

(19)



(11)

EP 2 615 946 B1

(12)

EUROPEAN PATENT SPECIFICATION

(45) Date of publication and mention
of the grant of the patent:

21.10.2015 Bulletin 2015/43

(51) Int Cl.:

A47D 1/10 (2006.01)

A47D 1/00 (2006.01)

(86) International application number:

PCT/US2011/051824

(21) Application number: **11825970.4**

(22) Date of filing: **15.09.2011**

(87) International publication number:

WO 2012/037395 (22.03.2012 Gazette 2012/12)

(54) **ADJUSTABLE BOOSTER SEAT**

EINSTELLBARER KINDERSITZ

REHAUSSEUR RÉGLABLE

(84) Designated Contracting States:

**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**

(30) Priority: **15.09.2010 US 383326 P**

(43) Date of publication of application:

24.07.2013 Bulletin 2013/30

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Description**BACKGROUND OF THE INVENTION**Field of the Invention

[0001] Various embodiments of the present invention described herein generally relate to an adjustable booster seat for a child and, in particular, to an adjustable booster seat having a child support with an adjustable height and tilt angle.

Description of Related Art

[0002] Children's booster seats are commonly used to provide an elevated seating surface for a child. For example, many booster seats are configured to be placed upon an adult chair in order to provide a seating surface that is better suited for supporting a child and elevated above the seating surface of the adult chair. Such booster seats are often used when feeding a child as it is desirable for the child to be seated in an elevated position that is nearer to the surface of a dining table or more easily accessible by a parent. However, the preferred position for a child during feeding can change as the child matures. For example, the preferred seating position for an infant may be relatively high to accommodate the infant's short height and may be reclined as the infant may be unable to sit upright in a chair. Likewise, the preferred seating position for a toddler may be lower to accommodate the toddler's taller height and less reclined as the toddler is able to sit upright.

[0003] In order to provide a variable seating position for children of different ages and sizes, more recent booster seats have been configured such that their height and recline angle can be adjusted. For example, U.S. Publication No. 2010/0181808 discloses a seat configured to swivel, recline, and raise to accommodate a child during feeding. However, existing booster seats provide such variable seating positions through the use of large, complex seat repositioning mechanisms. To accommodate these mechanisms, existing booster seats are often excessively wide, making them difficult to fit on certain chairs (e.g., adult chairs having armrests). In addition, the complexity of these seat repositioning mechanisms makes the booster seats costly to manufacture, difficult to use, heavier to carry, and less reliable.

[0004] Accordingly, there is a need in the art for an improved adjustable children's booster seat that incorporates a simple, low-cost, reliable, lightweight, and easy to use mechanism for adjusting the seating position of the booster seat.

BRIEF SUMMARY OF THE INVENTION

[0005] The invention as claimed in claim 1 is intended to remedy these drawbacks.

[0006] Preferred features of the invention are set out

in the dependent claims.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

[0007] Reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

Figure 1 shows a front perspective view of an adjustable booster seat according to one embodiment of the present invention;

Figure 2 shows a cutaway side view of an upright frame member according to one embodiment of the present invention;

Figure 3 shows a side view of a vertically adjustable arm according to one embodiment of the present invention;

Figure 4 shows a cutaway side view of a vertically adjustable arm inserted within an upright frame member to form a height control device according to one embodiment of the present invention;

Figure 5 shows a cutaway side view of a tilt control device secured to a vertically adjustable arm according to one embodiment of the present invention;

Figure 6 shows a rear perspective view of an adjustable booster seat having a tray according to one embodiment of the present invention;

Figure 7 shows a front perspective view of an adjustable booster seat having a tray according to one embodiment of the present invention; and

Figure 8 shows a perspective view of an adjustable booster seat secured to a chair according to one embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0008] The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which some, but not all embodiments of the invention are shown. Indeed, the invention may be embodied in many different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will satisfy applicable legal requirements. Like numbers refer to like elements throughout.

[0009] Various embodiments of the present invention are directed to an adjustable children's booster seat. According to various embodiments, the booster seat generally includes a frame configured to suspend a child support (e.g., a child seat) such that both the height and tilt angle of the child support can be adjusted. In particular, one or more tilt control devices and height control devices are provided on the booster seat to enable a user to easily adjust the child support height and tilt angle. The frame is also generally configured to have a narrow profile, thereby enabling the booster seat to fit on a wide variety of chairs. In certain embodiments of the booster seat,

such as those adapted for feeding a baby, the booster seat also includes a removable tray and one or more straps configured to safely secure the booster seat to a chair.

[0010] Figure 1 illustrates an adjustable booster seat **5** according to one embodiment. As shown in Figure 1, the adjustable booster seat **5** generally comprises a frame **10** and a child support **20**. In the illustrated embodiment, the frame **10** includes a base **102**, a pair of upright members **110**, and a pair of vertically adjustable arms **120**. As described in greater detail below, the vertically adjustable arms **120** are operatively connected to lateral sides of the child support **20** and are configured to be selectively secured at different heights within the upright members **110** via a height control device. This functionality allows the height of the child support **20** with respect to the frame's base **102** to be selectively adjusted by a user to a preferred position. In addition, as described in greater detail below, the child support **20** is operatively connected to the vertically adjustable arms **120** such that it is permitted to rotate about a substantially horizontal axis. In particular, at least one of the vertically adjustable arms **120** includes a tilt control device **130** at its interface with the child support **20** that enables a user to selectively secure the child support **20** at different tilt angles relative to the frame **10**.

[0011] As shown in Figure 1, the child support **20** includes a seating surface **202** having an upwardly extending crotch restraint **203**, and a removable backrest **204**. In the illustrated embodiment, the child support **20** comprises a seat formed from a substantially rigid shell and may include padding disposed on the seating surface **202** and backrest **204** to provide a comfortable support for a child. However, according to various other embodiments, child support **20** may comprise any suitable child support (e.g., a frame suspending a fabric seating surface) capable of being secured to the frame **10** as described herein.

[0012] The frame's base **102** is a generally rigid platform configured for resting on a support surface (e.g., the surface of a chair) and providing a stable support base for the remaining components of the booster seat **5**. As described in greater detail herein, the base **102** also defines a plurality of strap connection points **104**, each of which comprises one or more apertures through which a securing strap can be threaded and attached to the base **102**. In addition, as shown in the rear view of Figure 6, the base **102** defines a transport handle **106** configured to be gripped by a user when transporting the booster seat **5**. In addition, in certain embodiments, the base **102** may be positioned on a rotating track, or other rotation mechanism, in order to enable a user to selectively rotate the child support **20** about a substantially vertical axis of rotation.

[0013] The frame's upright members **110** extend upwardly from lateral sides of the base **102** and are generally configured to support the vertically adjustable arms **120** and, thereby, the child support **20**. According to var-

ious embodiments, the upright members **110** may be separate components affixed to the base **102**, or may be formed with the base **102** as a single molded part. In the embodiment of Figure 1, the frame's upright members **110** have a length greater than their width, providing a relatively thin profile. In addition, the upright members **110** are positioned adjacent the lateral edges of the base **102**. As such, the frame **10** is narrow profile with a reduced width in at least the areas of the frame **10** likely to be adjacent the armrests of a chair on which the booster seat **5** is positioned. The width of the frame **10** in these areas is generally equal to the lateral distance between the outermost walls of the two upright members **110**. As the width of the frame **10** is reduced, the booster seat **5** is able to be positioned in a wide variety of chairs, including chairs having armrests. For example, in one embodiment, the width of frame **10** between the outermost walls of the upright members **110** is approximately 17.5 inches.

[0014] As noted above, the upright members **110** and vertically adjustable arms **120** include a height control device to effectively adjust the height of the child support **20**. Figure 2 illustrates a cutaway side view of one of the upright members **110**. As shown in Figure 2, the upright member **110** includes substantially vertical side walls **111**, which extend upwardly from the base **102**. The vertical side walls **111** define an interior channel **112** having an upper opening **113** at the upper ends of the vertical side walls **111**. In the illustrated embodiment, the interior channel **112** extends downwardly into the base **102**.

[0015] At the lower end of its interior channel **112**, the upright member **110** includes two rows of teeth **114**. In the illustrated embodiment, each of the teeth **114** extends outwardly from the inner walls of the channel **112** and is angled slightly upwardly toward the upper opening **113**. As such, each pair of adjacent teeth **114** defines an angled cavity **115**. As described in greater detail herein, the teeth **114** and cavities **115** are configured to engage a portion of a vertically adjustable arm **120** inserted into the channel **112** as part of a height control device.

