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(54) **BABY CRIB**

BABYBETT

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Description

TECHNICAL FIELD

[0001] The present invention relates to a baby crib that can be collapsed into a storage configuration.

Discussion of the related art

[0002] Baby cribs are objects that may have a large size. Therefore, foldable cribs are greatly appreciated, as they may have a smaller footprint and be possibly made of lightweight and flexible materials. The collapsible nature of a crib facilitates packaging for sale, transportation also by a user, and storage when its use is no longer needed.

[0003] For instance, document US 6581228 shows a foldable portable changing station for children.

[0004] Cribs according to a patent application by the Applicant hereof are currently available, in which a flexible enclosure for receiving a baby is connected to an upper frame which extends along the upper edge of the enclosure. The upper frame comprises two pivotally connected C-shaped half-parts, which are initially arranged with the concavities of the C shapes oriented in opposite directions, toward each other. Four legs, which are fixed to each other in pairs, support the upper frame above a support surface.

[0005] In order to reduce the dimensions of the crib, the legs must be first separated from the upper frame. Then, the two half-parts of the upper frame pivot toward each other into a configuration in which the concavities of the C shapes are oriented in the same directions.

[0006] The document US 8650678 shows a playpen with a folding frame. In the open configuration, the upper frame defines a quadrilateral, in which each side comprises a pair of mutually pivoting articulated arms. Four legs are vertically arranged and support the pairs of arms of the upper frame at the vertices of the upper frame. A lower frame, which is adapted to support a bottom of the playpen comprises a central connection device and additional arms arranged to form a X shape, which connect each leg to the connection device.

[0007] As the playpen is being closed, the connection device is lifted. At the same time, the arms of the lower frame pivot upwards and the pairs of arms of the upper frame pivot downwards. Thus, the four legs move toward each other in the direction of the connection device. This will considerably reduce the length and width of the playpen, while its height is unchanged and corresponds to the height of the legs. These movements are coordinated by a transmission system, which extends from the connection device along all the parts of the crib frame.

Prior art problem

[0008] In the prior art crib of the Applicant, the closing movement causes the legs to be separated from the up-

per frame, and the container for housing all the parts of the frame must be kept for storage or transportation of the crib. Furthermore, as the crib is reopened, its legs must be reconnected each time to the upper frame.

[0009] In US 8650678, as the playpen is closed, a large number of arms are simultaneously moved. A user would hardly coordinate the movements of all the arms at the same time, therefore a complex mechanism is required enabling the user to control simultaneously all these movements by only acting on the central connection device, which can be only accessed once the bottom of the playpen has been removed.

SUMMARY OF THE INVENTION

[0010] The object of the present invention is to provide a crib that may be easily folded into a closed configuration while obviating the aforementioned prior art problems. Particularly, the object of the invention is to provide a crib that may be collapsed using a simple mechanism, without requiring separation of the parts of the frame or removal of a bottom of the crib.

[0011] These and other objects are fulfilled by a baby crib as defined in any of the accompanying claims. In the crib of the invention, an upper frame, which is configured to support the enclosure of the crib, comprises two half-pats that are pivotally articulated to each other at two junction devices. Two support structures support the upper frame and each of them is also pivotally articulated to a respective part of the upper frame.

[0012] As the crib is being closed, each half-part of the upper frame simultaneously pivots relative to its respective support structure and to the opposite half-part, while the two support structures move toward each other. Therefore, the legs need not be separated from the upper frame, which leads to simplified crib closing, transportation and reopening operations.

[0013] As the crib is being closed, the junction devices of the upper frame remain in spaced apart position and do not move toward each other. Therefore, the crib is only collapsed in one direction, and substantially maintains its original width and height. Namely, the crib is closed by simply manually acting in two points of the upper frame, for instance at the junction devices, and no complex mechanism is needed for coordinating all the arms of the crib. Furthermore, the enclosure may be always connected to the crib, which avoids the need to remove its bottom. The crib still has a small size in its closed configuration, which allows it to be placed, for instance, behind a door.

BRIEF DETAILS OF THE DRAWINGS

[0014] The characteristics and advantages of the present invention will result from the following detailed description of a possible practical embodiment, illustrated as a nonlimiting example in the set of drawings, in which:

- Figure 1 shows a perspective view of a crib of the invention in an operating configuration,
- Figure 2 shows a perspective view of the upper frame and the support structures of the crib of Figure 1,
- Figure 3 shows a perspective view of the upper frame and the support structures of the crib of Figure 1 in a different operating configuration,
- Figure 4 shows a partial section of one part of the crib of Figure 1.
- Figure 5 shows an exploded view of another part of the crib of Figure 1, and
- Figure 6 shows a perspective view of a further part of the crib of Figure 1.

[0015] The crib as shown in the accompanying figures shall be deemed to be schematically illustrated, not necessarily drawn to scale, and not necessarily representing the actual proportions of its parts.

DETAILED DESCRIPTION

[0016] The figures show a baby crib according to the invention, generally designated by numeral 1. The crib 1 comprises a flexible enclosure 20, preferably made of a textile material, which delimits a room that is adapted to receive a baby when the crib 1 is in an open configuration. As more clearly explained hereinafter, the crib 1 may be also folded into a closed configuration, in which the enclosure 20 is generally not suitable to accommodate a baby.

[0017] The enclosure 20 has a bottom wall 21 for supporting a mattress, and side walls 22 which extend from the bottom wall 21 to an upper edge 23 of the enclosure 20. The bottom wall 21 and the upper edge 23 may have, for example, a rectangular or elliptical shape, and define a plurality of rectilinear or curvilinear sides of the crib 1.

[0018] The crib 1 also comprises an upper frame 30 which is configured to support the enclosure 20, and generally comprising a plurality of rectilinear or curvilinear rod-like elements, arranged along the sides of the crib 1. Particularly, the upper frame 30 extends along the upper edge 23 of the enclosure 20, and the enclosure 20 is connected to the upper frame 30 at the upper edge 23. For example, the upper edge 23 of the enclosure 20 may be wrapped around the rod-like elements of the upper frame 30, and may be fastened thereto by means of stitching, Velcro, zippers or buttons.

[0019] The crib 1 comprises two support structures 40. Each support structure 40 generally comprises one or more legs 41, preferably two legs 41, configured to support the upper frame 30 and the enclosure 20 and keep it raised relative to a support surface in a height direction Z-Z. The support structures 40 are spaced apart in a longitudinal direction X-X when the crib 1 is in the open configuration.

