be capable of supporting the front stroller seat in either a forward or backward position.

[0036] The embodiment of the stroller 10 is shown only as an example of one type of stroller, the frame of the stroller may be any of many possible configurations. Embodiments of the accessory of the invention may be configured to be used on any such configuration of a stroller. For example, a different embodiment of 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 comprise fixed front wheels, an entirely different frame configuration, or a storage basket underneath the seat of the stroller.

[0037] The seat support member may be any configuration capable of supporting the seat on the seat attachment. Another embodiment of a seat support member for use with a car seat or other baby seat is shown in Figure 4. The embodiment of the seat support member 40 of Figure 4 comprises a main support 41. The main support 41 comprises a cradle for supporting a central portion of the seat. Another portion of the seat may rest against support bar 42. In this embodiment, support bar 42 may be adjusted to accommodate seats of different shapes and sizes. Support bar 42 may be slid within aperture 43 and locked in place when in the desired position to support a certain seat. The seat is, therefore, supported on two main supports 41 and 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.

[0038] Another embodiment of a seat attachment for a stroller is shown in Figure 5. The combination 50 comprises stroller 10 and seat attachment 51. Seat attachment 51 is a tricycle-like attachment comprising an connector portion 52, a frame 53 with a seat support element 56, a seat 57, and 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 may be other shapes also such as cars, trucks, or animal shapes, for example.

[0039] The embodiment of the stroller 10 of Figure 5 comprises an additional accessory attachment portion 58. The accessory attachment portion 58 attaches to a frame member of 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 stroller 10.

[0040] 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. 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 attachment portion may be attached to the frame of a stroller by any of the clamping or attachment methods described above, for example. Preferably, accessory attachment 58 is attached near the center of gravity of the stroller 10 to avoid creating an unbalanced condition of the stroller. An embodiment of the accessory attachment 58 is shown in Figure 6A. Accessory attachment 58 is shown connected to stroller frame 12 of stroller 10 in Figure 1 near the folding mechanism. Embodiments of the accessory comprise a first end 61 for connecting to a stroller frame and a second end 62 for releasably connecting to the accessory. The first end 61 comprises an aperture 64 that may be connected to frame 12 of the stroller 10. In certain embodiments, the aperture 64 is on an angle – such that when the axis of the accessory attachment portion 58 is substantially horizontal. The accessory attachment 58 may, optionally, comprise a rib for securing the accessory to the accessory attachment 58.

The rib as shown in Figure 6A may be replaced with any other locking element or securing means including a friction fitting, a screwed fitting, interference fitting, for example.

[0041] One example of an accessory for attaching to an accessory attachment 58 is shown in Figure 6B. The accessory is a bag or purse 64. The accessory includes an attachment portion 65 that is capable of being secured to the attachment portion 62 on the accessory attachment 58. The bag or purse 64 may be secured on stroller 10 by securing attachment portion 65 to attachment portion 62. The attachment portion 65, as shown, slides over the cylindrical attachment portion 62 of accessory attachment 58. Attachment portion 65 may include an interior annular recess that receives rib 63 securing the bag or purse 58 to stroller 10. The bag or purse 64 is thus secured 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.

[0042] A further embodiment of the stroller 80 is shown in Figure 8. Stroller 80 may be easily converted from a single stroller comprising one seat to a double stroller comprising two seats without addition of another wheel on the attachment. Stroller 80 comprises a frame 81 capable of supporting the stroller seat 86. In this embodiment, the frame 81 comprises a front wheel support portion 81a, a back wheel support portion 81b, and a handle portion 81c. The frame 81 of the embodiment of the stroller 80 further comprises a folding mechanism 81d that connects front wheel support portion 81a, a back wheel support portion 81b, and a handle portion 81c. The folding mechanism 81d allows the stroller to be folded in a more compact size for storing or transportation. Figure 8A shows stroller 80 in a folded configuration.

[0043] Stroller 80 further comprises at least one front wheel 82 (both front wheels 82 of stroller 80 may be seen in Figure 8A), at least one rear wheel 83 (both rear wheels 83 of stroller 80 may be seen in Figure 8A), a stroller seat 86, and a seat support portion 84 capable of supporting a second seat in front of the stroller seat. The stroller 80 may further comprise a storage basket 87. Seat support portion may be of any design capable of securely supporting a seat on the stroller. For example, the seat support portion 84 may be similar to seat support portion 20 shown in Figure 2 without the wheel 23, the strut 28, pivotal connection 27, and/or the wheel support frame 26. Preferably, the seat support portion is capable of supporting a seat such that a child in the seat is substantially above the frame of the stroller. This provides easier access to the seat, does not block access to the storage basket, allows more versatile configurations of the seats, allows more variety of seats to be

attached to the frame, and allows the parent or other guardian to more easily monitor and see the child in each seat.

[0044] Stroller 80 comprises a stroller seat 86. The stroller seat 86 is located adjacent to handle portion 81c. The stroller seat 86 may be fixedly attached or removably attached to frame 81. In embodiments of the stroller 80 wherein stroller seat 86 is removably attached to frame 81, the stroller seat 86 may be removed and replaced in a backward facing configuration, see Figure 9A, be replaced by a infant carrier 91 or car seat on seat support element 84, see Figure 9C, or replaced with a pram 92 on seat support element 84, see Figure 9D. Embodiments of the stroller 80 may comprise a second seat support element 89 adjacent to the handle portion 81c. A stroller 80 comprising a second seat support element 89 allows the seat to be easily removed and reconfigured to a different orientation or replaced with a different style seat.

[0045] Embodiment of the stroller 80 comprises a first seat support element 84. The seat support element 84 is connected to the stroller 80 front wheel support frame 81a. The seat support element 84 is adjacent to the front wheel support portion 81a of frame 81. The seat support element is capable of supporting a second stroller seat 85 in front of the stroller seat 86. This provides convenience and versatility to a user of stroller 80. Seat support element may be fixedly attached or removably attached to front wheel support portion 81a. The front seat 85 may be positioned substantially over the front wheels so the stroller remains stable. Preferably, the seats should be positioned such that the center of gravity of the stroller is between the front and rear wheels. If not an additional wheel may be placed on the attachment as previously described. Seat support element 84 comprises a seat connector 88. Seat connector 88 may be a multipurpose general connector that allows different seats to interchanged on the seat support element 84. Any style seat may be configured to connect to the seat connector, 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.

[0046] An embodiment of the stroller attachment comprises a connector portion, and a seat support element. The connector portion is capable of connecting the seat attachment to the frame.

[0047] In the embodiment shown in Figure 8, stroller 80 comprises a first stroller seat 86 and a second stroller seat 85. Stroller seat 86 is shown in the forward facing configuration and second stroller seat 85 is shown in a backward facing configuration. The seat support element 84 is capable of supporting the seat above the front wheel 82 connected to the wheel

support portion 81a. Preferably, the front seat is located substantially over the front wheels and the back seat is located substantially over the rear wheels.

[0048] Though it can not be seen in the side view of Figure 8, a typical embodiment of the stroller will comprise two seat connector portions. One seat connector portion will support each side of the seat. The connector portion may be one piece or multiple parts.

[0049] Figures 9A through 9F show various configurations that are possible with the stroller of the invention. These configurations are not to be considered to be all available configurations of the stroller and one skilled in the art would recognize many additional possibilities based upon this specification and set of drawings. From the foregoing it will be appreciated that, although specific embodiments of the invention have been described herein for purposes of illustration, various modifications may be made without deviating from the spirit and scope of the invention. Accordingly, the invention is not limited except as by the appended claims.

CLAIMS

1. A seat attachment for a stroller, comprising:

an attachment frame member comprising a connector portion capable of connecting to a stroller frame; and

a seat support element capable of supporting a seat;

2. The seat attachment of claim 1, comprising:

a wheel.

3. The seat attachment for a stroller of claim 2, further comprising a wheel support frame connecting the wheel to the attachment frame member.

4. The seat attachment for a stroller of claim 3, wherein the wheel support frame is pivotally connected to the attachment frame member.

5. The seat attachment for a stroller of claim 4, wherein the wheel support frame is pivotally connected near the middle of the attachment frame member.

6. The seat attachment for a stroller of claim 5, further comprising a folding mechanism.

7. The seat attachment for a stroller of claim 6, wherein the folding mechanism comprises a sliding connector slidingly connected to the attachment frame member and a strut having a first end connected to the sliding member and a second end connected to the wheel support frame.

8. The seat attachment for a stroller of claim 4, wherein the wheel support frame is capable of pivoting from a first position to a second position.

9. The seat attachment for a stroller of claim 8, wherein the first position is a locked and in-use position and the second position is an unlocked and folded position.

10. The seat attachment for a stroller of claim 1, wherein the seat is a baby seat, a car seat, a stroller seat, a bassinet, or a pram.

11. The seat attachment for a stroller of claim 1, wherein the attachment frame member has a first end and a second end.

12. The seat attachment for a stroller of claim 11, wherein the first end is capable of connecting to a stroller frame.

13. The seat attachment for a stroller of claim 12, wherein the second end is connected to the seat attachment member.

14. The seat attachment for a stroller of claim 1, wherein the seat support element is capable of supporting a seat in either a forward or backward position.

15. The seat attachment for a stroller of claim 1, further comprising a stroller seat, wherein the seat support element is capable of supporting the stroller seat in either a forward or backward position.

16. A double stroller, comprising:

a stroller frame comprising wheels, a frame, a first seat and an attachment frame member connected to the frame;

a seat attachment comprising a wheel, a second seat, and a connector portion capable of connecting to the attachment frame member.

17. The double stroller of claim 12, wherein the connector portion is capable of being releasably connected to the attachment frame member.

18. The double stroller of claim 12, wherein the second seat is releasably connected to the seat support element.

19. The double stroller of claim 18, wherein the seat support element is capable of supporting the second seat in either a forward or backward position.

20. A double stroller, comprising:

a first seat attachment capable of removably supporting a child seat; and

a second seat attachment capable of supporting a child seat.

21. The double stroller of claim 20, wherein each seat attachment comprises two seat connector portions.

22. The double stroller of claim 20, wherein the child seat is one of a stroller seat, a baby carrier, a bassinet, a pram, or a car seat.

23. The double stroller of claim 20, comprising a frame, wherein the frame comprises a handle portion, a front wheel support portion and a back wheel support portion.

24. The double stroller of claim 23, wherein a first seat attachment is adjacent to the front wheel support portion.

25. The double stroller of claim 24, wherein the first seat attachment is above at least one front wheel connected to the wheel support portion.

26. The double stroller of claim 25, wherein the second seat attachment is adjacent to the handle portion.

27. The double stroller of claim 23, further comprising a folding mechanism that connects the handle portion, the front wheel support portion, and the back wheel support portion.

28. A stroller, comprising:

a frame;

at least one front wheel;

at least one rear wheel;

a stroller seat; and

a seat attachment portion capable of supporting a second seat in front of the stroller seat.

29. The stroller of claim 28, wherein the seat attachment portion comprises two seat connectors.

30. The stroller of claim 29, wherein the seat attachment portion is removably connected to the frame.

31. The stroller of claim 30, wherein the seat attachment portion comprises two portions each comprising one seat connector.

32. The stroller of claim 30, wherein the frame comprises a sleeve for removably connecting the seat attachment portion to the frame.

33. The stroller of claim 28, wherein the second seat is one seat selected from a stroller seat, an infant carrier, a bassinet, a pram, or a car seat.