[0016] Figure 3 illustrates a side view of one of the vertically adjustable arms **120**. In the illustrated embodiment, the vertically adjustable arm **120** comprises an elongate body **121**, an upper armrest **123**, and a tilt control device **130**. According to various embodiments, the elongate body **121** is a generally rigid member and has a thin profile dimensioned to fit within the interior channel **112** of the upright member **110**. As shown in Figure 3, the elongate body **121** includes a central protruded portion **122**, which protrudes slightly from the face of the elongate body **121** and extends along the length of the elongate body **121**. The arm **120** further includes a pair of retractable fingers **125**, which extend outwardly from the sides of the body's central protruded portion **122**. As explained in greater detail below, the retractable fingers **125** can be actuated by a handle **126** (shown in Figures 1 and 4) provided on the opposite end of the arm **120**. The upper armrest **123** is positioned adjacent an upper end of the elongate body **121** and extends outwardly from

the elongate body 121. As explained in greater detail below, certain embodiments of the armrests 123 are configured to receive and secure a tray to the booster seat 5.

[0017] Figure 4 shows a cutaway side view of one of the frame's vertically adjustable arms 120 positioned within one of the upright members 110. According to various embodiments, the arm 120 is configured to move vertically within the upright member 110 and to be selectively secured at a user-preferred height. In particular, the arm's handle 126 is configured to act as an actuation mechanism to enable a user to adjust the arm 120 between an adjustable configuration, in which the arm 120 may be moved vertically within the upright member 110, and a secured configuration, in which the arm 120 is secured at a user-preferred height within the upright member 110.

[0018] In particular, as shown in Figure 4, the arm's retractable fingers 125 are positioned in chambers 128 within the vertically adjustable arm 120. The fingers 125 are also operatively connected to the handle 126 by connecting members 127. In the illustrated embodiment, the connecting members are thin, elongate plastic pieces (e.g., polypropylene strips). The handle 126 is biased to an extended position by a spring 129, which is disposed between the upper end of the handle 126 and the upper edge of the vertically adjustable arm 120. When the handle 126 is in its extend position (shown in Figure 4), the connecting members 127 push the fingers 125 out of the chambers 128. Accordingly, when the fingers 125 are each aligned with one of the cavities 115, the fingers 125 extend into the cavities 115, as shown in Figure 4. When the fingers 125 are extended into the cavities 115 and engaged with the teeth 114, the vertically adjustable arm 120 is prevented from moving upward and downward and is thus in a secured configuration. In other words, the handle 126 is generally biased toward an extended, secured configuration in which the height of the vertically adjustable arm 120 is fixed with respect to the upright member 110.

[0019] However, by pulling the handle 126 upward, a user can actuate the arm 120 to an adjustable configuration in which the height of the arm 120 can be adjusted. As will be appreciated from Figure 4, when the handle 126 is pulled upward, the spring 129 is compressed and the connecting members 127 pull the fingers 125 upward such that they are retracted into the chambers 128. With the fingers 125 retracted and no longer engaged with the teeth 114, the arm 120 is free to move upwardly and downwardly within the upright member 110. In the illustrated embodiment, each row of teeth 114 defines four cavities 115. As such, using the handle 126, a user can selectively secure the arm 120 at one of four different heights.

[0020] As the child support 20 is operatively connected to the vertically adjustable arms 120, adjusting the height of the arms 120 with respect to the upright members 110 necessarily adjusts the height of the child support 20. Accordingly, in the illustrated embodiment of Figure 4,

the teeth 114, cavities 115, fingers 125, handle 126, connecting members 127, chambers 128, and spring 129 comprise a height control device configured for adjusting the height of the child support 20.

[0021] According to other embodiments, springs may be disposed in the chambers 128 in order to bias the fingers 125 and handle 126 to an extended position. Such springs positioned in the chambers 128 may be provided in place of, or in addition to, the spring 129 shown in Figure 4. Furthermore, in other embodiments, additional teeth 114 may be provided within the channel 112 to provide additional height settings for the vertically adjustable arm 120. In yet another embodiment, the position and orientation of the components of the height control device may be reversed. For example, in one embodiment, the teeth 114 and cavities 115 are defined on the elongate body 121 of the vertically adjustable arm 120, while the retractable fingers 125, handle 126, connecting members 127, chambers 128, and spring 129 may be positioned on or within various portions of the upright member 110.

[0022] In the illustrated embodiment of Figure 1, height control devices are provided in both of the upright members 110 and vertically adjustable arms 120 on each side of the child support 20. As such, in the illustrated embodiment, a user may adjust the height of the child support 20 by pulling the handles 126 on each side of the child support 20, moving both vertically adjustable arms 120 to a desired height, and releasing the handles 126 to secure the child support 20 at the desired height. However, in other embodiments, only one height control device may be provided (e.g., in only one of the upright member-arm combinations 110/120, while the other arm 120 is configured to move with the height controlled arm 120). In other embodiments, additional height control devices may be provided (e.g., in additional upright members 110 and vertically adjustable arms 120). In addition, as will be appreciated from the description herein, the height adjustment device shown in Figure 4 represents only one embodiment of a height adjustment device adapted for use with the booster seat 5. Indeed, it is contemplated that other devices may be adapted to enable the vertically adjustable arms 120 to be adjusted and selectively secured by a user at various heights with respect to the upright members 110.

[0023] Figure 5 shows a cutaway side view of a tilt control device 130 provided on one of the vertically adjustable arms 120. According to various embodiments, the tilt control device 130 is configured to permit the child support 20 to selectively rotate with respect to the arm 120. As shown in Figure 5, the tilt control device 130 comprises a rotating member 131 and a fixed member 132. In the illustrated embodiment, the fixed member 132 is affixed to the arm's elongate body 121 just below the armrest 123.

[0024] The rotating member 131 is rotatably secured to the fixed member 132 such that it may rotate about an axis 133. In the illustrated embodiment, the axis 133 is

generally perpendicular to the illustrated surface of the elongate body **121** and, as such, is substantially horizontal and would extend outwardly from the page of Figure 5. In addition, the rotating member **131** is affixed to a lateral side of the child support **20**. For example, Figure 6 shows a rear view of the booster seat **5**. As shown in Figure 6, the rotating member **131** is connected to a lateral side of the child support **20**, just below a lip extending around the perimeter of the child support **20**.

[0025] In order to control the rotation of the child support **20**, the fixed member **132** includes a plurality of teeth **134** defining cavities **135** therebetween. The rotating member **131** includes a trigger member **136**, which is connected to the rotating member **131** by a pin **137** such that the trigger member **136** can rotate about the pin **137**. The trigger member **136** also includes a finger **138** configured to engage the fixed member's teeth **134** (e.g., by being positioned within one of the cavities **135**). As shown in Figure 5, the trigger member **136** is positioned substantially within the rotating member **131**, but includes an exposed surface near the upper end of the rotating member **131** such that the trigger member **136** can be actuated by a user. The exposed surface of the trigger **136** is also visible in Figure 6.

[0026] According to various embodiments, the tilt control device **130** is configured to be actuated between a secured configuration, in which the child support **20** is prevented from rotating with respect to the vertically adjustable arms **120**, and an adjustable configuration, in which the child support **20** is permitted to rotate about the axis **133**. Figure 5 illustrates the tilt control device **130** in a secured configuration. As shown in Figure 5, when the trigger member's finger **138** is positioned within one of the cavities **135** and thereby engaged with the fixed member's teeth **134**, the rotating member **131** is prevented from rotating with respect to the fixed member **132**. As a result, the child support **20**-which is connected to the rotating member **131**-will not be permitted to rotate with respect to the vertically adjustable arm **120**.

[0027] To actuate the tilt control device **130** to an adjustable configuration, a user may press the exposed surface of the trigger member **136** such that it rotates about the pin **137**, thereby causing its finger **138** to be moved out of contact with the teeth **134**. With the finger **138** disengaged from the teeth **134**, the rotating member **131**-and thereby the child support **20**-are free to rotate about the axis **133**. To actuate the tilt control device **130** back to a secured configuration, the user may allow the finger **138** to realign with one of the fixed member's cavities **135** and release the trigger member **136** such that the finger **138** reengages the teeth **134**. In the illustrated embodiment of Figure 5, the fixed member **132** defines three cavities **135**, which permits the child support **20** to be secured at three distinct angles with respect to the vertically adjustable arm **120**.

