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Description

[0001] The present invention relates to a bed structure comprising a base container, a mattress base such as a mesh mattress base or a slatted mattress base or similar, and a reversible moving mechanism for moving the mattress base.

[0002] For several years, there have been mechanisms on the market that enable an end of the mattress base of a bed structure to be raised so as to enable the volume below to be accessed and to be used to place objects therein. Such bed structures comprise a mattress base supported in an articulated manner by a box container.

[0003] The mechanisms that enable the end of the mattress base to be lifted comprise an articulated quadrilateral and elastic elements or electric actuators that enable the mattress base and mattress to be lifted with minimum effort to thus give access to the container below the mattress base. These mechanisms, in order to permit easy access to the container, guide the mattress base, so as to tilt the mattress base, lifting only one end thereof.

[0004] Further, mechanical mechanisms are available on the market that enable the mattress base and mattress to be lifted parallel to the floor to enable the bed to be remade easily. In this manner, the mattress base and the mattress are sufficiently raised from the floor to enable a user to rearrange the blankets, maintaining a substantially erect position, avoiding the need to bend.

[0005] This vertical lifting of the mattress base, maintained in a horizontal position with respect to the floor, permits access to a possible container below, but, in view of the small height reached from the ground, access is limited and inconvenient.

[0006] Both the lifting mechanisms of the mattress base require a certain physical effort from the user, despite the help of elastic elements, to take the mattress base and mattress from a first to a second stable position, in other words from a closed position to an open position of the container and vice versa.

[0007] In the first stable position, the bed must not lift up on its own whereas in the second position the bed must not fall back to its initial position. For this reason, some mechanisms of this type also contemplate versions provided with electromechanical actuators, so as to lift the bed with nil effort.

[0008] Further, hybrid lifting mechanisms exist that enable the mattress base to be taken both to the tilted position and to the raised horizontal position.

[0009] For example, the patent for Italian utility model No 277112 discloses a mechanism that enables an end of the mattress base to be lifted with a first movement to access the volume below, and with a second movement enables the mattress base to be returned to the horizontal position but raised sufficiently to avoid the need to bend to remake the bed.

[0010] Known hybrid lifting mechanisms are assisted by elastic elements and must ensure three stable posi-

tions of the mattress base, a closed position and two open positions - tilted and horizontal. Also in this case, in order to take the mattress base from one stable position to the other, the intervention of a user is necessary, which entails a certain physical effort.

[0011] Moreover, the hybrid lifting mechanisms of known type have at least two degrees of freedom of movement that are activatable in succession that do not permit continuous movement of the mattress base between the three stable positions. In order to pilot this movement, elastic elements and the intervention of the user are envisaged. This makes the operation of the lifting mechanism difficult, not always foreseeable and susceptible to possible errors.

[0012] Further, by using hybrid lifting mechanisms of known type, the mattress base is moved to the stable open horizontal position protruding frontally beyond the volume of the box container of the bed structure. Accordingly, these bed structures have to be used in bedrooms that are sufficiently large to permit correct positioning of the mattress base in the stable open horizontal position.

[0013] US2009/255056 A1 and EP 2901895 A1 disclose a bed structure according to the preamble of claim 1.

[0014] The technical task of the invention is to overcome the limits set out above.

[0015] One object of the invention is to provide a bed structure comprising a reversible moving mechanism of the mattress base that enables the mattress base to be moved without requiring any effort by the user.

[0016] A further object of the invention is to provide a bed structure comprising a reversible moving mechanism of the mattress base that enables the mattress base to be moved with a single continuous one-way movement.

[0017] A further object of the invention is to provide a bed structure comprising a reversible moving mechanism of the mattress base that is usable in confined spaces.

[0018] A further object of the invention is to provide a bed structure comprising a reversible moving mechanism of the mattress base that is simple and intuitive to use.

[0019] The technical task, as well as these and other objects, are according to the present invention achieved by a bed structure having the characteristics set out in claim 1. Preferred features of the invention are set out in the dependent claims.

[0020] Further features and advantages of the invention will more fully emerge from the description of a preferred but non-exclusive embodiment of the bed structure according to the invention illustrated by way of non-limiting example in the attached drawings, in which:

figure 1 shows a perspective view of the bed structure according to the invention, complete with base container, mattress base in the lower horizontal position that supports a mattress;

figure 2 shows a perspective view of the bed structure according to the invention, complete with base container, mattress base in the tilted position that supports a mattress;

figure 3 shows a perspective view of the bed structure according to the invention, complete with base container and mattress base in the upper horizontal position;

figure 4 shows a sectional view of the bed structure according to the invention, complete with base container, mattress base in the lower horizontal position that supports a mattress;

figure 5 shows a sectional view of the bed structure according to the invention, complete with base container, mattress base in the tilted position that supports a mattress;

figure 6 shows a sectional view of the bed structure according to the invention, complete with base container, mattress base in the upper horizontal position that supports a mattress.

[0021] With particular reference to the figures, the bed structure indicated generically with number 1 comprises a base container 5 having an open top, a bed base 6 such as a mesh mattress base or a slatted mattress base or any other kind of mattress base that supports a mattress 7 and at least one reversible moving mechanism 2a, 2b of the mattress base 6.

[0022] The reversible moving mechanism 2a, 2b comprises reciprocally hinged levers connecting the mattress base 6 to the base container 5.

[0023] The reversible moving mechanism 2a, 2b moves the mattress base 6 from a lower closed horizontal position of the open top of the base container 5 to a tilted position of access to the volume bounded by the base container 5, and subsequently to an upper horizontal position distanced from the open top of the base container 5.

[0024] The reversible moving mechanism 2a, 2b has overall only one degree of freedom and has a first rotation-translation stroke of the mattress base 6 from the lower horizontal position to the tilted position, and a second rotation stroke of the mattress base 6 from the tilted position to the upper horizontal position.

