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(54) **ADJUSTABLE BOOSTER SEAT**

EINSTELLBARER KINDERSITZ

REHAUSSEUR RÉGLABLE

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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 many 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] In WO 2007/112883 a high chair is described. The high chair is adjustable in height above the floor by means of telescopic supports.

[0005] 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

[0006] According to the present invention there is provided, an adjustable children's booster seat. as defined in claim 1. Some preferred features are defined in the dependent claims.

[0007] Various embodiments of the present invention are directed to an adjustable children's booster seat. According to various embodiments, the adjustable booster seat comprises a child support configured for supporting a child, and a frame configured for resting on a seating surface of a chair and suspending the child support above the seating surface. The frame comprises a pair of vertically adjustable arms operatively connected to lateral sides of the child support and may be such that the child support can rotate about a substantially horizontal axis of rotation. The booster seat may further comprise at least one tilt control device configured to be actuated by a user between a secured configuration and an adjustable configuration. The tilt control device permits the child support to be rotated about the horizontal axis of rotation when in the adjustable configuration and prevents the child support from being rotated about the horizontal axis of rotation when in the secured configuration. The booster seat further comprises one or more height control devices configured to be actuated by a user between a secured configuration and an adjustable configuration. The one or more height control devices permit the vertically adjustable arms to be moved upwardly and downwardly with respect to the frame when in the adjustable configuration and prevent the vertically adjustable arms from moving downwardly with respect to the frame when in the secured configuration.

[0008] Various other embodiments of the present invention are directed to an adjustable children's booster seat comprising a child support configured for supporting a child; a frame configured for resting on a seating surface of a chair and suspending the child support above the seating surface, the frame comprising a pair of vertically adjustable arms operatively connected to lateral sides of the child support, and one or more height control devices configured to be actuated by a user between a secured configuration and an adjustable configuration. The one or more height control devices permit the vertically adjustable arms to be moved upwardly and downwardly with respect to the frame when in the adjustable configuration and prevent the vertically adjustable arms from moving downwardly with respect to the frame when in the secured configuration.

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

[0009] 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 ad-

justable 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

[0010] 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.

[0011] 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.

[0012] 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**.

[0013] 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.

[0014] In the illustrated embodiment, the frame's base **102** is a generally rigid platform configured for resting on a support surface (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.

[0015] 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 various 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 be positioned in a wide variety 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.

[0016] 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.**

[0017] 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.

[0018] 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.

[0019] 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.**

[0020] 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.**

[0021] 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.

[0022] 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.**

[0023] 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**.

[0024] 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.**

[0025] 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**.

[0026] 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.**

[0027] In order to control the rotation of the child support **20,** the fixed member **132** includes a plurality of teeth **134** defining cavities **135** therebetweeen. 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.

[0028] 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.**

[0029] 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.**

[0030] 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 configuration. 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.

[0031] 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**).

[0032] 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.

[0033] 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 arrests **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.

[0034] 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.**

[0035] 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 stable.

Conclusion

[0036] 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 (5) comprising:

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

a frame (10) comprising a base (102) configured for resting on a seating surface of a chair (6), and wherein the frame (10) is configured for suspending the child support (20) above the seating surface, and

wherein the frame (10) comprises a pair of vertically adjustable arms (120) and a pair of upright members (110), wherein each upright member (110) defines a vertical channel (112), and wherein each vertically adjustable arm (120) is operatively connected to a lateral side of the child support (20) and is positioned at least partially within one of the upright members (110); 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 con-

figuration.

2. The adjustable children's booster seat of Claim 1, wherein the height control device (114, 115, 125, 126, 127, 128, 129) comprises a locking mechanism configured to selectively secure the child support at two or more predefined heights with respect to the frame.

3. The adjustable children's booster seat of Claim 2, wherein the height control device comprises:

a plurality of teeth (114) defined within the vertical channel (112) of at least one upright member (110); and
one or more retractable fingers (125) positioned on at least one vertically adjustable arm (120), wherein the one or more retractable fingers can be selectively retracted and extended via a movable handle (126) disposed on the at least one vertically adjustable arm (120), and wherein the one or more retractable fingers (125) are configured for selectively engaging the plurality of teeth (114) defined within the vertical channel (112) when the at least one vertically adjustable arm (120) is inserted within the vertical channel; and

wherein the height control device is in the secured configuration when the one or more fingers (125) are engaged with the vertical channel's teeth (114) and wherein the height control device is in the adjustable configuration when the one or more fingers (125) are disengaged from the vertical channel's teeth (114).

4. The adjustable booster seat of Claim 1, 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 (120) at a user preferred height within one of the upright members (110).

5. The adjustable booster seat of Claim 1, wherein the upright members (110) have a length greater than their width, and wherein the upright members are positioned proximate lateral edges of the frame (10).

6. The adjustable booster seat of Claim 1, wherein the vertical channel (112) defined by each upright member (110) comprises a substantially enclosed vertical channel (112) defining an upper opening (113); and wherein each vertically adjustable arm (120) is inserted though the upper opening of, and positioned at least partially within the substantially enclosed vertical channel of, a respective upright member (110).