[0028] According to various embodiments, a spring may be provided within the rotating member **131** in order to bias the trigger member **136** to the secured configu-

ration. In addition, the trigger member **136** may be dimensioned such that, when it is in the adjustable configuration and rotated by a user, the finger **138** skips over the top surfaces of the teeth **134** in order to provide a "clicking" sensation to the user that indicates when the finger **138** has been realigned with a different cavity **135**. Furthermore, the fixed member **132** may be provided with additional teeth to provide additional tilt angle settings for the tilt control device **130**. In yet another embodiment, the position and orientation of certain components of the tilt control device may be reversed. For example, in one embodiment, the teeth **134** and cavities **135** are defined on the trigger member **136**, while the finger **138** is defined within the fixed member **132**. In addition, as will be appreciated from Figure 6, the rearward end of the frame's base **102** extends further back than child support **10** will in its most reclined position. As a result, the base **102** can be placed on a chair such that its rearward end contacts the back of the chair and prevents the child support **20** from contacting the chair's back when the child support **20** is reclined.

[0029] In the illustrated embodiment of Figure 1, one of the vertically adjustable arms **120** includes the above-described tilt control device **130** at its interface with the child support **20**, while the other vertically adjustable arm **120** is rotatably connected to the child support **20** without a tilt control device **130**. In such an embodiment, the single tilt control device **130** is able to control the tilt angle of the child support **20**. However, in other embodiments, additional tilt control devices **130** may be provided (e.g., at the interface of the child support **20** and both vertically adjustable arms **120**).

[0030] As noted above, the child support **20** also includes a removable backrest **204**. Referring back to Figure 6, the removable backrest **204** is shown connected to the lower portion of the child support **20**. In the illustrated embodiment, the backrest **204** is configured to engage a ridge **207** along the child support **20** and be removably secured by a clip **206**. According to various embodiments, the backrest **204** may be removed to accommodate larger children (e.g., children having shoulders wider than the backrest **204**) or replaced with another removable backrest of a different size.

[0031] Figure 7 illustrates the booster seat **5** with a tray **30** attached. According to various embodiments, the tray **30** is configured to be removably secured to the armrests **123** of the vertically adjustable arms **120** (e.g., using clips or other conventional attachment devices). As will be appreciated from Figure 7, as the tray **30** is secured to the armrests **123**, the child support **20** can be tilted forward and backward independent of the tray **30**. In other words, in the illustrated embodiment, the tray **30** does not tilt with the child support **20**. In other embodiments, the tray **30** may be configured to rotate about pins positioned at either of its ends. In such an embodiment, the armrests **123** may define locking mechanisms configured to receive and secure the tray's pins and permit the tray to rotate about either pin.

[0032] In addition, certain embodiments of the booster seat **5** include one or more securing straps configured to secure the booster seat **5** to a chair. Figure 8 shows the booster seat **5** secured to a chair **6**. In the illustrated embodiments, the booster seat **5** includes a plurality of securing straps **40** attached to strap connection points **104** on the frame **10**. According to various embodiments, the securing straps **40** may include one or more fasteners (e.g., side release buckles) to enable a user to quickly and easily secure the straps **40** around portions of the chair **6**. For example, as shown in Figure **8**, the straps **40** can be secured around the seating surface and backrest of the chair **6** in order to secure the booster seat **5** to the chair **6**.

[0033] According to various embodiments, the booster seat **5** shown and described herein provides a stable child support having a height and tilt angle that can be easily adjusted by a user. In addition, the components of the booster seat **5** providing this functionality can be easily assembled, have a low manufacturing cost, and are very reliable.

Conclusion

[0034] Many modifications and other embodiments of the inventions set forth herein will come to mind to one skilled in the art to which these inventions pertain having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the inventions are not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

Claims

1. An adjustable children's booster seat comprising:

a child support (20) configured for supporting a child;

a frame (10) comprising

a base (102) configured for resting on a seating surface (202) of a chair, and wherein the frame (10) is configured for suspending the child support (20) above the seating surface (202), and the frame (10) further comprises

one or more vertically adjustable arms (120) and wherein one or more lateral sides of the child support (20) are rotatably connected to the one or more vertically adjustable arms (120) such that the child support (20) can rotate about a substantially horizontal axis

of rotation;

at least one tilt control device (130) configured to be actuated by a user between a secured configuration and an adjustable configuration, wherein the tilt control device (130) permits the child support (20) to be rotated about the horizontal axis of rotation when in the adjustable configuration and prevents the child support (20) from being rotated about the horizontal axis of rotation when in the secured configuration; and one or more height control devices configured to be actuated by a user between a secured configuration and an adjustable configuration, wherein the one or more height control devices permit the vertically adjustable arms (120) to be moved upwardly and downwardly with respect to the frame (10) when in the adjustable configuration and prevent the vertically adjustable arms (120) from moving downwardly with respect to the frame (10) when in the secured configuration.

2. The adjustable children's booster seat of Claim 1, wherein the tilt control device (130) comprises a locking mechanism configured to selectively secure the child support (20) at two or more predefined tilt angles with respect to the frame (10).

3. The adjustable children's booster seat of Claim 2, wherein the tilt control device (130) comprises:

a fixed member (132) operatively connected to one of the one or more vertically adjustable arms (120), wherein the fixed member (132) defines one or more teeth; and

a rotating member (131) operatively connected to the seat and rotatably connected to the fixed member (132), wherein the rotating member (131) includes a trigger member (136) configured to be actuated by a user to selectively engage the fixed member's teeth (134);

wherein the tilt control device (130) is in the secured configuration when the trigger member (136) is engaged with the fixed member's teeth (134) and

wherein the tilt control device (130) is in the adjustable configuration when the trigger member (136) is disengaged from the fixed member's teeth (134).

4. The adjustable children's booster seat of Claim 1, wherein the height control device comprises a locking mechanism configured to selectively secure the child support (20) at two or more predefined heights with respect to the frame (10).

5. The adjustable children's booster seat of Claim 4,

wherein the frame (10) comprises one or more upright members, at least one of the upright members defining a vertical channel dimensioned for receiving at least one of the vertically adjustable arms (120); and
 wherein the height control device comprises:

a plurality of teeth defined within the vertical channel of the at least one upright member; and one or more retractable fingers positioned on the at least one vertically adjustable arm, wherein the one or more retractable fingers can be selectively retracted and extended via a movable handle disposed on the at least one vertically adjustable arm, and wherein the one or more retractable fingers are configured for selectively engaging the plurality of teeth defined within the vertical channel when the at least one vertically adjustable arm is inserted within the vertical channel; and

wherein the height control device is in the secured configuration when the one or more fingers are engaged with the vertical channel's teeth and wherein the height control device is in the adjustable configuration when the one or more fingers are disengaged from the vertical channel's teeth.

6. The adjustable booster seat of Claim 1, wherein the at least one tilt control device (130) comprises a single tilt control device attached to the child support (20) and rotatably connected to one of the one or more vertically adjustable arms (120).

7. The adjustable booster seat of Claim 1, wherein the frame (10) further comprises a pair of upright members, each upright member defining a vertical channel; wherein the one or more vertically adjustable arms (120) comprise a pair of vertically adjustable arms, each of the vertically adjustable arms being operatively connected to a lateral side of the child support (20) and positioned at least partially within one of the upright members; and wherein the one or more height control devices comprise a pair of height control devices, each height control device being configured to selectively secure one of the vertically adjustable arms at a user preferred height within one of the upright members.

8. The adjustable booster seat of Claim 7, wherein the upright members have a length greater than their width, and wherein the upright members are positioned proximate lateral edges of the frame (10).

9. The adjustable booster seat of Claim 1, wherein the child support (20) comprises a seat having a rigid shell defining the seating surface (202);

wherein the seat includes a removable backrest; and wherein the booster seat further comprises a removable tray configured to be removably secured to the one or more vertically adjustable arms such that, when the tray is secured, the child support (20) can rotate independent of the tray.

10. The adjustable booster seat of Claim 1, wherein the booster seat further comprises one or more securing straps (40) operatively connected to the frame (10) and configured for being releasably attached to the chair (6) in order to secure the booster seat (5) to the chair (6).