34. The stroller of claim 33, wherein the second seat is integral to the seat attachment portion.

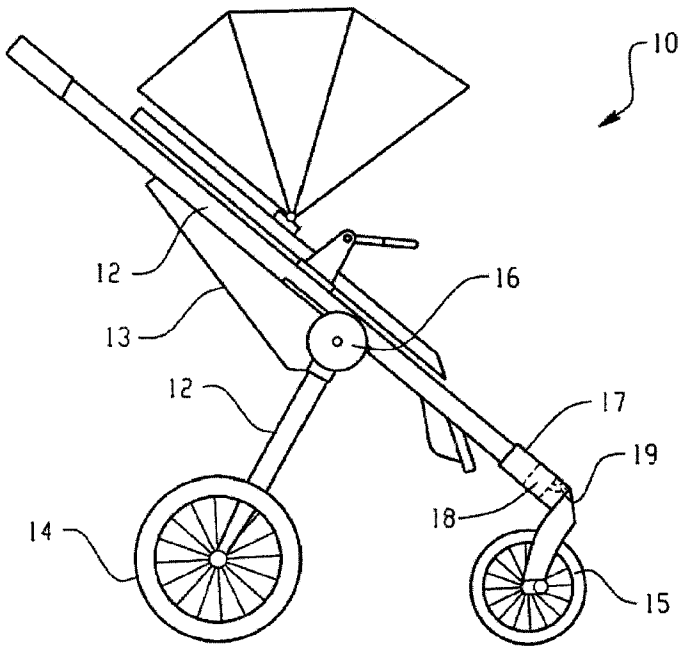


Fig. 1

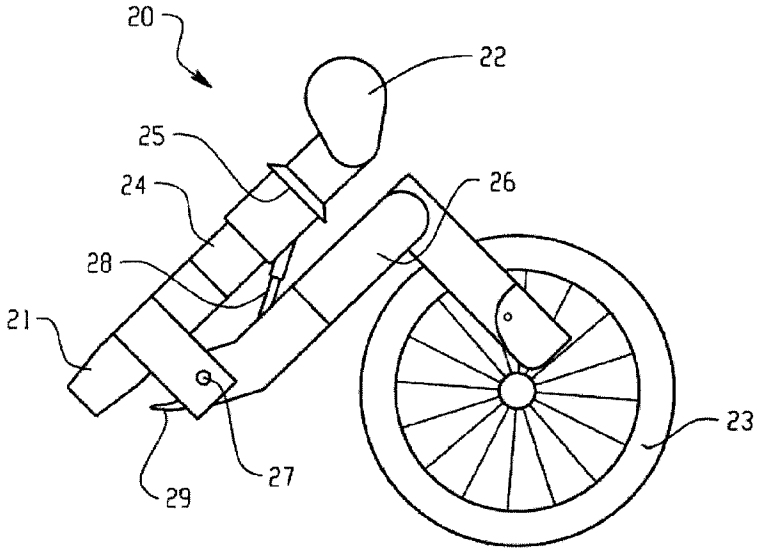


Fig. 2

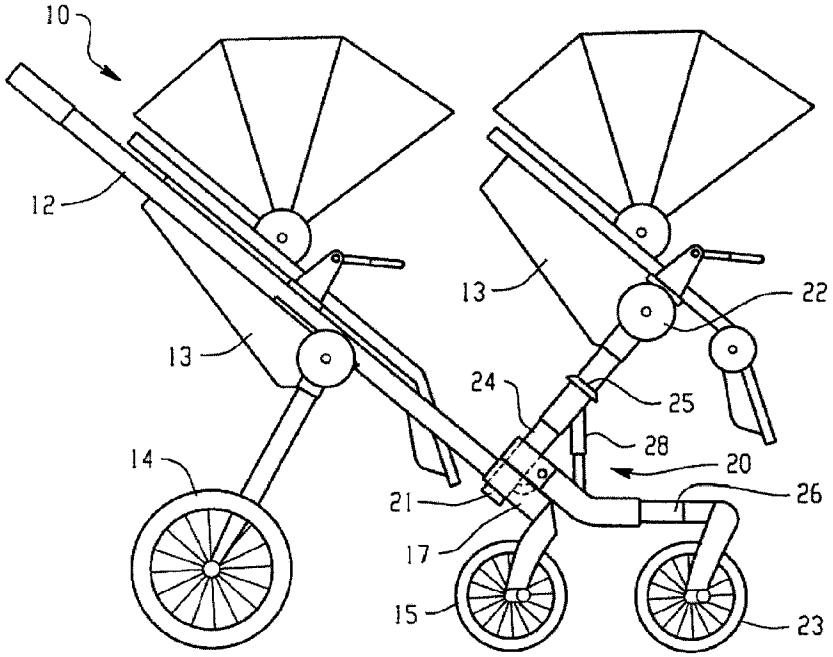


Fig. 3

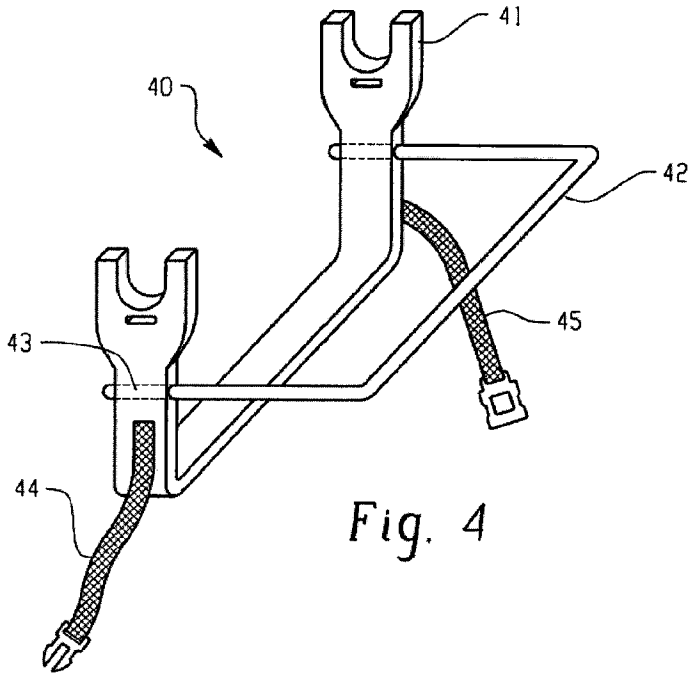


Fig. 4

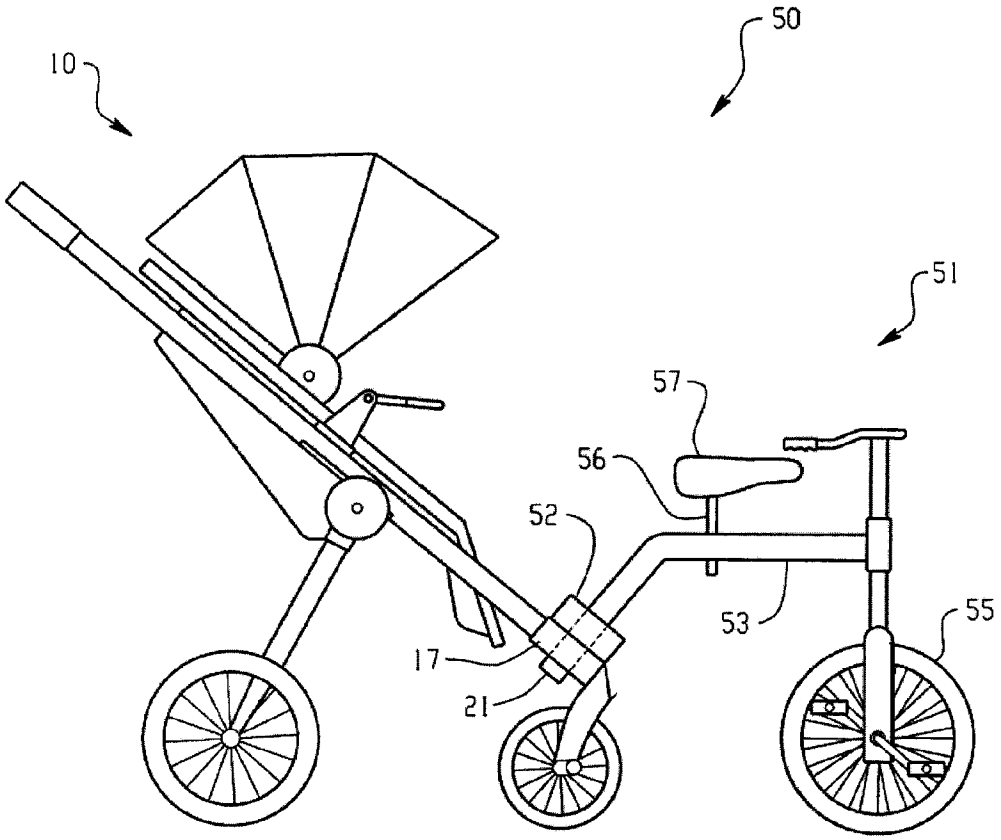


Fig. 5

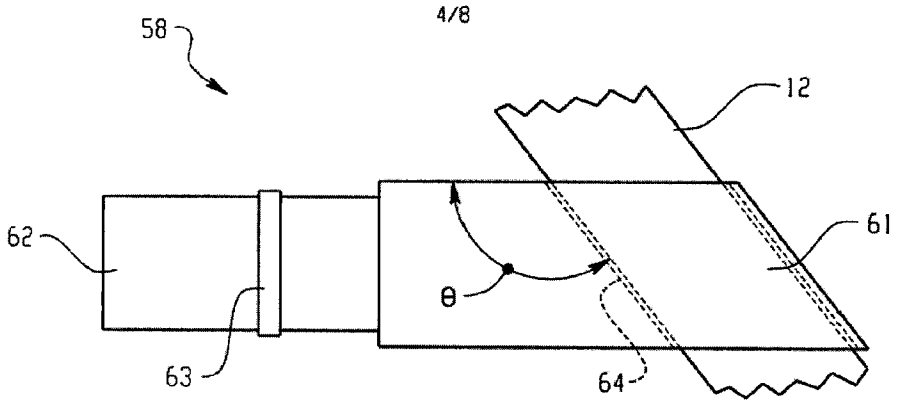


Fig. 6A

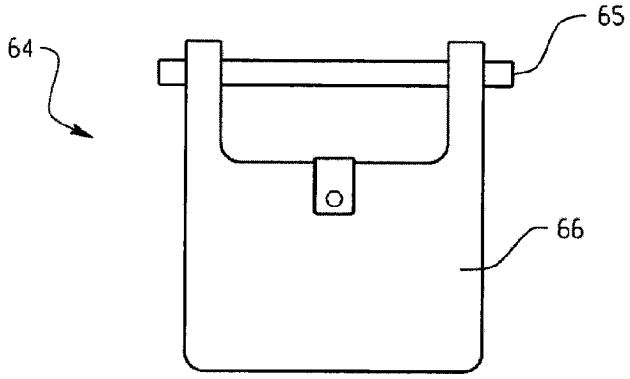


Fig. 6B

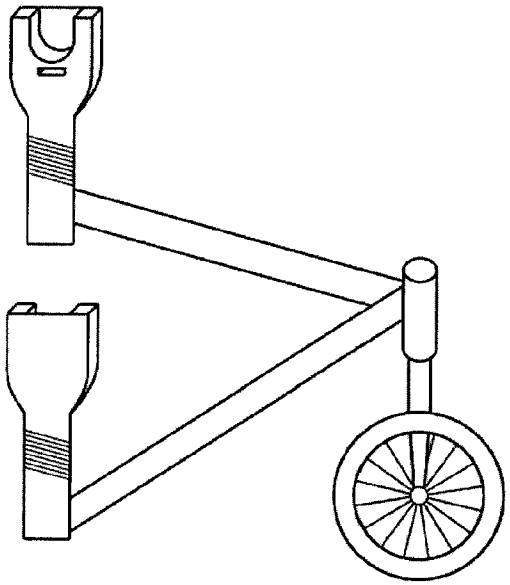


Fig. 7

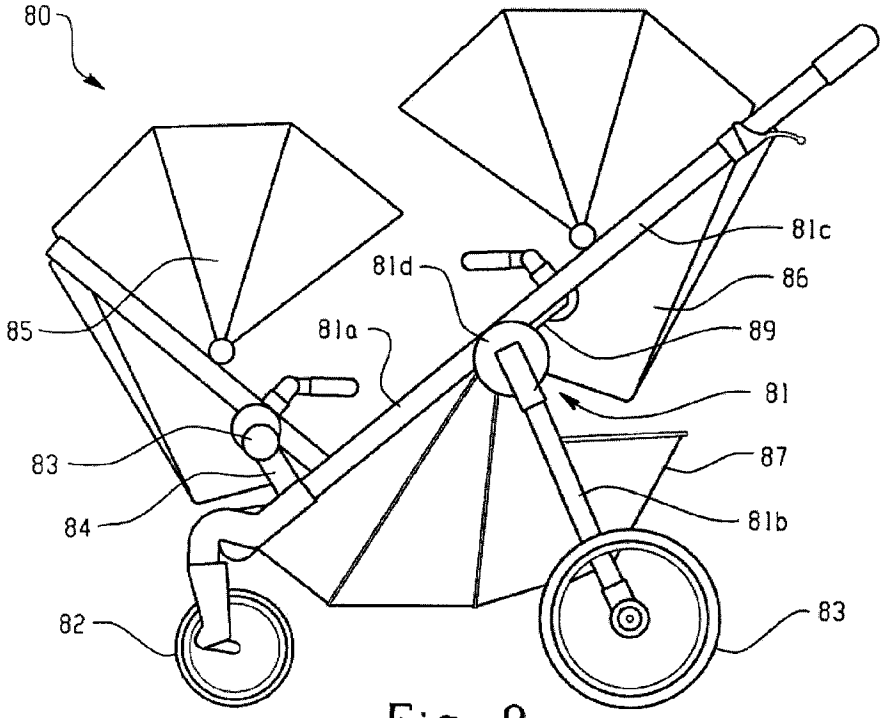

80
81c
81d
86
85
81a
89
81
83
87
84
81b
82
83

Fig. 8

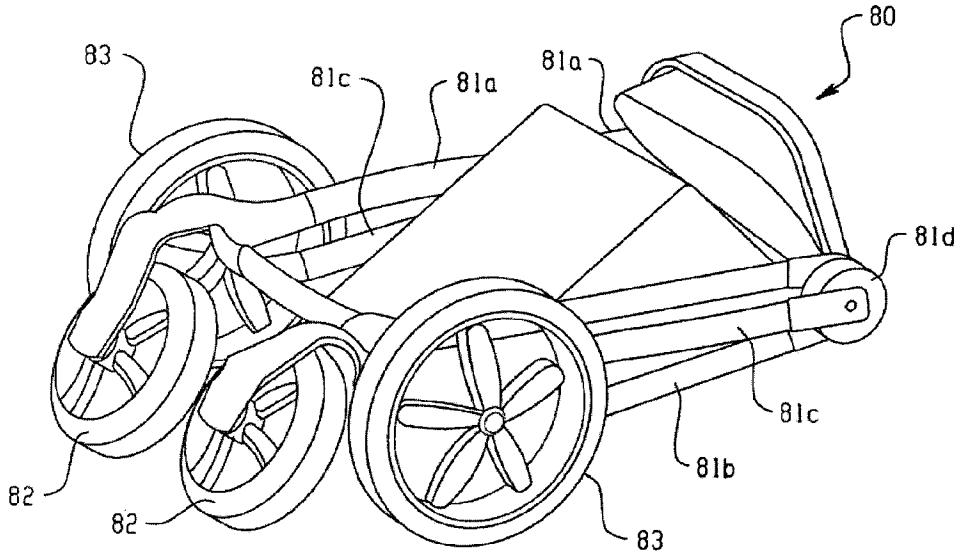

80
83
81c
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82
82
83

Fig. 8A

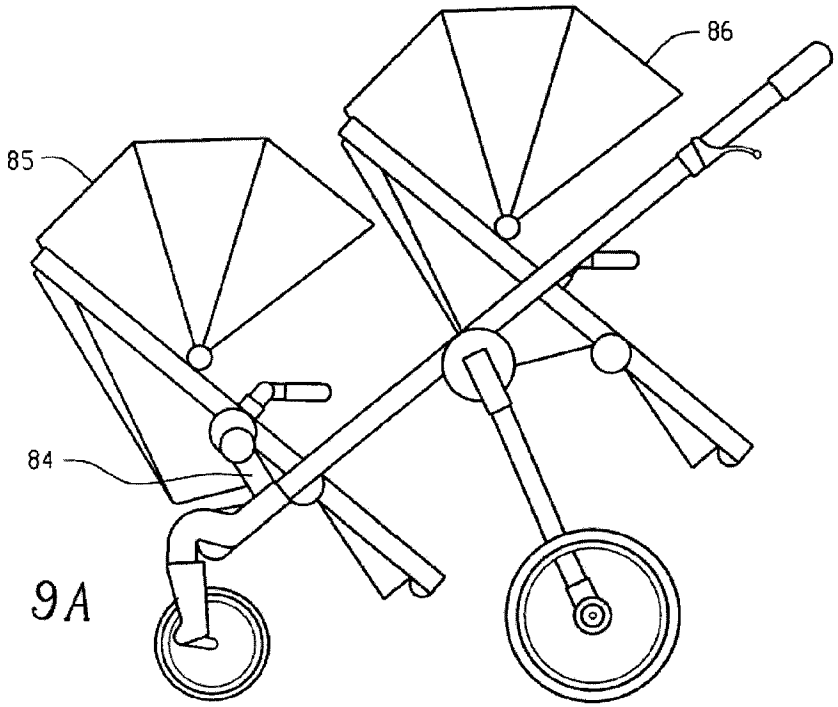


Fig. 9A

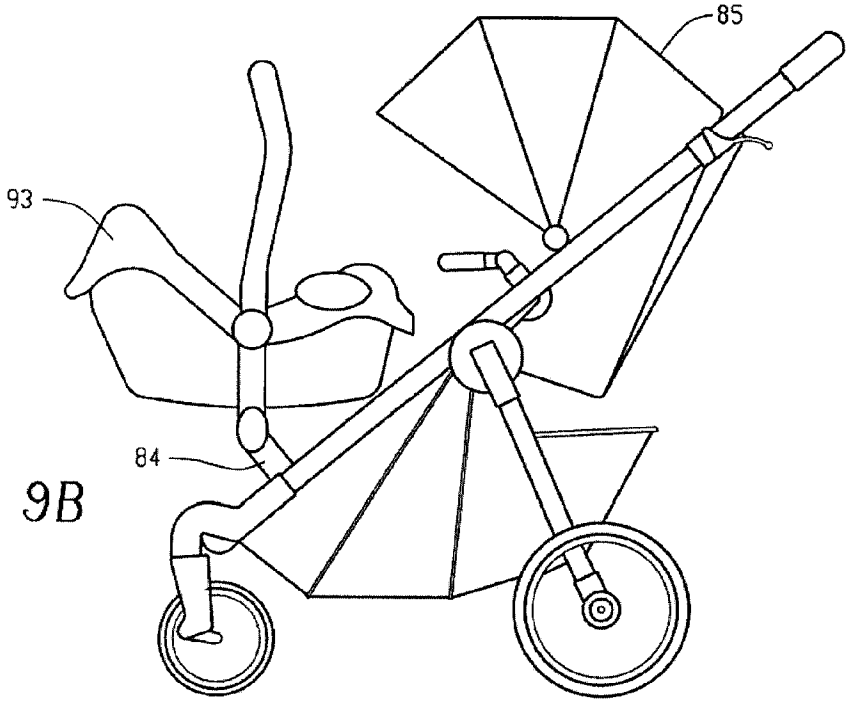


Fig. 9B

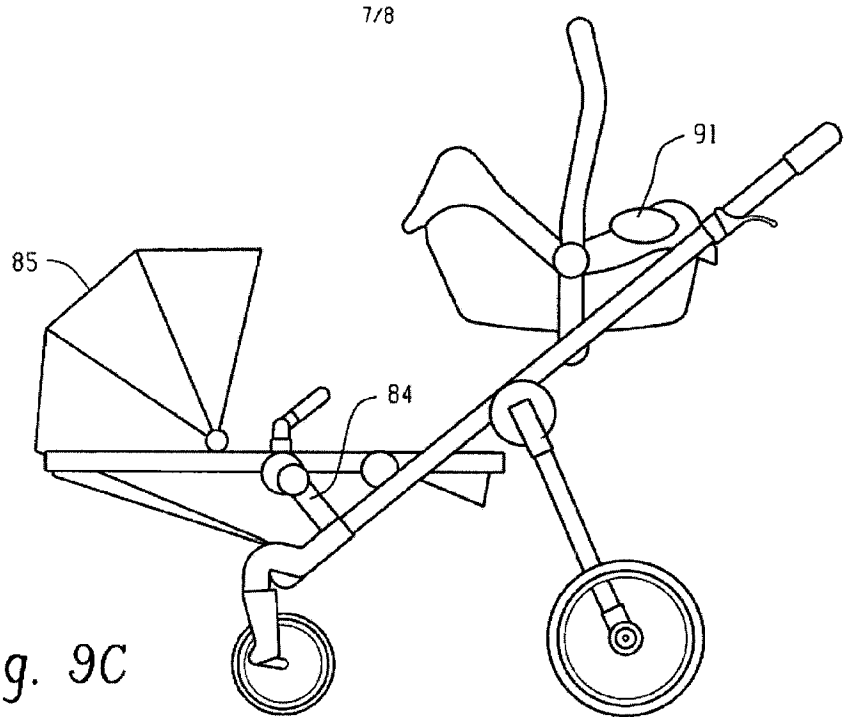


Fig. 9C

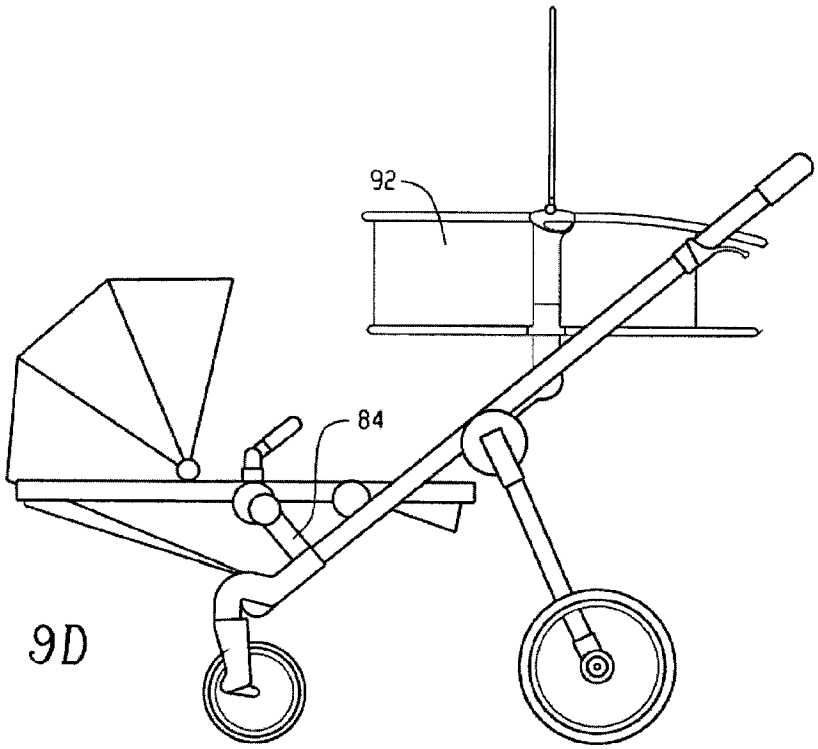


Fig. 9D

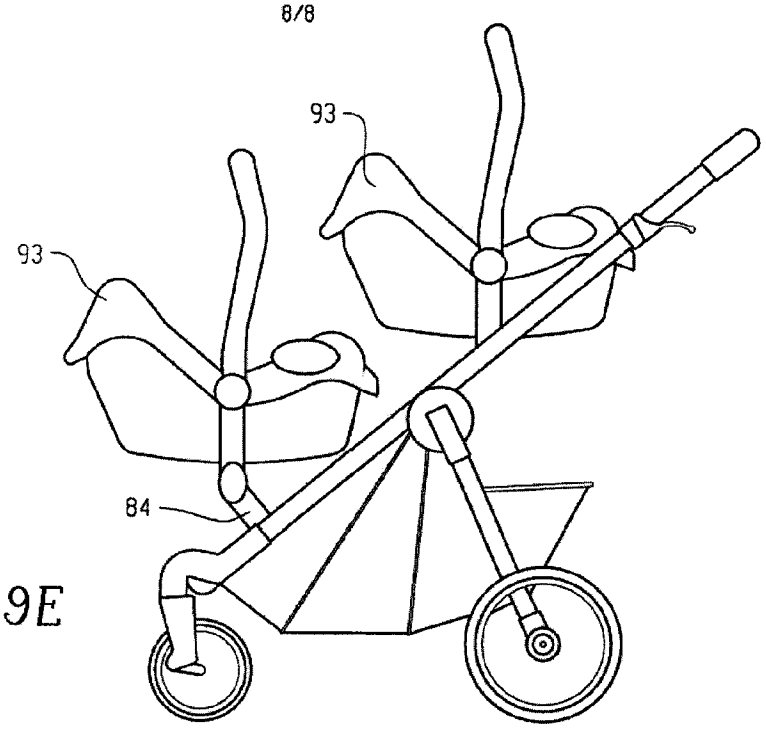


Fig. 9E

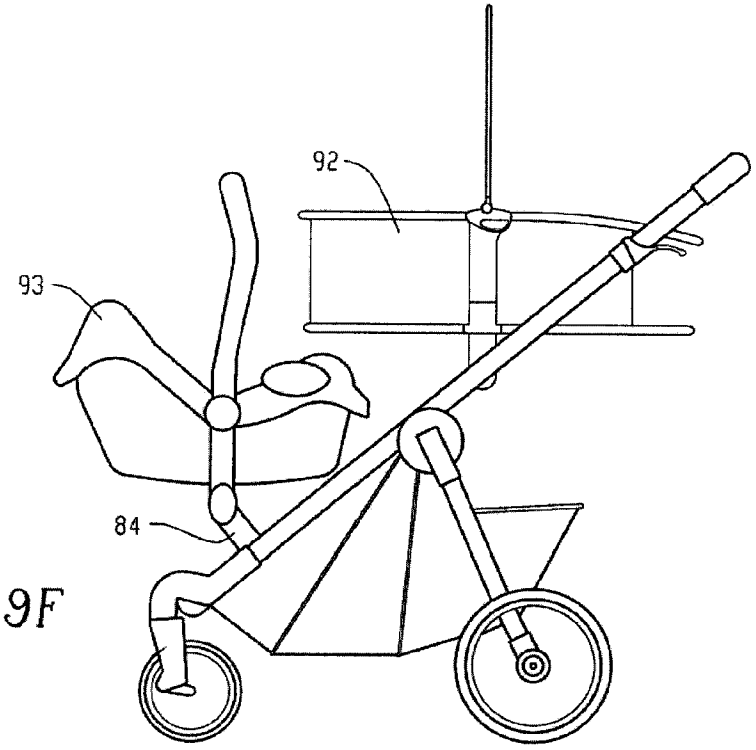


Fig. 9F

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/066817

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - B62B 7/00 (2010.01)
USPC - 280/642
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - B62B 7/00; B62D 7/14, 63/00 (2010.01)
USPC - 280/642, 32.7, 47.131, 647, 648, 656, 657

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2007/0114738 A1 (JONES et al) 24 May 2007 (24.05.2007) entire document	1-5, 8, 11-14 ---------- 6, 7, 9, 10, 15-27
X -- Y	US 2007/0001429 A1 (MACIEJCZYK) 04 January 2007 (04.01.2007) entire document	28-31, 33, 34 ---------- 6, 7, 9, 10, 15, 24-27, 32
Y	US 5,338,096 A (HUANG) 16 August 1994 (16.08.1994) entire document	16-27
Y	US 2003/0025304 A1 (HAEGGBERG) 06 February 2003 (06.02.2003) entire document	32

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
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"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 August 2010	29 JAN 2010
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

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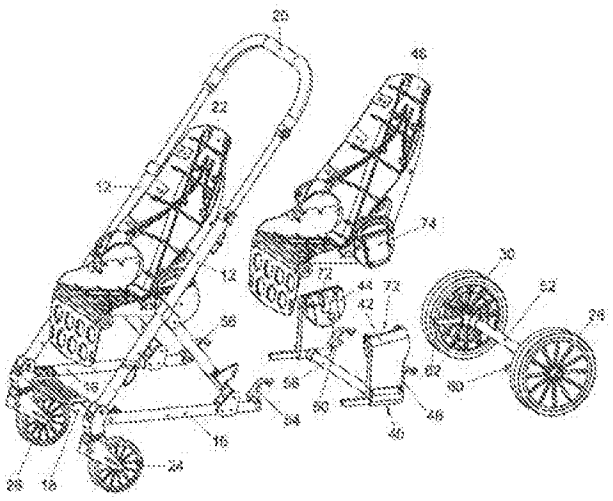


Fig. 8

(57) Abstract: A stroller (10) comprising a frame (12-20) which comprises a push bar (20), a seat (22) which is mounted on the frame, at least one front wheel assembly (24, 26) which is connected to the frame, at least two rear wheel assemblies (28, 30) which are connected to the frame, a distance between the front wheel assemblies and the rear wheel assemblies being referred to as first wheelbase. The rear wheel assemblies (28, 30) are detachably connected to the frame. The stroller (10) further comprises an adapter assembly (40) with at least one receiving unit (42, 44) for an accessory, such as a second seat, a cot, a car seat, a baggage box, a basket or a step up board. Rear wheel assemblies may be connected to the adapter assembly. The distance between the front wheel assemblies and the rear wheel assemblies connected to the adapter assembly is referred to as second wheelbase. The second wheelbase is greater than the first wheelbase.

WO 2014/042524 A1

Title: Stroller

FIELD

The invention relates to a stroller.

BACKGROUND OF THE INVENTION

Strollers are generally known and comprise a frame which comprises a push bar. Typically, a seat is mounted on the frame. Further, at least one front wheel assembly is connected to the frame. Most often, there are two front wheel assemblies which are pivotably connected to the frame. A front wheel assembly can comprise a single wheel or a pair of wheels arranged closely next to one another. The known strollers have at least two rear wheel assemblies which are connected to the frame. A rear wheel assembly also can comprise a single wheel or a pair of wheels arranged closely next to one another. In practice, a distance between a rotation axis of the at least one front wheel assemblies and a rotation axis of the rear wheel assemblies is referred to as the wheelbase. Often, for the purpose of putting the stroller in the trunk of a car, the rear wheel assemblies are detachably connected to the frame by means of a quick release, and the frame is collapsible, so that the stroller can be put away so as to take up relatively little space.

From practice, also strollers are known which comprise two seats. Variants are known where the seats, viewed in the driving direction, are arranged one behind the other (see to that end, for instance, EP 2 241 492 A2 and US 2010/0140902). US2010/0140902 mentions an additional frame with its own set of wheels, on which a second seat is fastened. The additional frame can be connected to the front of a normal stroller. In this condition, the known stroller has six wheels, which adversely affects the driving comfort and the maneuverability of the stroller. Moreover, it becomes practically impossible to get the thus extended stroller up onto a

sidewalk because the known stroller can hardly if at all be tilted backwards anymore. Other variants shown in that publication involve additional fastening brackets, which are already provided on the frame and with which a second seat can be mounted on the frame. However, this leads to a relatively unstable stroller as the frame is mainly dimensioned for use with one seat. Moreover, the additional fastening brackets lead to a higher cost price of the stroller which is not worthwhile when, in practice, it appears that no second seat needs to be attached, for instance because there will not be a second infant or because a second infant is born by the time the first infant is already able to walk.

For ES-2 253 093 and US2007/0045972, similar drawbacks hold true, i.e: (i) the driving comfort and the maneuverability of the stroller are not good due to the presence of six or eight wheel assemblies, and (ii) it is practically impossible to get the thus extended stroller up onto a sidewalk because the known stroller can hardly if at all be tilted backwards anymore. Moreover, the last-mentioned publications require the purchase of two strollers which are each independently useful for a single infant. Such a double purchase is of course costly and hence unfavorable from an economic viewpoint.

Also, a stroller is known where the seats, viewed in the driving direction, are arranged next to each other (see, to that end, for instance US2011/272925). It is true that with such a stroller the stability issues have improved compared to the variants known from US2010/0140902. With the stroller known from US2011/272925, the track width between the front wheel assemblies mutually and the rear wheel assemblies mutually can be increased in that the crossbars in the frame are of telescopic design. Such a construction is relatively costly. When it is uncertain whether there will be a second infant in the short term, the cost price of this stroller is a barrier. After all, there may not be a second infant or the second infant may be born by the time the first infant is no longer transported in a stroller. In those

circumstances a stroller with double seat is not needed and the telescopic provisions on the stroller remain unused. More than that, the telescopic provisions are then actually undesirable because they only add to the weight and the price of the stroller.

SUMMARY OF THE INVENTION

An object of the invention is to provide a stroller which is very suitable to be purchased for one infant, because its look, that is, the overall appearance, the weight, the dimensions, and the cost price substantially correspond to a normal single stroller. Another object of the invention is to provide a stroller which can be made suitable for fitting an accessory thereon, such as a second seat, so that, when there is a second infant, it can be transported with the same stroller. It is then envisaged that, also in the condition where two seats are provided, the stroller offers a good stability and also remains properly maneuverable and has a comfortable driving performance.

To that end, the invention provides a stroller comprising:

- a collapsible frame which comprises a push bar;
- a seat which is mounted on the frame;
- at least one front wheel assembly which is connected to the frame;
- at least two rear wheel assemblies which, in a first condition of the stroller, are connected to the frame, wherein a distance between a rotation axis of the at least one front wheel assembly and a rotation axis of the rear wheel assemblies is referred to as first wheelbase, wherein the rear wheel assemblies are detachably connected to the frame;
- an adapter assembly which is connectable to the frame when the rear wheel assemblies are detached from the

frame for bringing the stroller into a second condition, which adapter assembly comprises:

- a receiving provision for an accessory, such as a second seat, a cot, a car seat, a baggage box, a basket or a step up board;