7. The adjustable booster seat of Claim 1, wherein the child support includes a removable backrest (204).

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

Patentansprüche

1. Ein verstellbarer Kinder-Sitzerhöher (5), umfassend:

einen Kinderträger (20), der dafür ausgelegt ist, ein Kind zu tragen; einen Rahmen (10) mit einem zum Aufliegen auf der Sitzfläche eines Stuhls (6) ausgebildeten Gestell (102), wobei der Rahmen (10) dafür ausgelegt ist, den Kinderträger (20) oberhalb der Sitzfläche schwebend zu halten und
wobei der Rahmen (10) zwei vertikal verstellbare Armlehnen (120) und zwei aufrechtstehende Elemente (110) aufweist, wobei jedes aufrechte Element (110) einen vertikalen Kanal (112) definiert und wobei jede vertikal verstellbare Armlehne (120) funktionsfähig mit einer Seitenfläche des Kinderträgers (20) verbunden ist und zumindest teilweise in einem der aufrechten Elemente (110) angeordnet ist; und
eine oder mehrere Höheneinstellvorrichtungen aufweist, die dafür ausgelegt sind, von einem Benutzer zwischen einer gesicherten Konfiguration und einer einstellbaren Konfiguration betätigt zu werden und wobei eine oder mehrere Höheneinstellvorrichtungen es ermöglichen, dass die vertikal verstellbaren Armlehnen (120) in der einstellbaren Konfiguration relativ zum Rahmen (10) nach oben und nach unten bewegt werden können und in der gesicherten Konfiguration verhindern, dass sich die vertikal verstellbaren Armlehnen (120) relativ zum Rahmen (10) nach unten bewegen.

2. Einstellbarer Kinder-Sitzerhöher gemäß Anspruch 1, wobei die Höheneinstellvorrichtung (114, 115, 125, 126, 127, 128, 129) einen Verriegelungsmechanismus aufweist, der dafür ausgelegt ist, den Kinderträger in zwei oder mehr vordefinierten Höhen relative zum Rahmen selektiv zu sichern.

3. Einstellbarer Kinder-Sitzerhöher gemäß Anspruch 2, wobei die Höheneinstellvorrichtung umfasst:

eine Vielzahl von Zähnen (114), die innerhalb des vertikalen Kanals (112) von mindestens einem aufrechten Element (110) definiert sind; und
einen oder mehrere zurückschiebbare Stifte (125), die auf mindestens einer vertikal verstellbaren Armlehne (120) angeordnet sind, wobei

eine oder mehrere zurückschiebbare Stifte über einen mindestens an einer vertikal verstellbaren Armlehne (120) angeordneten beweglichen Griff (126) selektiv zurückgezogen und ausgezogen werden können und wobei ein oder mehrere zurückschiebbare Stifte (125) dafür ausgelegt sind, die innerhalb des vertikalen Kanals (112) ausgebildeten Zähne (114) selektiv eingreifen zu lassen, wenn mindestens eine vertikal verstellbare Armlehne (120) in den vertikalen Kanal eingesetzt wird; und
wobei sich die Höheneinstellvorrichtung in der gesicherten Konfiguration befindet, wenn ein oder mehrere Stifte (125) in die Zähne des vertikalen Kanals (114) einrasten und wobei sich die Höheneinstellvorrichtung in der einstellbaren Konfiguration befindet, wenn ein oder mehrere Stifte (125) von den Zähnen des vertikalen Kanals (114) ausgerückt sind.

4. Verstellbarer Sitzerhöher gemäß Anspruch 1, wobei eine oder mehrere Höheneinstellvorrichtungen zwei Höheneinstellvorrichtungen umfassen, wobei jede Höheneinstellvorrichtung dafür ausgelegt ist, eine der vertikal verstellbaren Armlehnen (120) in einem der aufrechten Elemente (110) in einer vom Benutzer bevorzugten Höhe selektiv zu sichern.

5. Verstellbarer Sitzerhöher gemäß Anspruch 1, wobei die aufrechten Elemente (110) eine größere Länge als Breite aufweisen und wobei die aufrechten Elemente in der Nähe der Seitenkanten des Rahmens (10) angeordnet sind.

6. Verstellbarer Sitzerhöher gemäß Anspruch 1, wobei der vertikale Kanal (112), der durch jedes der aufrechten Elemente (110) definiert wird, einen im Wesentlichen geschlossenen vertikalen Kanal (112) umfasst, der eine obere Öffnung (113) definiert; und wobei jede vertikal verstellbare Armlehne (120) durch die obere Öffnung des im Wesentlichen geschlossenen vertikalen Kanals des jeweiligen aufrechten Elements (110) eingeführt wird und darin zumindest teilweise angeordnet ist.

7. Verstellbarer Sitzerhöher gemäß Anspruch 1, wobei der Kinderträger eine abnehmbare Rückenlehne (204) aufweist.

8. Verstellbarer Sitzerhöher gemäß Anspruch 1, der ferner einen oder mehrere Sicherungsgurte (40) aufweist, die mit dem Rahmen (10) funktionsfähig verbunden und dafür ausgelegt sind, am Stuhl lösbar angebracht zu werden, um den Sitzerhöher (5) am Stuhl zu sichern.

Revendications

1. Un siège d'appoint réglable pour enfants (5) comprenant :

un support pour enfant (20) configuré pour supporter un enfant ; une trame (10) comprenant une base (102) configurée pour reposer sur une surface de siège d'une chaise (6), et dans lequel la trame (10) est configurée pour suspendre le support pour enfant (20) au-dessus de la surface assise, et
dans lequel la trame (10) comprend une paire de bras (120) verticalement réglables et une paires d'éléments verticaux (110), dans laquelle chaque élément vertical (110) définit un canal vertical (112), et dans laquelle chaque bras (120) verticalement réglable est opérationnellement relié à un côté latéral du support pour enfant (20) et est positionné au moins partiellement dans l'un des éléments verticaux (110) ; et
un ou plusieurs dispositifs de contrôle de hauteur configurés pour être actionnés par un utilisateur entre une configuration sécurisée et une configuration réglable, dans lequel un ou plusieurs dispositifs de contrôle de hauteur permettent aux bras (120) verticalement réglables d'être déplacés vers le haut et vers le bas par rapport à la trame (10) lorsqu'ils sont dans la configuration réglable et
empêchent les bras verticalement réglables (120) de se déplacer vers le bas par rapport à la trame (10) lorsqu'ils sont dans la configuration sécurisée.