Patentansprüche

1. Einstellbarer Kindersitz, der aufweist:

eine Kinderhalterung (20), die für das Aufnehmen eines Kindes ausgebildet ist;
 einen Rahmen (10), der aufweist:

einen Unterbau (102), der für das Sitzen auf einer Sitzfläche (202) eines Stuhls ausgebildet ist, und wobei der Rahmen (10) für das Aufhängen der Kinderhalterung (20) oberhalb der Sitzfläche (202) ausgebildet ist, und wobei der Rahmen (10) außerdem aufweist:

einen oder mehrere vertikal einstellbare Arme (120), und wobei eine oder mehrere laterale Seiten der Kinderhalterung (20) drehbar mit dem einen oder den mehreren vertikal einstellbaren Armen (120) verbunden sind, so dass sich die Kinderhalterung (20) um eine im Wesentlichen horizontale Rotationsachse drehen kann; mindestens eine Neigungseinstellvorrichtung (130), die so ausgebildet ist, dass sie von einem Benutzer zwischen einer gesicherten Konfiguration und einer einstellbaren Konfiguration betätigt werden kann, wobei die Neigungseinstellvorrichtung (130) gestattet, dass die Kinderhalterung (20) um die horizontale Rotationsachse gedreht werden kann, wenn sie sich in der einstellbaren Konfiguration befindet, und verhindert, dass die Kinderhalterung (20) um die horizontale Rotationsachse gedreht wird, wenn sie sich in der gesicherten Konfiguration befindet; und eine oder mehrere Höheneinstellvorrichtungen, die so ausgebildet sind, dass sie von einem Benutzer zwischen

einer gesicherten Konfiguration und einer einstellbaren Konfiguration betätigt werden können, wobei die eine oder mehrere Höheneinstellvorrichtungen gestatten, dass die vertikal einstellbaren Arme (120) nach oben und nach unten mit Bezugnahme auf den Rahmen (10) bewegt werden können, wenn sie sich in der einstellbaren Konfiguration befinden, und verhindern, dass sich die vertikal einstellbaren Arme (120) nach unten mit Bezugnahme auf den Rahmen (10) bewegen, wenn sie sich in der gesicherten Position befinden.

2. Einstellbarer Kindersitz nach Anspruch 1, bei dem die Neigungseinstellvorrichtung (130) einen Verriegelungsmechanismus aufweist, der ausgebildet ist, um die Kinderhalterung (20) selektiv unter zwei oder mehreren vorher definierten Neigungswinkeln mit Bezugnahme auf den Rahmen (10) zu sichern.

3. Einstellbarer Kindersitz nach Anspruch 2, bei dem die Neigungseinstellvorrichtung (130) aufweist:

ein stationäres Element (132), das funktionell mit einem von dem einen oder den mehreren vertikal einstellbaren Armen (120) verbunden ist, wobei das stationäre Element (132) einen oder mehrere Zähne definiert; und

ein Rotationselement (131), das funktionell mit dem Sitz und drehbar mit dem stationären Element (132) verbunden ist, wobei das Rotationselement (131) ein Auslöseelement (136) umfasst, das so ausgebildet ist, dass es von einem Benutzer betätigt werden kann, um selektiv mit den Zähnen (134) des stationären Elementes in Eingriff zu kommen;

wobei die Neigungseinstellvorrichtung (130) in der gesicherten Konfiguration ist, wenn das Auslöseelement (136) mit den Zähnen (134) des stationären Elementes in Eingriff gebracht wird, und wobei die Neigungseinstellvorrichtung (130) in der einstellbaren Konfiguration ist, wenn das Auslöseelement (136) von den Zähnen (134) des stationären Elementes getrennt wird.

4. Einstellbarer Kindersitz nach Anspruch 1, bei dem die Höheneinstellvorrichtung einen Verriegelungsmechanismus aufweist, der ausgebildet ist, um selektiv die Kinderhalterung (20) auf zwei oder mehreren vorher definierten Höhen mit Bezugnahme auf den Rahmen (10) zu sichern.

5. Einstellbarer Kindersitz nach Anspruch 4, bei dem der Rahmen (10) ein oder mehrere aufrecht stehende Elemente aufweist, wobei mindestens eines der

aufrecht stehenden Elemente einen vertikalen Kanal definiert, der für das Aufnehmen von mindestens einem der vertikal einstellbaren Arme (120) dimensioniert ist; und

wobei die Höheneinstellvorrichtung aufweist:

eine Vielzahl von Zähnen, die innerhalb des vertikalen Kanals des mindestens einen aufrecht stehenden Elementes definiert werden; und einen oder mehrere zurückziehbare Finger, die an dem mindestens einen vertikal einstellbaren Arm positioniert sind, wobei der eine oder die mehreren zurückziehbaren Finger mittels eines beweglichen Griffes, der an dem mindestens einen vertikal einstellbaren Arm angeordnet ist, selektiv zurückgezogen und ausgezogen werden können, und wobei der eine oder die mehreren zurückziehbaren Finger für ein selektives Ineingriffkommen mit der Vielzahl der Zähne ausgebildet sind, die innerhalb des vertikalen Kanals definiert werden, wenn der mindestens eine vertikal einstellbare Arm innerhalb des vertikalen Kanals eingesetzt wird; und

wobei die Höheneinstellvorrichtung in der gesicherten Konfiguration ist, wenn der eine oder die mehreren Finger mit den Zähnen des vertikalen Kanals in Eingriff sind, und wobei die Höheneinstellvorrichtung in der einstellbaren Konfiguration ist, wenn der eine oder die mehreren Finger von den Zähnen des vertikalen Kanals getrennt sind.

6. Einstellbarer Kindersitz nach Anspruch 1, bei dem die mindestens eine Neigungseinstellvorrichtung (130) eine einzelne Neigungseinstellvorrichtung aufweist, die an der Kinderhalterung (20) befestigt und drehbar mit einem von dem einen oder den mehreren vertikal einstellbaren Armen (120) verbunden ist.

7. Einstellbarer Kindersitz nach Anspruch 1, bei dem der Rahmen (10) außerdem ein Paar aufrecht stehende Elemente aufweist, wobei ein jedes aufrecht stehende Element einen vertikalen Kanal definiert; wobei der eine oder die mehreren vertikal einstellbaren Arme (120) ein Paar von vertikal einstellbaren Armen aufweisen, wobei ein jeder der vertikal einstellbaren Arme funktionell mit einer lateralen Seite der Kinderhalterung (20) verbunden und mindestens teilweise innerhalb eines der aufrecht stehenden Elemente positioniert ist; und

wobei die eine oder die mehreren Höheneinstellvorrichtungen ein Paar von Höheneinstellvorrichtungen aufweisen, wobei jede Höheneinstellvorrichtung ausgebildet ist, um selektiv einen der vertikal einstellbaren Arme in einer vom Benutzer bevorzugten Höhe innerhalb eines der aufrecht stehenden Elemente zu sichern.

8. Einstellbarer Kindersitz nach Anspruch 7, bei dem die aufrecht stehenden Elemente eine Länge aufweisen, die größer ist als ihre Breite, und wobei die aufrecht stehenden Elemente in unmittelbarer Nähe der seitlichen Ränder des Rahmens (10) positioniert sind. 5
9. Einstellbarer Kindersitz nach Anspruch 1, bei dem die Kinderhalterung (20) einen Sitz mit einer starren Schale aufweist, die die Sitzfläche (202) definiert; wobei der Sitz eine entfernbare Rückenlehne umfasst; und wobei der Kindersitz außerdem ein entferntbares Tablett aufweist, die so ausgebildet ist, dass sie entferntbar an dem einen oder den mehreren vertikal einstellbaren Armen gesichert werden kann, so dass sich, wenn das Tablett gesichert ist, die Kinderhalterung (20) unabhängig von dem Tablett drehen kann. 10 15 20
10. Einstellbarer Kindersitz nach Anspruch 1, bei dem der Kindersitz außerdem einen oder mehrere Sicherungsgurte (40) aufweist, die funktionell mit dem Rahmen (10) verbunden und so ausgebildet sind, dass sie lösbar am Stuhl (6) befestigt werden können, um den Kindersitz (5) am Stuhl (6) zu sichern. 25

Revendications

1. Siège rehausseur ajustable pour enfant, comprenant :

un support pour enfant (20), destiné à supporter un enfant ;
un châssis (10), comprenant :

une base (102) configurée de sorte à reposer sur une surface d'assise (202) d'une chaise, le châssis (10) étant configuré de sorte à suspendre le support pour enfant (20) au-dessus de la surface d'assise (202), et le châssis (10) comprenant en outre :

un ou plusieurs bras à ajustement vertical (120), dans lequel un ou plusieurs côtés latéraux du support pour enfant (20) sont connectés de manière rotative au un ou aux plusieurs bras à ajustement vertical (120), de sorte que le support pour enfant (20) peut tourner autour d'un axe de rotation sensiblement horizontal ;

au moins un dispositif de commande de l'inclinaison (130), destiné à être actionné par un utilisateur entre une configuration sécurisée et une configuration ajustable, le dispositif de commande

de de l'inclinaison (130) permettant la rotation du support pour enfant (20) autour de l'axe de rotation horizontal lorsqu'il se trouve dans la configuration ajustable, et empêchant la rotation du support pour enfant (20) autour de l'axe de rotation horizontal lorsqu'il se trouve dans la configuration sécurisée; et un ou plusieurs dispositifs de commande de la hauteur, destinés à être actionnés par un utilisateur entre une configuration sécurisée et une configuration ajustable, dans lequel l'un ou les plusieurs dispositifs de commande de la hauteur permettent le déplacement des bras à ajustement vertical (120) vers le haut et vers le bas par rapport au châssis (10) lorsqu'ils se trouvent dans la configuration ajustable, et empêchent le déplacement des bras à ajustement vertical (120) vers le bas par rapport au châssis (10) lorsqu'ils se trouvent dans la configuration sécurisée.