[0025] The rotation of the mattress base 6 in the second rotation stroke is opposite the rotation of the mattress base 6 in the first rotation-translation stroke.

[0026] Advantageously, the bed structure 1 comprises a linear actuator 17 of the reversible moving mechanism 2a, 2b that moves the mattress base 6 between the lower horizontal position, the tilted position and the upper horizontal position.

[0027] The linear actuator 17 locks the mattress base 6 in any position reached between the lower horizontal position and the upper horizontal position.

[0028] In particular, the mattress base 6, when it is in the lower horizontal position, is supported by the upper edge of the base container 5 or alternatively it is supported by abutting elements 19 fixed to the inner walls of the

base container 5. In this manner, the reversible moving mechanism 2a, 2b is not stressed when the mattress base 6 is in the lower horizontal position.

[0029] In particular, the upper horizontal position of the mattress base 6 is achieved when the linear actuator 17 reaches the end of the extension stroke and the reversible moving mechanism 2a, 2b supports the weight of the mattress base 6, of the mattress and of the blankets.

[0030] Preferably, the linear actuator 17 is of electro-mechanical type, but it is possible to use indifferently a linear actuator of pneumatic type, hydraulic type, etc.

[0031] The linear actuator 17 is controlled by an opening button that drives the extension stroke and by a closing button that drives the retracting stroke.

[0032] Advantageously, the mattress base 6, and in particular the vertical projection thereof, is entirely contained inside the shape of the base container 5 in the lower horizontal position, in the tilted position and in the upper horizontal position.

[0033] Accordingly, the vertical projection of the mattress base 6 is entirely contained inside the shape of the base container 5 in any position reached between the lower horizontal position and the upper horizontal position.

[0034] In particular, the linear actuator 17 is hinged to the lever of the reversible moving mechanism 2a, 2b.

[0035] The bed structure 1 comprises a support plate 4 fixed to an inner wall of the base container 5 and an angular profile 8 fixed to the mattress base 6.

[0036] The levers of the reversible moving mechanism 2a, 2b connect the support plate 4 to the angular profile 8. Consequently, the levers connect the base container 5 to the mattress base 6.

[0037] In particular, the levers of the reversible moving mechanism 2a, 2b comprise a first curved lever 9 and a second lever 10 that are hinged to one another and, respectively, to the support plate 4 and to the angular profile 8.

[0038] It should be noted that the levers of the reversible moving mechanism 2a, 2b comprise a third lever 11 that has a first end hinged in an intermediate point of the second lever 10 and a second end hinged to the support plate 4.

[0039] In greater detail, the levers of the reversible moving mechanism 2a, 2b comprise a fourth curved lever 12 having a first end hinged to the support plate 4 together with the second end of the third lever 11.

[0040] In greater detail, the levers of the reversible moving mechanism 2a, 2b comprise a fifth lever 13 that has a first end hinged to a second end of the fourth lever 12 and a second end hinged to the angular profile 8.

[0041] The levers of the reversible moving mechanism 2a, 2b comprise a driving lever 14 that connects by hinges an intermediate point of the first lever 9 to an intermediate point of the fourth lever 12 (not shown in the figures).

[0042] Advantageously, alternatively (as represented in the figures), the driving lever 14 is hinged to an intermediate point of the first lever 9 and is connected to an

intermediate point of the fourth lever 12 and to an intermediate point of the third lever 11 respectively by a first and a second connecting rod 15, 16. In particular, the driving lever 14 is hinged at the same point to an end of the first connecting rod 15 and to an end of the second connecting rod 16. The first connecting rod 15 is hinged to an intermediate point of the fourth lever 12 and the second connecting rod 16 is hinged to an intermediate point of the third lever 11.

[0043] It should be noted that the linear actuator 17 is connected by hinges to an extension 18 of the support plate 4 and to the driving lever 14.

[0044] In particular, but not necessarily, the bed structure 1, according to the preferred embodiment of the invention, has two moving mechanisms 2a, 2b which are respectively fixed one to the right and one to the left of inner sides of the container 5 by respective support plates 4 and are connected to the mattress base 6 by corresponding connecting angular profiles 8.

[0045] The two reversible movement mechanisms 2a, 2b are the same and symmetrical to one another, as can be seen in figure 2.

[0046] Both the reversible movement mechanisms 2a, 2b comprise levers, as disclosed previously.

[0047] The bed structure 1 further comprises a synchronizing bar 3 that connects intermediate points of the first lever 9 of the two reversible movement mechanisms 2a, 2b.

[0048] The synchronizing bar is configured to stiffen the structure when the bed is raised and to synchronize the movements of the two reversible movement mechanisms 2a, 2b.

[0049] In one embodiment of the invention, there may be only one linear actuator 17, fitted on one of the two reversible movement mechanisms 2a, 2b. In this configuration, the synchronizing bar 3 has the task of transferring the movement of the first lever 9 of one of the two movement mechanisms 2a, 2b to the lever 9 of the other movement mechanism 2a, 2b.

[0050] In an alternative embodiment, two linear actuators 17 can be mounted, one for each of the two movement mechanisms 2a, 2b, so as to distribute the force necessary to each actuator 17 to drive the mechanisms 2a, 2b.

[0051] When the linear actuator 17 is activated in extension, it moves the driving lever 14, which in turn rotates the first lever 9 and the fourth lever 12.

[0052] The first lever 9 drives the second lever 10, which in turn, guided by the third lever 11, moves one end of the connecting angular profile 8.

[0053] The fourth lever 12 on the other hand, owing to the fifth lever 13, moves the intermediate point of the aforesaid connecting angular profile.

[0054] Consequently, a rotation-translation movement of the connecting angular profile takes place, and accordingly, also of the mattress base 6, which moves to the tilted access position with the volume bounded by the base container 5, shown in figure 5.