2. Le siège d'appoint réglable pour enfant selon la revendication 1, dans laquelle le dispositif de contrôle de hauteur (114, 115, 125, 126, 127, 128, 129) comprend un mécanisme de verrouillage configuré pour fixer sélectivement le support pour enfant à deux ou plusieurs hauteurs prédéfinies ou plus selon la trame.

3. Le siège d'appoint réglable pour enfant selon la revendication 2, dans laquelle le dispositif de contrôle de hauteur comprend :

une pluralité de dents (114) définies dans le canal vertical (112) d'au moins un élément vertical (110) ; et
un ou plusieurs doigts rétractables (125) positionnés sur au moins un bras verticalement réglable (120), dans laquelle le ou plusieurs des doigts rétractables peuvent être rétractés sélectivement et prolongés par l'intermédiaire d'une poignée mobile (126) disposée sur au moins un bras verticalement réglable (120), et dans laquelle le ou plusieurs des doigts rétractables

(125) sont configurés pour engager sélectivement la pluralité de dents (114) définie dans le canal vertical (112) lorsqu'au moins le bras verticalement réglable (120) est inséré dans le canal vertical ; et
dans laquelle le dispositif de contrôle de hauteur est dans la configuration sécurisée lorsque les ou plusieurs doigts (125) sont engagés avec les dents du canal vertical (114) et dans laquelle le dispositif de commande de hauteur est dans la configuration réglable lorsque le ou plusieurs doigts (125) sont désengagés des dents du canal vertical (114).

4. Le siège d'appoint réglable selon la revendication 1, dans laquelle les ou plusieurs dispositifs de contrôle de hauteur comprennent une paire de dispositifs de contrôle de hauteur, chaque dispositif de contrôle de hauteur étant configuré pour sécuriser sélectivement l'un des bras (120) verticalement réglables à une hauteur préférée de l'utilisateur dans l'un des membres droits (110).

5. Le siège d'appoint réglable selon la revendication 1, dans laquelle les éléments verticaux (110) ont une longueur supérieure à leur largeur, et dans laquelle les éléments verticaux sont positionnés à proximité des bords latéraux de la trame (10).

6. Le siège d'appoint réglable selon la revendication 1, dans laquelle le canal vertical (112) défini par chaque élément vertical (110) comprend un canal vertical (112) considérablement fermé qui définit une ouverture supérieure (113) ; et dans laquelle chaque bras (120) verticalement réglable est inséré par l'ouverture supérieure de, et positionné au moins partiellement à l'intérieur du canal vertical considérablement fermé, d'un élément vertical respectif (110).

7. Le siège d'appoint réglable selon la revendication 1, dans laquelle le support pour enfant comprend un dossier amovible (204).

8. Le siège d'appoint réglable selon la revendication 1, comprenant en outre une ou plusieurs sangles de sécurité (40) connectées de manière opérationnelle à la trame (10) et configurées pour être fixées de manière amovible à la chaise afin de fixer le siège d'appoint (5) à la chaise.

