



US 20220257029A1

(19) **United States**

(12) **Patent Application Publication**  
Nevins

(10) **Pub. No.: US 2022/0257029 A1**

(43) **Pub. Date: Aug. 18, 2022**

(54) **BABY BOUNCER**

(52) **U.S. Cl.**

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CPC ..... *A47D 13/107* (2013.01); *A47C 1/024* (2013.01)

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(57) **ABSTRACT**

(21) Appl. No.: **17/669,232**

(22) Filed: **Feb. 10, 2022**

There is provided a baby bouncer comprising a base portion and a seat portion having a front in or on which a cushion may be provided, wherein the seat is provided with a cushion retention device to retain the cushion in or on the front of the seat. There is also provided a baby bouncer comprising a base portion and a seat portion pivotably connected to the base portion at a front end thereof, wherein the baby bouncer further includes a recliner mechanism for adjusting a seating angle of the seat portion relative to the base portion and for securing the seat portion at the seating angle.

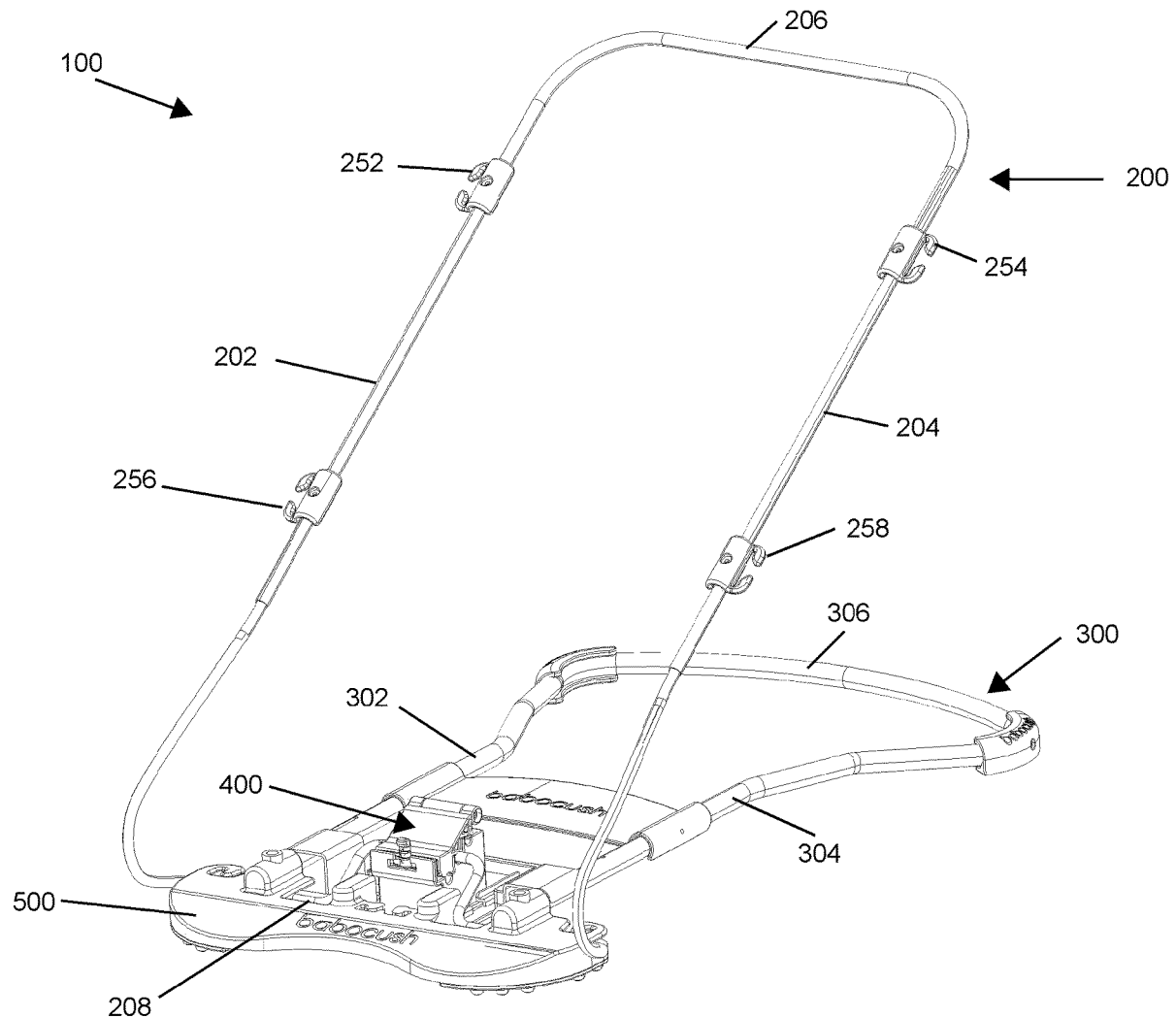
(30) **Foreign Application Priority Data**

Feb. 12, 2021 (GB) ..... 2102042.5

**Publication Classification**

(51) **Int. Cl.**

*A47D 13/10* (2006.01)  
*A47C 1/024* (2006.01)