2. Siège rehausseur ajustable pour enfant selon la revendication 1, dans lequel le dispositif de commande de l'inclinaison (130) comprend un mécanisme de verrouillage, destiné à fixer de manière sélective le support pour enfant (20) au niveau de deux ou de plusieurs angles d'inclinaison prédéfinis par rapport au châssis (10). 30

3. Siège rehausseur ajustable pour enfant selon la revendication 2, dans lequel le dispositif de commande de l'inclinaison (130) comprend :

un élément fixe (132), connecté en service à l'un des un ou plusieurs bras à ajustement vertical (120) ; l'élément fixe (132) définissant une ou plusieurs dents ; et

un élément rotatif (131), connecté en service au siège et connecté de manière rotative à l'élément fixe (132), l'élément rotatif (131) englobant un élément d'activation (136), destiné à être actionné par un utilisateur en vue d'un engagement sélectif dans les dents de l'élément fixe (134) ;

dans lequel le dispositif de commande de l'inclinaison (130) se trouve dans la configuration sécurisée lorsque l'élément d'activation (136) est engagé dans les dents de l'élément fixe (134), le dispositif de commande de l'inclinaison (130) se trouvant dans la configuration ajustable lorsque l'élément d'activation (136) est dégagé des dents (134) de l'élément fixe. 40 45 50 55

4. Siège rehausseur ajustable pour enfant selon la revendication 1, dans lequel le dispositif de commande

de la hauteur comprend un mécanisme de verrouillage destiné à fixer de manière sélective le support pour enfant (20) au niveau de deux ou de plusieurs hauteurs prédéfinies par rapport au châssis (10).

5. Siège rehausseur ajustable pour enfant selon la revendication 4, dans lequel le châssis (10) comprend un ou plusieurs éléments verticaux, au moins un des éléments verticaux définissant un canal vertical dimensionné de sorte à recevoir au moins un des bras à ajustement vertical (120) ; et dans lequel le dispositif de commande de la hauteur comprend :

plusieurs dents, définies dans le canal vertical du au moins un élément vertical ; et un ou plusieurs doigts rétractables, positionnés sur le au moins un bras à ajustement vertical, dans lequel l'un ou les plusieurs doigts rétractables peuvent être rétractés et étendus de manière sélective par l'intermédiaire d'une poignée mobile agencée sur le au moins un bras à ajustement vertical, et dans lequel l'un ou les plusieurs doigts rétractables sont destinés à s'engager sélectivement dans les plusieurs dents définies dans le canal vertical lorsque l'un ou les plusieurs doigts sont dégagés des dents du canal vertical.

6. Siège rehausseur ajustable pour enfant selon la revendication 1, dans lequel le au moins un dispositif de commande de l'inclinaison (130) comprend un seul dispositif de commande de l'inclinaison, fixé sur le support pour enfant (20) et connecté de manière rotative à un bras de l'un ou des plusieurs bras à ajustement vertical (120).

7. Siège rehausseur ajustable pour enfant selon la revendication 1, dans lequel le châssis (10) comprend en outre une paire d'éléments verticaux, chaque élément vertical définissant un canal vertical ; dans lequel l'un ou les plusieurs bras à ajustement vertical (120) comprennent une paire de bras à ajustement vertical, chacun des bras à ajustement vertical étant connecté en service à un côté latéral du support pour enfant (20) et étant positionné au moins en partie à l'intérieur de l'un des éléments verticaux ; et dans lequel l'un ou les plusieurs dispositifs de commande de la hauteur comprennent une paire de dispositifs de commande de la hauteur, chaque dispositif de commande de la hauteur étant destiné à fixer de manière sélective un des bras à ajustement vertical au niveau d'une hauteur préférée par l'utilisateur dans l'un des éléments verticaux.

8. Siège rehausseur ajustable pour enfant selon la revendication 7, dans lequel les éléments verticaux

ont une longueur supérieure à leur largeur, et dans lequel les éléments verticaux sont positionnés à proximité des bords latéraux du châssis (10).

9. Siège rehausseur ajustable pour enfant selon la revendication 1, dans lequel le support pour enfant (20) comprend un siège comportant une coque rigide définissant la surface d'assise (202) ; dans lequel le siège rehausseur inclut un dossier amovible ; et dans lequel le siège rehausseur comprend en outre un plateau amovible destiné à être fixé de manière amovible sur l'un ou les plusieurs bras à ajustement vertical, de sorte que lorsque le plateau est fixé, le support pour enfant (20) peut tourner indépendamment du plateau.
10. Siège rehausseur ajustable pour enfant selon la revendication 1, dans lequel le siège rehausseur comprend en outre une ou plusieurs sangles de fixation (40), connectées en service au châssis (10) et destinées à être fixées de manière amovible sur la chaise (6) en vue de fixer le siège rehausseur (5) sur la chaise (6).