[0020] In the preferred embodiment, the two legs 41 of each support structure 40 are fixed together at a constant distance in a direction Y-Y transverse to the longi-

tudinal direction X-X. In the embodiment shown in the figures, each support structure 40 comprises, for this purpose, a transverse rod 42 which extends in the transverse direction Y-Y between the two legs 41 of the support structure 40. Namely, the transverse rod 42 is fixed to the two legs 41 at its ends. The two legs 41 and the transverse rod 42 define together a substantially planar support structure 40 which is transverse, e.g. perpendicular to the longitudinal direction X-X.

[0021] The upper frame 30 comprises two half-parts 34. The two half-parts 34 extend along the upper edge of the enclosure 20 and are arranged in opposite positions, preferably having mutually symmetric shapes. The two support structures 40 are each connected to a distinct half-part 34 of the upper frame 30.

[0022] Particularly, each half-part 34 is formed as a substantially planar C-shaped rigid structure, which extends along a curved or broken line, as shown in the figures. Each half-part 34 comprises two end portions 36 which are spaced apart in the transverse direction Y-Y. The end portions 36 of each half-part 34 are connected to the opposite half-part 34.

[0023] In the preferred embodiment, each half-part 34 of the upper frame 30 comprises a rigid connection rod 32 which connects together the end portions 36, thereby preferably fixing together the end portions 36 at a constant distance. Namely, the two end portions 36 of each half-part 34 extend from a respective connecting rod 32 toward the opposite half-part 34.

[0024] In the open configuration, the two half-parts 34 of the upper frame 30 are substantially coplanar, on a plane perpendicular to the height direction Z-Z. More in detail, in the open configuration, the two connecting rods 32 for the two distinct half-parts 34 define two opposite sides of the crib 1, which are spaced apart in the longitudinal direction X-X. The end portions 36 of the half-parts 34 are arranged in the remaining two opposite sides, which are spaced apart in the transverse direction Y-Y.

[0025] As mentioned above, in order to reduce the dimensions of the crib 1 for storage, the crib 1 is adapted to switch from an open configuration, which has already been described in some detail, to a closed configuration. The crib 1 is shown in the open configuration of Figures 1 and 2, and in the closed configuration in Figure 3.

[0026] The crib 1 comprises two junction devices 35 which are spaced apart in the transverse direction Y-Y. In order to close the crib 1, the two half-parts 34 of the upper frame 30 are pivotally articulated to each other via the junction devices 35 and are adapted to be rotated about an axis of rotation that extends in the transverse direction Y-Y.

[0027] In detail, each half-part 34 of the upper frame 30 is connected to the two junction devices 35 at its end portions 36. In other words, the junction devices 35 are located in a distal position relative to the connecting rods 32. More in detail, each junction device 35 comprises at least one pivot pin 3, and each half-part 34 of the upper

frame 30 is pivoted to a respective pivot pin 37 of the junction device 35.

[0028] Each support structure 40 is further pivotally articulated to a respective half-part 34 of the upper frame 30. Particularly the crib 1 comprises a plurality of hinges 33 and the support structures 40 are connected to their respective half-parts 34 of the upper frame 30 at respective hinges 33. In the open configuration, each hinge 33 associated with a support structure 40 is spaced apart from a hinge 33 associated with the opposite support structure 40 in the longitudinal direction X-X.

[0029] In the preferred embodiment, the two legs 41 of each support structure 40 are hinged to their respective half-parts 34 of the upper frame 30 at hinges 33 located at the opposite ends of their respective connecting rods 32. Therefore, in this case, the crib 1 comprises four hinges, which are associated in pairs with respective support structures 40 and half-parts 34 of the upper frame 30. The end portions 36 of the two half-parts 34 are disposed between respective hinges 33 and junction devices 35. Also, each leg 41 is inclined with respect to its respective connecting rod 32, and preferably extends perpendicular thereto.

[0030] During transition from the open configuration to the closed configuration, the half-parts 34 of the upper frame 30 are configured to pivot relative to and toward each other, about an axis that extends in the transverse direction Y-Y through the junction devices 35. More in detail, in the closed configuration, each hinge 33 associated with a support structure 40 is close to a hinge 33 associated with the opposite support structure 40. Furthermore, in the closed configuration, the connecting rods 32 are close to each other.

[0031] Preferably the half-parts 34 of the upper frame 30 are configured to move the hinges 33, as well as the connecting rods 32, by translating them only in the longitudinal direction X-X during the transition from the open configuration to the closed configuration. At the same time, the half-parts 34 of the upper frame 30 are configured to move the junction devices 35 by translating them in the height direction Z-Z during the transition from the open configuration to the closed configuration.

[0032] In the open configuration, the junction devices 35 are substantially coplanar with the peripheral portions 34 of the upper frame, and particularly with the hinges 33 and the connecting rods 32, whereas in the closed configuration the junction devices 35 are situated below the hinges 33 of the upper frame 30 in the height direction Z-Z.

[0033] During transition from the open configuration to the closed configuration, the half-parts 34 of the upper frame 30 are configured to also pivot relative to and toward their respective support structures 40, at the same time as the two half-parts 34 pivot relative to each other. Particularly, the end portions 36 of the half-parts 34 pivot toward their respective support structures 40 about an axis that extends in the transverse direction Y-Y through the hinges 33. As a result, the support structures 40 move

toward each other in the longitudinal direction X-X with a substantially translational motion, whereby the support structures 40 are close to each other in the closed configuration. Particularly, during transition from the open configuration to the closed configuration, each leg 41 of each support structure 40 only translates in the longitudinal direction X-X.

[0034] In one aspect of the invention, the half-parts 34 of the upper frame 30 are configured to keep the distance between the junction devices 35 in the transverse direction Y-Y substantially constant during transition from the open configuration to the closed configuration. In other words, the distance between the junction devices 35 in the open configuration is substantially equal to the distance between the junction devices 35 in the closed configuration.

[0035] As used herein, the transition from the open configuration to the closed configuration is always intended as the specific step in which the half-parts 34 pivot relative to each other and/or to their respective support structures 40 and/or in which the support structures 40 move toward each other to cause the crib 1 to transition from the open configuration to the closed configuration.

[0036] However, it is not excluded that further precedent or subsequent steps may be provided for bringing a crib 1 according to the invention from the open to the closed configuration. Particularly, the mention to a distance or an angle that is kept constant during transition from the open configuration to the closed configuration does not exclude that such distance or angle may be changed through additional closing steps, other than the one as mentioned above.

[0037] In the same manner as mentioned above for the junction devices 35, during transition from the open configuration to the closed configuration, a constant distance is also kept between the two legs 41 of each support structure 40, which are fixed together at a constant distance by the connecting rods 32 and the transverse rods 42, and a constant distance is further kept between the hinges 33 associated with the same support structure 40.