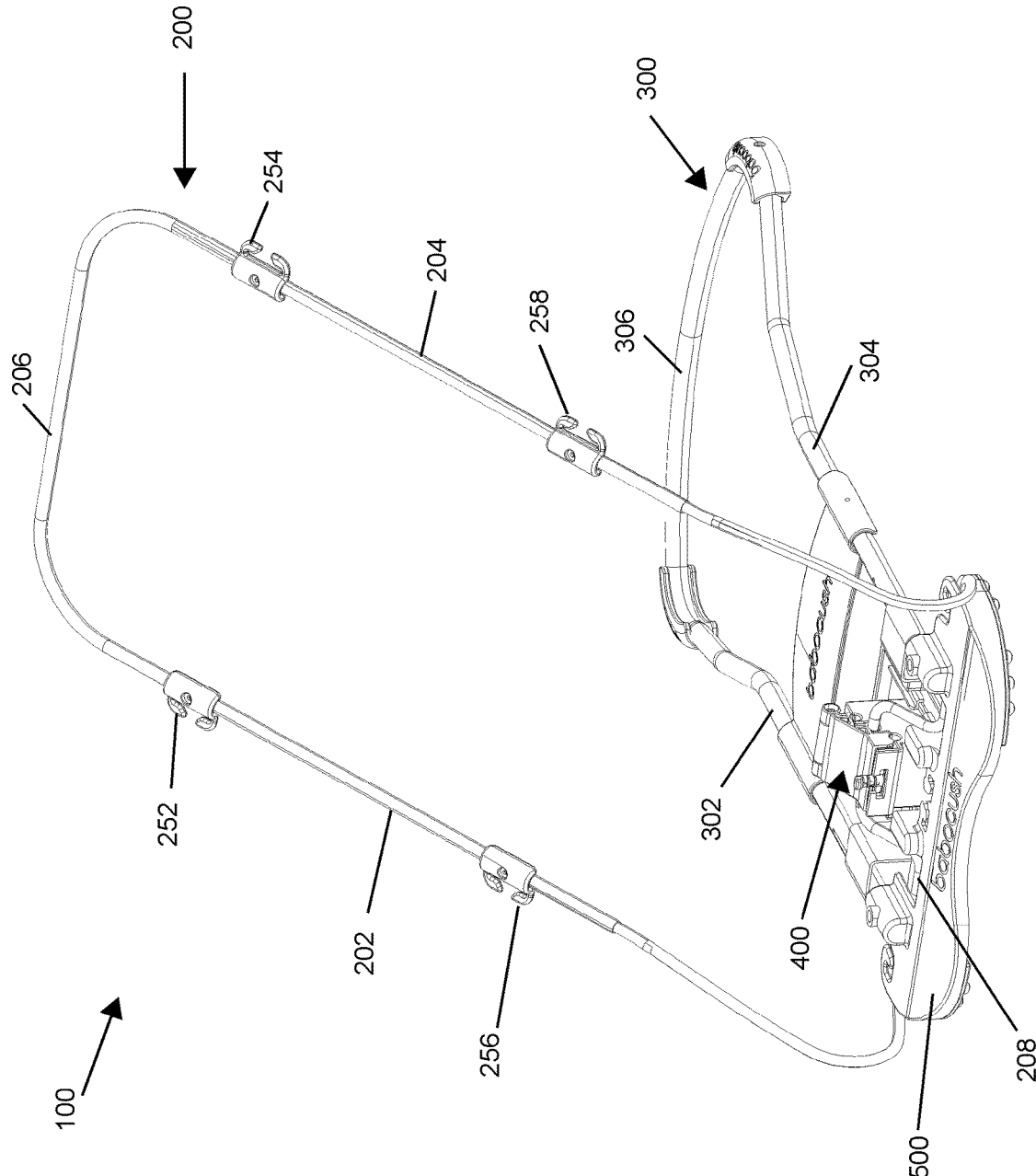


Fig. 1

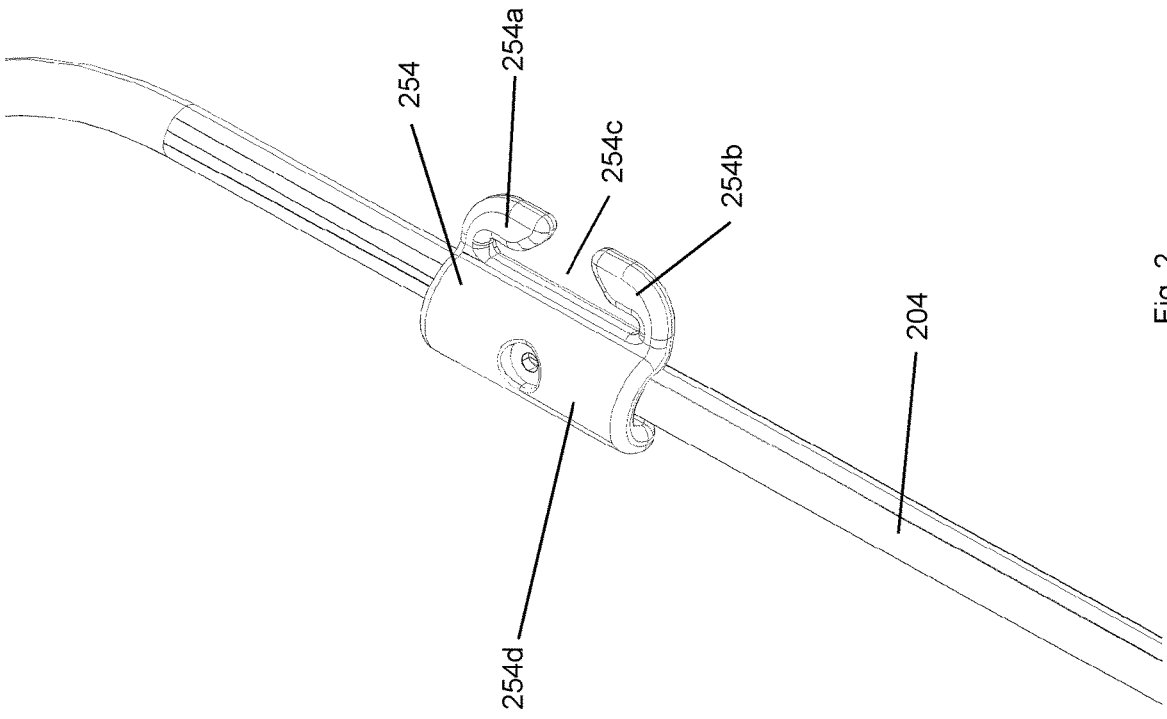


Fig. 2

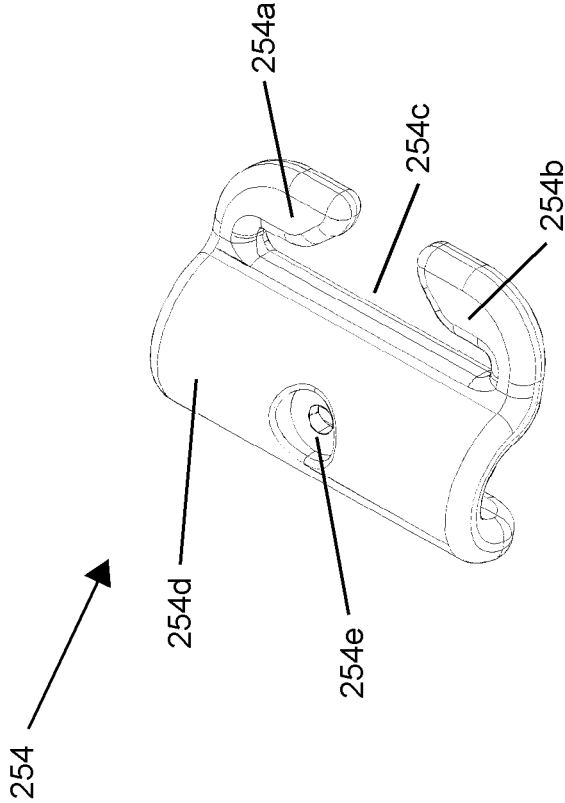


Fig. 3

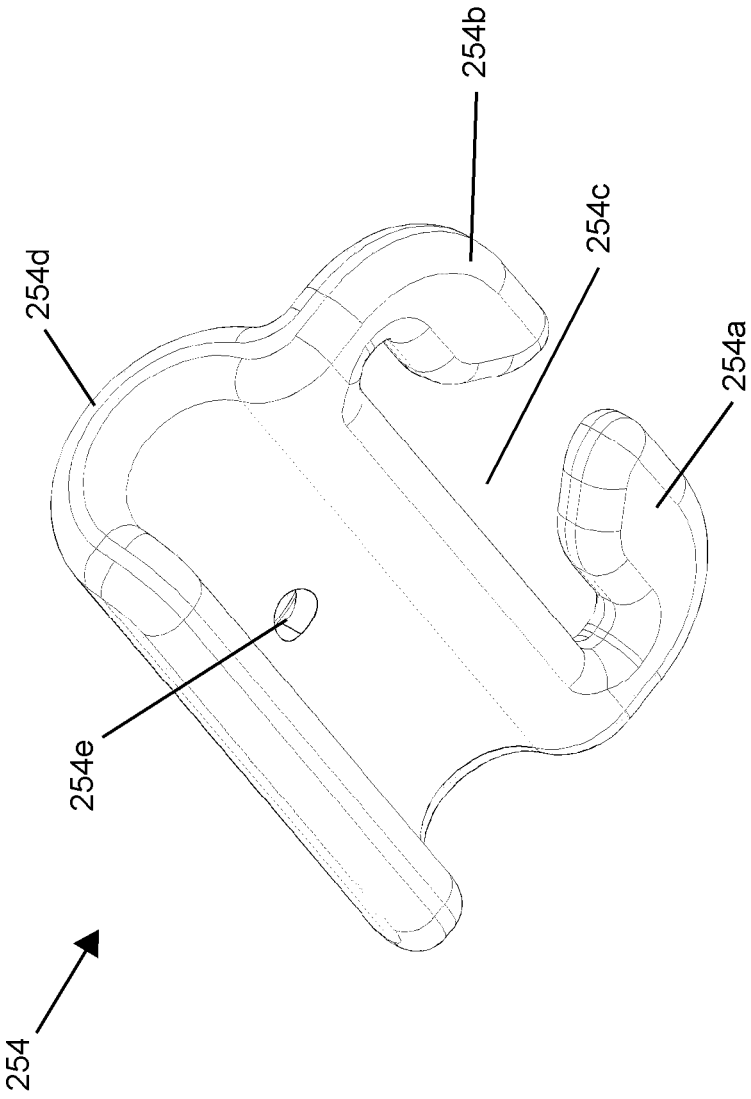


Fig. 4

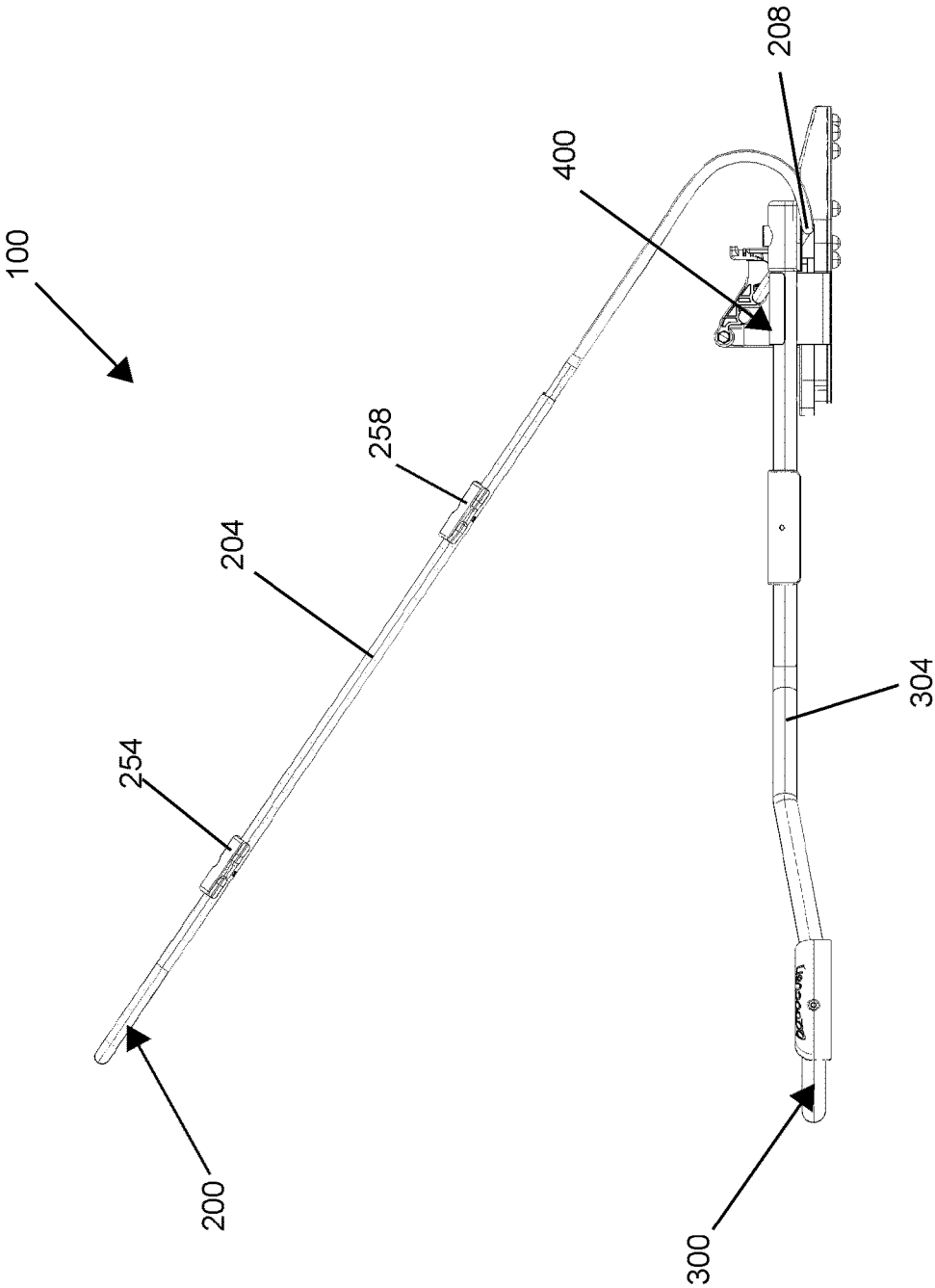


Fig. 5