[0055] The rotation movement enables an end of the mattress base 6 to be lifted so as to give easy access to the container 5, whereas the translation movement enables the other end to be moved away from a possible headboard 20 of the bed structure 1. This enables the mattress not to interfere with the headboard 20, when this configuration is reached, as can be seen in figure 5.

[0056] From the tilted position of the mattress base 6, continuing with the extension stroke of the linear actuator 17, all the levers continue their own movement, but from this point on, they induce the connecting angular profile 8 to reverse the rotation direction and stop the translation, so as to take the mattress base 6 to the upper horizontal position and lifted as much as necessary for remaking the bed easily.

[0057] Advantageously, in this upper horizontal position, as can be seen in figure 6, the mattress base 6 leaves a sufficient space between the mattress 7 and headboard 20, to enable the hands to be inserted to rearrange the blankets but does not protrude beyond the volume of the closed bed so as to be able to be used in rooms of reduced space.

[0058] In this position, the actuator is at the maximum of the stroke and to prevent the actuator being urged beyond, a tooth 21 obtained on the drive lever 14 abuts against the third lever 11.

[0059] The opposite movement is obtained by driving the actuator in the opposite direction. The reversible moving mechanism 2a, 2b moves the mattress base 6 from the upper horizontal position to the tilted position, to then return to the lower closed horizontal position of the base container 5.

[0060] In one preferred embodiment, the reversible moving mechanism 2a, 2b comprises the two connecting rods 15 and 16. In this case, the linear actuator 17 driven in extension moves the driving lever 14, which in turn rotates the first lever 9 and the fourth lever 12 by means of the first connecting rod 15 and guided by the second connecting rod 16.

[0061] Advantageously, the presence of the first and the second connecting rod 15, 16 enables the force required by the actuator to be made more uniform during the entire actuator stroke.

[0062] Observing figures 4-6, it can be seen that the action of the driving lever 14 on the fourth lever 12 is operated by the second connecting rod 16, the direction of which with respect to the fourth lever 12 is influenced by the first rod 15.

[0063] The presence of the connecting rods 15, 16 enables the arm that generates the torque on the fourth lever 12 to be modified, extending the arm at the start and end of the movement and when the mattress base 6 is respectively in the lower horizontal position and in the upper horizontal position, and reducing the arm when the mattress base 6 is in the tilted position. Owing to the presence of the two connecting rods 15, 16, the force required to the linear actuator 17 is increased when the mattress base 6 is in a tilted position and is reduced when

the mattress base 6 is in the lower and upper horizontal positions. In this manner, the reversible moving mechanism 2a, 2b is less stressed, has greater actuating speed and greater reliability owing to the presence of the two connecting rods 15, 16.

[0064] The movement of the mattress base 6, owing to the fact that the reversible moving mechanism 2a, 2b has only one degree of freedom, is very intuitive and without possibility of errors by the user. To take the mattress base 6 to the tilted position, the user just has to keep an opening button pressed until the mattress base 6 has lifted sufficiently to permit access to the container below. From this point, to close the bed structure 1 again, the user just needs to keep a closing button pressed until the mattress base 6 has again reached the lower horizontal position.

[0065] When the user desires to lift the bed structure 1 to rearrange the blankets, the procedure to be followed is identical to the preceding procedure except that instead of stopping in the tilted position, the user has to continue to press the opening button until the mattress base 6 reaches the upper horizontal position.

[0066] Closing occurs in the same manner as previously disclosed. By passing through the tilted position of the mattress base 6, the user can decide to stop the movement by interrupting the interaction with the closing button, to place blankets or other objects inside the container again.

Claims

1. A bed structure (1) comprising a base container (5) having an open top, a mattress base (6) and at least one reversible moving mechanism (2a, 2b) for moving the mattress base (6) from a lower closed horizontal position of the open top of the base container (5) to a tilted position of access to the volume bounded by said base container (5), and subsequently to an upper horizontal position distanced from the open top of said base container (5), said reversible moving mechanism (2a, 2b) comprising reciprocally hinged levers connecting said mattress base (6) to said base container (5), said reversible moving mechanism (2a, 2b) having overall only one degree of freedom, a first rotation-translation stroke of the mattress base (6) from said lower horizontal position to said tilted position, and a second rotation stroke of the mattress base (6) from said tilted position to said upper horizontal position, in which the rotation of the mattress base (6) in said second rotation stroke is opposite the rotation of the mattress base (6) in said first rotation-translation stroke, said bed structure comprising a linear actuator (17) of said reversible moving mechanism (2a, 2b) that moves said mattress base (6) between said positions and locks said mattress base (6) in the position reached, **characterized in that** the vertical projection of said mattress base (6)

in all said positions is entirely contained inside the shape of said base container (5).

2. The bed structure (1) according to any preceding claim, **characterized in that** said linear actuator (17) is hinged on a lever of said mechanism (2a, 2b).
3. The bed structure (1) according to any preceding claim, **characterized in that** said levers connect a support plate (4) fixed to an inner wall of said base container (5) to an angular profile (8) fixed to said mattress base (6).
4. The bed structure (1) according to preceding claim, **characterized in that** said levers comprise a first curved lever (9) and a second lever (10) that are hinged on one another and respectively on the support plate (4) and the angular profile (8).
5. The bed structure (1) according to preceding claim, **characterized in that** said levers comprise a third lever (11) having a first end hinged in an intermediate point of the second lever (10) and a second end hinged on the support plate (4).
6. The bed structure (1) according to preceding claim, **characterized in that** said levers comprise a fourth curved lever (12) having a first end hinged on the support plate (4) together with the second end of the third lever (11).
7. The bed structure (1) according to preceding claim, **characterized in that** said levers comprise a fifth lever (13) having a first end hinged on a second end of the fourth lever (12) and a second end hinged on the angular profile (8).
8. The bed structure (1) according to preceding claim, **characterized in that** said levers comprise a driving lever (14) that connects an intermediate point of the first lever (9) to the ends of a first connecting rod (15) and a second connecting rod (16) connected by a hinge respectively to an intermediate point of the fourth lever (12) and to an intermediate point of the third lever (11).
9. The bed structure (1) according to claim 7, **characterized in that** said levers comprise a driving lever (14) that connects by hinges an intermediate point of the first lever (9) to an intermediate point of the fourth lever (12).
10. The bed structure (1) according to any claim from 4 to 9, **characterized in that** said linear actuator (17) is connected by hinges to an extension (18) of said support plate (4) and to said driving lever (14).
11. The bed structure according to any claim from 4 to

10, **characterized in that** it comprises two symmetrical reversible movement mechanisms (2a, 2b) and a synchronizing bar (3) that connects intermediate points of the first lever (9) of said two reversible movement mechanisms (2a, 2b).