[0038] Furthermore, during transition from the open configuration to the closed configuration, each leg 41 of each support structure 40 is inclined with respect to its respective connecting rod 32 at a constant angle. The connecting rod 32 mainly extends in the transverse direction Y-Y in both open and closed configurations, and each connecting rod 32 and its respective legs pivot relative to each other about an axis that extends in the transverse direction Y-Y, i.e. in the direction of extension of the connecting rod 32. Therefore, during the transition from the open configuration to the closed configuration, the connecting rod 32 rotates on itself between the hinges 33.

[0039] This will simplify the closing mechanism of the crib 1 as compared with cribs or playpens in which the connecting rods 32 are replaced with articulated structures that cause the legs 41 of one support structure to move toward each other in the transverse direction Y-Y.

Therefore, a complex crib-closing mechanism that can be only accessed after removal of the bottom of the crib 1 will not be needed.

[0040] It will be appreciated that the two support structures 40 are substantially parallel to each other in both open and closed configurations, as they are both perpendicular to the longitudinal direction X-X. Furthermore, in the closed configuration, both support structures 40 are also parallel to the two half-parts 34 of the upper frame.

[0041] In order to prevent the crib 1 from being accidentally closed, each junction device 35 comprises a first lock mechanism 50, which is configured to prevent the half-parts 34 of the upper frame 30 from pivoting relative to each other, and particularly from pivoting relative to the junction device 35. More in detail, a first lock mechanism 50 is provided for each end portion 36 of the half-parts 34 of the upper frame 30. In order to illustrate the characteristics of the first lock mechanism 50, figure 4 shows a partially sectional view of the interior of one of the junction devices 35.

[0042] In the illustrated embodiment, the lock mechanism 50 comprises a slide guide 51 for each half-part 34, e.g. a slot formed in the junction device 35, whereas the corresponding half-part 34 comprises a projecting member 53 whose shape is conformed for engagement in the guide 51, e.g. a peg projecting in the transverse direction Y-Y from an end portion 36 of a half-part 34. The positions of the guide 51 and the projecting member 52 may be obviously exchanged between the junction device 35 and the half-part 34.

[0043] The guide 51 defines a rotation-guiding portion 53 and a lock portion 54. The rotation-guiding portion 53 is shaped to guide the projecting member 52 during rotation of its respective half-part 34 relative to the junction device 35. For example, the rotation-guiding portion 53 may be arc-shaped, with its center at the pivot pin 37 of the junction device 35, about which the respective half-part is pivoted. The lock portion 54 is shaped to receive and lock the projecting member 52 to prevent rotation of its respective half-part 34 relative to the junction device 35 when the upper frame 30 is in the open configuration. For instance, the lock portion 54 may be a segment that extends from the rotation-guiding portion 53 toward or away from the pivot pin 37.

[0044] Each first lock mechanism 50 comprises an elastic member 55 which is configured to hold the projecting member 52 in the lock portion 54 of the guide 51 when the upper frame 30 is in the open configuration. In the illustrated embodiment, the elastic member 55 is a spring which is loaded when the projecting member 52 is in the rotation-guiding portion 53 of the guide 51. Thus, the elastic member 55 is configured to move the projecting member 52 into the lock portion 54 of the guide 51 when the upper frame 30 is caused to transition to the open configuration, and preferably operates by extension.

[0045] The crib 1 comprises a release actuator 56 for

each junction device 35, which is operable to release the first lock mechanism 50 and allow transition from the open configuration to the closed configuration. For example, a release actuator 56 may comprise a button located at a junction device 35 and adapted to slide relative the junction device 35 in the height direction Z-Z.

[0046] Particularly, the release actuator 56 is configured to move the projecting member 52 from the lock portion 54 to the rotation-guiding portion 53 of the sliding guide 51, thereby loading the elastic member 55, if any. As shown in Figure 4, the release actuator 56 comprises inclined surfaces 57, which are designed to convert the translational motion of the release actuator 56, for instance in the height direction Z-Z, into simultaneous translation of all projecting members 52 relative to one of the junction devices 35, for instance in the longitudinal direction X-X when the crib 1 is in the open configuration.

[0047] Each half-part 34 of the upper frame 40 comprises a second lock mechanism 60 which is configured to prevent its half-part 34 from pivoting relative to its respective support structure 30. Particularly, a second lock mechanism 60 is provided for each hinge 33, where one half-part 34 of the upper frame 30 and a support structure 40 are connected. Figures 5 and 6 show an example of the second lock mechanism 60.

[0048] In the preferred embodiment, each second lock mechanism 60 comprises a gear wheel 61 which is designed to simultaneously mesh with toothings 62 of a support structure 40 and a half-part 34 of the upper frame 30, to thereby prevent them from pivoting relative to each other. The toothings 62 may be formed in a cavity of the hinge 33 which houses the gear wheel 61. The gear wheel 61 is adapted to axially move to engage and disengage the teeth 62 of the support structure 40 and/or the half-part 34.

[0049] Preferably the second lock mechanisms 60 are adapted to be released by the same release actuators 56 that also release the first lock mechanisms 51. In other words, the release actuators 56 of the junction devices 35 are configured to release their respective first and second lock mechanisms 50, 60 and allow transition from the open configuration to the closed configuration.

[0050] For this purpose, the second lock mechanisms 60 are connected to the first lock mechanisms 50 via cables 53 which extend inside the peripheral portions 34 of the upper frame 30. Namely, the cables 63 are connected to the first lock mechanisms 50, so that the release of the first lock mechanisms 50 will cause the cables 63 to be tensioned and the second locking mechanisms 60 to be released. For example, the cables 63 may be connected to the first lock mechanisms 50 at the elastic members 55, which are loaded upon actuation of the release actuator.

[0051] Therefore, each second lock mechanism 60 comprises a release member 64, which is actuated by the cable 63 to disengage the gear wheel 61 from at least one of the toothings 62 of half-part 34 or of the support

structure 40, for example by axially pushing the gear wheel 61 against the action of a spring (not shown). Particularly, the release member 64 is a disk accommodated between the half-part 34 and the leg 41, besides the gear wheel 61 and coaxial with the gear wheel 61. Such disc is adapted to be rotated as the cable 63 is tensioned, and its rotation generates an axial thrust on the gear wheel 61 due to the action of cooperating inclined surfaces 65 formed in the disk and in the half-part 34, or in the support structure 40. The axial displacement of the release member 64 disengages the gear wheel 61 from the toothing 62 of the half-part 34, thereby allowing mutual rotation of the leg 41 and the half-part 34.

[0052] In short, the crib 1 is closed by a process in which initially, in the open configuration, the two half-parts 34 of the upper frame 30 are coplanar with each other and substantially perpendicular to their respective support structures 40, while the first and second lock mechanisms 50, 60 are operating. The user actuates the two release actuators 56 at the junction devices 35, thereby releasing the first and second lock mechanisms 50, 60. The two half-parts 34 of the upper frame 30 pivot relative to the junction devices 35 and the support structures 40, while the junction devices 35 are lowered and the support structures 40 move toward each other.