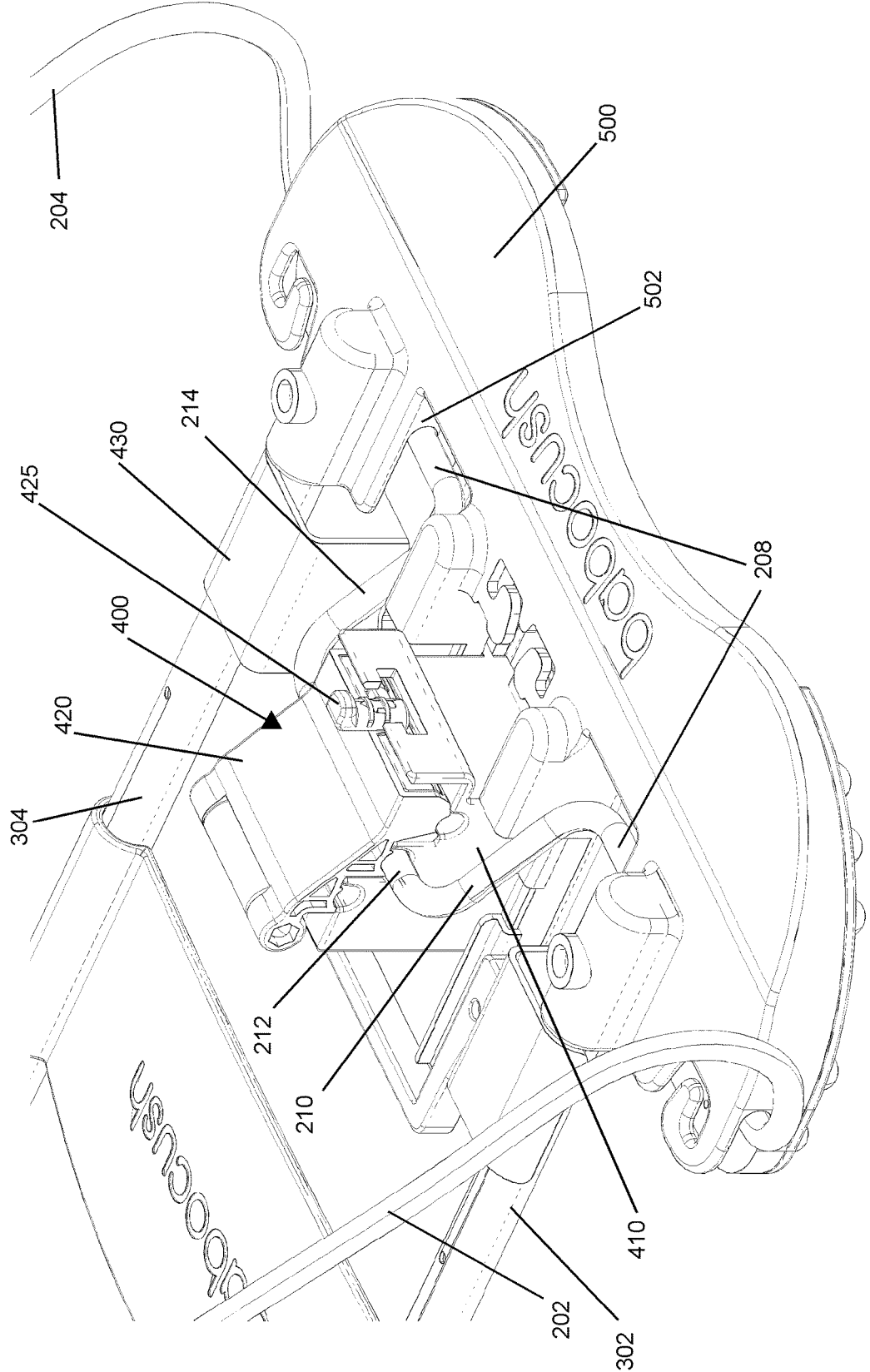


Fig. 6

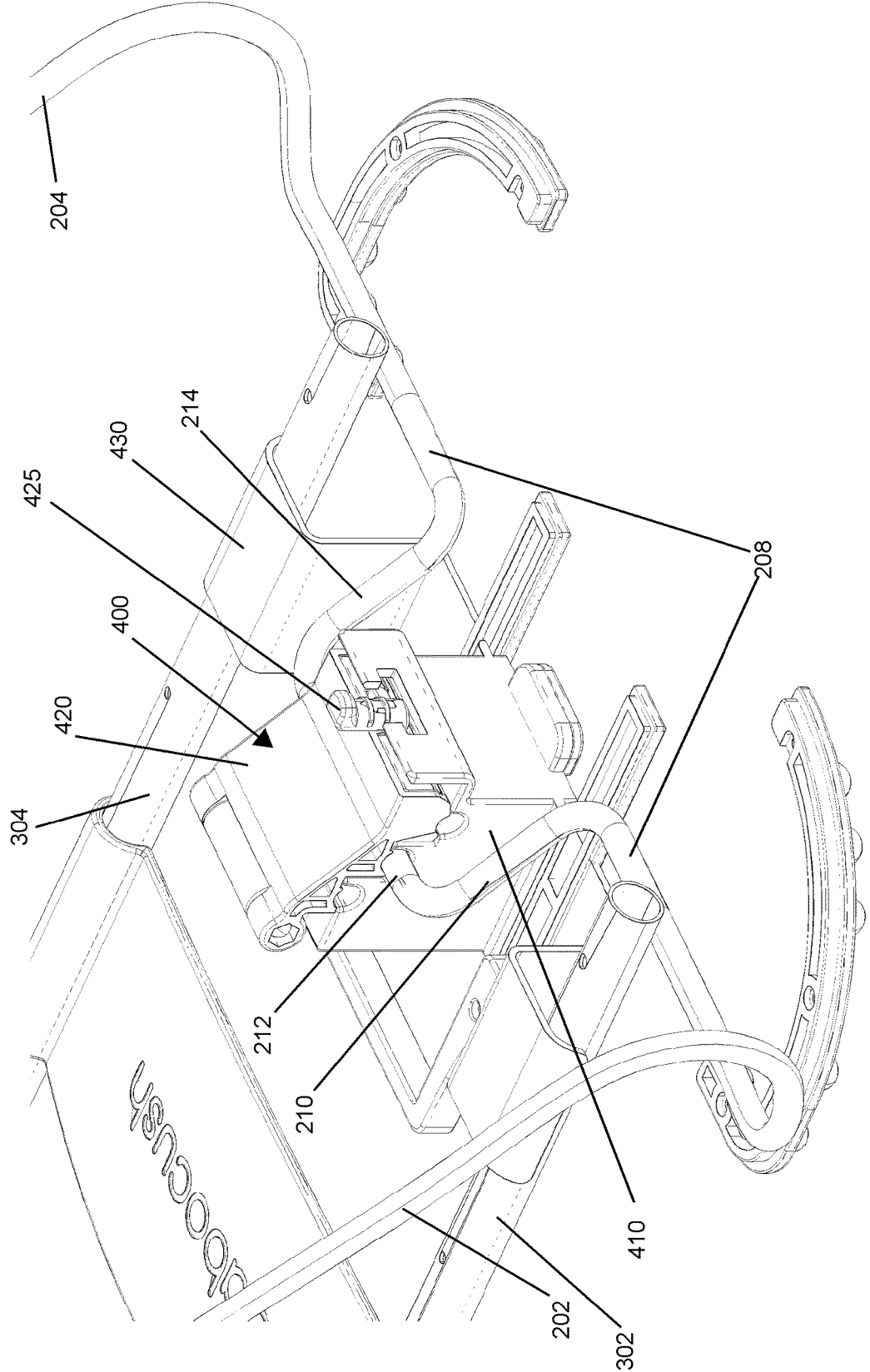


Fig. 7



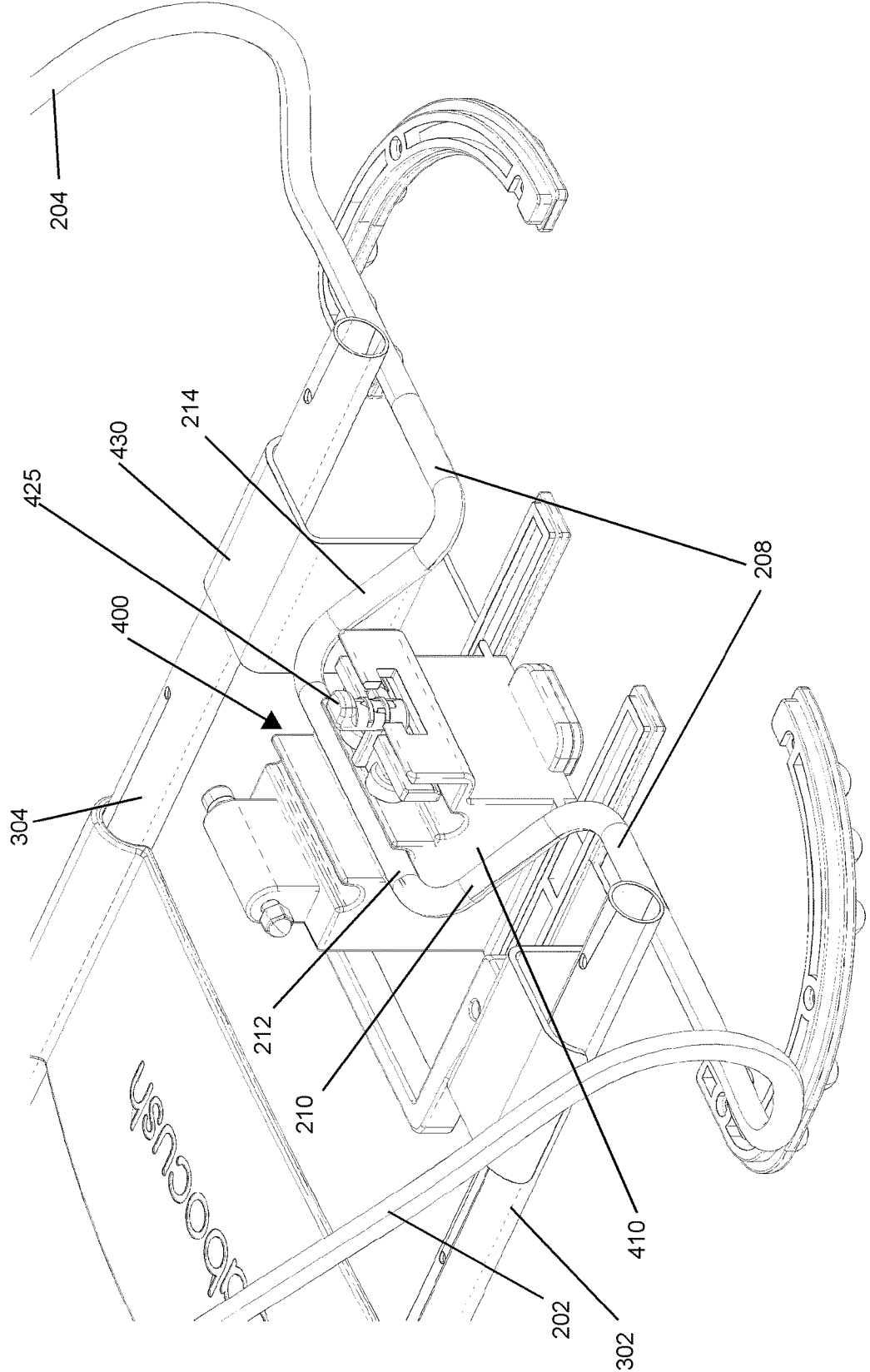


Fig. 8

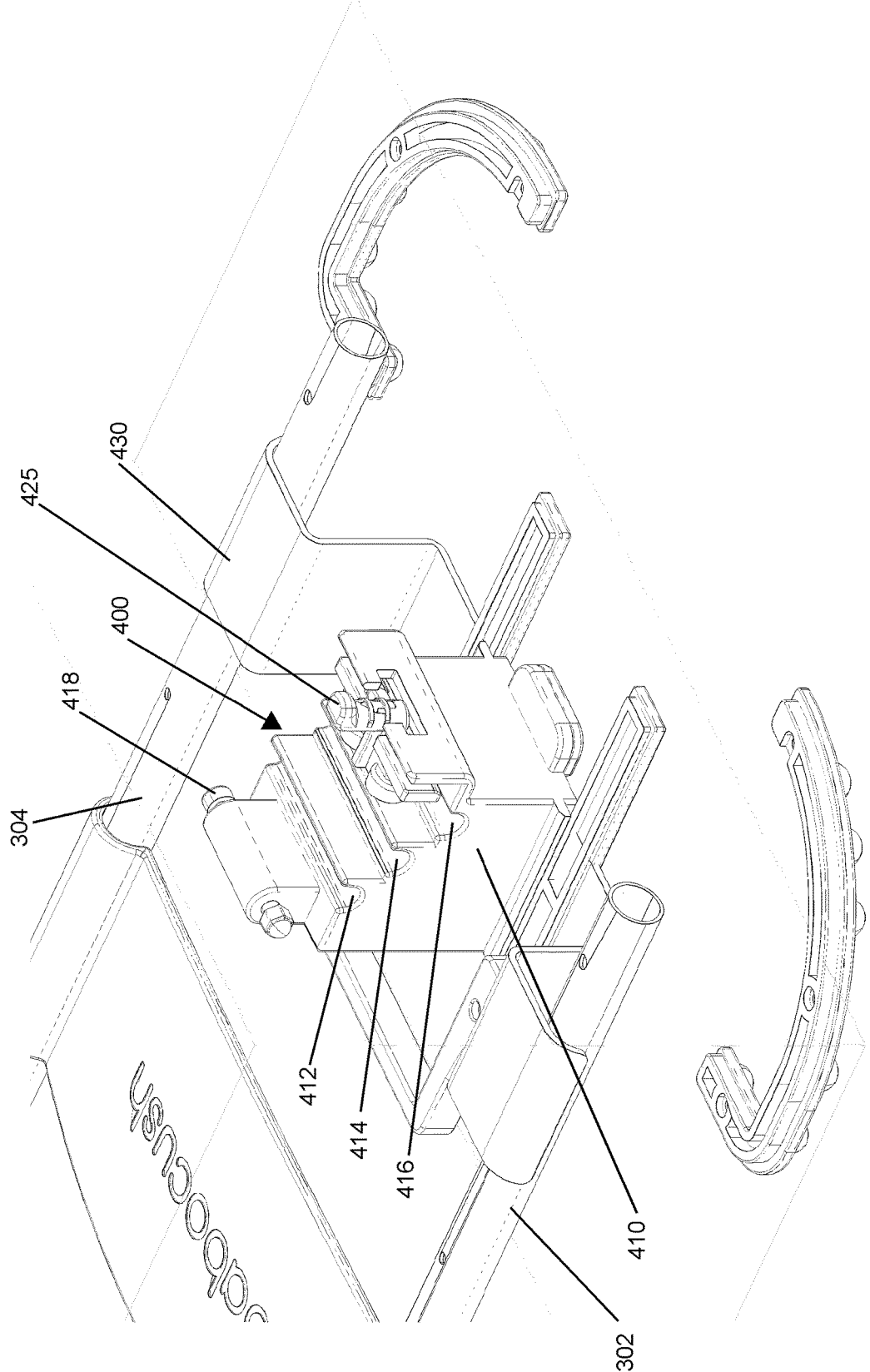


Fig. 9

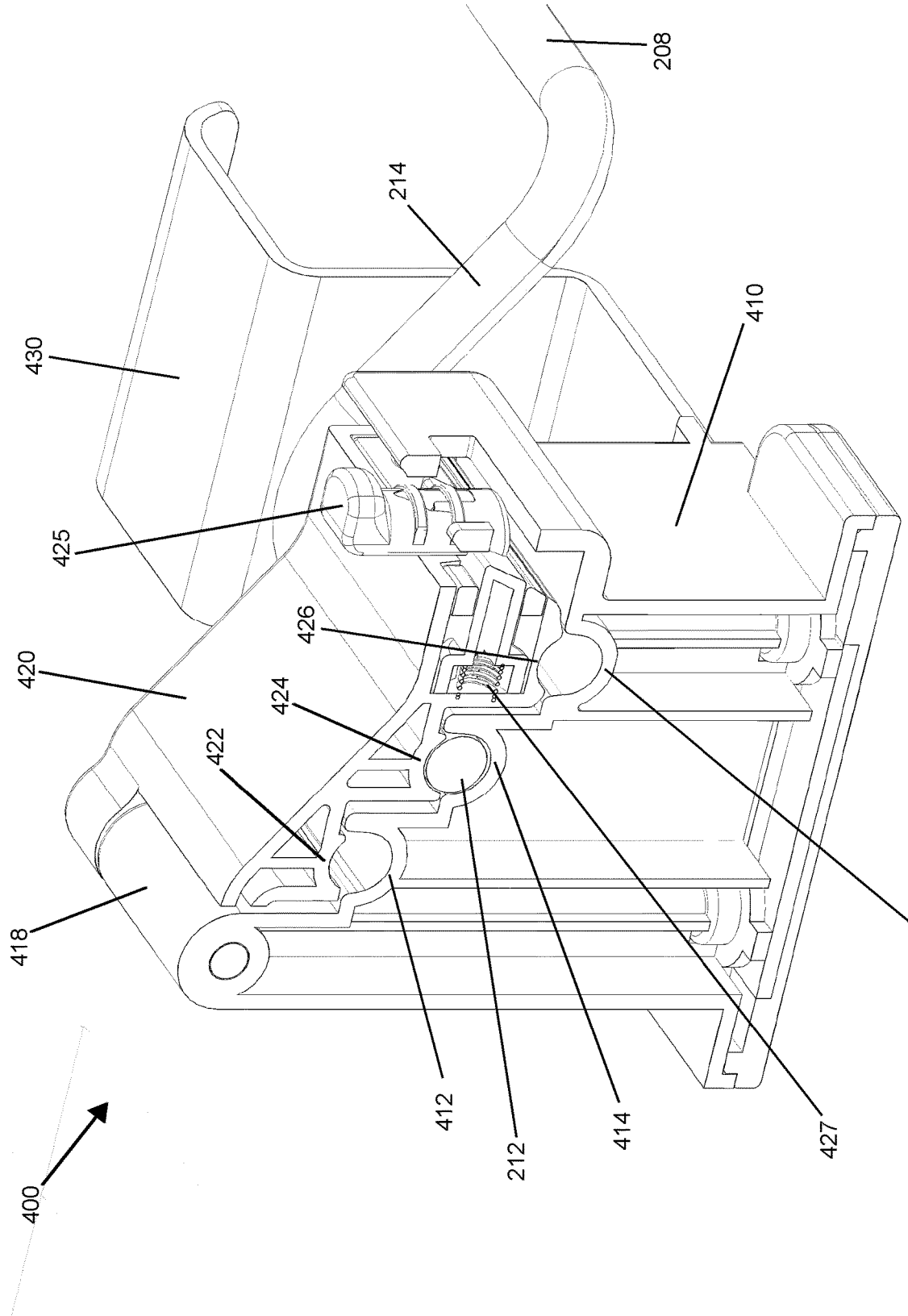


Fig. 10