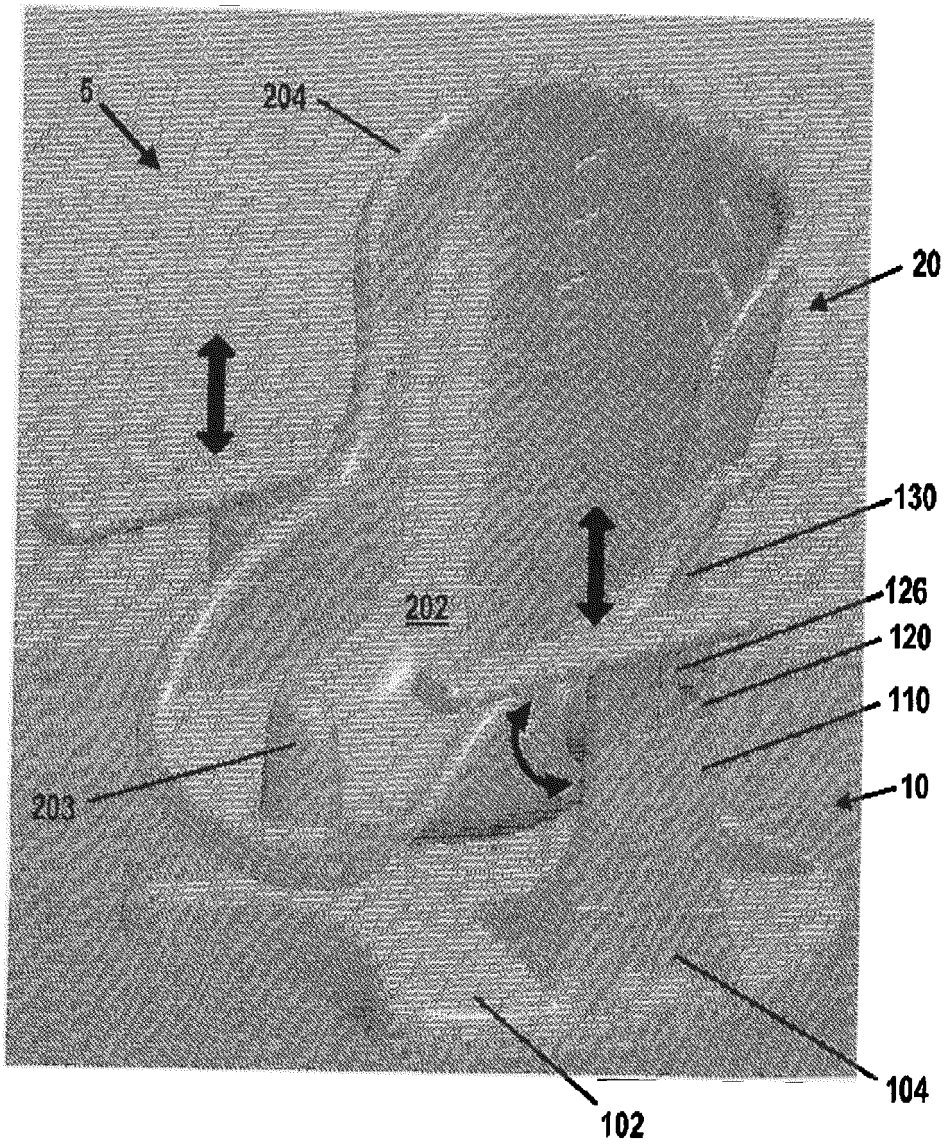

FIG. 1

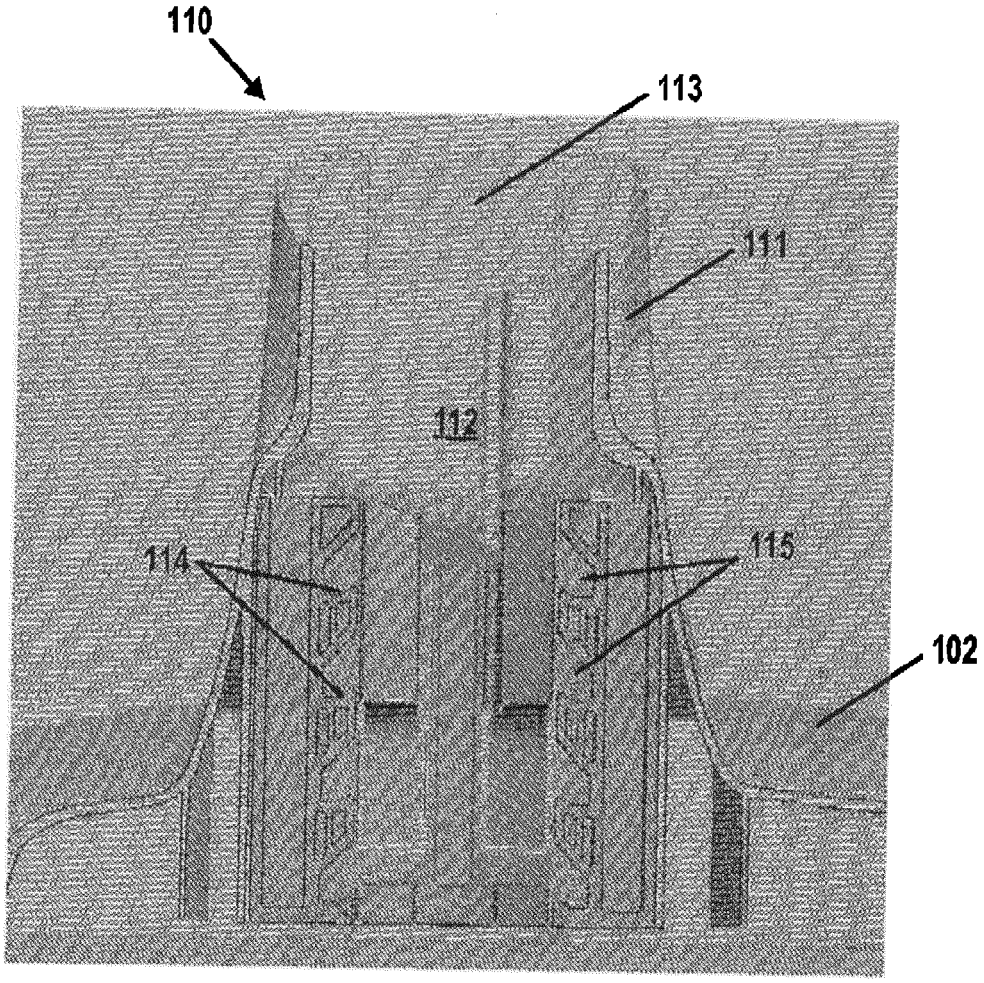

FIG. 2