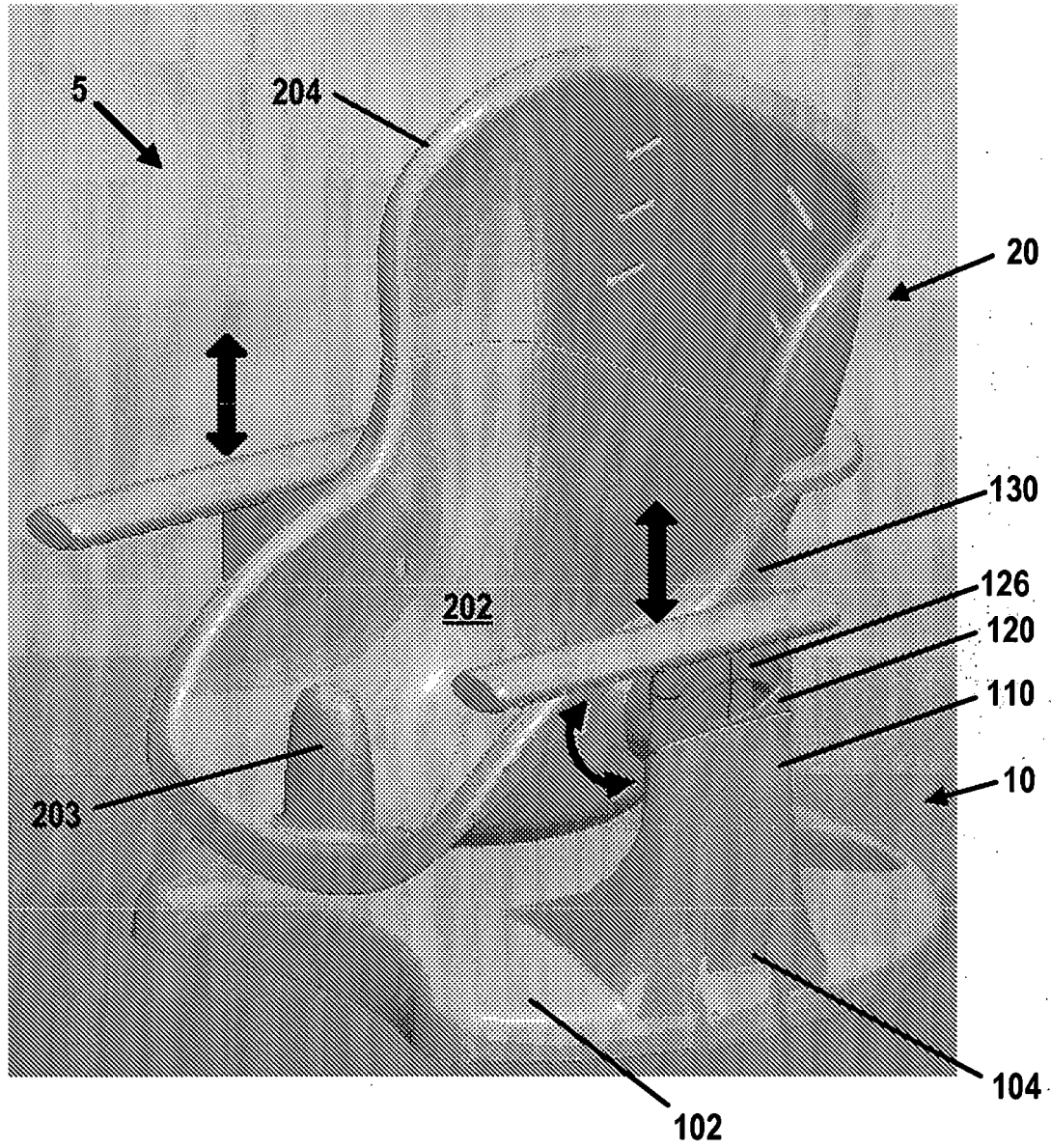


FIG. 1

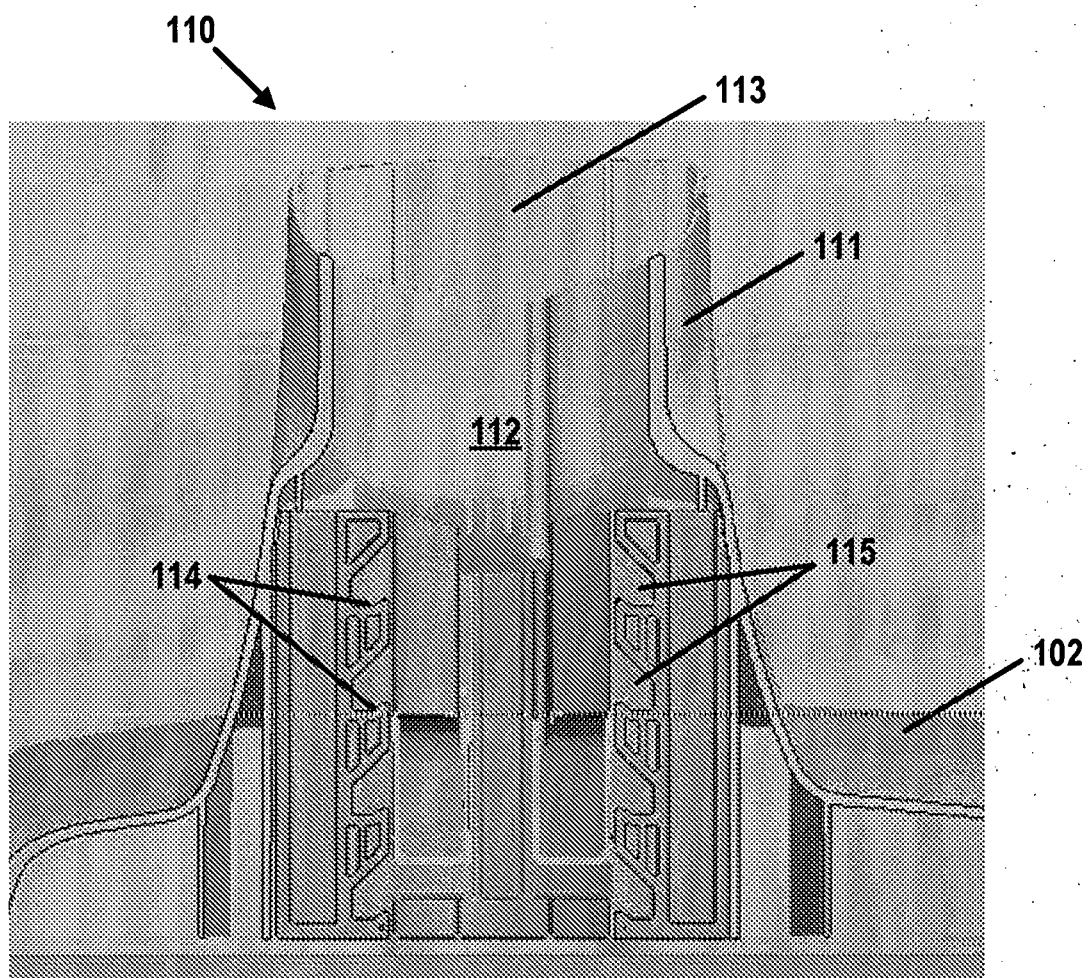


FIG. 2

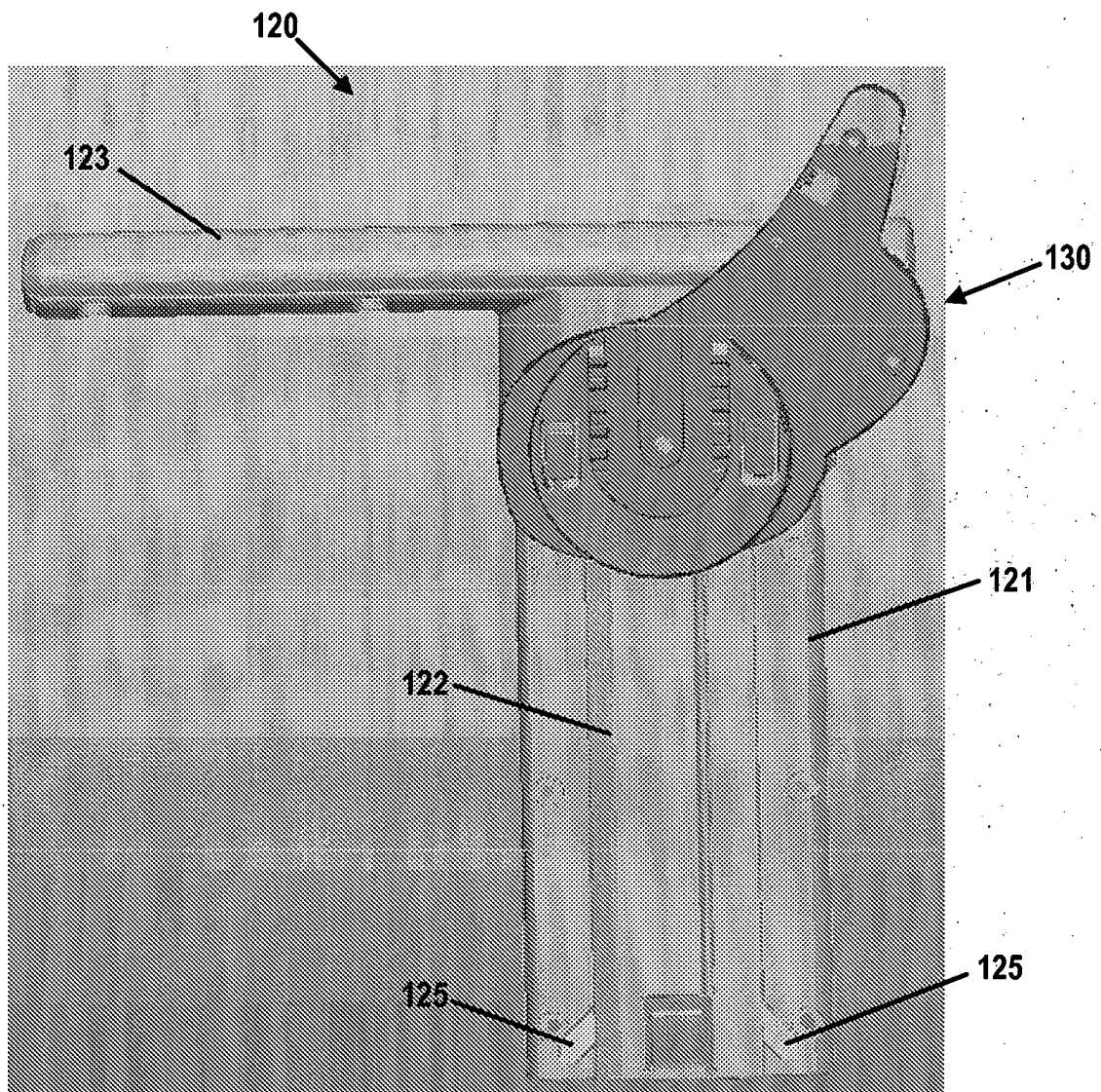


FIG. 3