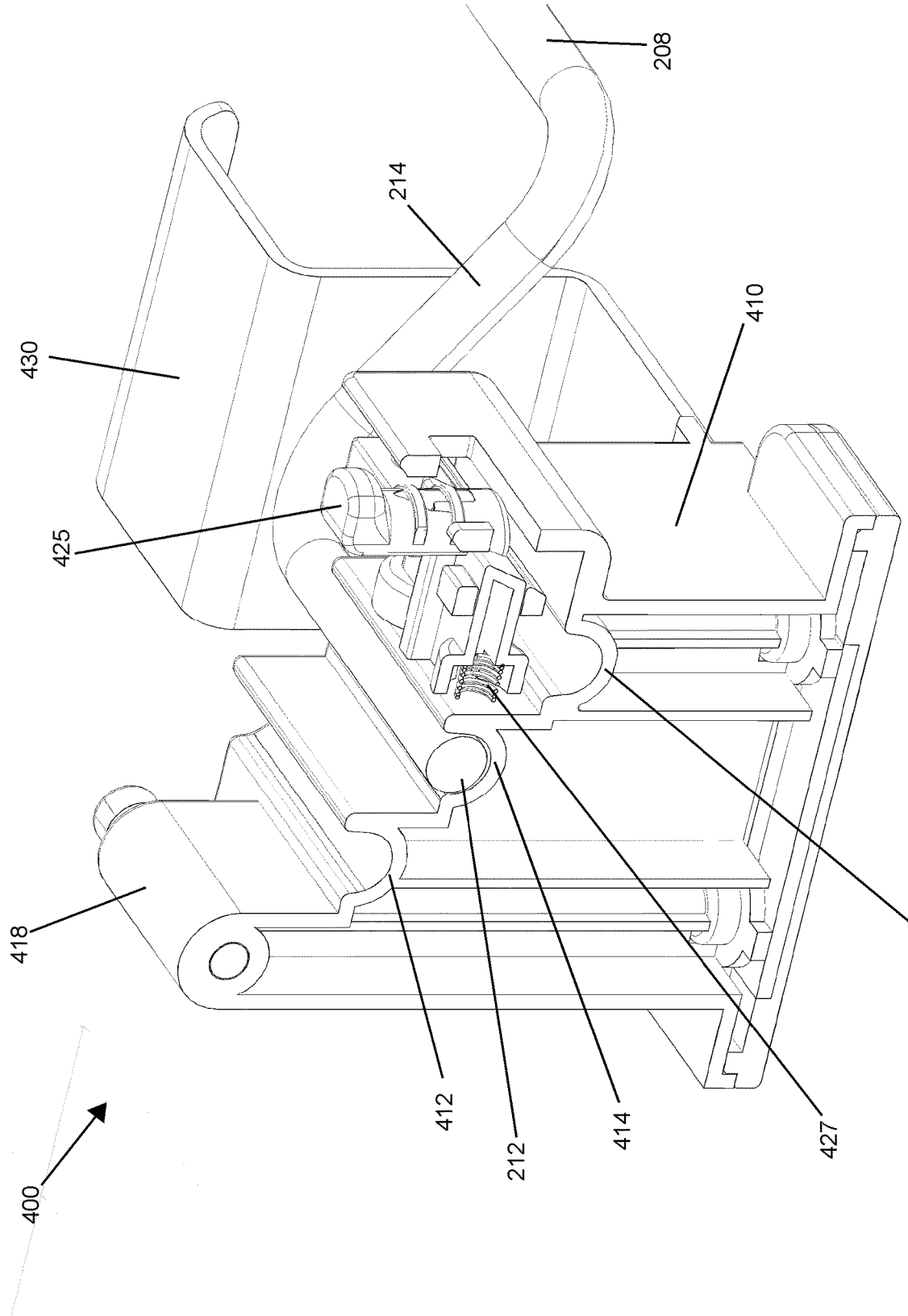


Fig. 11

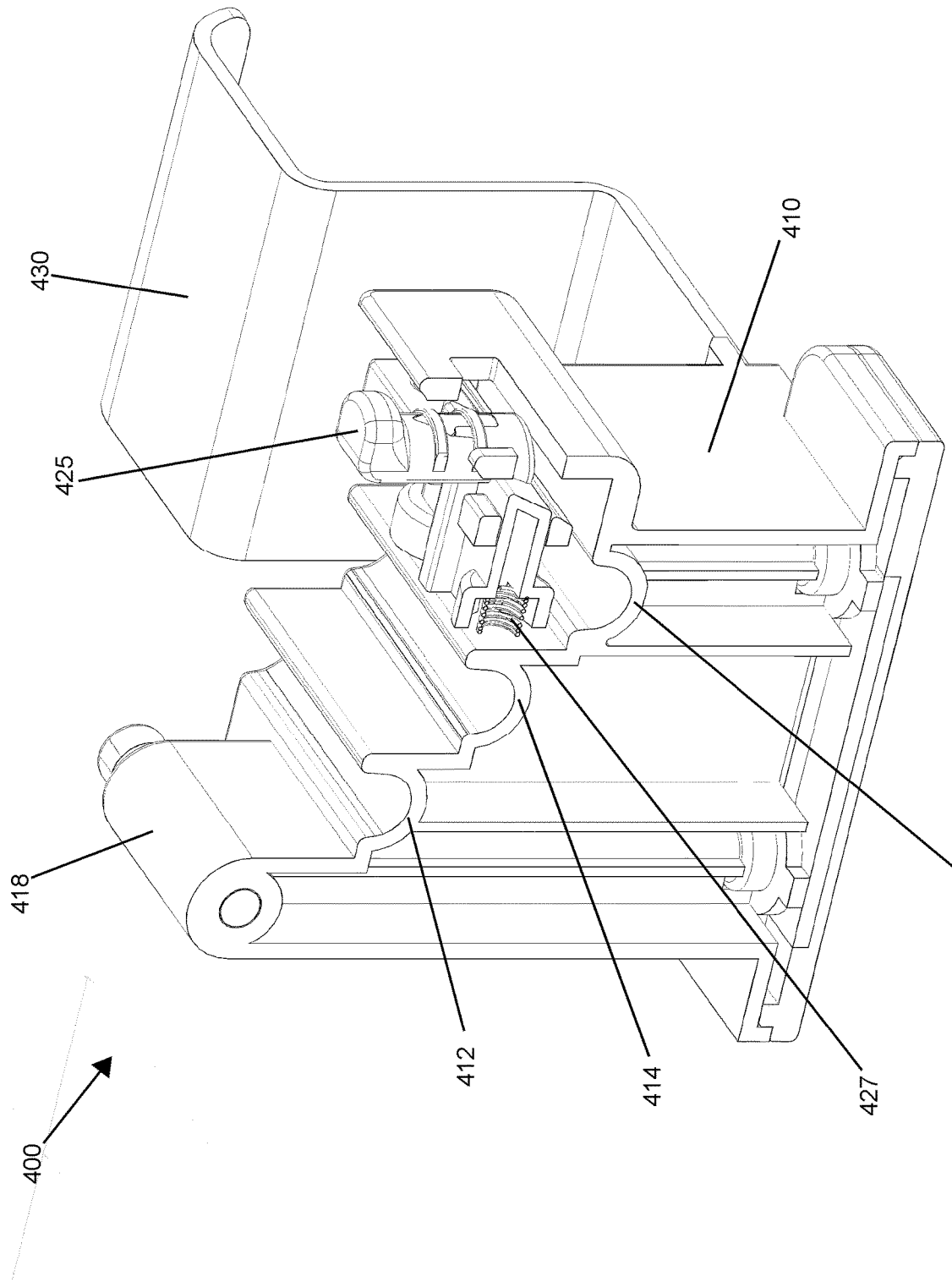


Fig. 12

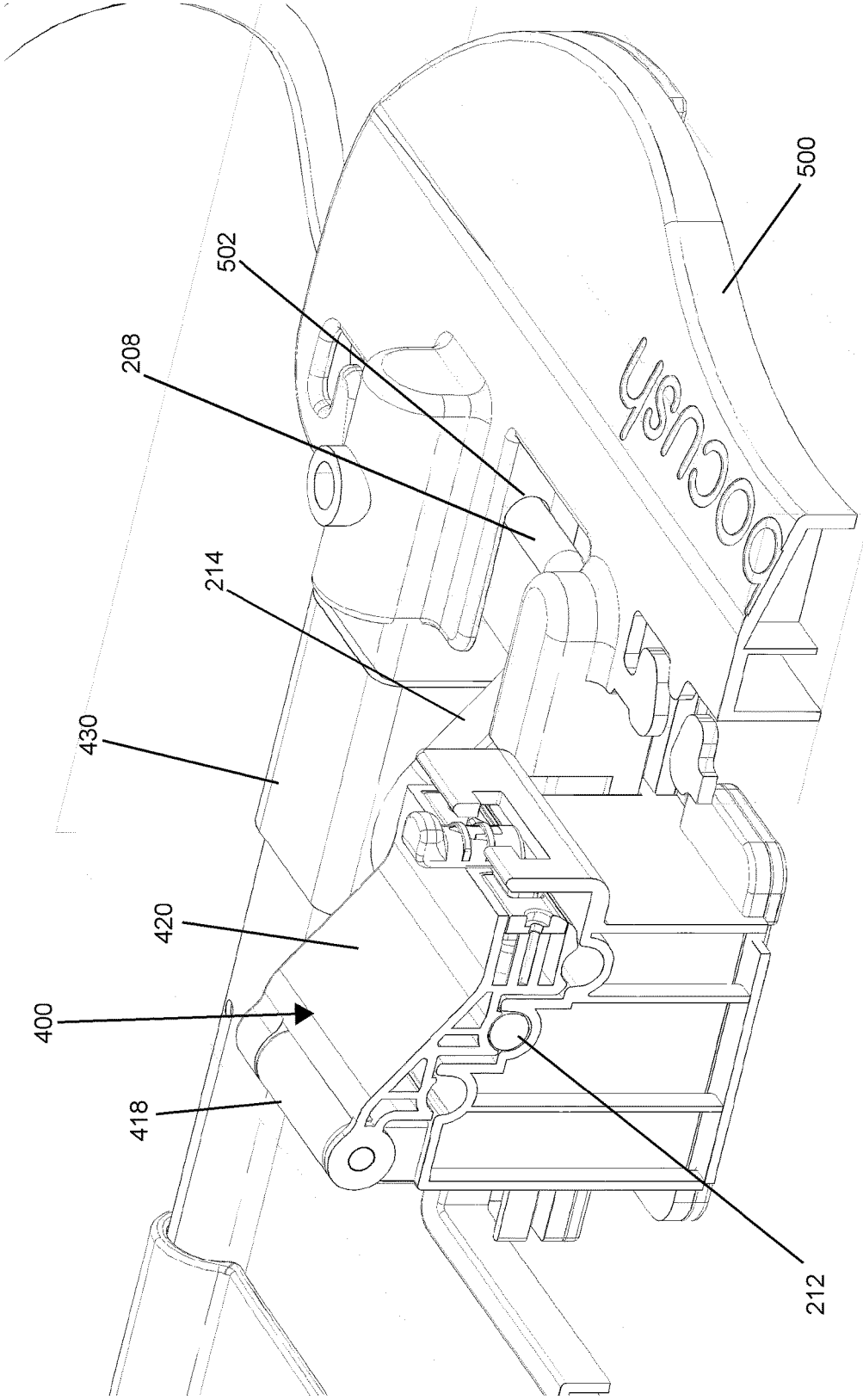


Fig. 13

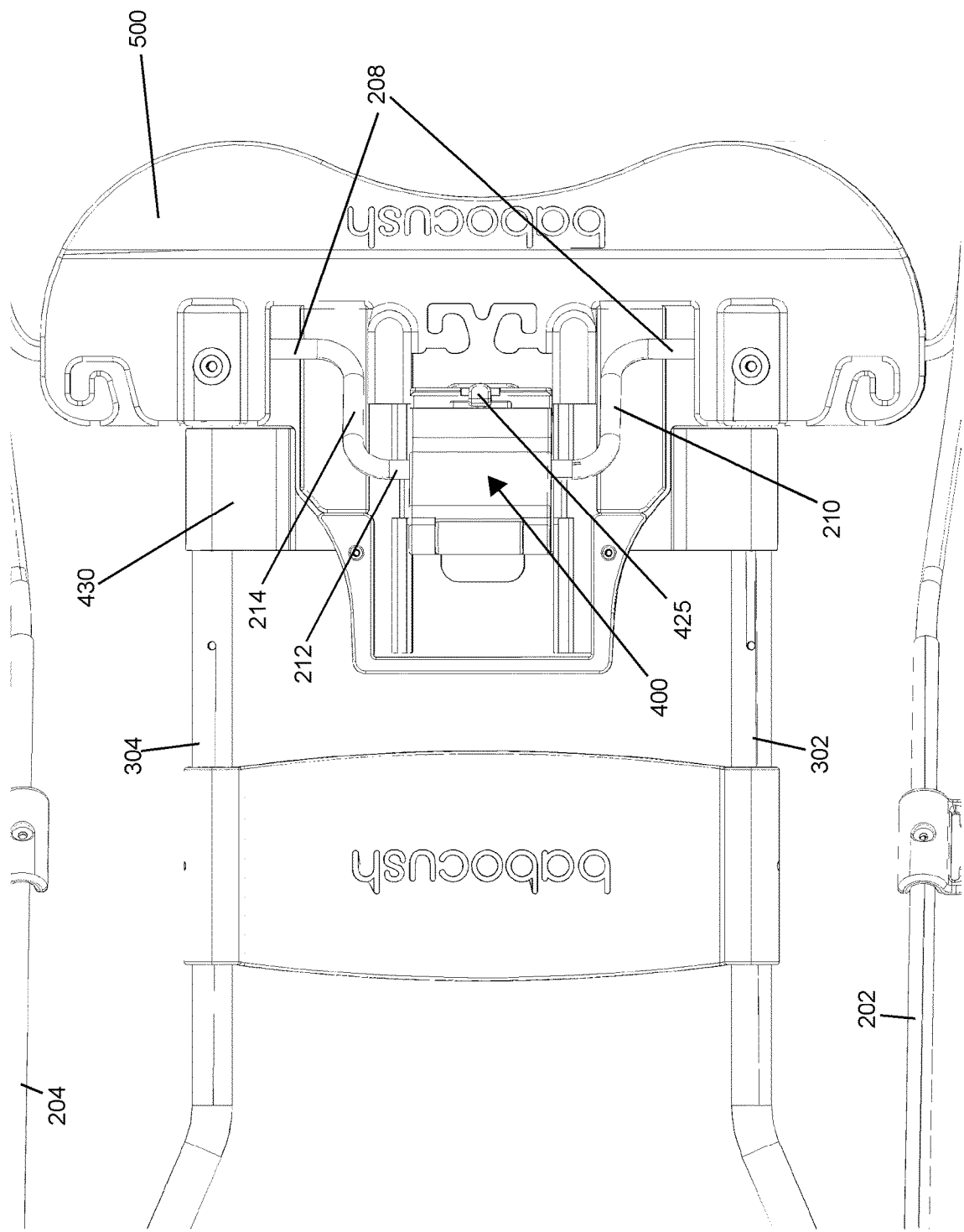


Fig. 14

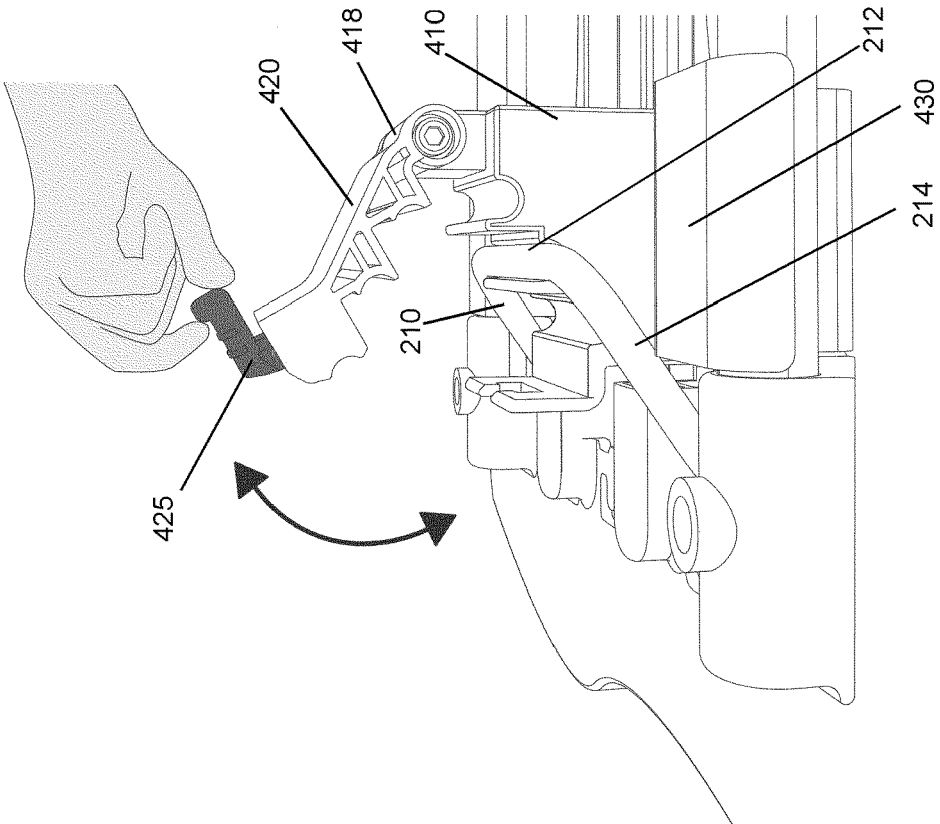


Fig. 15B