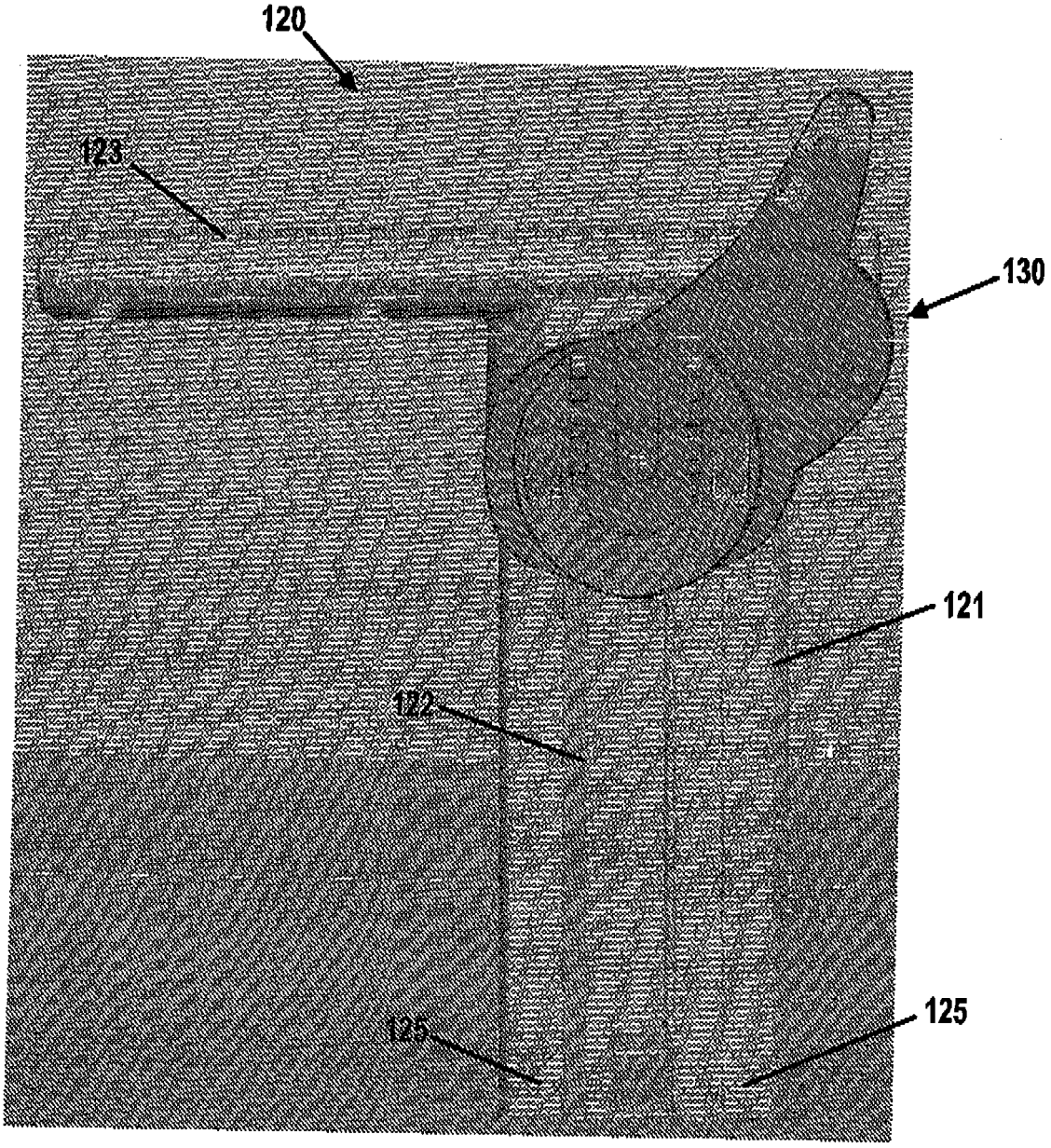

FIG. 3

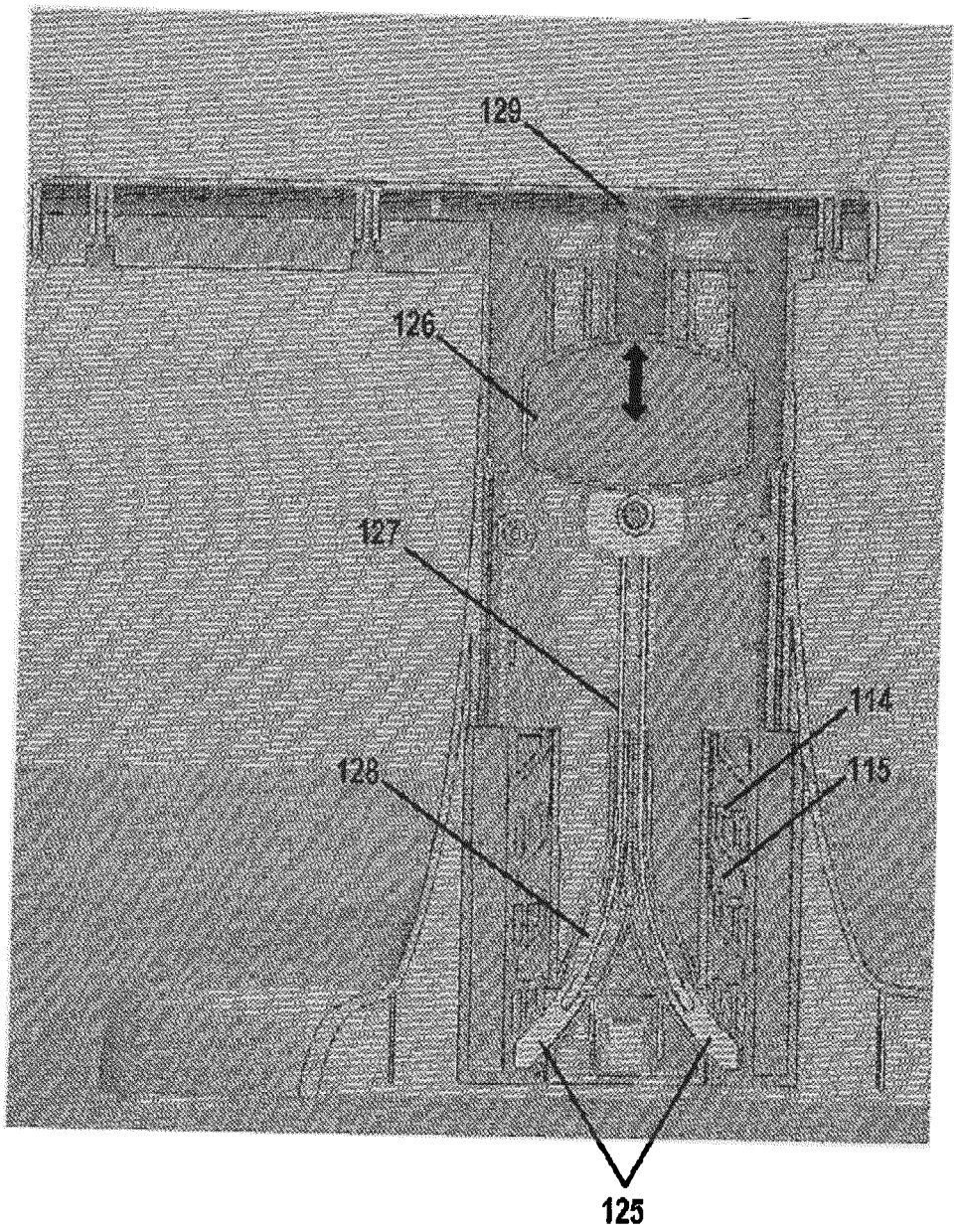

FIG. 4