[0053] In the closed configuration, the support structures 40 and the half-parts 34 of the upper frame 30 are arranged on planes that are substantially parallel to each other and perpendicular to the longitudinal direction X-X. Therefore, in the closed configuration the crib 1 has much smaller dimensions in the longitudinal direction X-X as compared with the open configuration. However, the crib 1 has substantially the same dimensions in the transverse direction Y-Y in both closed and open configurations.

[0054] It shall be understood that, in the closed configuration, the enclosure 20 may be separated from the upper frame 30 or remain connected thereto and be collapsed to minimize its dimensions, due to the flexibility of its material.

[0055] A skilled person may obviously envisage a number of changes to the above described variants, without departure from the scope as defined by the appended claims.

Claims

1. A baby crib (1), comprising:

- an upper frame (30), which is configured to support an enclosure (20) for receiving a baby, the upper frame (30) comprising two half-parts (34) that are pivotally articulated to each other at two junction devices (35), each junction device (35) of the upper frame (30) comprising a first lock mechanism (50), which is configured to prevent the half-parts (34) of the upper frame

- (30) from pivoting relative to each other,
- two support structures (40), which are configured to hold the upper frame (30) raised relative to a bearing surface, each support structure (40) being pivotally articulated to a respective half-part (34) of the upper frame (30),
- a release actuator (56) for each junction device (35),

wherein:

- the crib (1) is adapted to switch between an open configuration in which the support structures (40) are spaced apart and a closed configuration in which the support structures (40) are close together,
- the half-parts (34) of the upper frame (30) are configured to pivot relative and toward each other and to pivot toward their respective support structures (40) during transition from the open configuration to the closed configuration,
- the distance between said junction devices (35) remains substantially constant during the transition from the open configuration to the closed configuration,
- the release actuators (56) of the junction devices (35) are operable to release the first lock mechanism (50) and allow transition to the closed configuration,
- each half-part (34) of the upper frame (30) comprises a second lock mechanism (60) which is configured to prevent the half-part (34) from pivoting relative to its respective support structure (40), **characterized in that**
- the release actuators (56) of the junction devices (35) are configured to simultaneously release the first lock mechanisms (50) and the second lock mechanisms (60) and thereby allow transition to the closed configuration.

2. A crib (1) as claimed in claim 1, wherein:

- in the open configuration the support structures (40) are spaced apart in a longitudinal direction (X-X),
- the support structures (40) are pivotally connected to the respective half-parts (34) of the upper frames (30) at respective hinges (33), and
- the half-parts (34) of the upper frame (30) are configured to move said hinges (33) by translating them only in the longitudinal direction (X-X) during the transition from the open configuration to the closed configuration.

3. A crib (1) as claimed in claim 1 or 2, wherein:

- each half-part (34) of the upper frame (30) comprises two end portions (36), said junction de-

vices (35) being disposed at the end portions (36) of the half-parts (34), and
- the two end portions (36) of each half-part (34) are fixed together at a constant distance.

4. A crib (1) as claimed in any of claims 1 to 3, wherein each support structure (40) comprises two legs (41), the distance between the two legs (41) of each support structure (40) remaining substantially constant during the transition from the open configuration to the closed configuration. 5 10
5. A crib (1) as claimed in claim 4, wherein the two legs (41) in each support structure (40) are fixed together at a constant distance. 15
6. A crib (1) as claimed in claim 5, wherein each support structure (40) comprises a transverse rod (42) which extends between the two legs (41) of the support structure (40), the transverse rod (42) being fixed to the two legs (41). 20
7. A crib (1) as claimed in any of claims 4 to 6, wherein:
 - each half-part (34) of the upper frame (30) comprises a rigid connecting rod (32) having two ends, the two legs (41) of each support structure (40) being hinged to their respective half-part (34) of the upper frame (30) at the ends of the connecting rod (32). 25 30
8. A crib (1) as claimed in claim 7, wherein the angle of inclination between each leg (41) and its respective connecting rod (32) remains constant during the transition from the open configuration to the closed configuration. 35

Patentansprüche

1. Babybett (1), umfassend:

- einen oberen Rahmen (30), der konfiguriert ist, um eine Gondel (20) zur Aufnahme eines Babys zu tragen, wobei der obere Rahmen (30) zwei Halbtteile (34) umfasst, die an zwei Verbindungsvorrichtungen (35) schwenkbar miteinander verbunden sind, wobei jede Verbindungsvorrichtung (35) des oberen Rahmens (30) einen ersten Verriegelungsmechanismus (50) umfasst, der konfiguriert ist, um zu verhindern, dass die Halbtteile (34) des oberen Rahmens (30) relativ zueinander schwenkbar sind, 45 50
- zwei Trägerstrukturen (40), die konfiguriert sind, um den oberen Rahmen (30) gegenüber einer Auflagefläche angehoben zu halten, wobei jede Trägerstruktur (40) schwenkbar an einem jeweiligen Halbtteil (34) des oberen Rahmens 55

(30) gelagert ist,

- ein Auslösebedienteil (56) für jede Verbindungsvorrichtung (35), wobei:
- das Kinderbett (1) angepasst ist, um zwischen einer offenen Konfiguration, in der die Trägerstrukturen (40) voneinander entfernt sind, und einer geschlossenen Konfiguration, in der die Trägerstrukturen (40) eng beieinander liegen, zu wechseln,
- die Halbtteile (34) des oberen Rahmens (30) konfiguriert sind, um relativ und aufeinander hin zu schwenken und in Richtung ihrer jeweiligen Trägerstrukturen (40) während des Übergangs von der offenen Konfiguration zur geschlossenen Konfiguration zu schwenken,
- der Abstand zwischen den Verbindungsvorrichtungen (35) während des Übergangs von der offenen Konfiguration zu der geschlossenen Konfiguration im Wesentlichen konstant bleibt,
- die Auslösebedienteile (56) der Verbindungsvorrichtungen (35) so bedienbar sind, dass sie den ersten Verriegelungsmechanismus (50) lösen und den Übergang zu der geschlossenen Konfiguration ermöglichen,
- jedes Halbtteil (34) des oberen Rahmens (30) einen zweiten Verriegelungsmechanismus (60) umfasst, der konfiguriert ist, um zu verhindern, dass das Halbtteil (34) in Bezug auf seine jeweilige Trägerstruktur (40) schwenkt, **dadurch gekennzeichnet, dass**
- die Auslösebedienteile (56) der Verbindungsvorrichtungen (35) konfiguriert sind, um die ersten Verriegelungsmechanismen (50) und die zweiten Verriegelungsmechanismen (60) gleichzeitig freizugeben und dadurch den Übergang zu der geschlossenen Konfiguration ermöglichen.