and wherein the adapter assembly comprises:

- a fastening provision for the rear wheel assemblies; or:
- its own set of rear wheel assemblies,

wherein, in the second condition of the stroller, a distance between the rotation axis of the at least one front wheel assembly and a rotation axis of the rear wheel assemblies connected to the adapter assembly is referred to as second wheelbase, wherein the second wheelbase is greater than the first wheelbase and wherein the stroller in the condition where the adapter assembly is connected to the frame has only two rear wheel assemblies and one or two front wheel assemblies.

In this context, a front wheel assembly and a rear wheel assembly are understood to mean not only a single front wheel or a single rear wheel, respectively, but also one front wheel pair or one rear wheel pair, respectively. The wheels of a front wheel pair or rear wheel pair are arranged closely next to one another and always remain coaxial. When a front wheel pair or the rear wheel pair is pivotally connected to the frame, both wheels from the pair will pivot together.

Such a stroller has the advantage that initially it can be bought without adapter assembly in case of a first infant. In effect, a conventional stroller is then involved, albeit that the wheels, optionally in combination with the wheel crossbar, are detachable therefrom. The wheelbase and the track width of the thus purchased stroller are as is customary and the weight is also as is customary nowadays for a single stroller. The fact that the rear wheel assemblies are detachable is advantageous from a viewpoint

of space occupancy during storage of the stroller. This property is further enhanced in that the frame is collapsible in the usual manner. To the consumer, both in overall appearance and in cost price, the stroller without adapter assembly does not visibly differ from a normal stroller. When a second infant is born, or when a need arises to provide the stroller with an additional accessory, at a later stage, a cot, a car seat, a second seat, a baggage box and/or a basket can be purchased as accessories together with the adapter assembly. As the original rear wheel assemblies are removed from the stroller for placing the adapter set, and to the adapter set a replacement set of rear wheel assemblies is or will be connected, a stroller can be formed having a second wheelbase which is greater than the first wheelbase. This enlarged wheelbase provides the thus adapted stroller with additional stability against tilting in rearward direction. Further, the driving comfort remains particularly good because, as in conventional cases, only two rear wheel assemblies and one or two front wheel assemblies are involved. As, further, the adapter assembly and the accessory connected thereto are fastened behind the seat of the stroller that is already present, it remains possible to lift the front wheel assemblies with relatively little additional effort, so that the stroller can be brought with comparative ease from a lower level to a higher level, for instance from the roadway onto a sidewalk. Furthermore, the costs of an adapter assembly having, for instance, a second seat as an accessory can be kept considerably lower than the costs of a second stroller. At a relatively small investment – i.e. an investment that is considerably lower than that of a single stroller – a user can convert his originally normally priced single stroller into a double stroller with excellent driving properties and stability.

Further elaborations of the invention are described in the subclaims and will be further clarified in the following on the basis of an exemplary embodiment with references to the drawing.

BRIEF DESCRIPTION OF THE FIGURES

Fig. 1 shows a perspective view of an exemplary embodiment of a stroller in a first condition;

Fig. 2 shows detail II of Fig. 1;

Fig. 3 shows the exemplary embodiment of Fig. 1 in exploded view;

Fig. 4 shows detail IV of Fig. 3;

Fig. 5 shows an exemplary embodiment of the adapter assembly;

Fig. 6 shows a perspective exploded view of the exemplary embodiment of the stroller of Fig. 1 with the adapter assembly and a second seat as accessory;

Fig. 7 shows the exemplary embodiment of Fig. 6 in assembled condition;

Fig. 8 shows the exemplary embodiment of Fig. 1 in side view without adapter assembly and without seat; and

Fig. 9 shows the exemplary embodiment of Fig. 7 in side view with adapter assembly and with seat.

DETAILED DESCRIPTION

In the following, various embodiments of the invention are described. Here, reference is made to the exemplary embodiment which is shown in the figures. In this exemplary embodiment, various embodiments of the invention are embodied. However, the embodiments can also be embodied in a different manner than represented in the example shown. Therefore, the exemplary embodiment which is represented in the drawing serves only for clarification and the invention is not limited to the exemplary embodiment described.

In the most general terms, the invention provides a stroller 10, comprising a frame 12-20 which includes a push bar 20. On the frame 12-20, a seat 22 is mounted. To the frame 12-20 is connected at least one front

wheel assembly 24, 26. In the exemplary embodiment shown, these are two front wheel assemblies 24, 26 pivotable about two vertical pivots. In an alternative embodiment, however, a single centrally positioned front wheel assembly is also an option. It is also possible that a single front wheel assembly 24, 26 comprises a pair of wheels which are arranged closely next to one another and coaxially. The stroller 10 further comprises at least two rear wheel assemblies 28, 30 which are connected to the frame 12-20. As is the case with the front wheel assemblies 24, 26, it is also possible that a single rear wheel assembly 24, 26 comprises a pair of wheels which are arranged closely next to one another and coaxially. A distance between a rotation axis $L_{front\ wheels}$ of the at least one front wheel assembly 24, 26 and a rotation axis $L_{rear\ wheels}$ of the rear wheel assemblies 28, 30 is hereinafter referred to with the terminology "first wheelbase W_1" (see Fig. 8). The rear wheel assemblies 28, 30 are detachably connected to the frame 12-20. Characteristic of the stroller 10 according to the invention is that it comprises an adapter assembly 40 which is connectable to the frame 12-20 when and after the rear wheel assemblies 28, 30 have been detached from the frame 12-20. Fig. 1 shows the exemplary embodiment of the stroller 10 when it is in the first condition, i.e. in a condition with one seat 22 and no accessory 46 mounted thereon. The adapter assembly 40 is not yet present therein either.

In Fig. 3, the rear wheel assemblies 28, 30 are detached from the frame 12-20.

Figs. 5 and 6 show an example of an embodiment of an adapter assembly 40. The adapter assembly 40 comprises at least one receiving unit 42, 44 for an accessory 46, such as a second seat, a cot, a car seat, a baggage box, a basket or a step up board. The adapter assembly 40 further comprises a fastening provision 48, 50 for the rear wheel assemblies 28, 30. In an alternative embodiment of the invention, the adapter assembly 40 can comprise its own set of rear wheel assemblies. In this latter case, the

removed rear wheel assemblies 28, 30 are not used when the adapter assembly 40 and the accessory 46 are part of the stroller 10. A distance between the rotation axis $L_{front\ wheels}$ of the at least one front wheel assembly 24, 26 and a rotation axis $L_{adapter\ wheels}$ of the rear wheel assemblies 28, 30 connected to the adapter assembly 40, is referred to as second wheelbase W2 (see Fig. 9). Characteristically, the second wheelbase W2 is greater than the first wheelbase W1. This clearly appears from a comparison of the two conditions of the exemplary embodiment which are shown in the side views in Figs. 8 and 9. As a result, also when the accessory 46, such as a second seat, a cot, a car seat, a baggage box, a basket or a step up board, is part of the stroller 10, an excellent stability is obtained. The risk of the stroller 10 tilting inadvertently backwards is considerably reduced in that also when two infants are transported in the stroller, the common center of gravity of the infants is between the front wheel assemblies 24, 26 and the rear wheel assemblies 28, 30. As the stroller 10 only has three or four wheel assemblies, proper driving performance and good maneuverability are maintained. Owing to the presence of the at least one receiving unit 42, 44, the same adapter assembly 40 can be used for mounting various accessories 46 thereon. In the exemplary embodiment shown, as an accessory, a second seat 46 is shown. As stated, the adapter assembly 40 can also serve for fastening thereto a cot, a car seat, a baggage box, a basket or a step up board.