Patentansprüche

1. Bettstruktur (1), umfassend einen Basisbehälter (5) aufweisend eine offene Oberseite, eine Matratzenbasis (6) und mindestens einen reversiblen Bewegungsmechanismus (2a, 2b) zum Bewegen der Matratzenbasis (6) von einer unteren geschlossenen horizontalen Position der offenen Oberseite des Basisbehälters (5) zu einer geneigten Position von Zugang zu dem durch den Basisbehälter (5) begrenzten Volumen und anschließend zu einer oberen horizontalen Position, die von der offenen Oberseite des Basisbehälters (5) beabstandet ist, wobei der reversible Bewegungsmechanismus (2a, 2b) wechselseitig angelenkte Hebel umfasst, die die Matratzenbasis (6) mit dem Basisbehälter (5) verbinden, wobei der reversible Bewegungsmechanismus (2a, 2b) insgesamt nur einen Freiheitsgrad, einen ersten Drehübersetzungshub der Matratzenbasis (6) von der unteren horizontalen Position in die geneigte Position und einen zweiten Drehhub der Matratzenbasis (6) von der geneigten Position in die obere horizontale Position aufweist, wobei die Drehung der Matratzenbasis (6) in dem zweiten Drehhub der Drehung der Matratzenbasis (6) in dem ersten Drehübersetzungshub entgegengesetzt ist, wobei die Bettstruktur einen linearen Aktuator (17) des reversiblen Bewegungsmechanismus (2a, 2b) umfasst, der die Matratzenbasis (6) zwischen den Positionen bewegt und die Matratzenbasis (6) in der erreichten Position festspannt, **dadurch gekennzeichnet, dass** die vertikale Projektion der Matratzenbasis (6) in allen Positionen vollständig innerhalb der Form des Basisbehälters (5) enthalten ist.
2. Bettstruktur (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** der lineare Aktuator (17) an einem Hebel des Mechanismus (2a, 2b) angelenkt ist.
3. Bettstruktur (1) nach einem der vorhergehenden Ansprüche, **dadurch gekennzeichnet, dass** die Hebel eine Stützplatte (4), die an einer Innenwand des Basisbehälters (5) befestigt ist, mit einem Winkelprofil (8) verbinden, das an der Matratzenbasis (6) befestigt ist.
4. Bettstruktur (1) nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** die Hebel einen ersten gekrümmten Hebel (9) und einen zweiten Hebel (10) umfassen, die aneinander und jeweils

an der Stützplatte (4) und dem Winkelprofil (8) angelenkt sind.

5. Bettstruktur (1) nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** die Hebel einen dritten Hebel (11) umfassen, der ein erstes Ende, das an einem Zwischenpunkt des zweiten Hebels (10) angelenkt ist, und ein zweites Ende aufweist, das an der Stützplatte (4) angelenkt ist.
6. Bettstruktur (1) nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** die Hebel einen vierten gekrümmten Hebel (12) umfassen, der ein erstes Ende aufweist, das zusammen mit dem zweiten Ende des dritten Hebels (11) an der Stützplatte (4) angelenkt ist.
7. Bettstruktur (1) nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** die Hebel einen fünften Hebel (13) umfassen, der ein erstes Ende, das an einem zweiten Ende des vierten Hebels (12) angelenkt ist, und ein zweites Ende aufweist, das an dem Winkelprofil (8) angelenkt ist.
8. Bettstruktur (1) nach dem vorhergehenden Anspruch, **dadurch gekennzeichnet, dass** die Hebel einen Antriebshebel (14), der einen Zwischenpunkt des ersten Hebels (9) mit den Enden einer ersten Verbindungsstange (15) verbindet, und eine zweite Verbindungsstange (16) umfassen, die durch ein Scharnier jeweils mit einem Zwischenpunkt des vierten Hebels (12) und mit einem Zwischenpunkt des dritten Hebels (11) verbunden ist.
9. Bettstruktur (1) nach Anspruch 7, **dadurch gekennzeichnet, dass** die Hebel einen Antriebshebel (14) umfassen, der durch Scharniere einen Zwischenpunkt des ersten Hebels (9) mit einem Zwischenpunkt des vierten Hebels (12) verbindet.
10. Bettstruktur (1) nach einem der Ansprüche 4 bis 9, **dadurch gekennzeichnet, dass** der lineare Aktuator (17) durch Scharniere mit einer Verlängerung (18) der Stützplatte (4) und mit dem Antriebshebel (14) verbunden ist.
11. Bettstruktur nach einem der Ansprüche 4 bis 10, **dadurch gekennzeichnet, dass** sie zwei symmetrische reversible Bewegungsmechanismen (2a, 2b) und eine Synchronisierstange (3) umfasst, die Zwischenpunkte des ersten Hebels (9) der beiden reversiblen Bewegungsmechanismen (2a, 2b) verbindet.