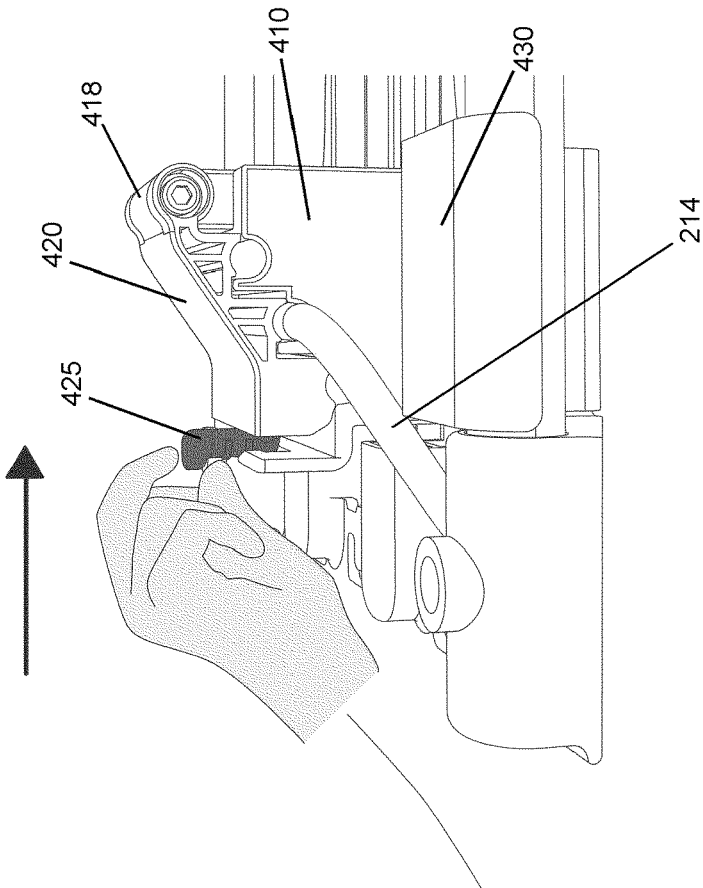


Fig. 15A



### BABY BOUNCER

[0001] A baby bouncer is typically a lightweight, low-to-the-ground seat designed to sit on the floor and to bounce when a baby in the seat kicks their legs or moves their arms.