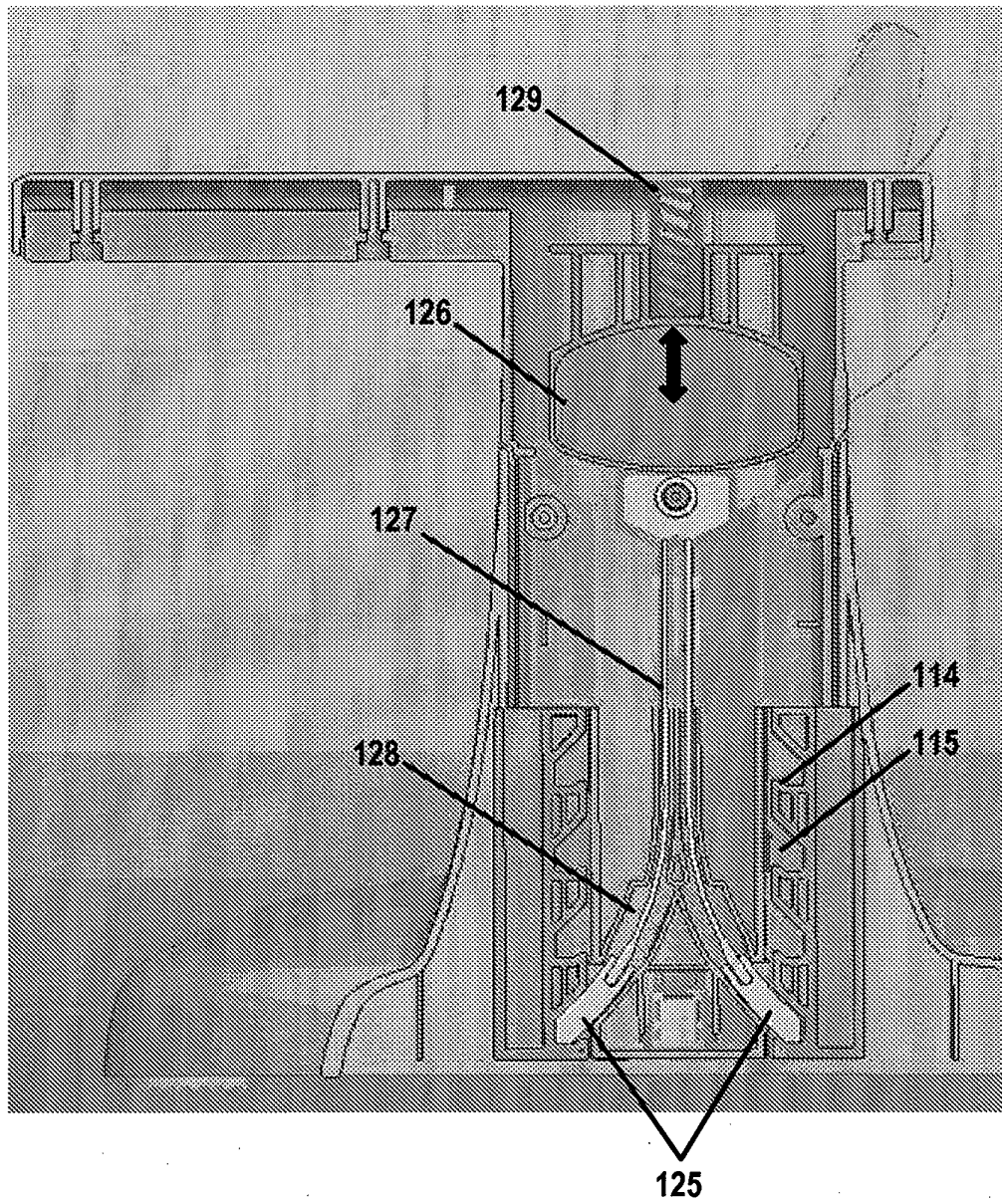


FIG. 4

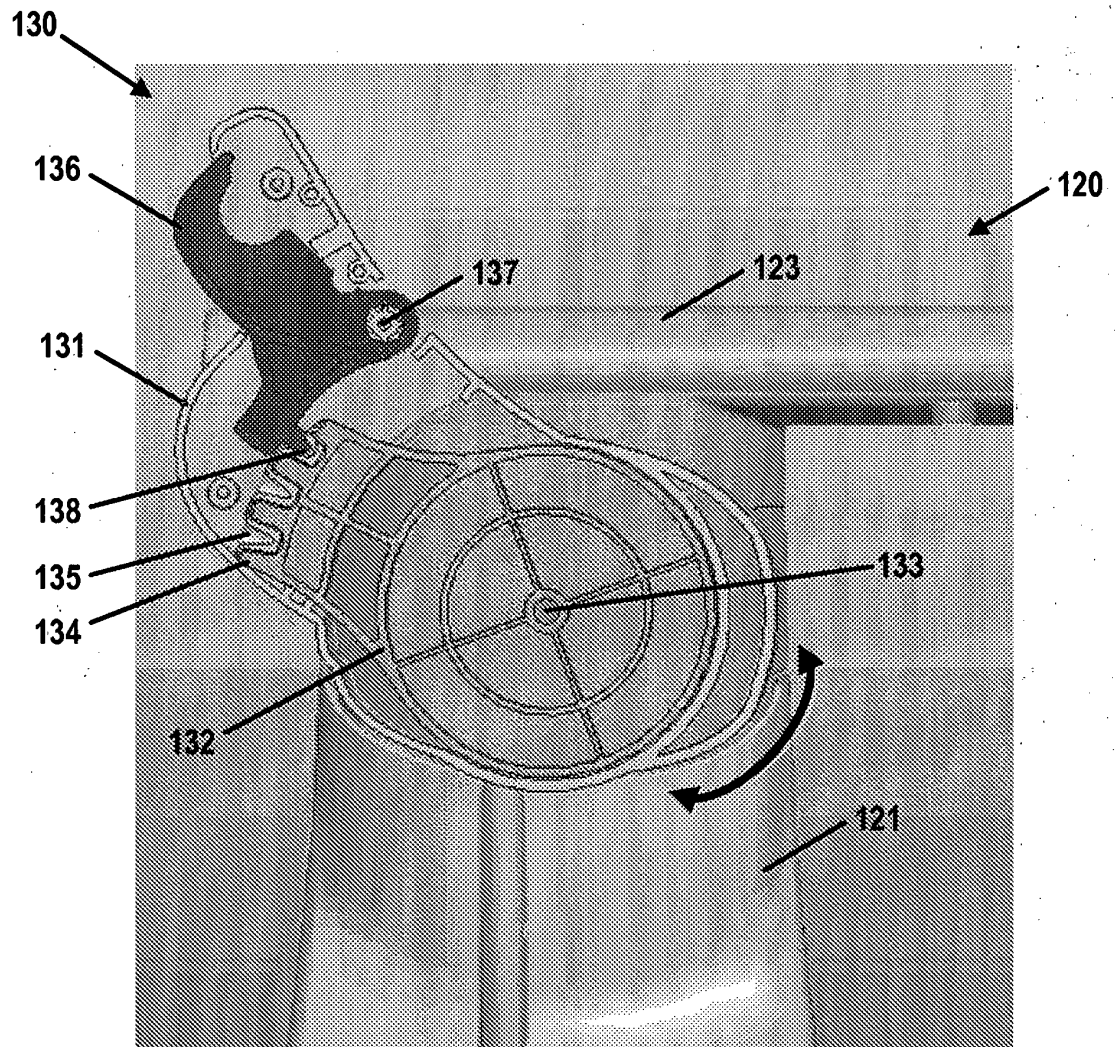


FIG. 5

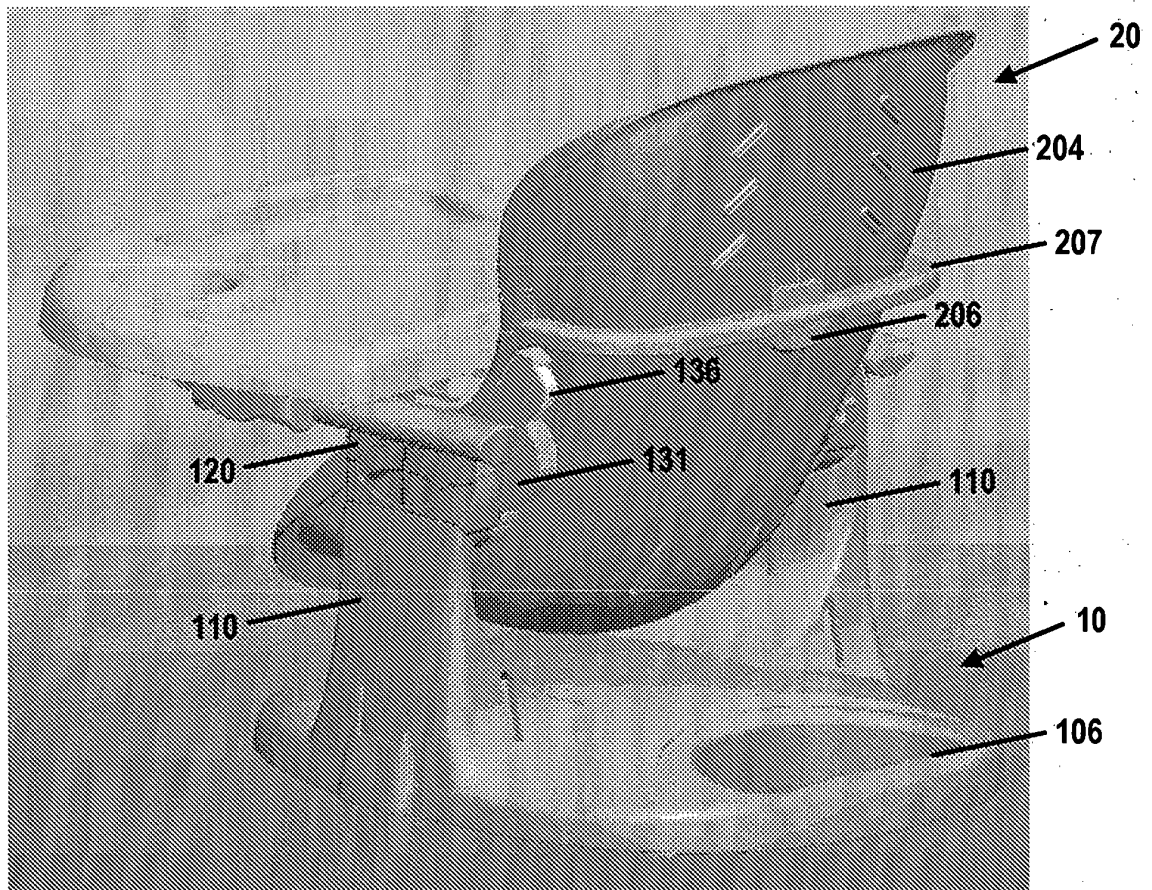


FIG. 6

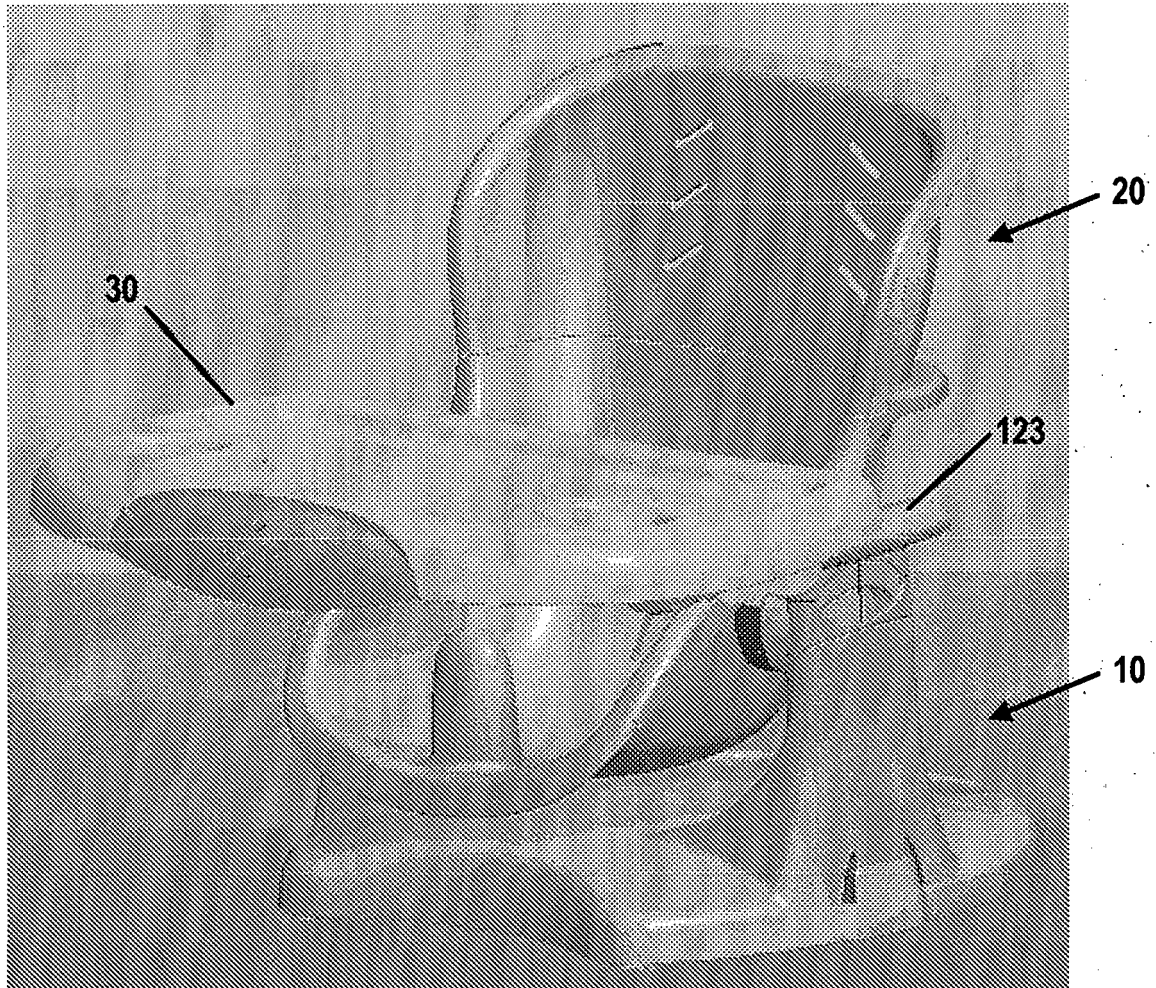