Fig. 7 shows the second condition of the stroller 10 in which the adapter assembly 40 is connected to the frame 12-20 and in which the rear wheel assemblies 28, 30 are connected to the adapter assembly 40. Further, in Fig. 7, the accessory 46, in an embodiment as second seat, is placed on the adapter assembly 40. In particular in Fig. 9, it is clearly visible that the center of gravity of an infant in the first seat 22 and the center of gravity of an infant in the second seat 46 is between the front wheel assemblies 24, 26

and the rear wheel assemblies 28, 30. Even if the foremost infant were to step from his/her front seat 22, the stroller 10 does not tilt backwards.

In one embodiment, of which an example is shown in the figures, the rear wheel assemblies 28, 30 can be connected to a wheel crossbar 52, which wheel crossbar 52 is detachably connectable to the frame 12-20 by a first snap connection 54, 56.

In an alternative embodiment, the rear wheel assemblies 28, 30 could also be provided with axle stubs which can be inserted into bearing openings in the frame 12-20. The embodiment with wheel crossbar 52 has the advantage of a quicker assembly and disassembly of the rear wheel assemblies 28, 30 as both rear wheel assemblies 28, 30 can be connected to the frame 12-20 and be detached from the frame 12-20 in one operation. What is more, the wheel crossbar 52 provides the frame 12-20 with additional strength in that it forms a cross connection. In an alternative variant, it is also possible that the adapter assembly comprises two separate adapter parts which are connected to the frame 12-20 and that to these separate adapter parts rear wheel assemblies are, or are to be, connected. These adapter parts could also form the two receiving units in which the accessory can be placed. However, in this variant also, it is important that after the adapter parts are mounted the wheelbase W2 is greater than the wheelbase W1 in the first condition of the stroller 10 without adapter parts.

In one embodiment, of which an example is shown in the figures, the wheel crossbar 52 can be detachably connectable to the adapter assembly 40 by the fastening provision 48, 50 which is designed as a second snap connection 48, 50. This second snap connection is clearly visible in Figs. 5 and 6.

In one embodiment, of which an example is shown in the figures, the adapter assembly 40 can comprise at least one receiving unit 42, 44 which is connected to an adapter assembly crossbar 58. The adapter assembly crossbar 58 may then be detachably connectable to the frame

12-20 by a snap connection 54, 56. In the exemplary embodiment shown, the adapter assembly 40 comprises two receiving units 42, 44. However, a single receiving unit is also possible or more than two receiving units are also an option.

In one embodiment, of which an example is shown in the figures, the snap connection 54, 56 for detachably connecting the adapter assembly crossbar 58 to the frame 12-20 can be formed by the first snap connection 54, 56 which also serves for connecting the wheel crossbar 52 to the frame 12-20. This is simple and favorable from a viewpoint of costs. However, in an alternative embodiment, also a snap connection of a different type could be used. An alternative snap connection can be formed by generally known telescopically extensible and compressible, slideable tubes, the outer tube provided with a series of spaced apart openings and the inner tube provided with a compressible ball biased towards an outermost position, which can snap into the openings. The advantage of the exemplary embodiment shown is a great stability with which a virtually clearance free connection is obtained.

According to a further elaboration of the invention, of which an example is shown in the figures, the first snap connection 54,56 can comprise two brackets 54, 56 pivotably connected to the frame 12-20. Each bracket 54, 56 comprises a substantially hook-shaped end 54a, 56a which has some elasticity and which can be snapped over the wheel crossbar 52 when the rear wheel assemblies 28,30 are mounted to the frame 12, 20. The brackets 54, 56 can further be snapped in a corresponding manner over the adapter assembly crossbar 58 when the adapter assembly 40 is mounted on the frame 12-20. The first snap connection 54, 56 thus has a double function, i.e. detachably connecting the rear wheel assemblies 28, 30 to the frame 12-20 and detachably connecting the adapter assembly 40 to the frame 12-20.

In one embodiment, of which an example is shown in the figures, the wheel crossbar 52 can comprise two parallel mounting bars 60, 62 extending perpendicularly to the wheel crossbar 52, and which are slideably receivable in associated openings 64, 66 in the frame 12-20 and which are slideably receivable in associated openings 68, 70 in the adapter assembly 40. These mounting bars 60, 62 provide a sturdy, demountable connection between the wheel crossbar 52 and the frame 12-20. Furthermore, the mounting bars 60, 62 provide a sturdy demountable connection between the wheel crossbar 52 and the adapter assembly 40.

According to an embodiment of the invention, of which an example is shown in the figures, the second snap connection 48, 50 can comprise two brackets 48, 50 pivotably connected to the adapter assembly 40. These brackets 48,50 too can each comprise a substantially hook-shaped end 48a, 50a having some elasticity and being snappable over the wheel crossbar 52 when the rear wheel assemblies 28, 30 are mounted on the adapter assembly 40.

By designing the second snap connection 48, 50 similarly to the first snap connection 54, 56 the user can learn the operation of the stroller 10 with minimal effort.

According to a further elaboration of the invention, of which an example is shown in the figures, it is possible that the at least one receiving unit 42, 44 comprises a receiving slot 72 in which a support bracket 74 is slideably receivable, which support bracket 74 is connected to the accessory 46 to be mounted, such as a second seat, a cot, a car seat, a baggage box, a basket or a step up board.

In one embodiment, of which an example is shown in the figures, the configuration of the adapter assembly 40 with the accessory 46 is designed such that in mounted condition, the accessory 46 is located behind the first seat 22.

Figs. 1, 3, 6, and 7 show the successive steps of the conversion of the stroller 10 from the first condition with one seat 22 to the second condition with a seat 22 and an accessory 46, in this case a second seat 46. In Fig. 1, the wheel crossbar 52 is still connected to the frame 12-20. The brackets 54, 56 of the first snap connection are already folded up so that the rear wheel assemblies 28, 30 can be detached with the wheel crossbar 52 from the frame 12-20. Clearly, in normal use of the stroller 10 in the first condition, these brackets 54, 56 are folded down and the hook-shaped end 54a, 56a is in engagement with the wheel crossbar 52. In Fig. 3, the mounting bars 60, 62 are pulled from the associated openings 64, 66 in the frame 12-20 and the wheel crossbar 52 with the rear wheel assemblies 28, 30 connected thereto is taken from the frame 12-20. Fig. 6 shows the adapter assembly 40, the accessory 46 in the embodiment of the second seat, and the wheel crossbar 52 with mounting bars 60, 62 in a condition prior to mounting. Next, Fig. 7 shows the stroller 10 in the second condition in which the adapter assembly 40, the accessory 46 and the rear wheel assemblies 28, 30 with the wheel crossbar 52 are mounted. As already stated hereinabove, instead of a seat, the accessory 46 could also be formed by a cot, a car seat, a baggage box, a basket or a step up board.

With the invention, a stroller 10 is provided with relatively low initial purchase costs. In the first condition, the stroller 10 has the properties of a normal single stroller, also as regards appearance, design, weight and costs. At relatively low cost, the stroller 10 is expandable into a double stroller 10 which has first rate driving performance and excellent stability, which is of great importance from a viewpoint of safety.

While the invention has been represented and described in detail with reference to the drawing, this drawing and the description should be considered to be merely an example. The invention is not limited to the embodiments described. Features that are described in subclaims can be

mutually combined. Reference numerals in the claims should not be construed as limitations of the claims but serve merely for clarification.

Claims

1. A stroller (10) comprising:
   - a collapsible frame (12-20) which comprises a push bar (20);
   - a seat (22) which is mounted on the frame (12-20);
   - at least one front wheel assembly (24, 26) which is connected to the frame (12-20);
   - at least two rear wheel assemblies (28, 30) which, in a first condition of the stroller (10), are connected to the frame (10-20), wherein a distance between a rotation axis ($L_{front\ wheels}$) of the at least one front wheel assembly (24, 26) and a rotation axis ($L_{rear\ wheels}$) of the rear wheel assemblies (28, 30) is referred to as first wheelbase (W_1), wherein the rear wheel assemblies are detachably connected to the frame (12-20);

   characterized by
   - an adapter assembly (40) which is connectable to the frame (12-20) when the rear wheel assemblies (28, 30) are detached from the frame (12-20) for bringing the stroller (10) into a second condition, which adapter assembly (40) comprises:
     - at least one receiving unit (42, 44) for an accessory (46), such as, for instance, a second seat, a cot, a car seat, a baggage box, a basket or a step up board;

     and wherein the adapter assembly (40) comprises
     - a fastening provision (48, 50) for the rear wheel assemblies (28, 30); or
     - its own set of rear wheel assemblies,

   wherein, in the second condition of the stroller (10), a distance between the rotation axis ($L_{front\ wheels}$) of the at least one front wheel assembly (24,26) and a rotation axis ($L_{adapter\ wheels}$) of the rear wheel assemblies (28, 30) connected

to the adapter assembly (40) is referred to as second wheelbase (W_2), wherein the second wheelbase (W_2) is greater than the first wheelbase (W_1), and wherein the stroller (10) in both the first condition and the second condition has only two rear wheel assemblies and one or two front wheel assemblies.

2. The stroller according to claim 1, wherein the rear wheel assemblies (28, 30) are connected to a wheel crossbar (52), which wheel crossbar (52) is detachably connectable to the frame (12-20) by a first snap connection (54, 56).

3. The stroller according to claim 2, wherein the wheel crossbar (52) is detachably connectable to the adapter assembly (40) by the fastening provision (48, 50) which is designed as a second snap connection (48, 50).

4. The stroller according to claims 2 or 3, wherein the adapter assembly (40) comprises at least one receiving unit (42, 44) which is connected to an adapter assembly crossbar (58), which adapter assembly crossbar (58) is detachably connectable to the frame (12-20) by a snap connection (54, 56).

5. The stroller according to claim 4, wherein the snap connection (54, 56) for detachably connecting the adapter assembly crossbar (58) to the frame (12-20) is the first snap connection (54, 56).

6. The stroller according to claim 5, wherein the first snap connection (54, 56) comprises two brackets (54, 56) pivotably connected to the frame (12-20), which each comprise a substantially hook-shaped end (54a, 56a) which has some elasticity and which is snappable over the wheel crossbar (52) when the rear wheel assemblies (28, 30) are mounted on the

frame (12-20), and which is snappable over the adapter assembly crossbar (58) when the adapter assembly (40) is mounted on the frame (12-20).

7. The stroller according to any one of claims 2-6, wherein the wheel crossbar (52) comprises two parallel mounting bars (60, 62) extending perpendicularly to the wheel crossbar (52), and which are slideably receivable in associated openings (64, 66) in the frame (12-20) and which are slideably receivable in associated openings (68, 70) in the adapter assembly (40).

8. The stroller according to claim 7, wherein the stroller (10) also has the features of claims 3 and 4, wherein the second snap connection (48, 50) comprises two brackets (48, 50) pivotably connected to the adapter assembly (40) and which each comprise a substantially hook-shaped end (48a, 50a) which has some elasticity and which is snappable over the wheel crossbar (52) when the rear wheel assemblies (28, 30) are mounted on the adapter assembly (40).

9. The stroller according to any one of the preceding claims, wherein the at least one receiving unit (42, 44) comprises a receiving slot (72) in which a support bracket (74) is slideably receivable, which support bracket (74) is connected to the accessory (46) to be mounted, such as a second seat, a cot, a car seat, a baggage box, a basket or a step up board.

10. The stroller according to any one of the preceding claims, wherein the configuration of the adapter assembly (40) with the accessory (46) is designed such that the accessory (46) in mounted condition is located behind the first seat (22).