[0002] A common design of baby bouncer includes a resilient frame forming a base or legs and an upper loop extending back up from the front of the base or legs. A canopy of seat material is supported above the base or legs across the upper loop to form a seat or pouch in which a baby can be seated. The resilient frame is formed such that the baby's movements cause the frame to flex and so "bounce" gently in response to the baby's kicking or waving and other movements.

[0003] Bouncers are generally made for the pre-sitting set, and so are normally suitable for newborns and babies up to six months old, or until the baby can sit up on their own. At this age, the baby generally cannot generate enough movement in the resilient frame to propel itself from the seat. However, leg, waist and/or over-the-shoulder straps are normally provided in order to restrain the baby safely in the seat in a reclined seating posture.

[0004] The seat is typically made from a relatively thin and smooth material in order to maintain the lightweight construction of the bouncer, and to facilitate keeping the seat clean and hygienic by wiping it down. However, whilst this provides an effective hammock for a baby when in a reclined seated position, it has been proposed to install a supplementary cushion above the seat material. Such a cushion can provide a more compliant surface for the baby to sit or lie on in a reclined posture, facing upwards, and may additionally be made thick enough to allow the baby to lie on its front.

[0005] Such cushions necessarily lie on top of the seat restraints, and so typically include a supplementary set of leg, waist and/or over-the-shoulder straps to hold the baby securely on the cushion. The cushion is then held to the seat by further pair of straps that extend as upper and lower bands behind the upper loop of the frame to hold the cushion releasably onto the seat. Notably, the cushion is typically of thicker and softer material than the seat material. This softer and thicker material, while more tactile and comfortable for the baby, is not susceptible to being wiped clean as effectively as the seat material and so must be made removable in order to be washable. This is facilitated by the upper and lower bands that can easily be loosened off. It is also the case that the upper loop of the resilient frame is usually tapered from the base towards its upper end, and this will often allow sliding of the cushion onto and off the frame without needing to adjust the bands.

[0006] Whilst this will normally secure the cushion to the seat, one consequence of existing designs is that the cushion may shift relative to the upper loop of the frame during vigorous bouncing. In extreme cases, this may even lead to the cushion (with the child strapped to it) sliding up and off the upper loop of the frame as a result.

[0007] It is also the case that babies may experience discomfort if left in one position repeatedly or for an extended period time, whilst each child will tend to have its own preferred sleeping position. To this end, baby bouncers may be made adjustable so that the upper loop of the frame can be set at one or more different angles of inclination relative to the naturally horizontally-extending base or legs.

[0008] Whilst this adjustability may make the baby bouncer more adaptable and more comfortable for the baby,

existing mechanisms can be cumbersome to manipulate in order to adjust the seating position.

[0009] Furthermore, with the upper loop of the frame set to a lower angle of inclination, the propensity for a cushion to slide off the upper loop of the frame may be increased.

### SUMMARY OF THE PRESENT INVENTION

[0010] The present invention has been made in view of the realisation and recognition by the inventors of the aforementioned problems which may arise in prior art designs of baby bouncers. The present invention seeks to alleviate or solve one or more of these problems.

[0011] According to a first aspect of the present invention, there is provided A baby bouncer comprising a base portion and a seat portion having a front in or on which a cushion may be provided, wherein the seat is provided with a cushion retention device to retain the cushion in or on the front of the seat. The cushion retention device may serve to retain the cushion and its occupant to resist or prevent them from becoming detached from the seat during use of the baby bouncer, in particular due to vigorous bouncing.

[0012] The cushion retention device may be arranged to inhibit movement of the cushion relative to the seat portion. This may stabilise the cushion relative to the seat and prevent twisting of the seat and its occupant.

[0013] The seat portion may further includes sides and a back, wherein the cushion includes straps arranged to form one or more bands extending around the back of the seat portion, and wherein the cushion retention device is arranged to inhibit movement of the one or more bands relative to the seat portion. The straps are a convenient way to releasably secure the cushion to the seat and hold it on the frame.

[0014] The cushion retention device is preferably arranged to limit or prevent sliding of the one or more bands along the sides of the seat portion. The combination of the bands of straps and the cushion retention device inhibits substantially all translational movement between the seat and the cushion.

[0015] According to a preferred construction, the retention device is arranged to receive a portion of at least one of the one or more bands therein. This securely retains the straps of the band.

[0016] The retention device may form a closed loop through which the one or more bands pass. The band will be securely attached to the seat.

[0017] Alternatively, the retention device may form a substantially C-shaped open loop permitting the band, when the band is slack, to be introduced into and released from the retention device via the opening in the loop, but retaining the band within the open loop when the band is tightened. This allows for quick and easy attachment/removal of the cushion to/from the seat.

[0018] The retention device may be formed from a single piece defining the substantially C-shaped opening. This may promote simpler manufacturing and assembly.

[0019] Alternatively, the retention device may be formed from two or more cooperating components that define the substantially C-shaped opening between them. The cooperating components may be a pair of opposed hook-shaped members. This can provide adjustability in the spacing of the members during assembly, for example in case different strap widths need to be accommodated.

[0020] The seat portion may be constructed as a frame having two side members and a canopy of seat material

supported across the frame between the two side members. This construction provides a comfortable, supportive and encapsulating seat for a baby.

**[0021]** With this construction, the retention device may be fixed to one of said side members. The frame provides structural support for restraining the cushion against translation relative to the seat.

**[0022]** At least one retention device may be fixed to each side member, and optionally two or more retention devices are fixed to each side member. The number and spacing of the retention devices helps stabilise the cushion and prevent twisting as well as lateral translational movement relative to the seat.

**[0023]** The seat material may be arranged to substantially cover the frame, and the retention device arranged to extend through an opening provided in the seat material to extend along a portion of the side member. This provides access to the retention device for securing the bands to the seat while maintaining a desirable exterior covering of the frame with seat material for better comfort and appearance.

**[0024]** It is also possible for the retention device to be fixed to the back of the seat. This provides an alternative secure anchor point for restraining the bands of the cushion.

**[0025]** In an alternative construction of the baby bouncer, the cushion includes a male or female connector member adapted to releasably clip together with a corresponding female or male connector member, respectively, provided on the seat portion. One or both of the male and female connector members may be attached to the respective cushion or seat portion via a strap. This provides an alternative mechanism for easily securing and releasing the cushion to and from the seat.

**[0026]** According to a second aspect of the invention, there is provided a baby bouncer comprising a base portion and a seat portion pivotably connected to the base portion at a front end thereof, wherein the baby bouncer further includes a recliner mechanism for adjusting a seating angle of the seat portion relative to the base portion and for securing the seat portion at the seating angle. The recliner mechanism allows the seating angle to be varied to improve the comfort for a baby sitting or lying in or on the baby bouncer.

**[0027]** The recliner mechanism may include a wedge member arranged to slide relative to the base towards and away from the front end and to support the seat portion thereon. The sliding wedge member provides for an ergonomically easy to adjust mechanism for adjusting the seating angle that is also stable and secure for holding the seat at the seating angle.

**[0028]** The wedge member may be arranged to support a frame support piece of the seat portion at a variable height as the wedge member slides relative to the base, thereby adjusting the seating angle. This allows the wedge member to support the weight force of the seat and its occupant substantially vertically through the base while providing for adjustment of the seating angle.

**[0029]** A thin end of the wedge member may face the front end such that the seating angle is reduced when the wedge member is slid to a position further away from the front end and is increased when the wedge member is slid to a position nearer to the front end. This arrangement facilitates access to the recliner mechanism at different seating angles.

**[0030]** The wedge member may be formed with a stepped upper surface defining two or more different predetermined

levels relative to the base at which to support the frame support piece in order to adjust the seating angle. The number of different predetermined levels may be three or more. This provides for secure and stable support of the seat at different seating angles while ensuring adequate adjustability to suit different sitting or lying positions for the seat's occupant.

**[0031]** With this arrangement, each level of the upper surface may be shaped as a recess for receiving the frame support piece therein. This improves the capture of the support piece and restrains the wedge member against lateral sliding relative to the base.

**[0032]** The recliner mechanism may further include a locking mechanism to hold the sliding position of the wedge member relative to the front end to secure the seat portion at the seating angle. A locking mechanism ensures the seating angle will be maintained even during vigorous bouncing of the baby bouncer.

**[0033]** The locking mechanism may include a locking bar for securing the frame support piece in position on the wedge. This securely captures the frame support piece to ensure the seat is securely held at the desired seating angle relative to the base.

**[0034]** The locking bar may be arranged to be releasably locked to the wedge by means of a resilient latch mechanism for securing the frame support piece in a selected position on the wedge. The resilient latch mechanism may be mounted to the locking bar and arranged to engage a catch on the wedge member. This provides an ergonomically easy to use mechanism for adjusting the seating angle and securing the seat at the desired angle relative to the base.

**[0035]** The wedge member may be mounted to a carriage that is arranged to slide along legs or tracks of the base portion. This is a mechanically simple but effective mechanism for adjusting the wedge position and supporting the weight force transmitted through the wedge member.

**[0036]** The foregoing first and second aspects of the baby bouncer may be combined in any combination of the foregoing features, where these are not clearly mutually exclusive or alternatives.