Revendications

1. Structure de lit (1), comprenant un coffre de base (5)

- comportant un sommet ouvert, un sommier (6) et au moins un mécanisme de déplacement réversible (2a, 2b) pour déplacer le sommier (6) d'une position horizontale inférieure fermée du sommet ouvert du coffre de base (5) à une position inclinée d'accès au volume délimité par ledit coffre de base (5), et ensuite à une position horizontale supérieure éloignée du sommet ouvert dudit coffre de base (5), ledit mécanisme de déplacement réversible (2a, 2b) comprenant des leviers montés articulés réciproquement reliant ledit sommier (6) audit coffre de base (5), ledit mécanisme de déplacement réversible (2a, 2b) ayant globalement un seul degré de liberté, une première course de rotation-translation du sommier (6) de ladite position horizontale inférieure à ladite position inclinée, et une seconde course de rotation du sommier (6) de ladite position inclinée à ladite position horizontale supérieure, dans laquelle la rotation du sommier (6) dans ladite seconde course de rotation est opposée à la rotation du sommier (6) dans ladite première course de rotation-translation, ladite structure de lit comprenant un actionneur linéaire (17) dudit mécanisme de déplacement réversible (2a, 2b) qui déplace ledit sommier (6) entre lesdites positions et verrouille ledit sommier (6) dans la position atteinte, **caractérisée en ce que** la projection verticale dudit sommier (6) dans toutes lesdites positions est entièrement contenue à l'intérieur de la forme dudit coffre de base (5).
2. Structure de lit (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** ledit actionneur linéaire (17) est monté articulé sur un levier dudit mécanisme (2a, 2b).
 3. Structure de lit (1) selon l'une quelconque des revendications précédentes, **caractérisée en ce que** lesdits leviers relient une plaque de support (4) fixée à une paroi intérieure dudit coffre de base (5) à un profil angulaire (8) fixé audit sommier (6).
 4. Structure de lit (1) selon la revendication précédente, **caractérisée en ce que** lesdits leviers comprennent un premier levier incurvé (9) et un deuxième levier (10) qui sont montés articulés l'un sur l'autre et respectivement sur la plaque de support (4) et le profil angulaire (8).
 5. Structure de lit (1) selon la revendication précédente, **caractérisée en ce que** lesdits leviers comprennent un troisième levier (11) comportant une première extrémité montée articulée dans un point intermédiaire du deuxième levier (10) et une deuxième extrémité montée articulée sur la plaque de support (4).
 6. Structure de lit (1) selon la revendication précédente, **caractérisée en ce que** lesdits leviers comprennent un quatrième levier incurvé (12) comportant une première extrémité montée articulée sur la plaque de support (4) conjointement à la deuxième extrémité du troisième levier (11).
 7. Structure de lit (1) selon la revendication précédente, **caractérisée en ce que** lesdits leviers comprennent un cinquième levier (13) comportant une première extrémité montée articulée sur une deuxième extrémité du quatrième levier (12) et une deuxième extrémité montée articulée sur le profil angulaire (8).
 8. Structure de lit (1) selon la revendication précédente, **caractérisée en ce que** lesdits leviers comprennent un levier d'entraînement (14) qui relie un point intermédiaire du premier levier (9) aux extrémités d'une première bielle (15) et d'une deuxième bielle (16) reliées par une articulation respectivement à un point intermédiaire du quatrième levier (12) et à un point intermédiaire du troisième levier (11).
 9. Structure de lit (1) selon la revendication 7, **caractérisée en ce que** lesdits leviers comprennent un levier d'entraînement (14) qui relie par des charnières un point intermédiaire du premier levier (9) à un point intermédiaire du quatrième levier (12).
 10. Structure de lit (1) selon l'une quelconque des revendications de 4 à 9, **caractérisée en ce que** ledit actionneur linéaire (17) est relié par des charnières à une extension (18) de ladite plaque de support (4) et audit levier d'entraînement (14).
 11. Structure de lit selon l'une quelconque des revendications 4 à 10, **caractérisée en ce qu'elle** comprend deux mécanismes de mouvement réversible symétriques (2a, 2b) et une barre de synchronisation (3) qui relie des points intermédiaires du premier levier (9) desdits deux mécanismes de mouvement réversible (2a, 2b).