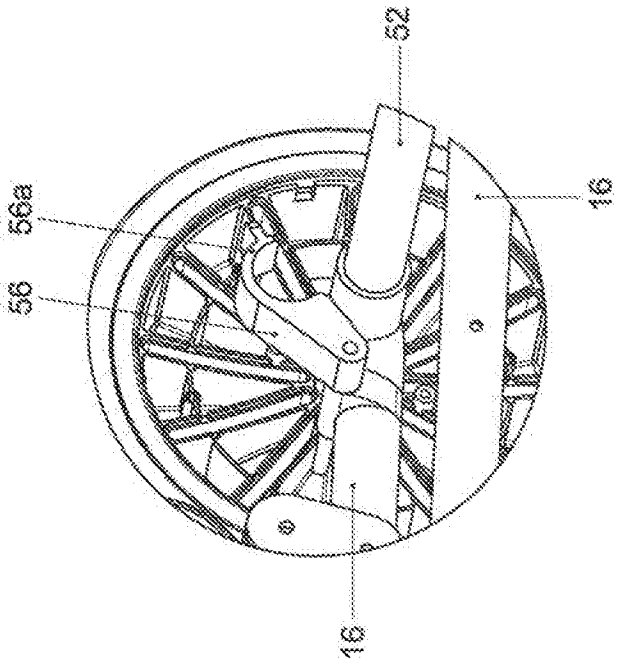


Fig. 2

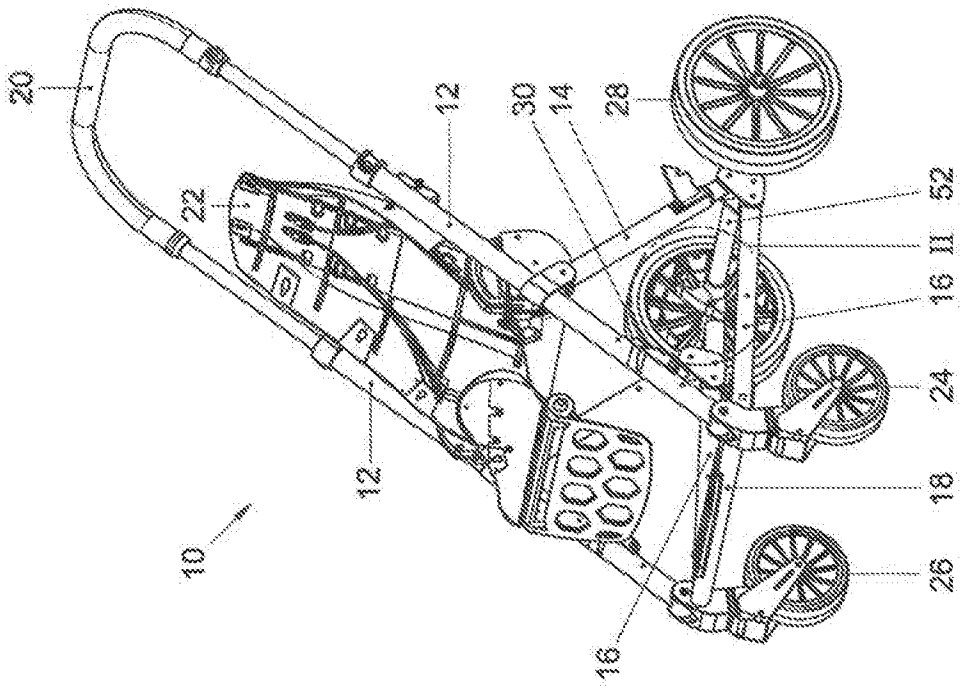


Fig. 1

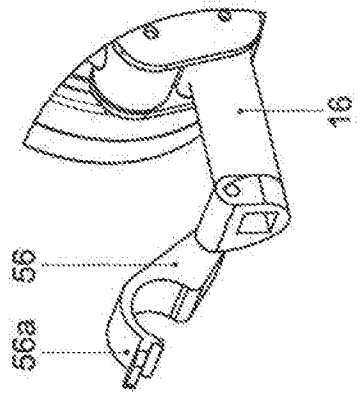


Fig. 4

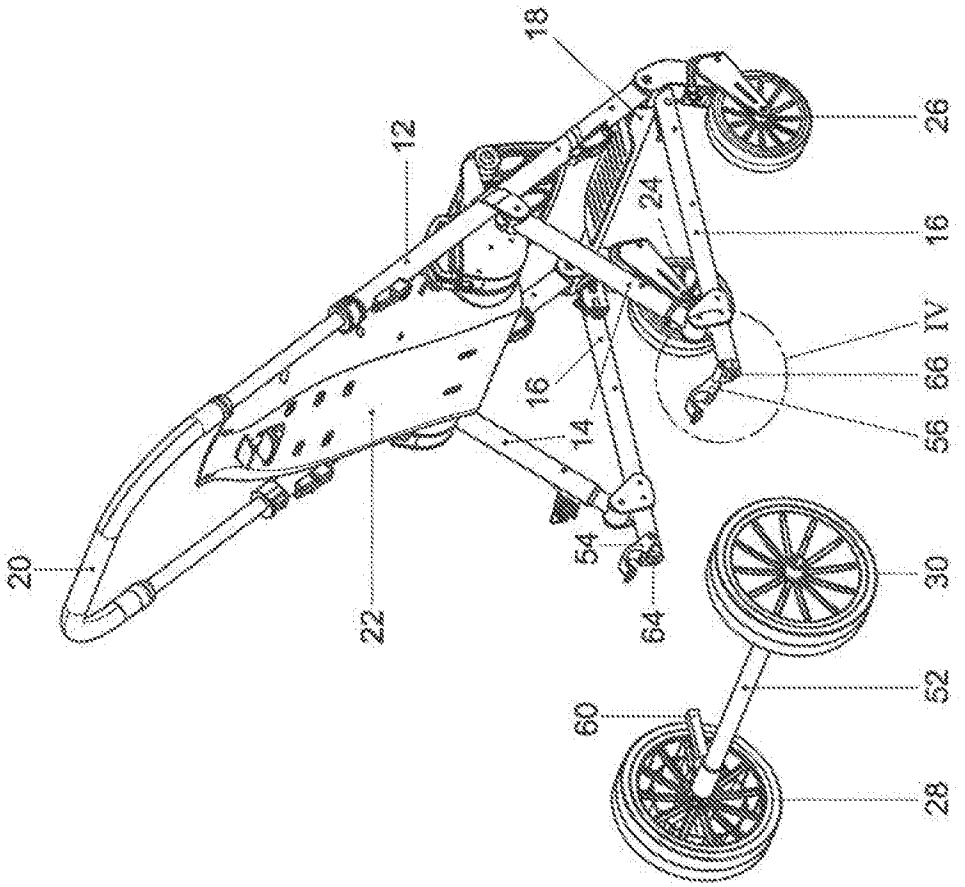


Fig. 3

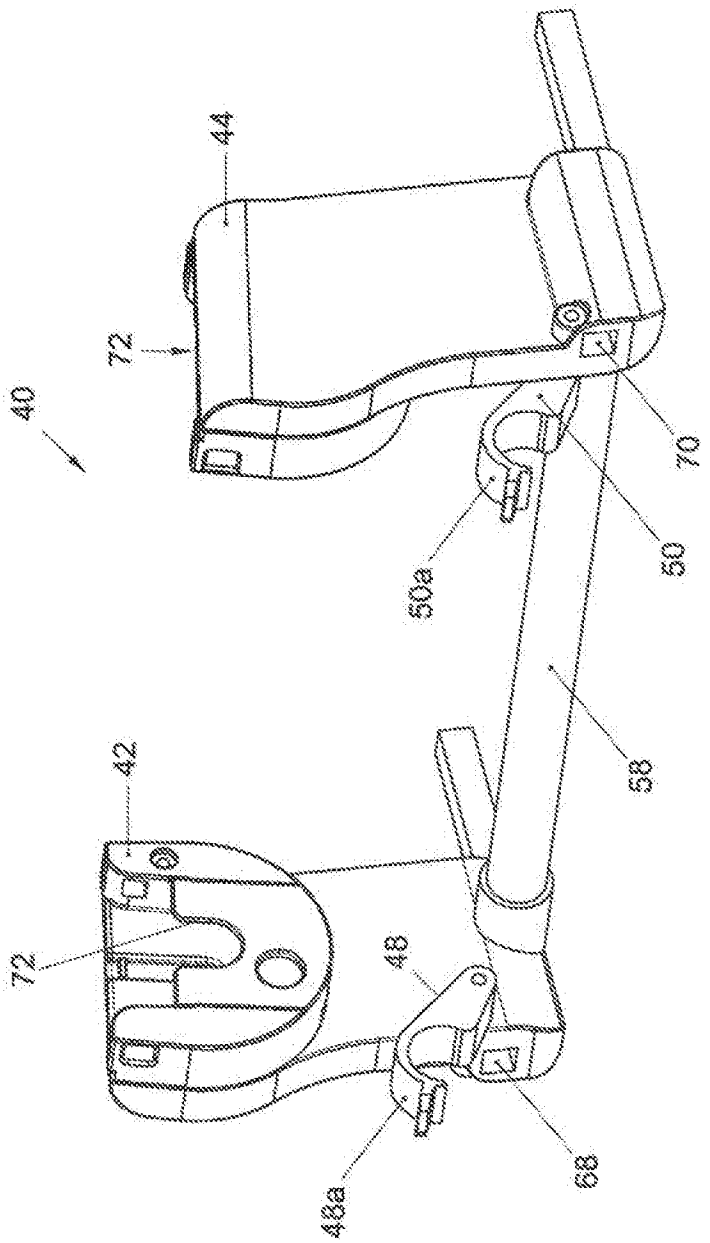


Fig. 5

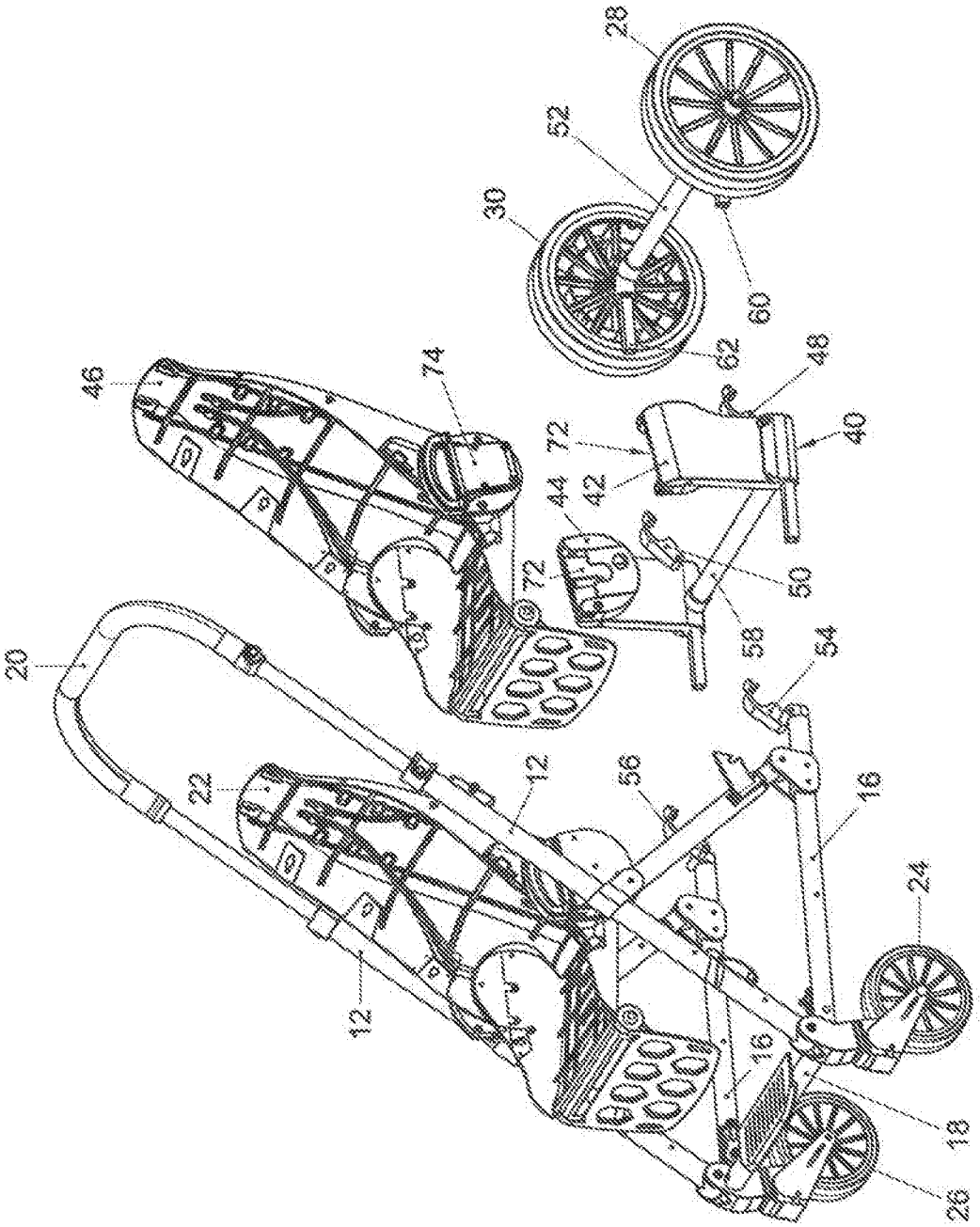

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26

Fig. 6

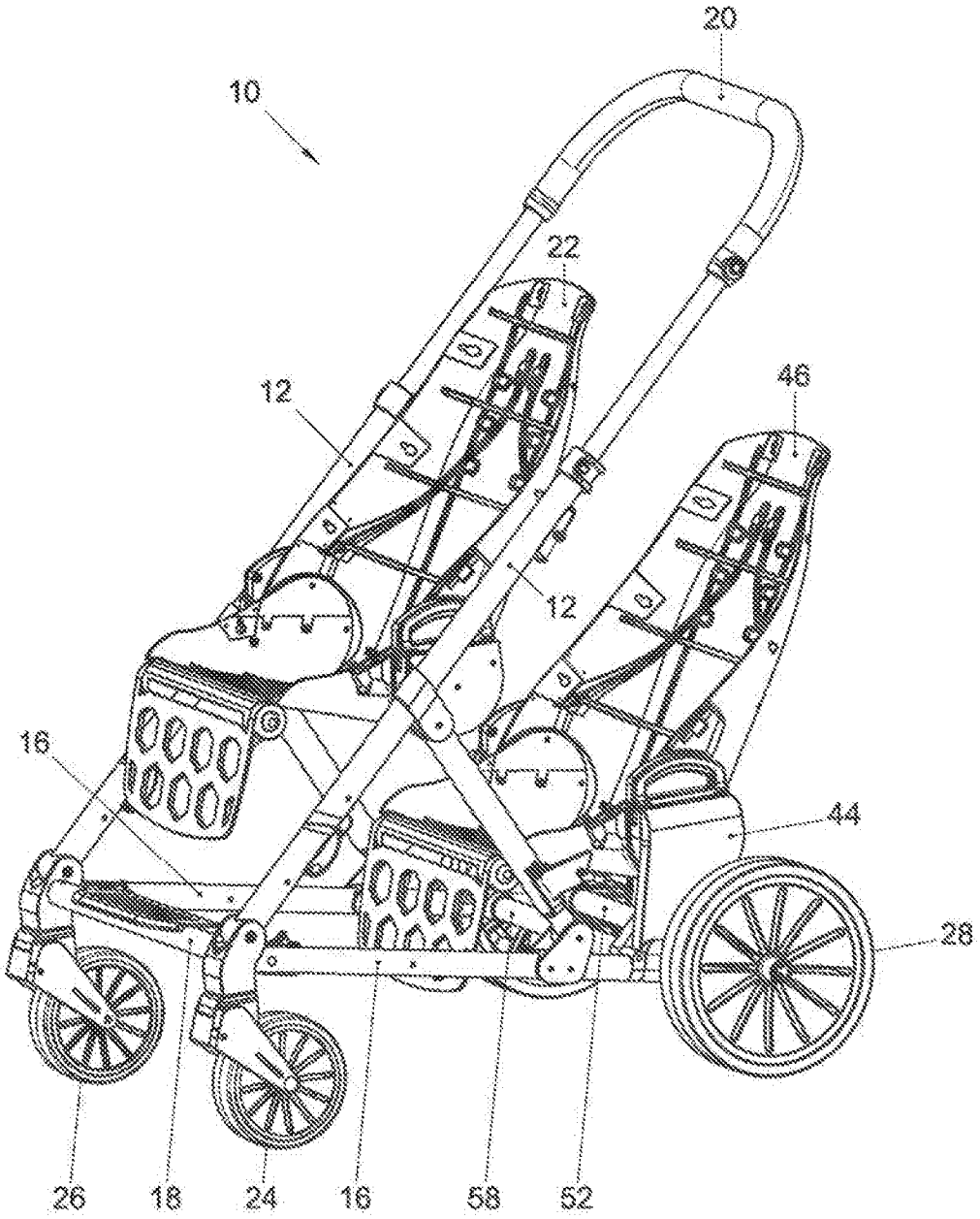


Fig. 7

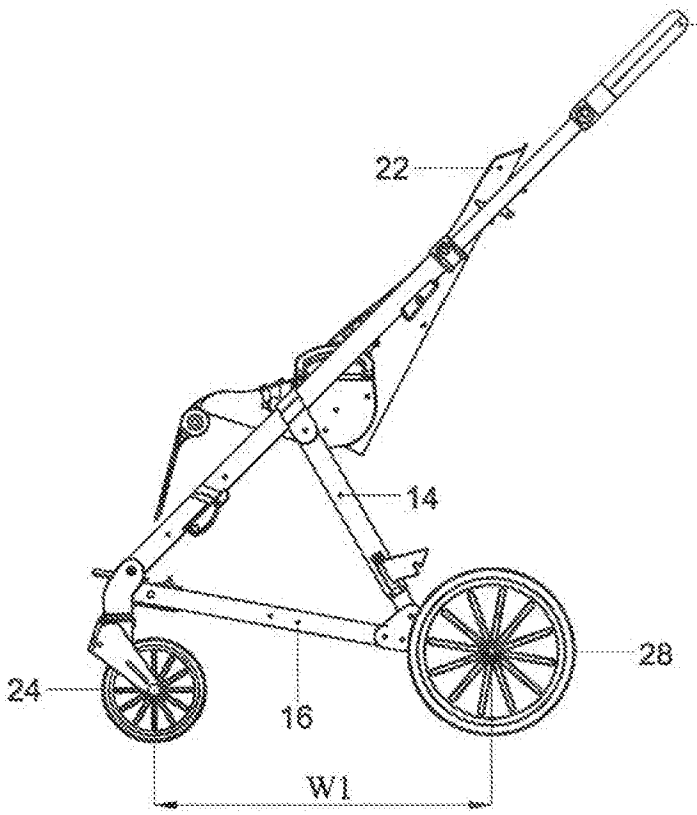


Fig. 8

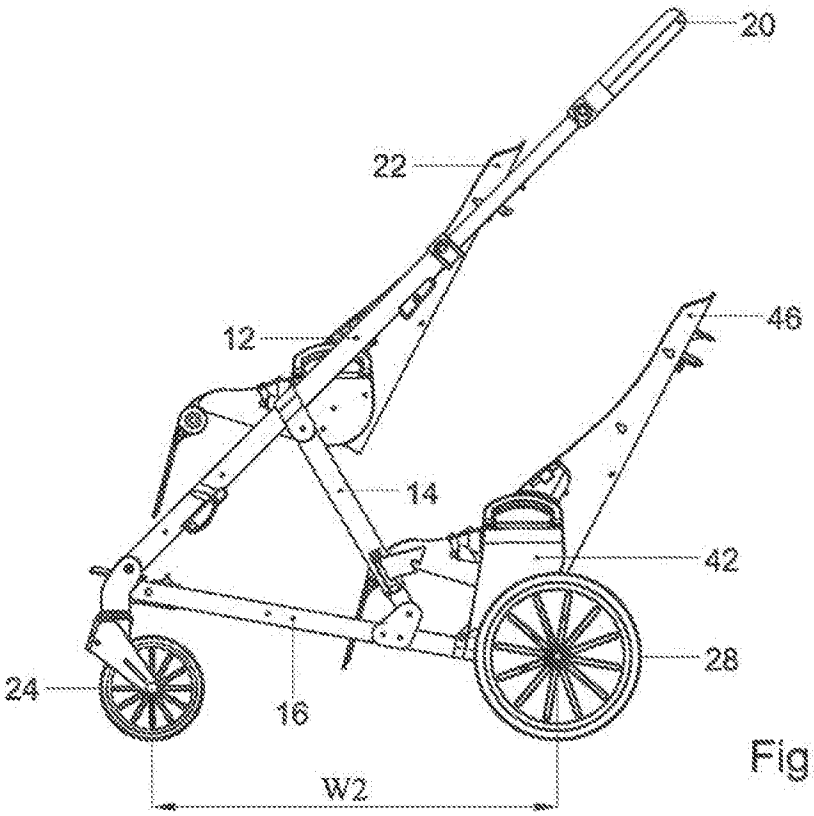


Fig. 9

INTERNATIONAL SEARCH REPORT

International application No
PCT/NL2013/050651

A. CLASSIFICATION OF SUBJECT MATTER
INV. B62B9/28 B62B9/12
ADD.

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
B62B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	ES 2 253 093 A1 (PLAY SA [ES]) 16 May 2006 (2006-05-16)	1-5,7,9, 10
A	the whole document	6,8

X	US 2007/045972 A1 (THOMPSON JULIE T [US] THOMPSON JULIE TABOR [US]) 1 March 2007 (2007-03-01)	1,10
A	paragraph [0037] - paragraph [0038]; figure 3	2-9

X	WO 2008/135974 A2 (KATZ GEVA [IL]; LAZAROVICH ORON [IL]) 13 November 2008 (2008-11-13)	1,10
A	abstract; figures 7, 8, 13-16, 19	2-9

	-/--	

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
8 January 2014	15/01/2014

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Wochinz, Reinmar

Form PCT/ISA/210 (second sheet) (April 2005)

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2008/179863 A1 (SCHONFELD JULIA DINAH [US]) 31 July 2008 (2008-07-31) paragraph [0008] - paragraph [0015]; figures 3-4c	1-10
A	US 6 443 467 B1 (BLACK DAVID A [US]) 3 September 2002 (2002-09-03) claims 1-13; figure 2	1-10
A	US 2008/315563 A1 (CRISP DAVID J [GB]) 25 December 2008 (2008-12-25) the whole document	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/NL2013/050651

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
ES 2253093 A1	16-05-2006	NONE	
US 2007045972 A1	01-03-2007	US 2007045972 A1	01-03-2007
		US 2010072731 A1	25-03-2010
WO 2008135974 A2	13-11-2008	AU 2008246981 A1	13-11-2008
		CA 2712277 A1	13-11-2008
		EP 2170674 A2	07-04-2010
		IL 183033 A	31-10-2012
		US 2010301585 A1	02-12-2010
		WO 2008135974 A2	13-11-2008
US 2008179863 A1	31-07-2008	NONE	
US 6443467 B1	03-09-2002	NONE	
US 2008315563 A1	25-12-2008	GB 2445339 A	02-07-2008
		US 2008315563 A1	25-12-2008
		WO 2007049071 A2	03-05-2007

Form PCT/ISA/210 (patent family annex) (April 2005)

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference DYN005.PCT	FOR FURTHER ACTION	see Form PCT/ISA/220 as well as, where applicable, item 5 below.
International application No. PCT/US2009/066817	International filing date *(day/month/year)* 04 December 2009	(Earliest) Priority Date *(day/month/year)* 12 April 2009
Applicant DYNAMIC BRANDS, LLC		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 9 sheets.