#### BRIEF DESCRIPTION OF THE DRAWINGS

**[0037]** To enable a better understanding of the present invention, and to show how the same may be carried into effect, reference will now be made, by way of example only, to the accompanying drawings, in which:

**[0038]** FIG. 1 shows a front perspective view of a baby bouncer frame according to an embodiment of the present invention;

**[0039]** FIG. 2 shows an enlarged front perspective view of a cushion retention device fixed to a side member of the frame seat of the baby bouncer of FIG. 1;

**[0040]** FIG. 3 shows an enlarged front perspective view of the cushion retention device of FIG. 2;

**[0041]** FIG. 4 shows an enlarged front perspective view of the cushion retention device of FIG. 2 from an underside;

**[0042]** FIG. 5 shows a side view of the baby bouncer frame of FIG. 1;

**[0043]** FIG. 6 shows an enlarged front perspective view of a front portion of the baby bouncer frame of FIG. 1;

**[0044]** FIG. 7 shows the same enlarged front perspective view of a front portion of the baby bouncer frame as FIG. 6 with a front piece removed;

[0045] FIG. 8 shows the same enlarged front perspective view of a front portion of the baby bouncer frame as FIG. 7 with a locking bar removed;

[0046] FIG. 9 shows the same enlarged front perspective view of a front portion of the baby bouncer frame as FIG. 8 with a seat of the frame removed;

[0047] FIG. 10 shows an enlarged front perspective cross-sectional view of a recliner mechanism of the baby bouncer frame of FIG. 1;

[0048] FIG. 11 shows the same enlarged front perspective cross-sectional view of the recliner mechanism of the baby bouncer frame of FIG. 10 with the locking bar removed;

[0049] FIG. 12 shows the same enlarged front perspective cross-sectional view of the recliner mechanism of the baby bouncer frame of FIG. 10 with the seat of the frame removed;

[0050] FIG. 13 shows an enlarged front perspective cross-sectional view of a recliner mechanism of the baby bouncer frame of FIG. 1 detailing the formation of a fulcrum by the front piece to allow for pivoting the seat relative to the base;

[0051] FIG. 14 shows a top-down view of the front end of the baby bouncer frame detailing the recliner mechanism; and

[0052] FIG. 15 includes FIGS. 15A and 15B and shows schematically the process for releasing the latch mechanism and opening the locking bar in the embodiment of FIGS. 1 to 14.

#### DETAILED DESCRIPTION

[0053] The invention will now be described with reference to specific embodiments. It is to be understood that the disclosed embodiments are provided in order to demonstrate one or more ways of putting the invention into effect and that they are in no way to be considered as being limiting on the scope of protection, which is defined solely by the appended claims.

[0054] Throughout the figures, like reference numerals are used to refer to like components.

[0055] With reference to FIGS. 1 to 15, there is shown an embodiment of a baby bouncer frame 100 in accordance with the present invention. Only the structural frame components of the baby bouncer are illustrated, in order to assist in visualising the components of the baby bouncer and its constructional details. It will be understood that a seat material is normally stretched or otherwise supported across the upper seat frame 200 to form a canopy over the base frame 300, the seat material including a seat in which a baby can be seated in the baby bouncer.

[0056] Turning to FIG. 1, there is shown a perspective view of the baby bouncer frame 100 including a base 300 and a seat 200.

[0057] The base 300 includes a frame formed of legs or side frame members 302 and 304 and a rear cross piece 306. Cross piece 306 is at the back or rear of the baby bouncer. As illustrated in FIG. 1, the baby bouncer is shown in an upright configuration, in the orientation in which it is intended to be used, with the base 300 positioned horizontally on a stable flat surface.

[0058] The seat 200 extends upwardly and backwards from a front end of the baby bouncer, at an inclined angle. The seat 200 of the baby bouncer frame 100 includes side frame members 202 and 204 and an upper cross piece 206 at the upper, rear end of the seat 200. The seat 200 of the

baby bouncer frame 100 further includes additional structure at its front end 208, as will be described in further detail below.

[0059] In this embodiment, a front piece 500 secures the seat 200 to the base 300, in a manner allowing the seat 200 to pivot relative to the base 300 about the front end 208 of the seat. This allows for adjustment of the angle of inclination of the seat 200 relative to the base 300. A recliner mechanism 400 is provided for adjusting the reclining angle of the seat 200 relative to the base 300. The recliner mechanism 400 allows the angle of inclination of the seat 200 relative to the base 300 (the seating angle) to be chosen, and also secures the seat 200 at the desired seating angle in order to provide a stable and secure configuration for safely seating a baby in the baby bouncer.

[0060] As noted above, it may be desirable to fit a relatively thick cushion in the seat of the baby bouncer, on the canopy of seat material, in order to improve the comfort for a baby in the seat and to allow for different seating positions to be used (such as with the baby lying on its front).

[0061] Cushion retention devices 252, 254, 256 and 258 can also clearly be seen in FIG. 1, attached to the side members 202 and 204 of the seat 200 of the baby bouncer frame 100.

[0062] Upper retention devices 252 and 254 are provided on opposite side members 202 and 204, respectively, and are arranged to receive the straps of an upper safety band that is provided on the cushion so as to loop around the seat at the cushion's upper end. Similarly, lower retention devices 256 and 258 on opposite side members of the seat frame are arranged to receive the straps of a lower safety band provided on the cushion so as to loop around the seat at the cushion's lower end.

[0063] It will be appreciated that with the straps of the upper and lower safety bands of the seat cushion held in the upper and lower pairs of cushion retention devices provided on each side of the frame, translational movement of the cushion relative to the seat frame (in particular up and down the seat frame, but also twisting of the cushion in the plane of the seat frame) is effectively prevented.

[0064] Although the present embodiment includes two pairs of cushion retention devices, i.e., an upper pair and a lower pair, it will be appreciated that even a single cushion retention device will inhibit the potential for translational movement of the cushion relative to the seat, whilst a single pair of cushion retention devices will tend to securely stabilise the position of the cushion on the seat under most circumstances. By providing two pairs of cushion retention devices, the position of the upper and lower safety bands of straps of the cushion can be securely maintained, effectively eliminating the potential for translational movement of the cushion relative to the seat.

[0065] Turning to FIG. 2, a cushion retention device 254 is shown in more detail in an enlarged perspective view. Whilst only cushion retention device 254 is shown, it will be noted that the cushion retention devices 252, 256 and 258 in this embodiment are identical.

[0066] The cushion retention device 254 is formed of a body 254d which is securely affixed to the side frame member 204 of the seat frame. When the seat material is attached to the seat frame 200 to provide a canopy across the frame, the hook portion 254a and 254b of the retention device 254 project laterally outwardly through an opening in the seat material so as to expose the opening 254c and

provide access to facilitate a user in introducing the straps of the cushion safety band into the opening 254c of the cushion retention device 254.

[0067] As noted above, the cushion retention device 254 is formed with upper 254a and lower 254b hook-shaped members which oppose one another to define a substantially C-opening 254c. This configuration allows the straps of the cushion safety band, when slackened off, to be easily introduced into the opening 254c and removed therefrom, facilitating washing and cleaning of the cushion and the seat beneath. A closed-loop configuration would also be possible in which the opening 254c is fully encircled, but this would require the straps of the cushion safety band to be inserted through the opening each time, in order to secure the cushion to the seat, which would be less convenient and more time consuming.

[0068] A further-enlarged view of the cushion retention device 254 is shown in FIG. 3, showing how the body 254d of the cushion retention device is shaped to sit on the upper side of the seat 200 side member 204 to be securely affixed thereto. In the present embodiment the cushion retention device 254 (as is the same for devices 252, 256 and 258) is fixed to the member 204 of the seat frame (correspondingly, the side 202 of the seat frame) by way of a threaded fastener, for which purpose a through hole 254e with recessed portion provided in the body 254d of the cushion retention device. This allows the cushion retention device to be securely affixed to the frame side members 202, 204 of the seat 200. Other fixing means are also available and would also be suitable for this purpose, such as gluing or co-moulding the cushion retention devices 252, 254, 256, 258 to or with the seat 200.

[0069] Turning to FIG. 4, the cushion retention device 254 is shown from the underside, to assist in visualising the shape of the body 254d, and the through hole 254e extending through from the fastener recess above.

[0070] It will be appreciated that whilst the cushion retention device 254 has been illustrated as a single component, equivalent functionality may be achieved by the provision of two separate hook-shaped members which are disposed in a cooperating face to face arrangement so as to form between them an equivalent C-shaped opening in which to receive the strap of the cushion safety band.

[0071] It will be further appreciated that the straps of the cushion safety bands typically have a lateral width substantially greater than their thickness, and are formed of a flexible material which nevertheless has a degree of rigidity across its lateral width. Once the straps have been introduced into the C-shaped opening of the cushion retention devices, and the safety bands have been appropriately tightened, there is little or no prospect for the bands to escape from the cushion retention devices 252, 254, 256 and 258. The cushion is therefore securely restrained on the seat 200, together with its occupant. Conversely, when the straps of the cushion safety bands have been adequately slackened off and loosened, the straps can be easily extracted from C-shaped openings of the cushion retention devices 252, 254, 256 and 258 in order to be able to remove the cushion from the seat 200, as desired for cleaning and washing, etc.

[0072] Whilst the presently proposed solution of providing four cushion retention devices for constraining the translational movement of the straps of the safety bands of the cushion is considered to be an elegant, hygienic and cost-effective solution, it would of course be possible to

securely affix the cushion to the seat 200 by other means. For example, instead of providing upper and lower pairs of cushion retention devices 252, 254, 256, 258 on opposed side members 202, 204 of the seat 200, a single pair of retention devices, or even a single cushion retention device, may be adequate. Similarly, one or more cushion retention devices could instead or in addition be provided on the back of the seat 200 or on the back of the canopy of seat material. Similarly, a cushion and baby bouncer which are specifically configured to cooperate with one another could be designed so as to provide clip-together male and female connectors for securing the cushion to the seat 200, in place of each of the proposed cushion retention devices 252, 254, 256 and 258. Such clips are well known in the art, as they are used in the straps provided for securing a baby in the seat of such a baby bouncer or other child seats (such as high chairs and car seats).

[0073] Turning to FIG. 5, a side view of the baby bouncer 100 is shown, illustrating the base 300 extending horizontally to provide a stable platform for the baby bouncer, with seat 200 extending upwards and backwards from the front end 208 at an inclined seating angle with respect to the base 300. Recliner mechanism 400 is shown near the front end 208 of seat 200 to support the seat 200 of frame 300 and to hold the seat 200 securely at the desired seating angle.

[0074] An enlarged perspective view of the front portion of seating frame 100 is shown in FIGS. 6 to 9 to help in understanding how the recliner mechanism 400 functions.

[0075] As seen in FIG. 6, with reference also to the top-down view of FIG. 14, the baby bouncer frame 100 is provided with a front piece 500 that is attached to the front ends of the legs or side members 302, 304 of base 300. Although not labelled, it can be appreciated from FIGS. 6 and 7 that the front piece 500 includes recessed portions with through holes that are aligned with threaded holes in the legs or side members 302, 304, for securing the front piece 500 to the legs or side members 302, 304 by way of threaded fasteners. This allows the front piece 500 to be securely fixed to the legs or side members 302, 304, whilst being removable for storage or maintenance purposes. The front piece 500 could alternatively be fixedly attached to the front ends of the legs or side members 302, 304.

[0076] Front piece 500 provides structural rigidity to the base 300, and also serves to enclose the front end 208 of seat 200 of the baby bouncer frame 100. To this end, front piece 500 is formed with a pocket 502 on each side of the front piece 500 for enclosing the front piece 208 of the seat 200. Pockets 502 (as also shown in FIG. 13) provide a front-stop for the front piece 208 and also act as a bearing surface providing the fulcrum around which seat 200 pivots to adjust the seating angle.

[0077] The seat 200 is formed, at a central portion of front end 208, with a lever arm for controlling the angular position of the seat 200. To this end, lever arm members 210 and 214 extend backwards and upwards from the front end 208 and are joined by a frame support piece 212 extending laterally therebetween. In this embodiment, the lever arm members 210 and 214 extend backwards and upwards from the front end 208 at substantially the same angle as, i.e., parallel to, the side frame members 202 and 204. It is, however, also possible for the lever arm members 210 and 214 to be arranged to extend backwards at an angle relative to the side frame members 202 and 204, i.e., to extend from the front end 208 at an angle different from the seating angle.