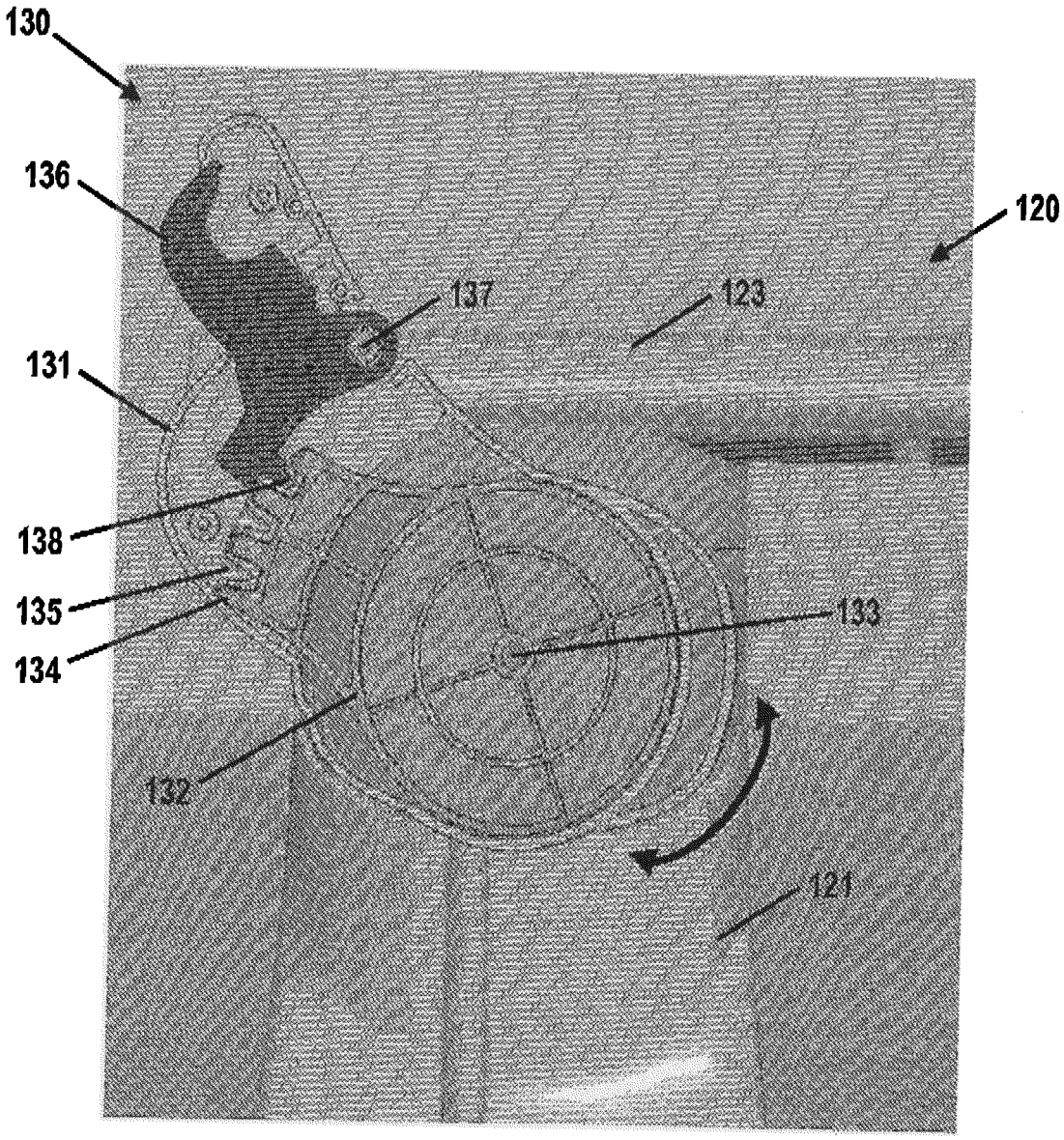

FIG. 5

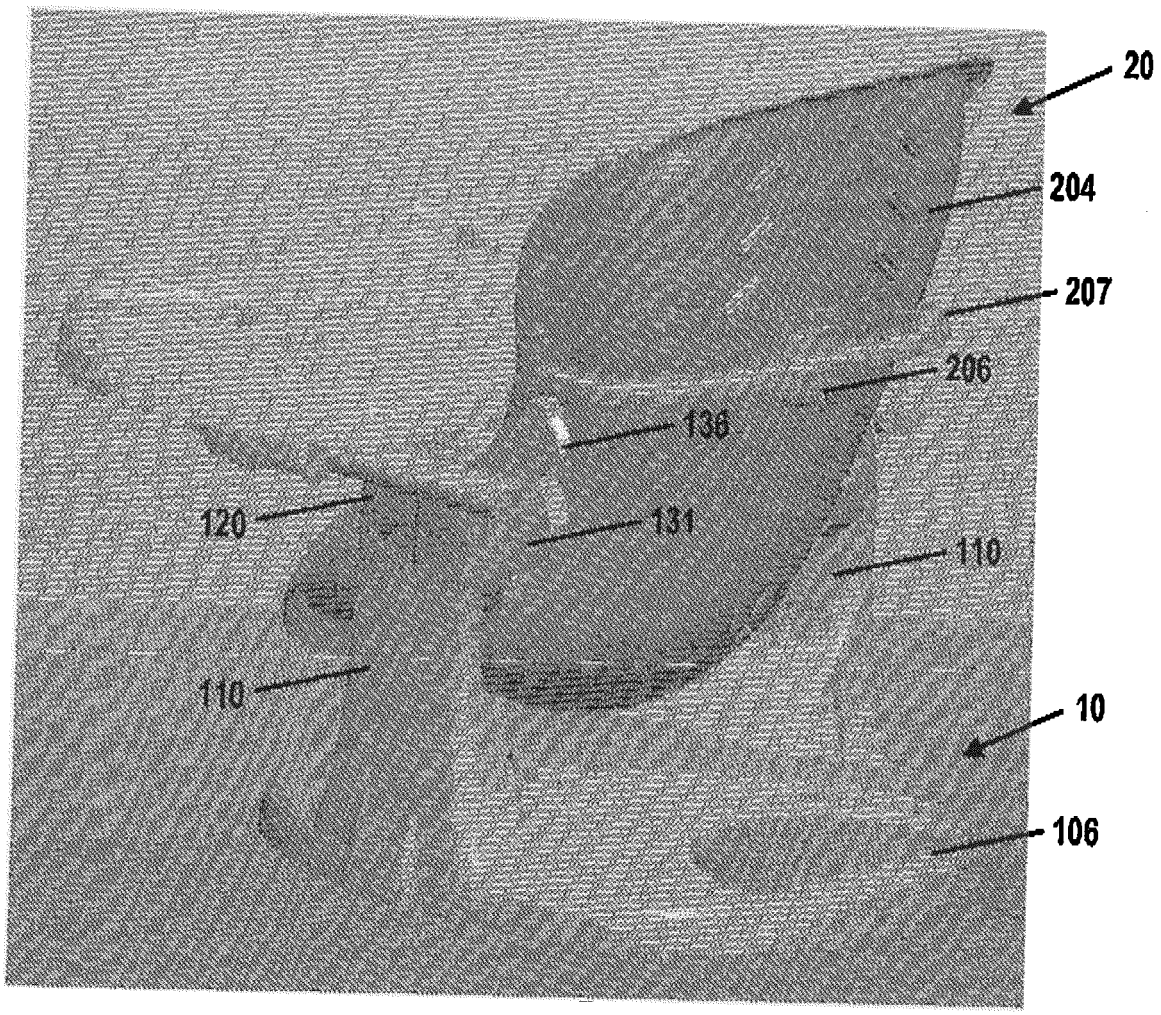

FIG. 6