☐ It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of:

☒ the international application in the language in which it was filed.

☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6*bis*(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (see Box No. II).

3. ☐ **Unity of invention is lacking** (see Box No. III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2, by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

a. the figure of the **drawings** to be published with the abstract is Figure No. 3

☒ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

b. ☐ none of the figures is to be published with the abstract.

Form PCT/ISA/210 (first sheet) (July 2009)

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/066817

A. CLASSIFICATION OF SUBJECT MATTER
IPC(8) - B62B 7/00 (2010.01)
USPC - 280/642
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC(8) - B62B 7/00; B62D 7/14, 63/00 (2010.01)
USPC - 280/642, 32.7, 47.131, 647, 648, 656, 657

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PatBase

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X -- Y	US 2007/0114738 A1 (JONES et al) 24 May 2007 (24.05.2007) entire document	1-5, 8, 11-14 --- 6, 7, 9, 10, 15-27
X -- Y	US 2007/0001429 A1 (MACIEJCZYK) 04 January 2007 (04.01.2007) entire document	28-31, 33, 34 --- 6, 7, 9, 10, 15, 24-27, 32
Y	US 5,338,096 A (HUANG) 16 August 1994 (16.08.1994) entire document	16-27
Y	US 2003/0025304 A1 (HAEGGBERG) 06 February 2003 (06.02.2003) entire document	32

☐ Further documents are listed in the continuation of Box C. ☐

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier application or patent but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
20 August 2010	29 JAN 2010
Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US, Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	Authorized officer: Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/210 (second sheet) (July 2009)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: BERNARD PIKE
TROUTMAN SANDERS LLP
600 PEACHTREE STREET, N.E., SUITE 5200
PATENT & TRADEMARK DEPARTMENT
ATLANTA, GA 30308-2216

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	29 JAN 2010
Applicant's or agent's file reference: DYN005.PCT	FOR FURTHER ACTION: See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2009/066817	04 December 2009	12 April 2009

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - B62B 7/00 (2010.01)
USPC - 280/642

Applicant DYNAMIC BRANDS, LLC

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	20 January 2010	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2009)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Form PCT/ISA/237 (Box No. I) (July 2009)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	6, 7, 9, 10, 15-27, 32	YES
	Claims	1-5, 8, 11-14, 28-31, 33, 34	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-34	NO
Industrial applicability (IA)	Claims	1-34	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-5, 8 and 11-14 lack novelty under PCT Article 33(2) as being anticipated by Jones et al.
Referring to claims 1-5, 8 and 11-14, Jones et al disclose [Cl. 1] a seat attachment (see Fig. 1) for a stroller (10), comprising: an attachment frame member (2, 4, 8) comprising a connector portion (14) capable of connecting to a stroller frame (12); and a seat support element (20) capable of supporting a seat (22); [Cl. 2] comprising: a wheel (6); [Cl. 3] further comprising a wheel support frame (30) connecting the wheel (6) to the attachment frame member (2, 4, 8); [Cl. 4] wherein the wheel support frame (30) is pivotally connected to the attachment frame member (2, 4, 8); [Cl. 5] wherein the wheel support frame (30) is pivotally connected near the middle of the attachment frame member (2, 4, 8) (30 is pivotally connected to the middle portions of the sides of platform member 2 when viewed from the side, see Fig. 2); [Cl. 8] wherein the wheel support frame (30) is capable of pivoting from a first position to a second position (30 appears to be a 360 degree pivotable caster wheel); [Cl. 11] wherein the attachment frame member (2, 4, 8) has a first end (8) and a second end (4); [Cl. 12] wherein the first end (8) is capable of connecting to a stroller frame (12); [Cl. 13] wherein the second end (4) is connected to the seat attachment member (20); [Cl. 14] wherein the seat support element (20) is capable of supporting a seat (22) in either a forward (see Fig. 1) or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2).

Claims 28-31, 33 and 34 lack novelty under PCT Article 33(2) as being anticipated by Maciejczyk.
Referring to claims 28-31, 33 and 34, Maciejczyk discloses [Cl. 28] a stroller (200), comprising: a frame (230, 240); at least one front wheel (210); at least one rear wheel (220) ; a stroller seat (260); and a seat attachment portion (100) capable of supporting a second seat (110) in front of the stroller seat (260); [Cl. 29] wherein the seat attachment portion (100) comprises two seat connectors (120, 130); [Cl. 30] wherein the seat attachment portion (100) is removably connected to the frame (230, 240); [Cl. 31] wherein the seat attachment portion (100) comprises two portions (120, 130) each comprising one seat connector (seat 110 would be supported by two attachment portions 100, one on each side of the stroller); [Cl. 33] wherein the second seat (110) is a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well); [Cl. 34] wherein the second seat (110) is integral to the seat attachment portion (100) (Figs. 2 and 3 show the seat be connected directly to first support element 120).

Claims 6, 7, 9, 10 and 15 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Maciejczyk.
Referring to claims 6, 7, 9, 10 and 15, Jones et al disclose the seat attachment for stroller of claims 1, 5 and 8 and [Cl. 15] wherein the seat support element (20) is capable of supporting the seat (22) in either a forward or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2), but fails to disclose [Cl. 6] further comprising a folding mechanism; [Cl. 7] wherein the folding mechanism comprises a sliding connector slidingly connected to the attachment frame member and a strut having a first end connected to the sliding member and a second end connected to the wheel support frame; [Cl. 9] wherein the first position is a locked and in-use position and the second position is an unlocked and folded position; [Cl. 10] wherein the seat is a baby seat, a car seat, a stroller seat, a bassinet, or a pram; [Cl. 15] further comprising a stroller seat.
However, Maciejczyk disclose a stroller seat attachment [Cl. 6] further comprising a folding mechanism (500) (see Figs. 8 and 9); [Cl. 7] wherein the folding mechanism (500) comprises a sliding connector (523) slidingly connected to the attachment frame member (230) and a strut (530) having a first end (531) connected to the sliding member (523) and a second end (540) connected to the wheel support frame (230) (both ends of strut 530 are connected to wheel support frame 230 either directly or indirectly, see Fig.s 8 and 9); [Cl. 9] wherein the first position (see Fig. 8) is a locked and in-use position (a child could be placed in seat) and the second position (see Fig. 9) is an unlocked and folded position; [Cl. 10] wherein the seat (110) is a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well); [Cl. 15] further comprising a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well).
It would have been obvious to a person of ordinary skill at the time of the invention to use the seat attachment for a stroller of Jones et al and the folding mechanism and the stroller seat of Maciejczyk in order to provide a reliable means of being able to easily collapse a stroller with an attached seat so the stroller can easily be collapsed to place in the trunk of a car but still be able to safely secure the additional child when in use.

Continued on Supplemental Box

Form PCT/ISA/237 (Box No. V) (July 2009)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.
Continuation of:
Box V

Claims 16-23 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Huang.
Referring to claims 16-23, Jones et al disclose [Cl. 16] a stroller (10), comprising: a stroller frame (12) comprising wheels (see Fig. 6), a frame (12), a first seat (not labeled, see Fig. 6) and an attachment frame member (8) connected to the frame (12); a seat attachment (2, 4) comprising a wheel (6), a second seat (22), and a connector portion (14) capable of connecting to the attachment frame member (12); [Cl. 17] wherein the connector portion (14) is capable of being releasably connected to the attachment frame member (8) (attachment structure 107 may be attached or directly connected to arm 8, Para [0048]); [Cl. 18] wherein the second seat (22) is releasably connected to the seat support element (20); [Cl. 19] wherein the seat support element (20) is capable of supporting the second seat (22)in either a forward (see Fig. 1) or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2); [Cl. 20] stroller (10), comprising: a first seat attachment (2, 4, 8) capable of removably supporting a child seat (22); and a second seat attachment (12) capable of supporting a child seat (stroller seat is supported by frame member 12); [Cl. 21] wherein each seat attachment (8) comprises two seat connector portions (14); [Cl. 22] wherein the child seat (stroller seat is supported by frame member 12) is one of a stroller seat (see Fig. 6); [CL. 23] comprising a frame (12), wherein the frame (12) comprises a handle portion (11), a front wheel support portion (see Fig. 11e) and a back wheel support portion (see Fig. 11e); but fails to disclose [Cl. 16] a double stroller; [Cl. 20] a double stroller.
However, Huang discloses a locking device for a front seat of a double stroller wherein [Cl. 16] a double stroller (see Fig. 1); [Cl. 20] a double stroller (see Fig. 1).
It would have been obvious to a person of ordinary skill at the time of the invention to use the seat attachment for a stroller of Jones et al and the double stroller of Huang in order to provide a reliable means of being able to safely transport more than 2 children by adding a additional seat to a double stroller.

Claims 24-27 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Huang in view of Maciejczyk.
Referring to claims 24-27, Jones et al and Huang disclose the double stroller of claim 23, [Cl. 26] wherein the second seat attachment (22 of Jones et al) is adjacent to the handle portion (11 of Jones et al); but fails to disclose [Cl. 24] wherein a first seat attachment is adjacent to the front wheel support portion; [Cl. 25] wherein the first seat attachment is above at least one front wheel connected to the wheel support portion; [Cl. 27], further comprising a folding mechanism that connects the handle portion, the front wheel support portion, and the back wheel support portion.
However, Maciejczyk disclose a stroller seat attachment [Cl. 24] wherein a first seat attachment (100) is adjacent to the front wheel support portion (230); [Cl. 25] wherein the first seat attachment (100) is above at least one front wheel (210) connected to the wheel support portion (230); [Cl. 27], further comprising a folding mechanism (500) that connects the handle portion (210), the front wheel support portion (230), and the back wheel support portion (240) (mounting arrangement 500 is connected to portion 230 which is connected to handle portion 210 and back wheel support 240).
It would have been obvious to a person of ordinary skill at the time of the invention to use the double stroller of Jones et al and Huang and the seat attachment is placed on the front portion of the stroller in order to provide a reliable means of being able to safely transport more than 2 children by adding a additional seat to a double stroller, without the additional seat interfering with the person pushing the stroller.

Claim 32 lack an inventive step under PCT Article 33(3) as being obvious over Maciejczyk in view of Haeggberg.
Referring to claim 32, Maciejczyk discloses the stroller of claim 30, but fails to disclose [Cl. 32] wherein the frame comprises a sleeve for removably connecting the seat attachment portion to the frame.
However, Haeggberg discloses a stroller trailer [Cl. 32] wherein the frame (2) comprises a sleeve (18) for removably connecting the seat attachment portion (35) to the frame (2) (see Fig. 6a, holders 34 act as a sleeve for ball 35 of seat attachment portion).
It would have been obvious to a person of ordinary skill at the time of the invention to use the stroller of Maciejczyk and the sleeve attachment means of Haeggberg in order to provide a reliable means of attaching the seat attachment to the stroller that would require minimum effort to securely attach the additional seat.

Claims 1-34 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44*bis*)

Applicant's or agent's file reference DYN005.PCT	**FOR FURTHER ACTION**	See item 4 below
International application No. PCT/US2009/066817	International filing date *(day/month/year)* 04 December 2009 (04.12.2009)	Priority date *(day/month/year)* 04 December 2008 (04.12.2008)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant DYNAMIC BRANDS, LLC		

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

   In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

☒	Box No. I	Basis of the report
☐	Box No. II	Priority
☐	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
☐	Box No. IV	Lack of unity of invention
☒	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
☐	Box No. VI	Certain documents cited
☐	Box No. VII	Certain defects in the international application
☐	Box No. VIII	Certain observations on the international application

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44*bis*.3(c) and 93*bis*.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44*bis* .2).

	Date of issuance of this report 07 June 2011 (07.06.2011)
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Authorized officer Beate Giffo-Schmitt e-mail: pt03.pct@wipo.int

Form PCT/IB/373 (January 2004)

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To: BERNARD PIKE
TROUTMAN SANDERS LLP
600 PEACHTREE STREET, N.E., SUITE 5200
PATENT & TRADEMARK DEPARTMENT
ATLANTA, GA 30308-2216

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43*bis*.1)

Date of mailing *(day/month/year)*	29 JAN 2010

Applicant's or agent's file reference	FOR FURTHER ACTION
DYN005.PCT	See paragraph 2 below

International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/US2009/066817	04 December 2009	12 April 2009

International Patent Classification (IPC) or both national classification and IPC
IPC(8) - B62B 7/00 (2010.01)
USPC - 280/642

Applicant DYNAMIC BRANDS, LLC

1. This opinion contains indications relating to the following items:

- [X] Box No. I Basis of the opinion
- [ ] Box No. II Priority
- [ ] Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- [ ] Box No. IV Lack of unity of invention
- [X] Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- [ ] Box No. VI Certain documents cited
- [ ] Box No. VII Certain defects in the international application
- [ ] Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/US	Date of completion of this opinion	Authorized officer:
Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450, Alexandria, Virginia 22313-1450 Facsimile No. 571-273-3201	20 January 2010	Blaine R. Copenheaver PCT Helpdesk: 571-272-4300 PCT OSP: 571-272-7774

Form PCT/ISA/237 (cover sheet) (July 2009)

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of:

   ☒ the international application in the language in which it was filed.

   ☐ a translation of the international application into _____ which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b)).

2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43*bis*.1(a))

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing filed or furnished:

   a. (means)

      ☐ on paper

      ☐ in electronic form

   b. (time)

      ☐ in the international application as filed

      ☐ together with the international application in electronic form

      ☐ subsequently to this Authority for the purposes of search

4. ☐ In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

5. Additional comments:

Form PCT/ISA/237 (Box No. I) (July 2009)

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Box No. V **Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	6, 7, 9, 10, 15-27, 32	YES
	Claims	1-5, 8, 11-14, 28-31, 33, 34	NO
Inventive step (IS)	Claims	None	YES
	Claims	1-34	NO
Industrial applicability (IA)	Claims	1-34	YES
	Claims	None	NO

2. Citations and explanations:

Claims 1-5, 8 and 11-14 lack novelty under PCT Article 33(2) as being anticipated by Jones et al.
Referring to claims 1-5, 8 and 11-14, Jones et al disclose [Cl. 1] a seat attachment (see Fig. 1) for a stroller (10), comprising: an attachment frame member (2, 4, 8) comprising a connector portion (14) capable of connecting to a stroller frame (12); and a seat support element (20) capable of supporting a seat (22); [Cl. 2] comprising: a wheel (6); [Cl. 3] further comprising a wheel support frame (30) connecting the wheel (6) to the attachment frame member (2, 4, 8); [Cl. 4] wherein the wheel support frame (30) is pivotally connected to the attachment frame member (2, 4, 8); [Cl. 5] wherein the wheel support frame (30) is pivotally connected near the middle of the attachment frame member (2, 4, 8) (30 is pivotally connected to the middle portions of the sides of platform member 2 when viewed from the side, see Fig. 2); [Cl. 8] wherein the wheel support frame (30) is capable of pivoting from a first position to a second position (30 appears to be a 360 degree pivotable caster wheel); [Cl. 11] wherein the attachment frame member (2, 4, 8) has a first end (8) and a second end (4); [Cl. 12] wherein the first end (8) is capable of connecting to a stroller frame (12); [Cl. 13] wherein the second end (4) is connected to the seat attachment member (20); [Cl. 14] wherein the seat support element (20) is capable of supporting a seat (22) in either a forward (see Fig. 1) or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2).

Claims 28-31, 33 and 34 lack novelty under PCT Article 33(2) as being anticipated by Maciejczyk.
Referring to claims 28-31, 33 and 34, Maciejczyk discloses [Cl. 28] a stroller (200), comprising: a frame (230, 240); at least one front wheel (210); at least one rear wheel (220) ; a stroller seat (260); and a seat attachment portion (100) capable of supporting a second seat (110) in front of the stroller seat (260); [Cl. 29] wherein the seat attachment portion (100) comprises two seat connectors (120, 130); [Cl. 30] wherein the seat attachment portion (100) is removably connected to the frame (230, 240); [Cl. 31] wherein the seat attachment portion (100) comprises two portions (120, 130) each comprising one seat connector (seat 110 would be supported by two attachment portions 100, one on each side of the stroller); [Cl. 33] wherein the second seat (110) is a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well); [Cl. 34] wherein the second seat (110) is integral to the seat attachment portion (100) (Figs. 2 and 3 show the seat be connected directly to first support element 120).

Claims 6, 7, 9, 10 and 15 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Maciejczyk.
Referring to claims 6, 7, 9, 10 and 15, Jones et al disclose the seat attachment for stroller of claims 1, 5 and 8 and [Cl. 15] wherein the seat support element (20) is capable of supporting the seat (22) in either a forward or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2), but fails to disclose [Cl. 6] further comprising a folding mechanism; [Cl. 7] wherein the folding mechanism comprises a sliding connector slidingly connected to the attachment frame member and a strut having a first end connected to the sliding member and a second end connected to the wheel support frame; [Cl. 9] wherein the first position is a locked and in-use position and the second position is an unlocked and folded position; [Cl. 10] wherein the seat is a baby seat, a car seat, a stroller seat, a bassinet, or a pram; [Cl. 15] further comprising a stroller seat,
However, Maciejczyk disclose a stroller seat attachment [Cl. 6] further comprising a folding mechanism (500) (see Figs. 8 and 9); [Cl. 7] wherein the folding mechanism (500) comprises a sliding connector (523) slidingly connected to the attachment frame member (230) and a strut (530) having a first end (531) connected to the sliding member (523) and a second end (540) connected to the wheel support frame (230) (both ends of strut 530 are connected to wheel support frame 230 either directly or indirectly, see Fig.s 8 and 9); [Cl. 9] wherein the first position (see Fig. 8) is a locked and in-use position (a child could be placed in seat) and the second position (see Fig. 9) is an unlocked and folded position; [Cl. 10] wherein the seat (110) is a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well); [Cl. 15] further comprising a stroller seat (110 is a toddler seat so that would be considered a stroller seat as well).
It would have been obvious to a person of ordinary skill at the time of the invention to use the seat attachment for a stroller of Jones et al and the folding mechanism and the stroller seat of Maciejczyk in order to provide a reliable means of being able to easily collapse a stroller with an attached seat so the stroller can easily be collapsed to place in the trunk of a car but still be able to safely secure the additional child when in use.