2. Babybett (1) gemäß Anspruch 1, wobei:

- in der offenen Konfiguration die Trägerstrukturen (40) in Längsrichtung (X-X) voneinander entfernt sind,
- die Trägerstrukturen (40) schwenkbar mit den jeweiligen Halbtteilen (34) der oberen Rahmen (30) an jeweiligen Scharnieren (33) verbunden sind, und
- die Halbtteile (34) des oberen Rahmens (30) konfiguriert sind, um die Scharniere (33) zu bewegen, indem sie während des Übergangs von der offenen Konfiguration zur geschlossenen Konfiguration nur in Längsrichtung (X-X) verschoben werden.

3. Babybett (1) gemäß Anspruch 1 oder 2, wobei:

- jedes Halbtteil (34) des oberen 16 Rahmens (30) zwei Endabschnitte (36) umfasst, wobei die

- Verbindungsvorrichtungen (35) an den Endabschnitten (36) der Halnteile (34) angeordnet sind, und
 - die beiden Endabschnitte (36) jedes Halnteils (34) in einem konstanten Abstand miteinander verbunden sind. 5
4. Babybett (1) gemäß einem der Ansprüche 1 bis 3, wobei jede Trägerstruktur (40) zwei Beine (41) umfasst, wobei der Abstand zwischen den beiden Beinen (41) jeder Trägerstruktur (40) während des Übergangs von der offenen Konfiguration zur geschlossenen Konfiguration im Wesentlichen konstant bleibt. 10
5. Babybett (1) gemäß Anspruch 4, wobei die beiden Beine (41) in jeder Trägerstruktur (40) in einem konstanten Abstand miteinander verbunden sind. 15
6. Babybett (1) gemäß Anspruch 5, wobei jede Trägerstruktur (40) eine Querstange (42) umfasst, die sich zwischen den beiden Beinen (41) der Trägerstruktur (40) erstreckt, wobei die Querstange (42) an den beiden Beinen (41) befestigt ist. 20
7. Babybett (1) gemäß einem der Ansprüche 4 bis 6, wobei:
 - jedes Halnteil (34) des oberen Rahmens (30) eine starre Verbindungsstange (32) mit zwei Enden umfasst, wobei die beiden Beine (41) jeder Trägerstruktur (40) an ihrem jeweiligen Halnteil (34) des oberen Rahmens (30) an den Enden der Verbindungsstange (32) angehängt sind. 25
8. Babybett (1) gemäß Anspruch 7, wobei der Neigungswinkel zwischen jedem Bein (41) und seiner jeweiligen Verbindungsstange (32) während des Übergangs von der offenen Konfiguration zur geschlossenen Konfiguration konstant bleibt. 30

Revendications

1. Lit de bébé (1) comprenant : 45
- un cadre supérieur (30), qui est configuré pour soutenir une enceinte (20) destinée à recevoir un bébé, le cadre supérieur (30) comprenant deux demi-pièces (34) qui sont articulées de manière pivotante l'une sur l'autre au niveau de deux dispositifs de jonction (35), chaque dispositif de jonction (35) du cadre supérieur (30) comprenant un premier mécanisme de verrouillage (50), qui est configuré pour empêcher les demi-pièces (34) du cadre supérieur (30) de pivoter l'une par rapport à l'autre, 50
- deux structures de support (40), qui sont con-

figurées pour maintenir le cadre supérieur (30) soulevé par rapport à une surface de support, chaque structure d'appui (40) étant articulée de manière pivotante sur une demi-pièce respective (34) du cadre supérieur (30),
 - un actionneur de libération (56) pour chaque dispositif de jonction (35), dans lequel :
 - le lit d'enfant (1) est adapté pour basculer entre une configuration ouverte dans laquelle les structures de support (40) sont espacées et une configuration fermée dans laquelle les structures de support (40) sont proches l'une de l'autre,
 - les demi-pièces (34) du cadre supérieur (30) sont configurées pour pivoter l'une par rapport à l'autre et l'une vers l'autre et pour pivoter vers leurs structures de support (40) respectives pendant la transition de la configuration ouverte à la configuration fermée,
 - la distance entre lesdits dispositifs de jonction (35) reste substantiellement constante pendant la transition de la configuration ouverte à la configuration fermée,
 - les actionneurs de libération (56) des dispositifs de jonction (35) sont actionnables pour libérer le premier mécanisme de verrouillage (50) et permettre une transition vers la configuration fermée,
 - chaque demi-pièce (34) du cadre supérieur (30) comprend un deuxième mécanisme de verrouillage (60) qui est configuré pour empêcher la demi-pièce (34) de pivoter par rapport à sa structure de support respective (40),
caractérisé en ce que
 - les actionneurs de libération (56) des dispositifs de jonction (35) sont configurés pour libérer simultanément les premiers mécanismes de verrouillage (50) et les deuxièmes mécanismes de verrouillage (60) et permettre ainsi la transition vers la configuration fermée.

2. Lit (1) selon la revendication 1, dans lequel : dans la configuration ouverte, les structures de support (40) sont espacées dans le sens longitudinal (X-X),
 - les structures de support (40) sont reliées de manière pivotante aux demi-pièces respectives (34) des cadres supérieurs (30) au niveau des charnières respectives (33), et
 - les demi-pièces (34) du cadre supérieur (30) sont configurées pour déplacer lesdites charnières (33) en les déplaçant uniquement dans le sens longitudinal (X-X) pendant la transition de la configuration ouverte à la configuration fermée.
3. Lit (1) selon la revendication 1, dans lequel :

- chaque demi-pièce (34) du cadre supérieur (30) comprend deux portions d'extrémité (36), lesdits dispositifs de jonction (35) étant disposés au niveau des portions d'extrémité (36) des demi-pièces (34), et 5
 - les deux portions d'extrémité (36) de chaque demi-pièce (34) sont fixées ensemble à une distance constante.
4. Lit (1) selon l'une quelconque des revendications 1 à 3, dans lequel chaque structure de support (40) comprend deux pieds (41), la distance entre les deux pieds (41) de chaque structure de support (40) restant substantiellement constante pendant la transition de la configuration ouverte à la configuration fermée. 10 15
5. Lit (1) selon la revendication 4, dans lequel les deux pieds (41) dans chaque structure de support (40) sont fixés les uns aux autres à une distance constante. 20
6. Lit (1) selon la revendication 5, dans lequel chaque structure de support (40) comprend une tige transversale (42) qui s'étend entre les deux pieds (41) de la structure de support (40), la tige transversale (42) étant fixée aux deux pieds (41). 25
7. Lit (1) selon l'une quelconque des revendications 4 à 6, dans lequel : 30
- chaque demi-pièce (34) du cadre supérieur (30) comprend une bielle rigide (32) ayant deux extrémités, les deux pieds (41) de chaque structure de support (40) étant articulés sur leur demi-pièce respective (34) du cadre supérieur (30) aux extrémités de la bielle (32). 35
8. Lit (1) selon la revendication 7, dans lequel l'angle d'inclinaison entre chaque pied (41) et sa bielle respective (32) reste constant pendant la transition de la configuration ouverte à la configuration fermée. 40