FIG. 7

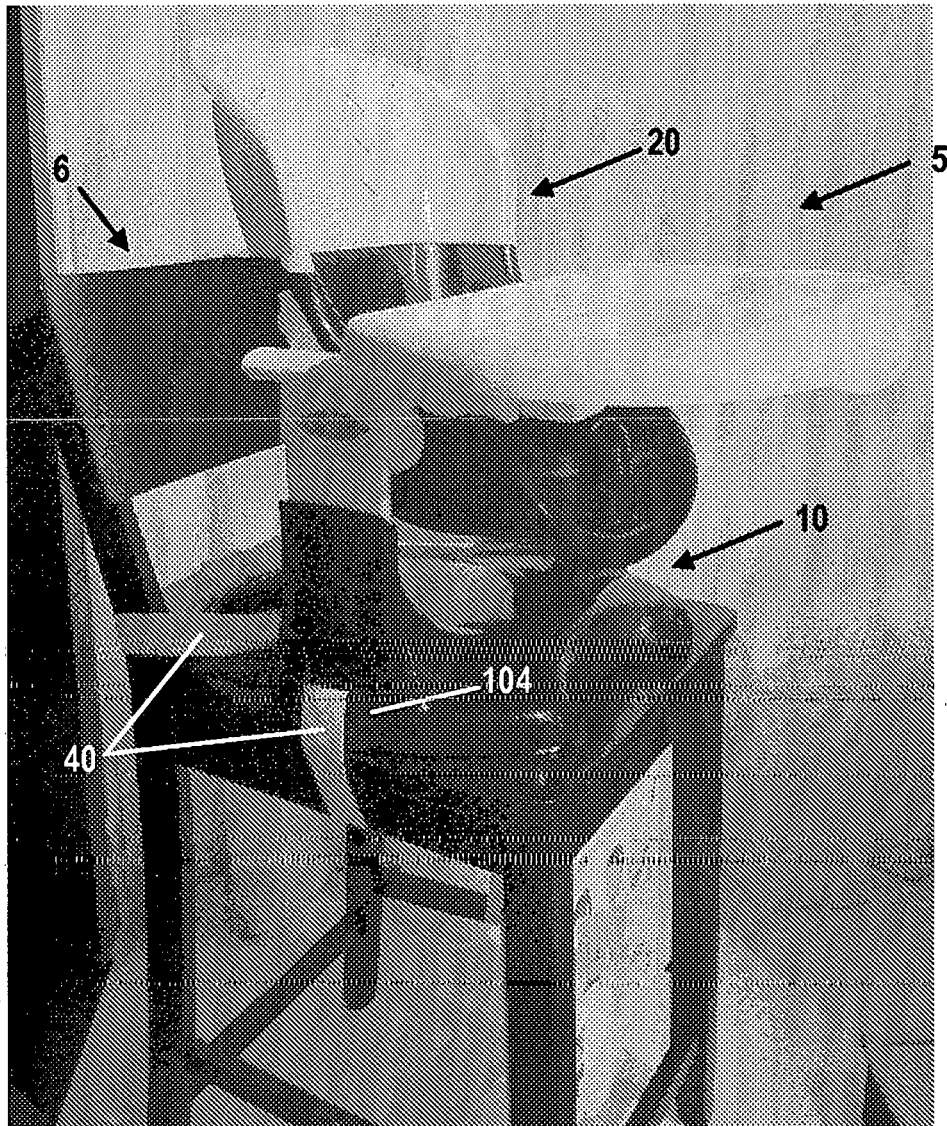


FIG. 8

REFERENCES CITED IN THE DESCRIPTION

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