Continued on Supplemental Box

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY

International application No.
PCT/US2009/066817

Supplemental Box

In case **the space in any of the preceding boxes is not sufficient.**
Continuation of:
Box V

Claims 16-23 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Huang.
Referring to claims 16-23, Jones et al disclose [Cl. 16] a stroller (10), comprising: a stroller frame (12) comprising wheels (see Fig. 6), a frame (12), a first seat (not labeled, see Fig. 6) and an attachment frame member (8) connected to the frame (12); a seat attachment (2, 4) comprising a wheel (6), a second seat (22), and a connector portion (14) capable of connecting to the attachment frame member (12); [Cl. 17] wherein the connector portion (14) is capable of being releasably connected to the attachment frame member (8) (attachment structure 107 may be attached or directly connected to arm 8, Para [0048]); [Cl. 18] wherein the second seat (22) is releasably connected to the seat support element (20); [Cl. 19] wherein the seat support element (20) is capable of supporting the second seat (22)in either a forward (see Fig. 1) or backward position (20 may be attached in a reversed direction which would allow the child to sit in reverse direction and be able to place their feet on platform 2); [Cl. 20] stroller (10), comprising: a first seat attachment (2, 4, 8) capable of removably supporting a child seat (22); and a second seat attachment (12) capable of supporting a child seat (stroller seat is supported by frame member 12); [Cl. 21] wherein each seat attachment (8) comprises two seat connector portions (14); [Cl. 22] wherein the child seat (stroller seat is supported by frame member 12) is one of a stroller seat (see Fig. 6); [CL. 23] comprising a frame (12), wherein the frame (12) comprises a handle portion (11), a front wheel support portion (see Fig. 11e) and a back wheel support portion (see Fig. 11e); but fails to disclose [Cl. 16] a double stroller; [Cl. 20] a double stroller.
However, Huang discloses a locking device for a front seat of a double stroller wherein [Cl. 16] a double stroller (see Fig. 1); [Cl. 20] a double stroller (see Fig. 1).
It would have been obvious to a person of ordinary skill at the time of the invention to use the seat attachment for a stroller of Jones et al and the double stroller of Huang in order to provide a reliable means of being able to safely transport more than 2 children by adding a additional seat to a double stroller.

Claims 24-27 lack an inventive step under PCT Article 33(3) as being obvious over Jones et al in view of Huang in view of Maciejczyk.
Referring to claims 24-27, Jones et al and Huang disclose the double stroller of claim 23, [Cl. 26] wherein the second seat attachment (22 of Jones et al) is adjacent to the handle portion (11 of Jones et al); but fails to disclose [Cl. 24] wherein a first seat attachment is adjacent to the front wheel support portion; [Cl. 25] wherein the first seat attachment is above at least one front wheel connected to the wheel support portion; [Cl. 27], further comprising a folding mechanism that connects the handle portion, the front wheel support portion, and the back wheel support portion.
However, Maciejczyk disclose a stroller seat attachment [Cl. 24] wherein a first seat attachment (100) is adjacent to the front wheel support portion (230); [Cl. 25] wherein the first seat attachment (100) is above at least one front wheel (210) connected to the wheel support portion (230); [Cl. 27], further comprising a folding mechanism (500) that connects the handle portion (210), the front wheel support portion (230), and the back wheel support portion (240) (mounting arrangement 500 is connected to portion 230 which is connected to handle portion 210 and back wheel support 240).
It would have been obvious to a person of ordinary skill at the time of the invention to use the double stroller of Jones et al and Huang and the seat attachment is placed on the front portion of the stroller in order to provide a reliable means of being able to safely transport more than 2 children by adding a additional seat to a double stroller, without the additional seat interfering with the person pushing the stroller.

Claim 32 lack an inventive step under PCT Article 33(3) as being obvious over Maciejczyk in view of Haeggberg.
Referring to claim 32, Maciejczyk discloses the stroller of claim 30, but fails to disclose [Cl. 32] wherein the frame comprises a sleeve for removably connecting the seat attachment portion to the frame.
However, Haeggberg discloses a stroller trailer [Cl. 32] wherein the frame (2) comprises a sleeve (18) for removably connecting the seat attachment portion (35) to the frame (2) (see Fig. 6a, holders 34 act as a sleeve for ball 35 of seat attachment portion).
It would have been obvious to a person of ordinary skill at the time of the invention to use the stroller of Maciejczyk and the sleeve attachment means of Haeggberg in order to provide a reliable means of attaching the seat attachment to the stroller that would require minimum effort to securely attach the additional seat.

Claims 1-34 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No.	:	**15/912,901**
Filed	:	March 6, 2018
First Named Inventor	:	Jon Hee Lee et al.
Title	:	REMOVABLE SEAT ATTACHMENT FOR A STROLLER
Confirmation No.	:	**8011**
Art Unit	:	3618
Examiner	:	James M. Dolak
Docket No.	:	34757-2184
Customer No.	:	134811

SUBMISSION OF INFORMATION DISCLOSURE STATEMENT

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

Dear Examiner Dolak:

The citation of information on the attached form PTO/SB/08A, "Information Disclosure Statement by Applicant" is made pursuant to 37 C.F.R. §§ 1.56, 1.97, and 1.98. Copies of the cited foreign patent and non-patent literature documents are provided herewith.

Pursuant to the Office's waiver of the requirement under 37 CFR 1.98 (a)(2)(i) for submitting a copy of each cited U.S. patent and each U.S. patent application publication for all U.S. national patent applications filed after June 30, 2003, no copy of any cited U.S. patent or U.S. patent application publication is being provided herewith.

The citation of information includes Chinese Patent Publication No. 1978264 (the '264 Chinese Publication"), Chinese Patent Publication No. 2784272 (the '272 Chinese Publication"), Chinese Patent Publication No. 2918181 (the '181 Chinese Publication"), and Spanish Patent Publication No. 2253093 (the '093 Spanish Publication"). Each of the '264 Chinese Publication, '272 Chinese Publication, '181 Chinese Publication and the '093 Spanish Publication is being provided to the USPTO in the language it was received. An English language abstract of the '264 Chinese Publication, '272 Chinese Publication, '181 Chinese Publication and the '093 Spanish Publication is attached for the Examiner's convenience. A full English-language translation of each of the '264 Chinese Publication, '272 Chinese Publication, '181 Chinese Publication and the '093 Spanish Publication is not being provided with this filing as such translation is not within the

possession, custody, or control and is not readily available to any individual designated under 37 CFR 1.56(c).

The '264 Chinese Publication was cited in an Office Action for Chinese Patent Application No. 201410187239.4, dated September 6, 2015, a copy of which is being submitted herewith. In the Office Action, the '264 Chinese Publication is cited in the search report as an "A" reference (document defining the general state of the art). *See* English translation of 9/6/2015 Office Action, p. 2. No further information regarding the relevance of the '264 Chinese Publication to the current application is known.

The '272 Chinese Publication was cited in an Office Action for Chinese Patent Application No. 201410187239.4 dated September 6, 2015, a copy of which is being submitted herewith. In the Office Action, the '272 Chinese Publication is cited in the search report as an "A" reference (document defining the general state of the art). *See* English translation of 9/6/2015 Office Action, p. 2. No further information regarding the relevance of the '272 Chinese Publication to the current application is known.

The '181 Chinese Publication was cited in an Office Action for Chinese Patent Application No. 201410187239.4 dated September 6, 2015, a copy of which is being submitted herewith. In the Office Action, the '181 Chinese Publication is cited in the search report as an "A" reference (document defining the general state of the art). *See* English translation of 9/6/2015 Office Action, p. 2. No further information regarding the relevance of the '181 Chinese Publication to the current application is known.

The '093 Spanish Publication was cited in the Supplementary European Search Report for European Application No. 09831215 dated November 4, 2013, a copy of which is being submitted herewith. In the Search Report, the '093 Spanish Publication is cited as an X reference to claims 1-14 of European Application No. 09831215. Discussion related to the '093 Spanish Publication with regard to claims 1-14 of European Application No. 09831215 is provided on sheet 3 (page 5) of the Search Report. No further information regarding the relevance of the '093 Spanish Publication to the current application is known.

The citation of this information does not constitute an admission that any of the materials are available as a reference or of priority, or a waiver of any right applicant may have under applicable statutes, Rules of Practice in patent cases, or otherwise.

Pursuant to 37 C.F.R. § 1.97(b)(3), Applicants have not submitted herewith a filing fee because this information is being submitted prior to the mailing of the first Office Action on the merits in this case. Thus, no fees are believed due. However, if fees are due, the Commissioner is hereby authorized to charge such fees to Deposit Account 19-5029 (Ref. No. 34757-2184).

Respectfully submitted,
/James M. Hannon/___
James M. Hannon
Reg. No. 48,565

Date: **June 29, 2018**

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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/912,901	03/06/2018	Jon Hee Lee	34757-2184

CONFIRMATION NO. 8011

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

PUBLICATION NOTICE

OC000000101094320

Title:REMOVABLE SEAT ATTACHMENT FOR A STROLLER

Publication No.US-2018-0201293-A1
Publication Date:07/19/2018

NOTICE OF PUBLICATION OF APPLICATION

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

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

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

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

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

PTO/SB/08a (02-18)
Approved for use through 11/30/2020. OMB 0651-0031
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	15912901
Filing Date	2018-03-06
First Named Inventor	John Hee Lee
Art Unit	3618
Examiner Name	James M. Dolak
Attorney Docket Number	34757-2184

U.S.PATENTS Remove

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 Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20100140902	A1	2010-06-10	Zehfuss	Corresponds to CN 103921830 A.
	2	20140333039	A1	2014-11-13	Zehfuss	Corresponds to CN 102256856 A.

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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).	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	15912901
	Filing Date	2018-03-06
	First Named Inventor	John Hee Lee
	Art Unit	3618
	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2184

	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		

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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.

[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	15912901
	Filing Date	2018-03-06
	First Named Inventor	John Hee Lee
	Art Unit	3618
	Examiner Name	James M. Dolak
	Attorney Docket Number	34757-2184

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	/James M. Hannon/	Date (YYYY-MM-DD)	2018-11-20
Name/Print	James M. Hannon	Registration Number	48565

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.

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Seat attachment for a stroller

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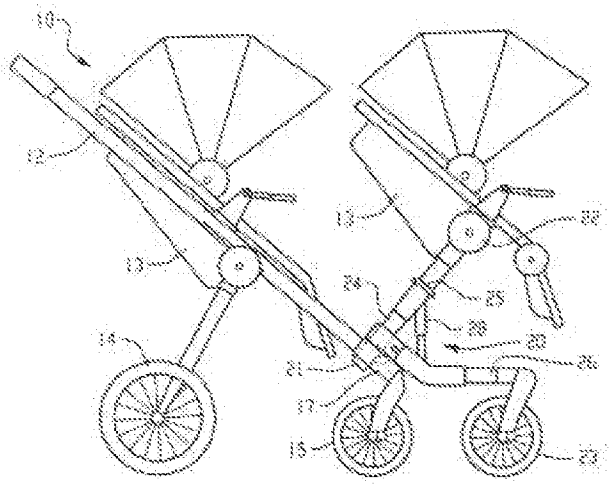
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Abstract of CN102256856 (A)

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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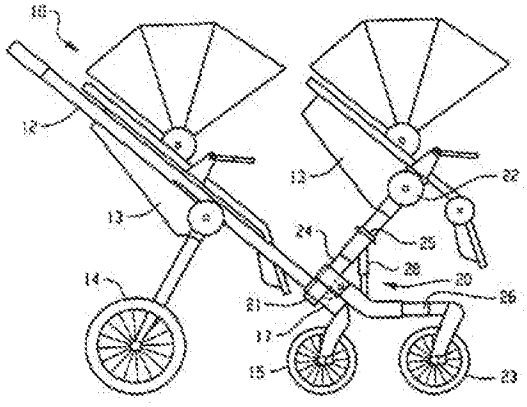
权利要求书 2 页 说明书 9 页 附图 8 页