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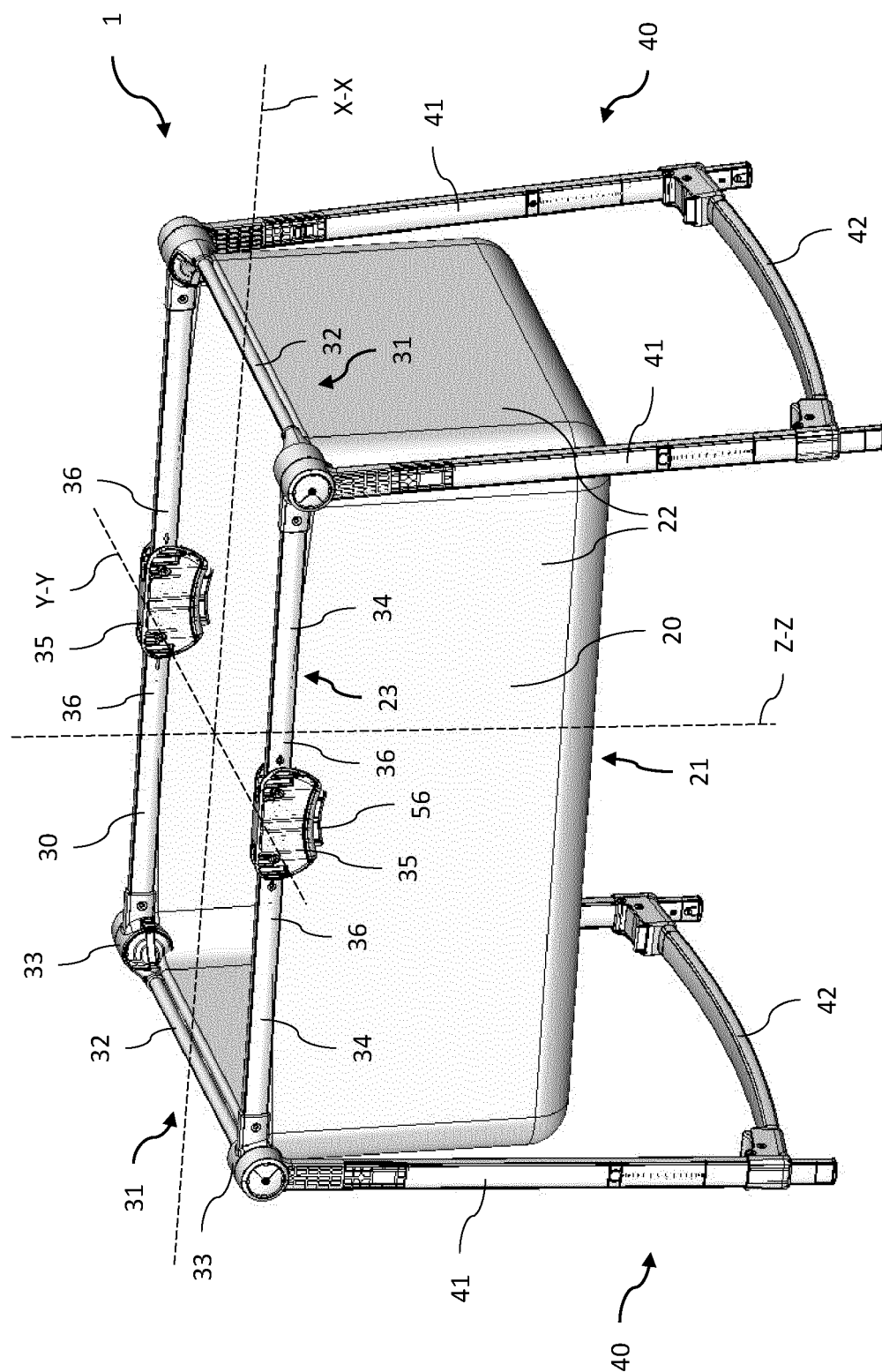