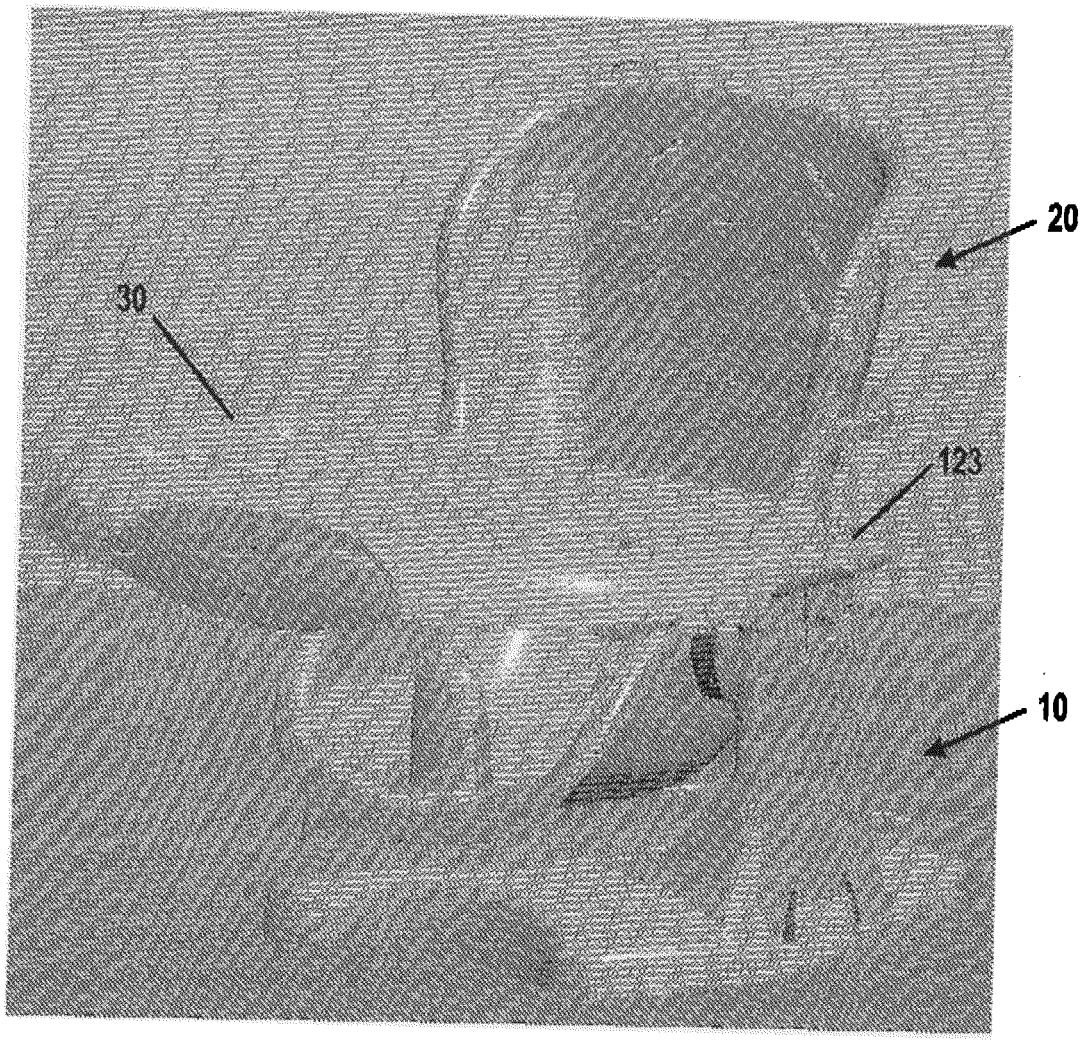

FIG. 7

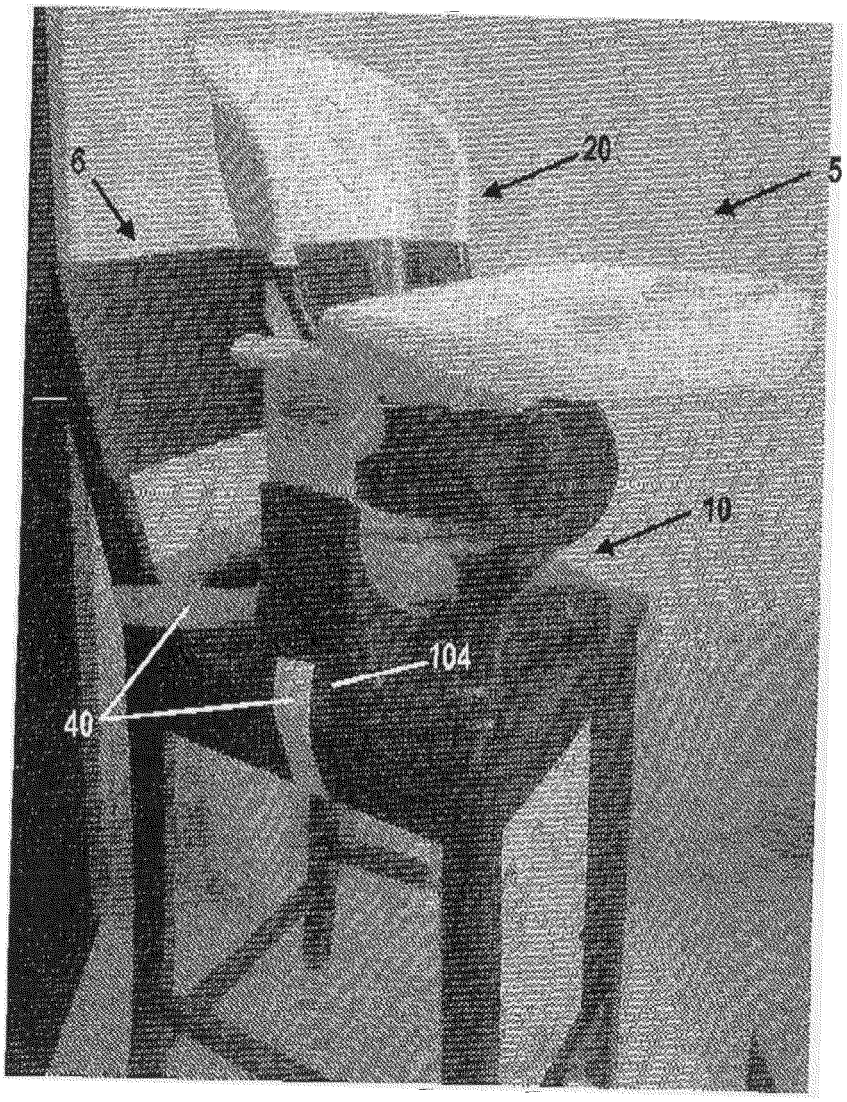

FIG. 8

REFERENCES CITED IN THE DESCRIPTION

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- WO 2007112883 A **[0004]**