FIGURE 1

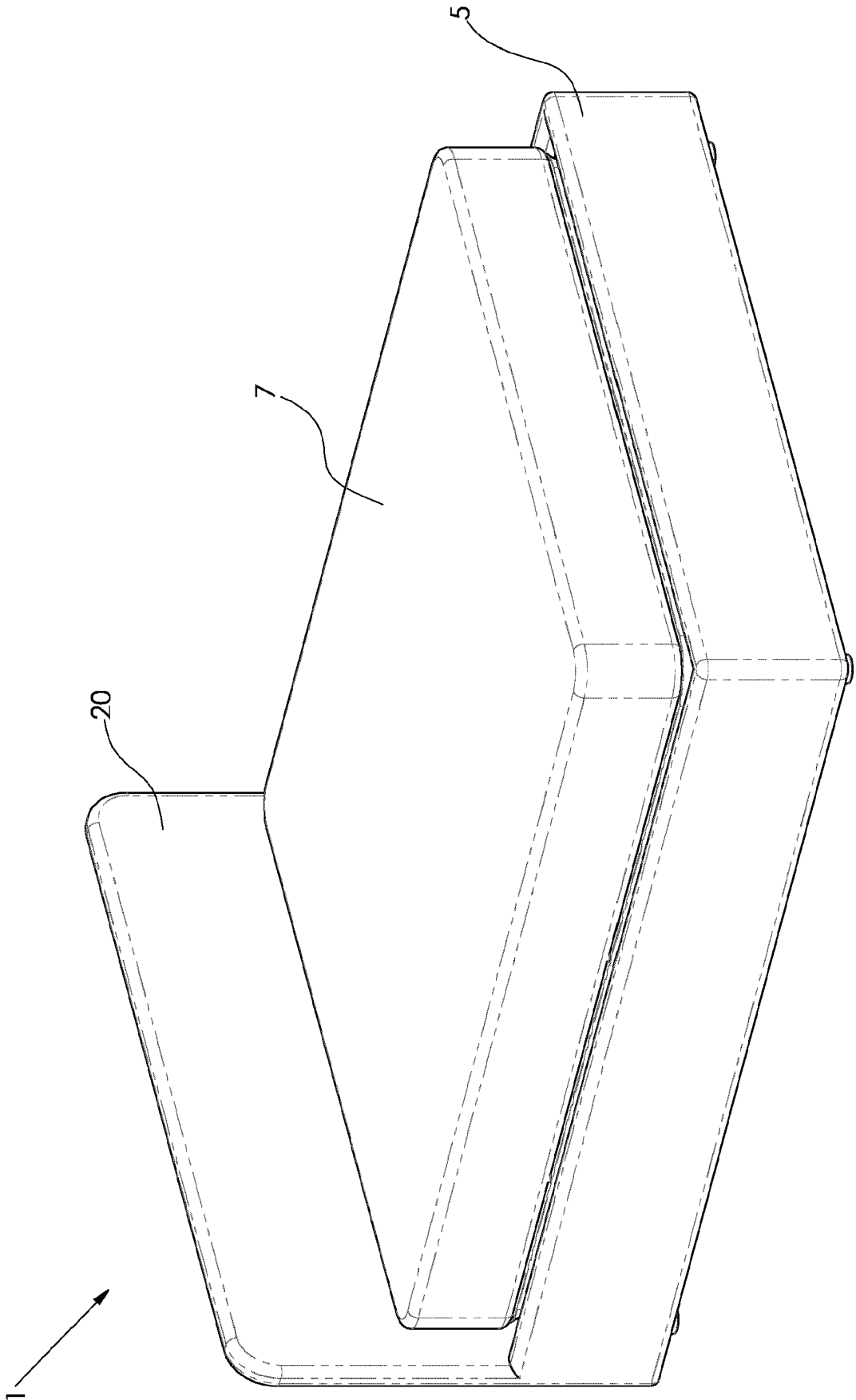


FIGURE 2

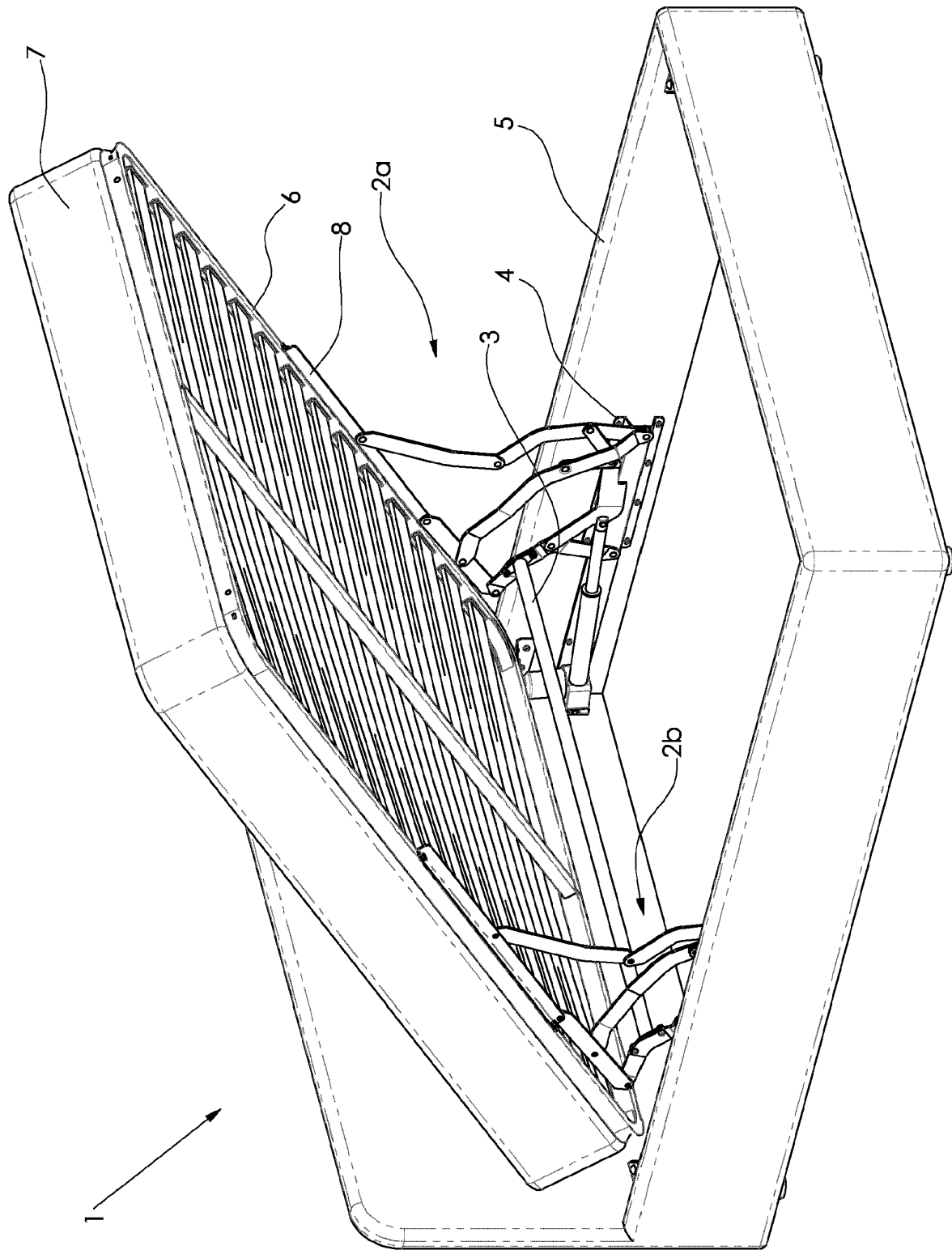