Fig 1

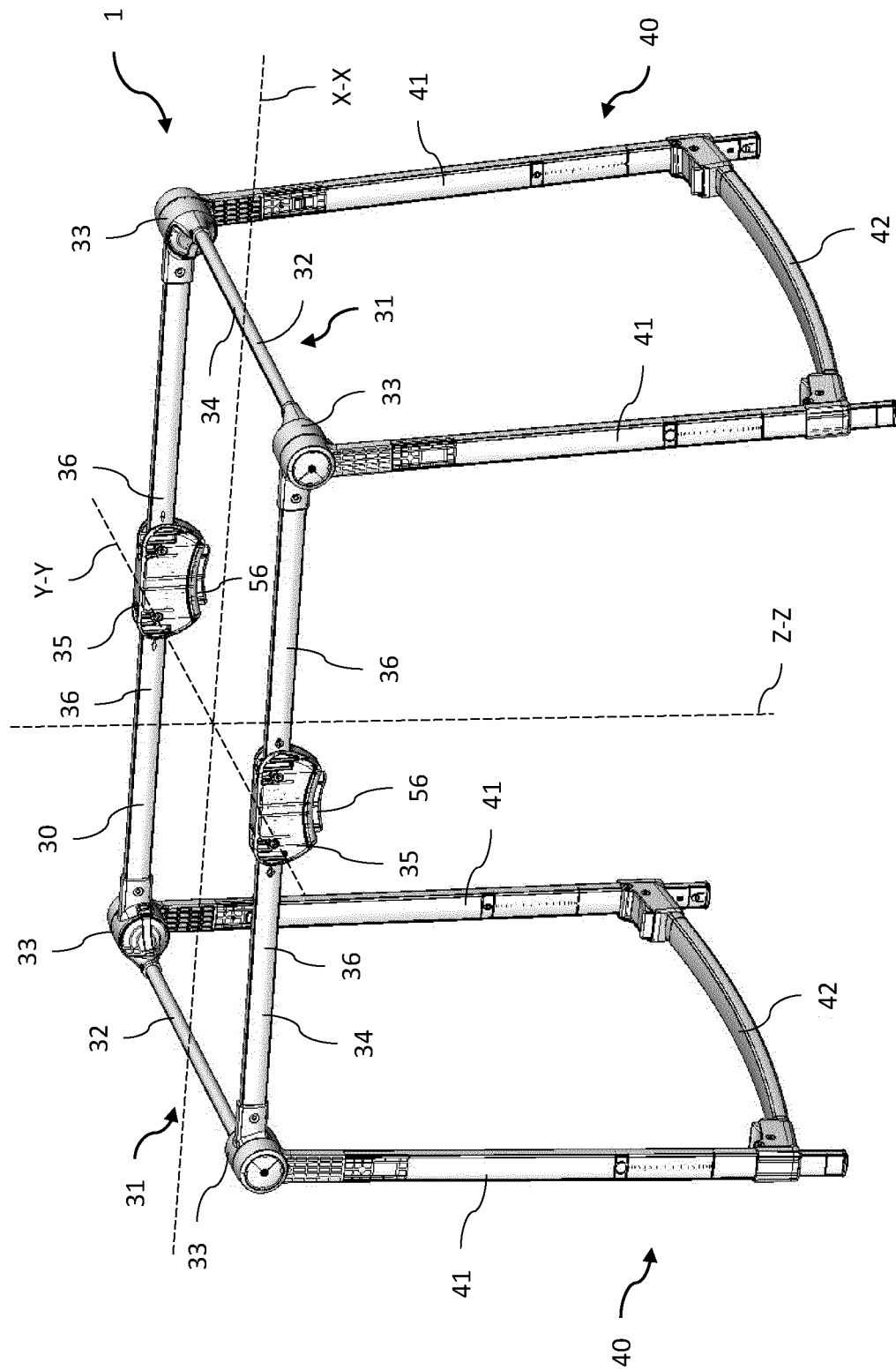


Fig 2

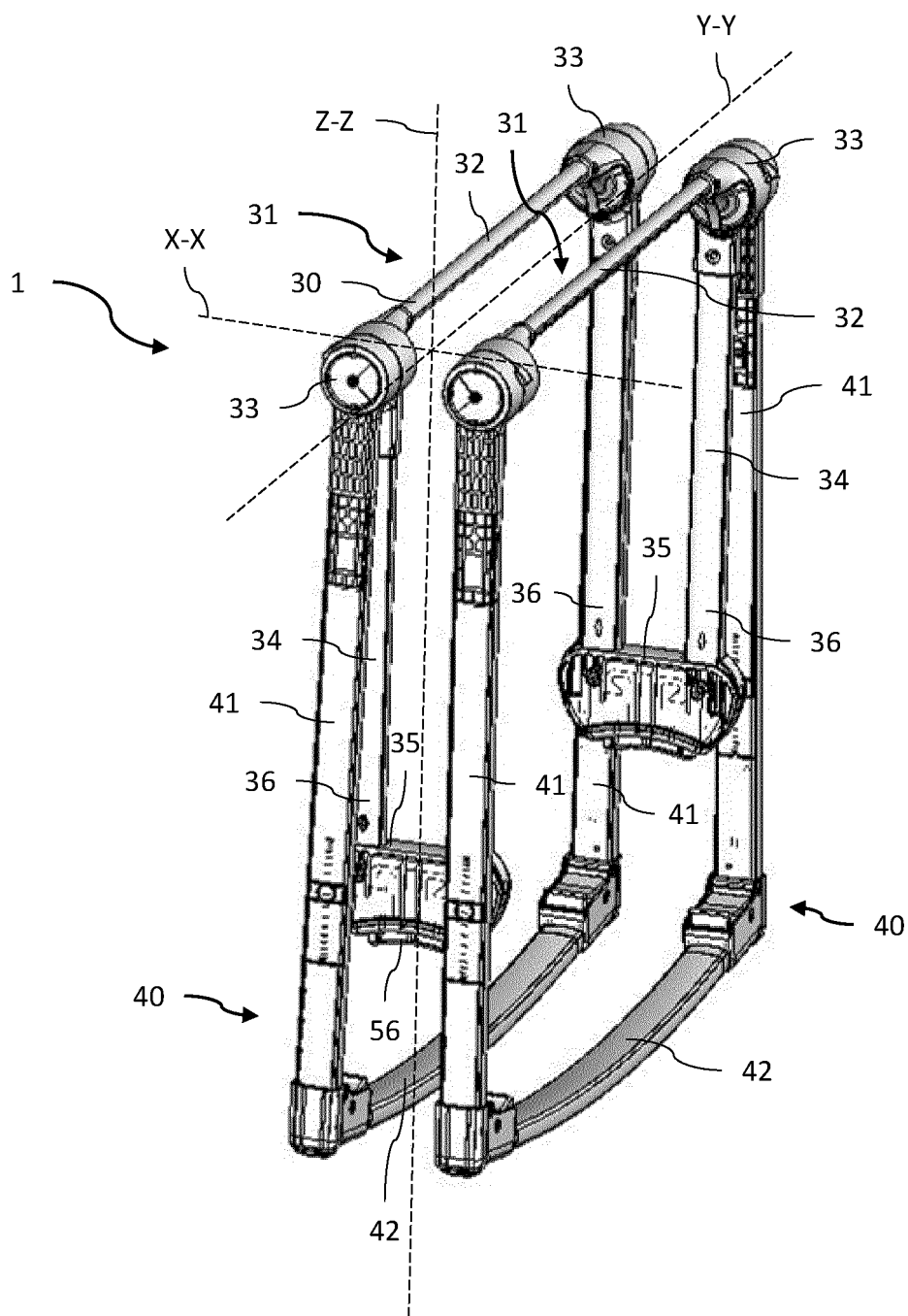


Fig 3

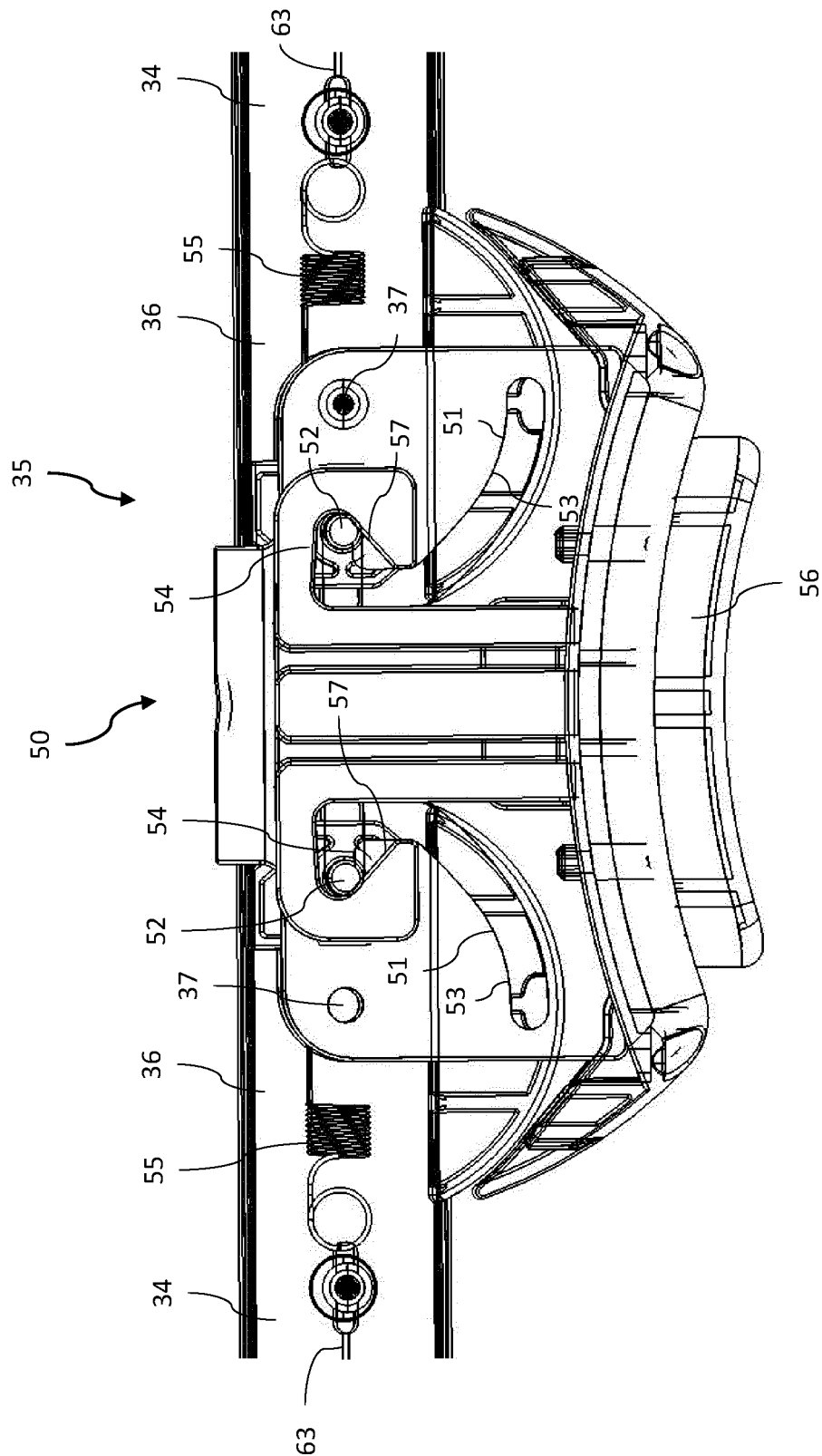


Fig 4