(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。



CN 102256856 A

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

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

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。

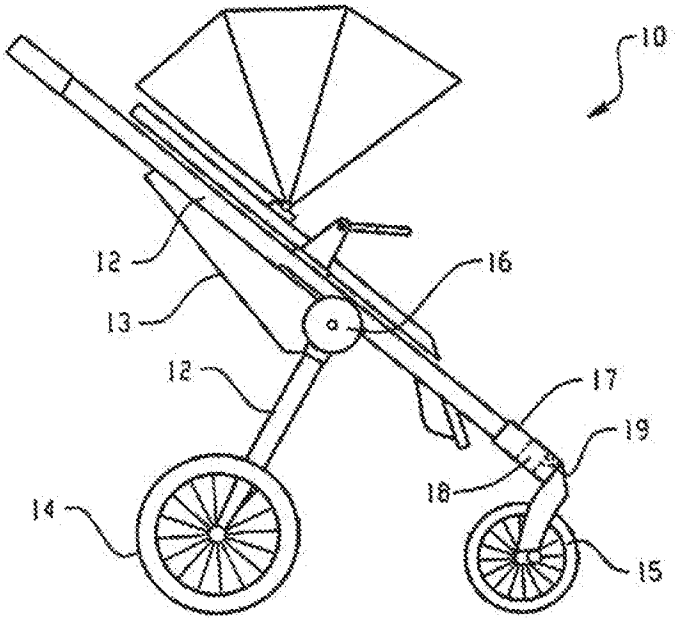


图 1

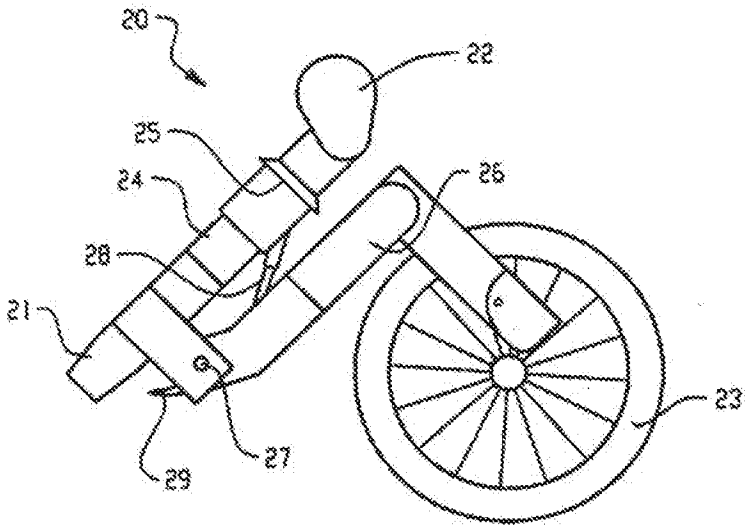


图 2

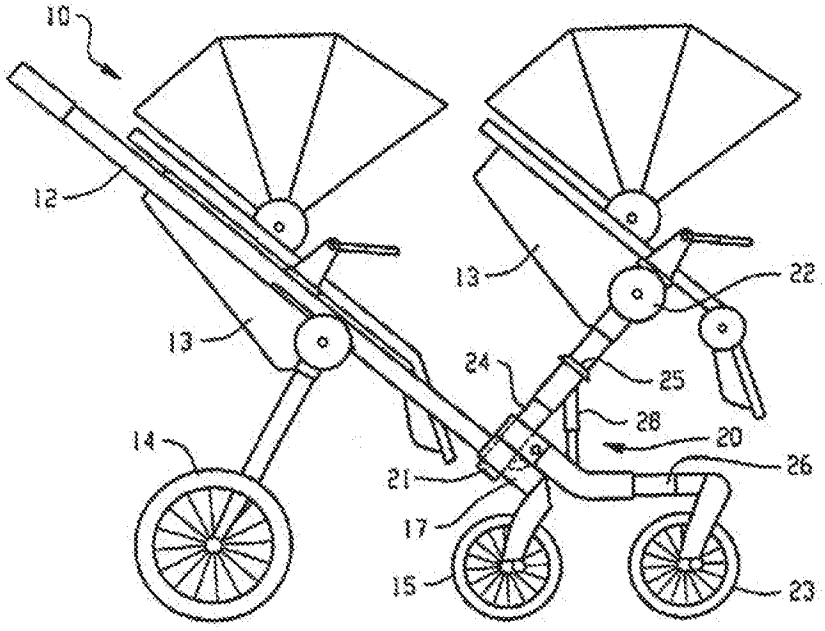


图 3

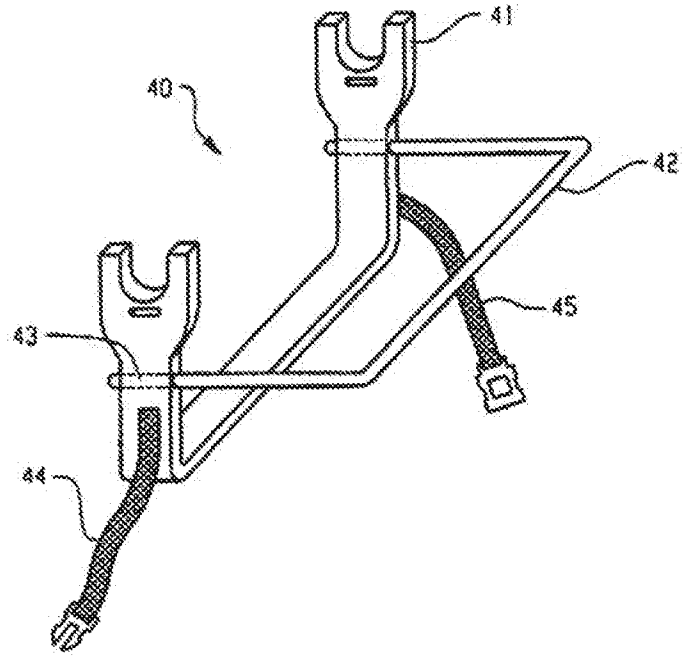


图 4

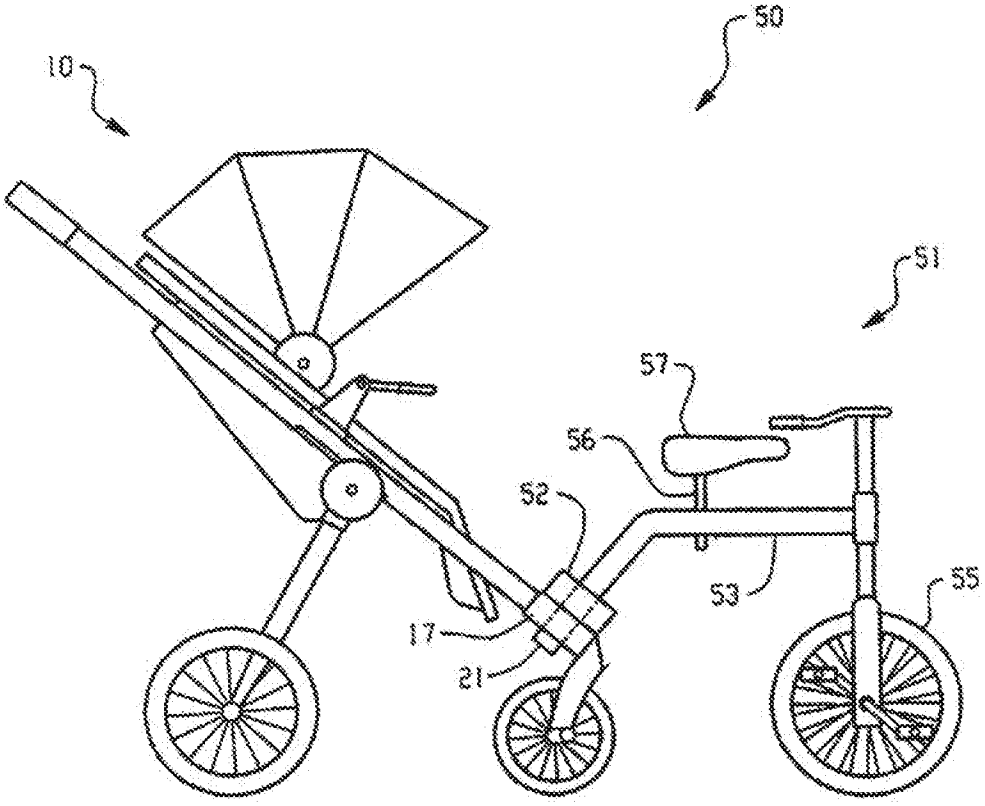


图 5

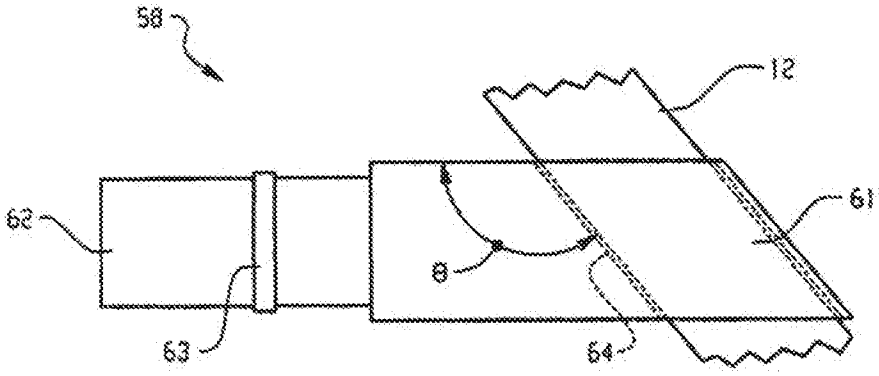


图 6A

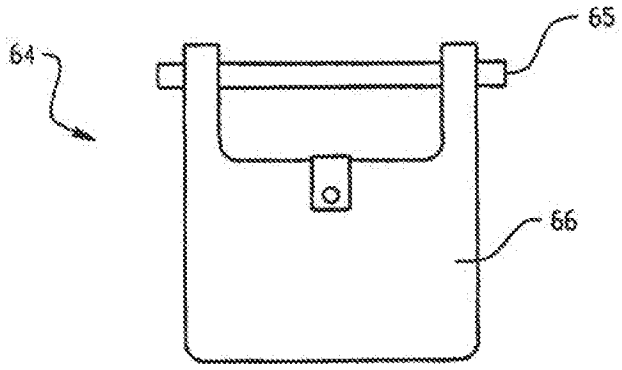


图 6B

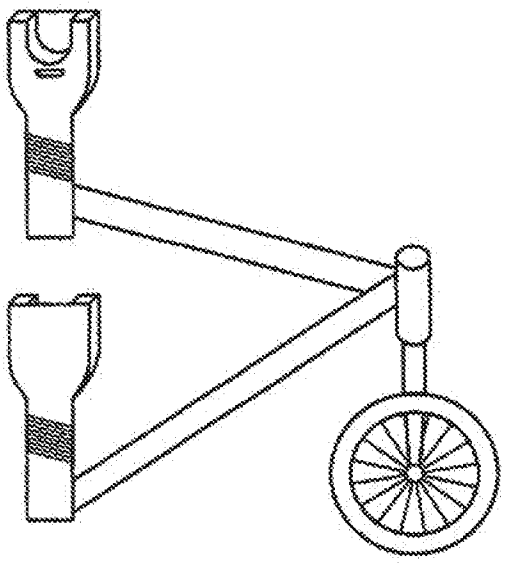


图 7

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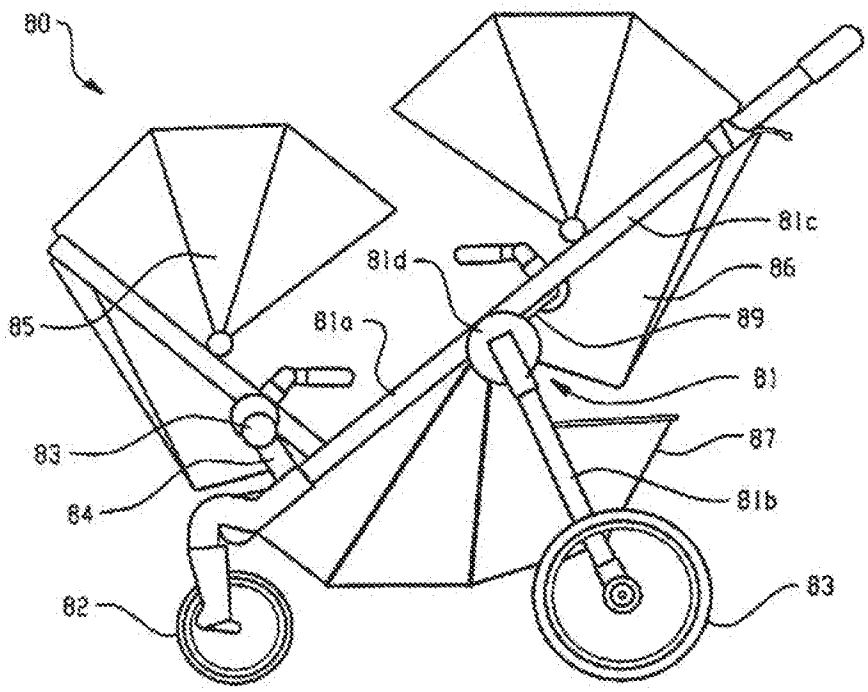

80
81c
81d
86
89
85
81a
81
87
83
81b
84
82
83

图 8

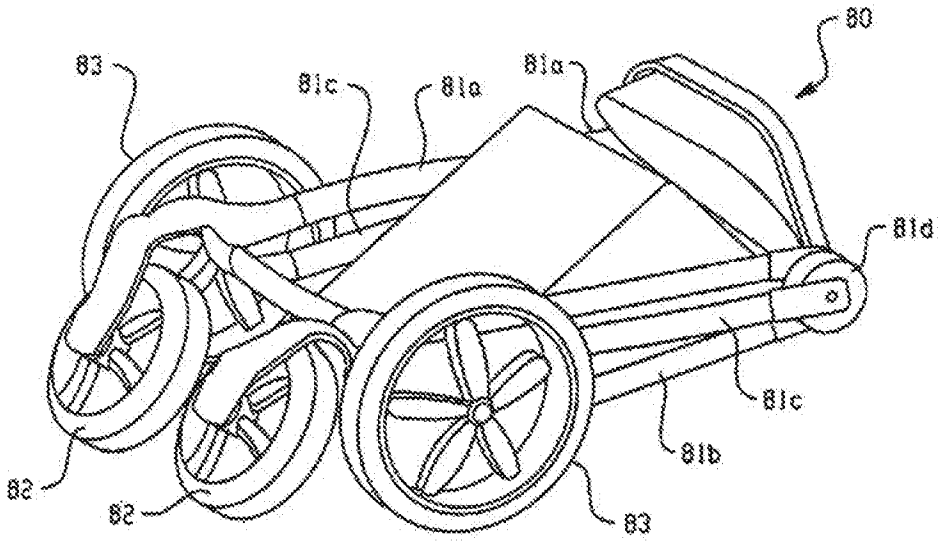

80
83
81c
81a
81a
81d
81c
81b
82
82
83

图 8A

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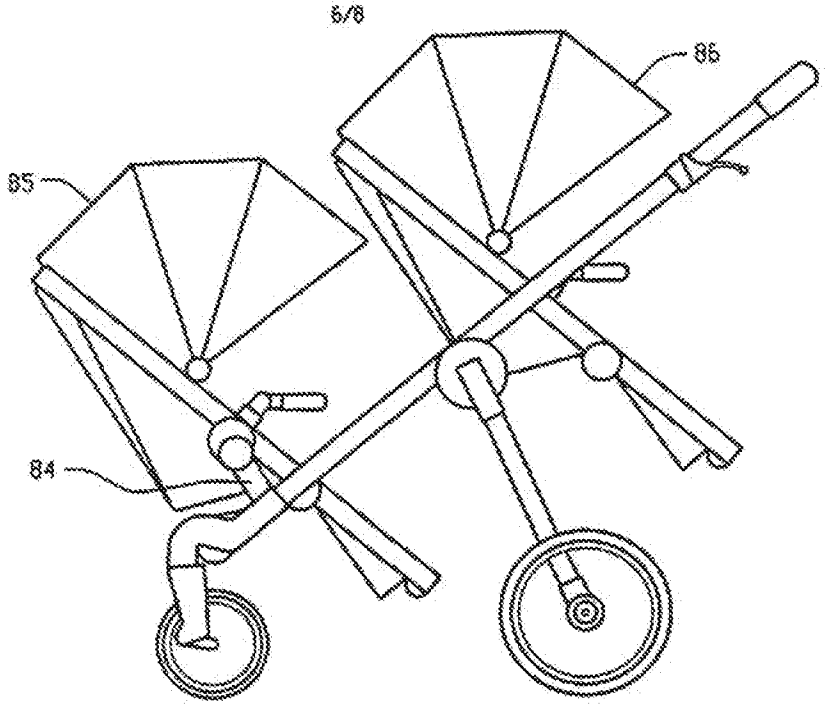


图 9A

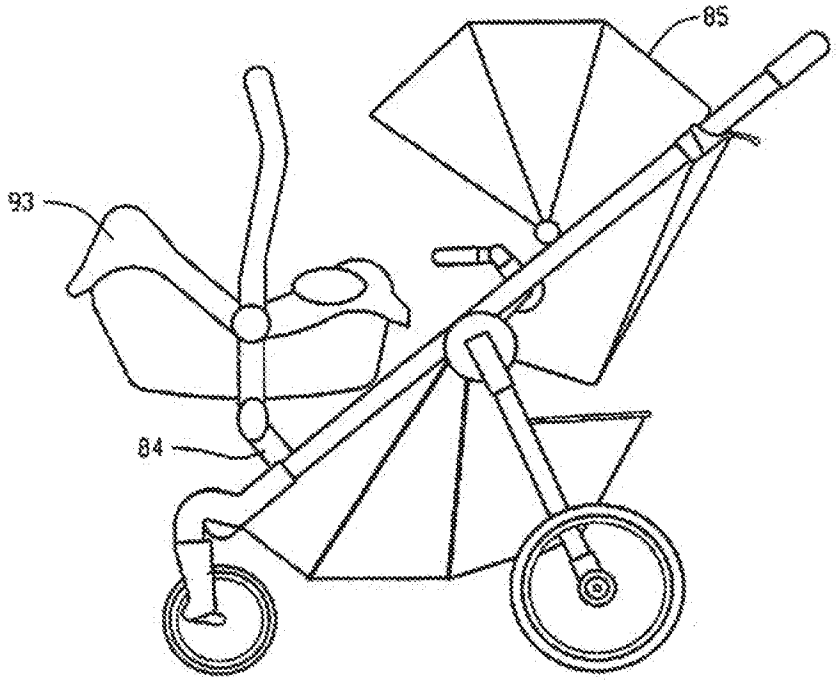


图 9B

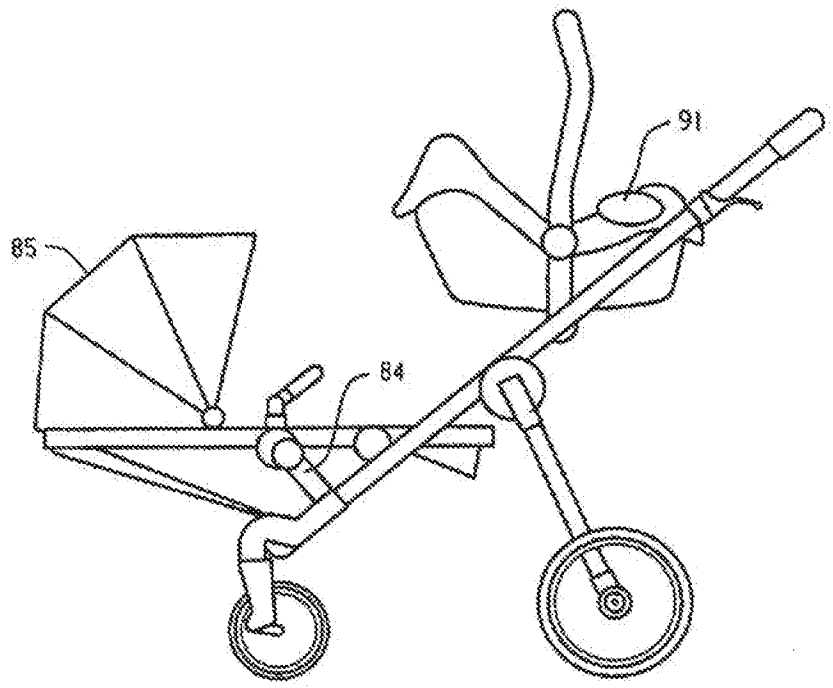


图 9C

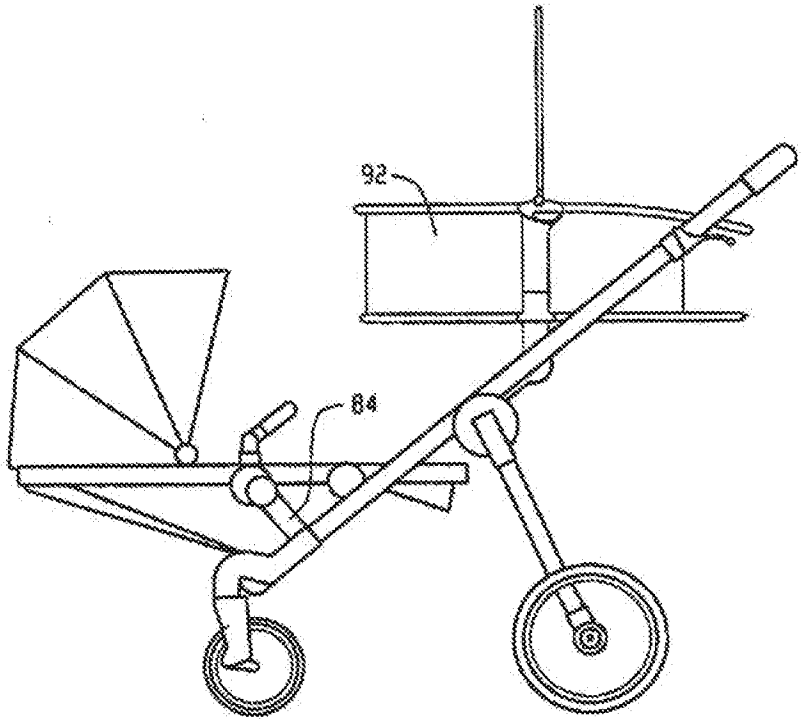


图 9D