FIGURE 3

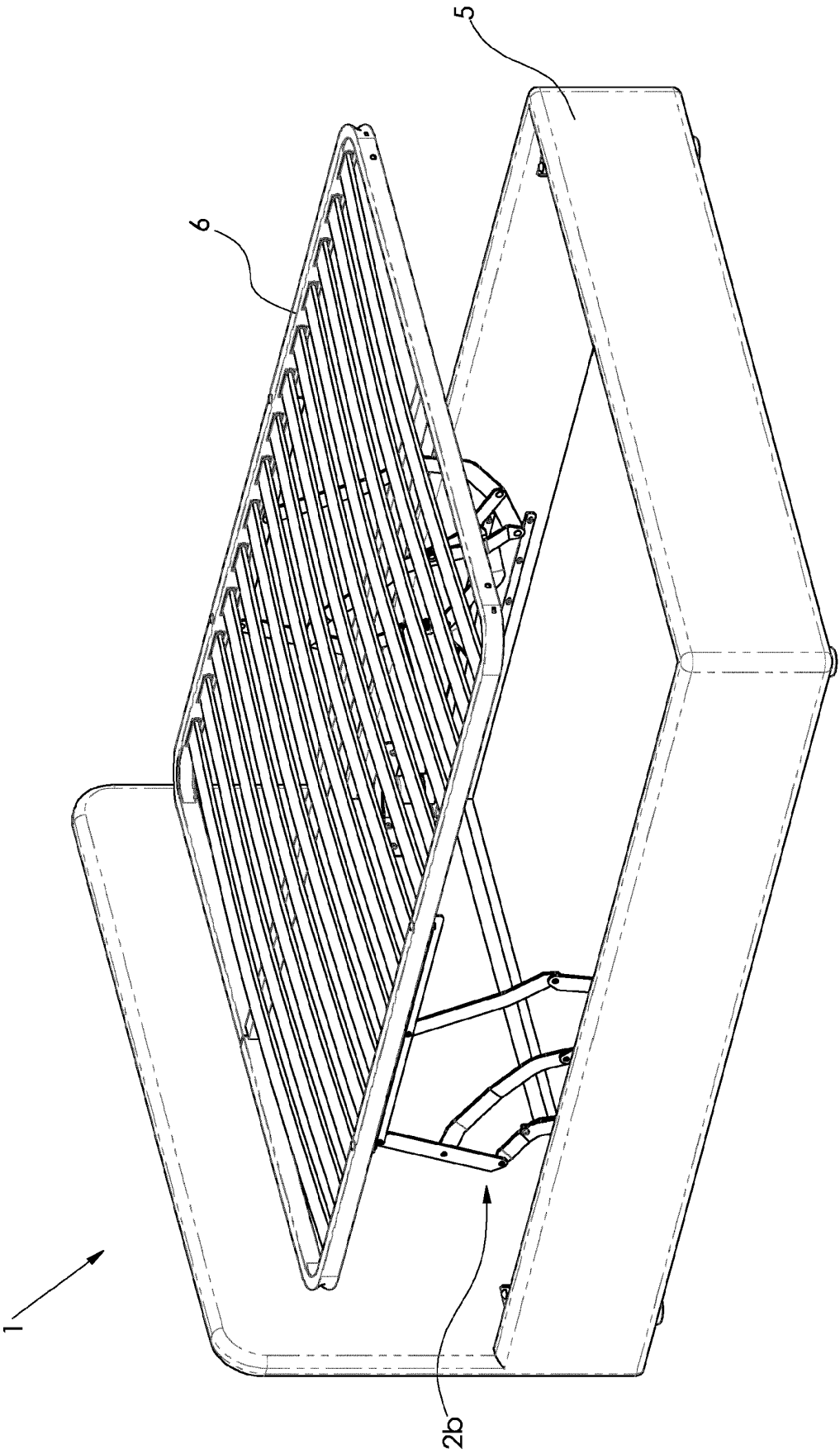


FIGURE 4