[0078] Although centrally disposed along the front end 208 in this embodiment, the lateral position of the lever arm is not critical in the functionality of the seat 200 or baby bouncer frame 100, and alternative configurations can be envisaged. For example, the lever arm could be offset from the central position along front piece 208, or the lever arm may even be dispensed with as such and the seat 200 formed simply to have a lateral frame support piece extending directly from one or both of the side members 202, 204.

[0079] As seen in FIG. 6, the frame support piece 212 is held and supported by the recliner mechanism 400. This serves to provide vertical support to the frame support piece 212 against the weight of a baby in the baby bouncer and supported by the frame seat 200, thereby acting on the side members 202 and 204 to turn the seat 200 around the pivot point provided by the front end 208. The frame support piece is supported by a wedge member 410 of the recliner mechanism 400, and is held securely in place on top of the wedge member 410 by a locking bar 420. Locking bar 420 serves to clamp or otherwise retain the frame support piece 212 in position on the wedge member 410. The locking bar 420 is locked in place by a latch mechanism 425.

[0080] In more detail, wedge member 410 is mounted to a carriage 430 that vertically supports the wedge member on legs 302, 304 of the base 300. The carriage 430 is arranged to slide backwards and forwards, towards and away from the front end 208 of seat 200, along the legs 302, 304, for adjusting the position of wedge member 410.

[0081] With reference to FIGS. 8 and 9 in particular, it can be seen that the wedge member 410 has an upper surface that is stepped and defines a series of support surfaces 412, 414, 416 formed at different heights with respect to the base 300. As can be seen most clearly in FIGS. 6 to 8, the baby bouncer frame 200 is shown with the frame support piece 212 held on the middle step 414.

[0082] It will be apparent that by lifting the support piece 212 from the middle step 414, the wedge member 410 can be repositioned by sliding the carriage 430 forwards (towards the front end 208) in order to position the top step 412 under the frame support piece 212. Similarly, the wedge member 410 can be repositioned by sliding the carriage 430 backwards (away from the front end 208) in order to position the bottom step 416 under the frame support piece 212. It will further be appreciated that by doing so the height at which the support piece 212 is supported is changed, thereby causing the seat 200 to pivot about the front end 208. In this way, the angle of inclination of the seat 200 relative to the base 300 (the seating angle) can be adjusted.

[0083] In this embodiment, the wedge member 410 is arranged such that the height at which the frame support piece 212 is held increases (and so the seating angle increases) as the carriage 430 and wedge member 410 are slid forwards towards the front end 208. The height at which the frame support piece 212 is held conversely decreases (and so the seating angle decreases) as the carriage 430 and wedge member 410 are slid backwards away from the front end 208. In this manner, the seating angle can be adjusted and set.

[0084] In principle, the wedge member 410 could instead be mounted to the carriage 430 in the reverse orientation, in such a way as to increase the support height and seat angle as the carriage 430 moves away from the front end 208, and vice versa. Similarly, although a uniform variation in step height is illustrated, steps of different heights and with

different height variations may be provided in any order at or on the upper surface of wedge member 410.

[0085] Similarly, the number of steps on the wedge member 410 upper surface is not particularly limited, although three steps 412, 414, 416 has been identified as providing an adequate degree of adjustment in the seating angle to accommodate most foreseen uses of the baby bouncer frame 100.

[0086] FIGS. 6 to 9 also show how the steps 412, 414, 416 of the upper face of the wedge member 410 are recessed to fittingly receive the frame support piece 212 therein. This serves to hold the frame support piece securely in place while resisting any lateral translation of the wedge member 410 and carriage 430 in the forwards or backwards directions.

[0087] FIGS. 6 to 9 also illustrate how locking bar 420 is attached to the wedge member 410 at one end by a hinge. In FIG. 9, the locking bar 420 has been removed to show how a hinge member 418 is formed at the upper rear end of wedge member 410. The locking bar 420 is mounted to be rotatable about the hinge formed by hinge member 418.

[0088] At its opposite end, the locking bar 420 is provided with a latch mechanism 425 for locking the front end of the locking bar 420 in the closed position against a catch on the wedge member 410. The locking bar 420 and latch mechanism 425 are shown in enlarged cross-sectional detail in FIGS. 10 to 13.

[0089] As can be seen, the locking bar 420 includes recessed caps 422, 424 and 426 arranged at stepped intervals so as to close over the respective recessed upper surfaces of the steps 412, 414 and 416 of the wedge member 410. Thus, with the locking bar closed as shown in FIGS. 6, 7, 10 and 13, the frame support piece 212 is held securely between the locking bar 420 and the wedge member 410. The locking bar caps 422, 424 and 426 and the recessed upper surfaces of steps 412, 414 and 416 may be sized and dimensioned to firmly clamp the frame support piece in place; however, it is not necessary to apply a clamping force to the frame support piece 212. With the close-fitting cooperating shapes of the wedge member 410 and locking bar 420, the frame support piece 212 is securely retained in place on the desired step of the wedge member 410, without need of a clamping force.

[0090] FIGS. 10 to 13 also show the construction of latch mechanism 425. It will be appreciated that although locking bar 420 has been removed in FIGS. 8, 9, 11 and 12, the latch mechanism has been left in the drawings to show how it interfaces with the catch at the front end of the wedge member 410. The latch mechanism 425 is however mounted to the locking bar in the illustrated embodiment, as shown in FIGS. 15A and 15B.

[0091] The latch mechanism 425 includes a latch piece that is resiliently mounted near the front end of the locking bar 420 by way of springs 427 or other suitable means for urging the latch piece in a forward direction. The latch piece is arranged to project in front of the front end of the locking bar 420, and thereby to engage a catch formed in the front face of the wedge member 410, as shown. With the latch engaged, the locking bar 420 cannot pivot around the hinge member 418 and so is locked in place.

[0092] With reference to FIG. 15A, in order to open the locking bar 420, a projecting button of the latch piece is pushed rearwardly against the spring force of springs 427 to disengage the latch piece from the catch.

[0093] The locking bar 420 is then free to pivot as its front end is lifted open, as shown in FIG. 15B. The frame support piece 212 can then be lifted off the step 414 and the wedge member 410 slid forwards or backwards to move the frame support piece 212 onto step 412 or 416 in order to adjust the seating angle. The locking bar 420 can then simply be pressed down allowing the springs 427 to push the latch piece forwards to re-engage the catch and capture the frame support piece 212 in its new position.

[0094] It will be appreciated that alternative locking mechanisms may be employed in a baby bouncer having a recliner mechanism 400 that is otherwise similar to that of the embodiment shown in FIGS. 1 to 14, and in particular having a wedge member 410 that is slidably mounted to the base 300 to adjust the seating angle of seat 200.

[0095] Although the wedge member 410 in this embodiment has a stepped configuration, it would in principle be possible instead to have a wedge member with a substantially sloped or curved upper surface. In such a case, the locking bar would need to provide an adequate clamping force or other retaining means, such as teeth or notches, to securely hold the frame support piece 212 in place at the desired height.

[0096] Conveniently, however, the locking bar 420 and latch mechanism 425, together with wedge member 410, provide a convenient mechanism for easily opening but securely locking the recliner mechanism 400 for adjusting the angle of inclination of the seat 200 relative to the base 300. In particular, the mechanism can be operated single-handedly so that the seat 200 and frame support piece 212 can readily be supported and adjusted with one hand while opening the latch with the other hand.

1. A baby bouncer comprising a base portion and a seat portion having a front in or on which a cushion may be provided, wherein the seat portion is provided with a cushion retention device to retain the cushion in or on the front of the seat portion.

2. The baby bouncer of claim 1, wherein the cushion retention device is arranged to inhibit movement of the cushion relative to the seat portion.

3. The baby bouncer of claim 1, wherein the seat portion further includes sides and a back, wherein the cushion includes straps arranged to form one or more bands extending around the back of the seat portion, and wherein the cushion retention device is arranged to inhibit movement of the one or more bands relative to the seat portion and wherein the cushion retention device is arranged to limit or prevent sliding of the one or more bands along the sides of the seat portion.

4. (canceled)

5. The baby bouncer of claim 3, or wherein the retention device is arranged to receive a portion of at least one of the one or more bands therein.

6. The baby bouncer of claim 5, wherein the retention device forms a closed loop through which the one or more bands pass.

7. The baby bouncer of claim 5, wherein the retention device forms a substantially C-shaped open loop permitting the band, when the band is slack, to be introduced into and released from the retention device via the opening in the loop, but retaining the band within the open loop when the band is tightened.

8. The baby bouncer of claim 7, wherein the retention device is formed from a single piece defining the substantially C-shaped opening.

9. The baby bouncer of claim 7, wherein the retention device is formed from two or more cooperating components that define the substantially C-shaped opening between them, optionally wherein the cooperating components are a pair of opposed hook-shaped members.

10. The baby bouncer of claim 1, wherein the seat portion includes a frame having two side members and a canopy of seat material supported across the frame between the two side members.

11. The baby bouncer of claim 10, wherein the retention device includes at least one retention device fixed to each side member.

12. (canceled)

13. The baby bouncer of claim 11, wherein the seat material is arranged to substantially cover the frame, and wherein the retention device is arranged to extend through an opening provided in the seat material to extend along a portion of the side member.

14. The baby bouncer of claim 10, wherein the retention device is fixed to the back of the seat.

15. The baby bouncer of claim 1, wherein the cushion includes a male or female connector member adapted to releasably clip together with a corresponding female or male connector member, respectively, provided on the seat portion, optionally wherein one or both of the male and female connector members may be attached to the respective cushion or seat portion via a strap.

16. A baby bouncer comprising a base portion and a seat portion pivotably connected to the base portion at a front end thereof, wherein the baby bouncer further includes a recliner mechanism for adjusting a seating angle of the seat portion relative to the base portion and for securing the seat portion at the seating angle.

17. The baby bouncer of claim 16, wherein the recliner mechanism includes a wedge member arranged to slide relative to the base towards and away from the front end and to support the seat portion thereon.

18. The baby bouncer of claim 17, wherein the wedge member is arranged to support a frame support piece of the seat portion at a variable height as the wedge member slides relative to the base, thereby adjusting the seating angle and wherein a thin end of the wedge member faces the front end such that the seating angle is reduced when the wedge member is slid to a position further away from the front end and is increased when the wedge member is slid to a position nearer to the front end.

19. (canceled)

20. The baby bouncer of claim 18, wherein the wedge member is formed with a stepped upper surface defining two or more different predetermined levels relative to the base at which to support the frame support piece in order to adjust the seating angle and wherein each level of the upper surface is shaped as a recess for receiving the frame support piece therein.

21. (canceled)

22. The baby bouncer of claim 17, wherein the recliner mechanism further includes a locking mechanism to hold the sliding position of the wedge member relative to the front end to secure the seat portion at the seating angle.

23. The baby bouncer of claim 22, wherein the locking mechanism includes a locking bar for securing the frame

support piece in position on the wedge and wherein the locking bar is arranged to be releasably locked to the wedge by means of a resilient latch mechanism for securing the frame support piece in a selected position on the wedge.

24. (canceled)

25. The baby bouncer of claim 17, wherein the wedge member is mounted to a carriage that is arranged to slide along legs or tracks of the base portion.

26. (canceled)

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