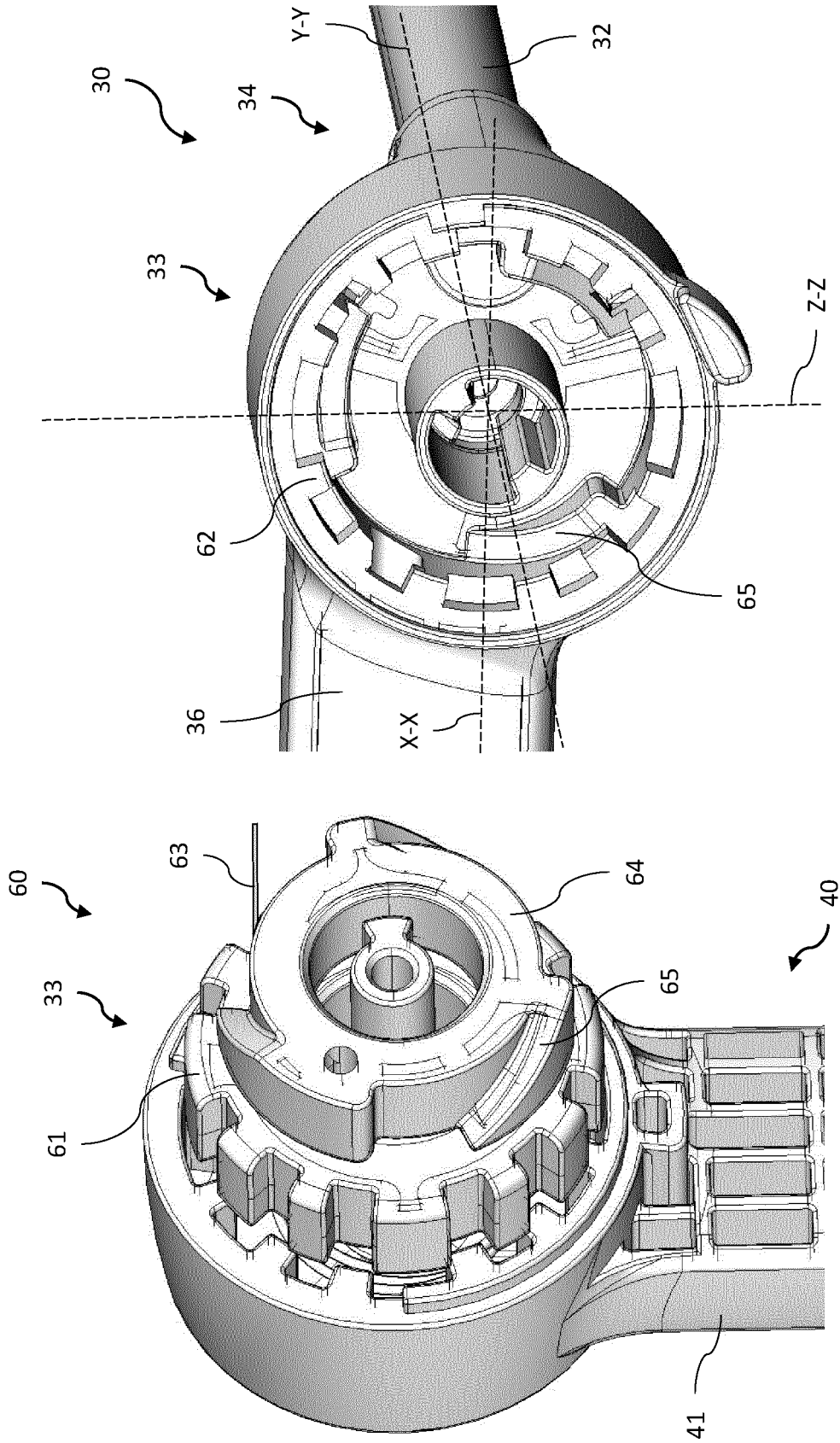


Fig 6

Fig 5

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

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- US 8650678 B [0006] [0009]