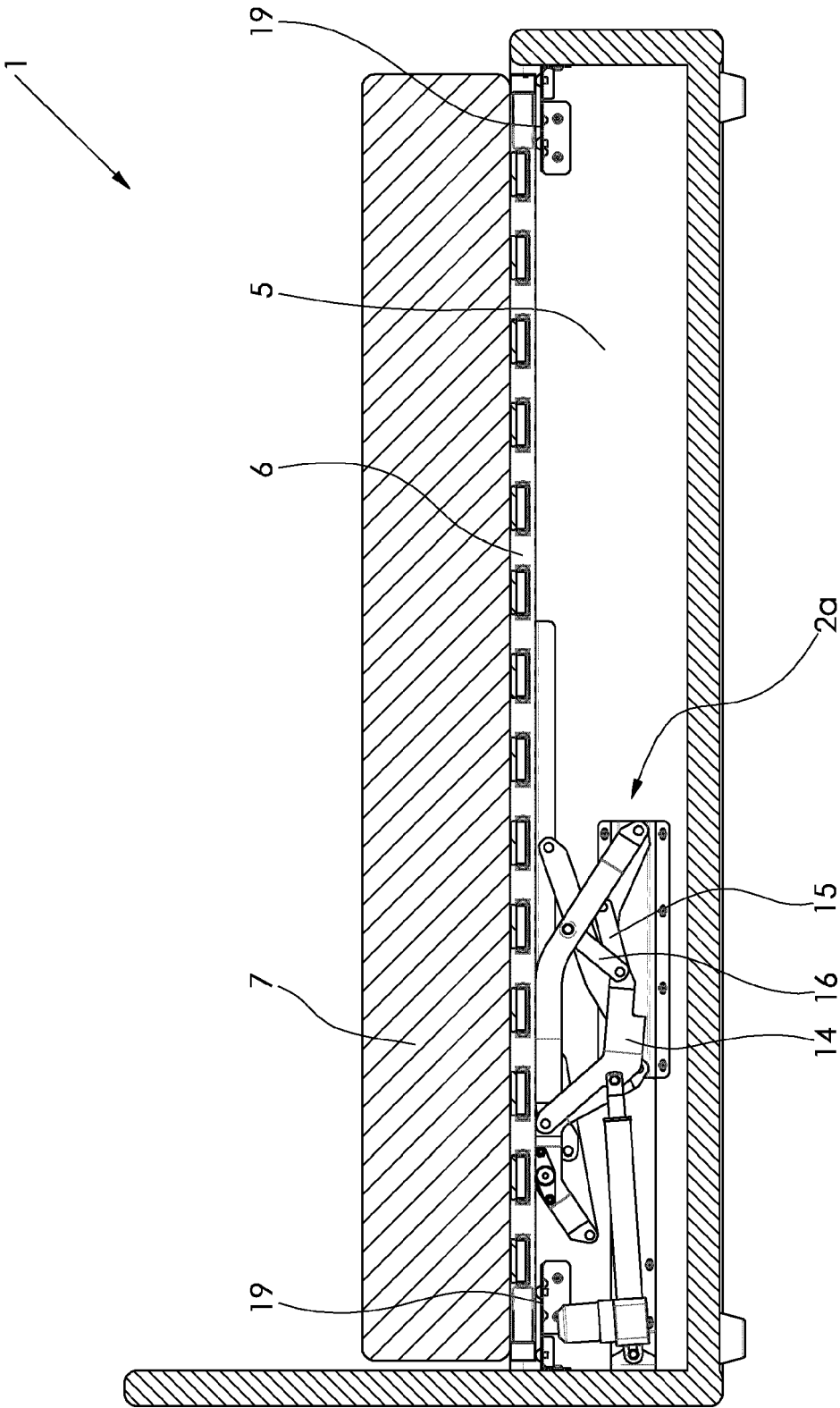


FIGURE 5

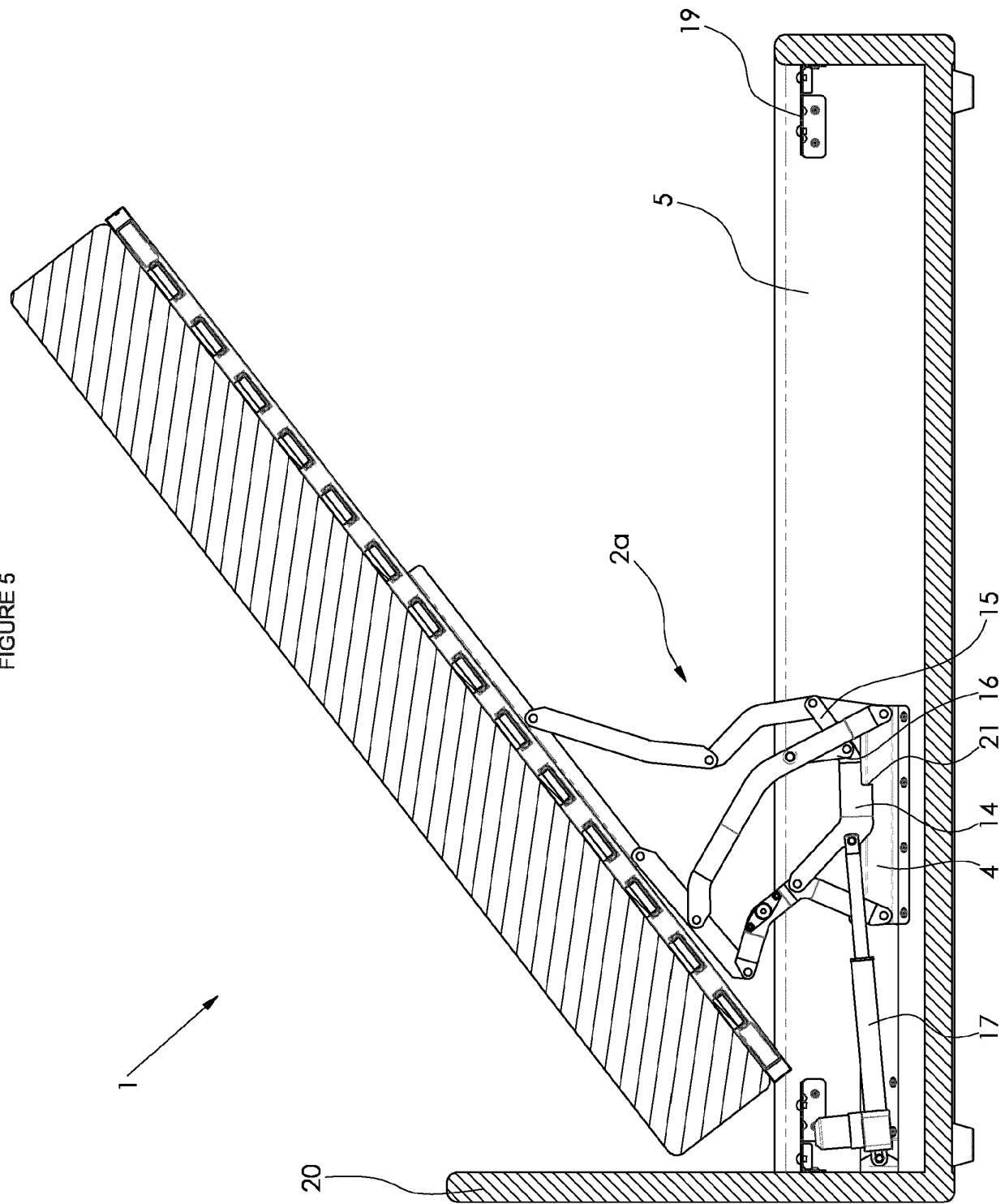
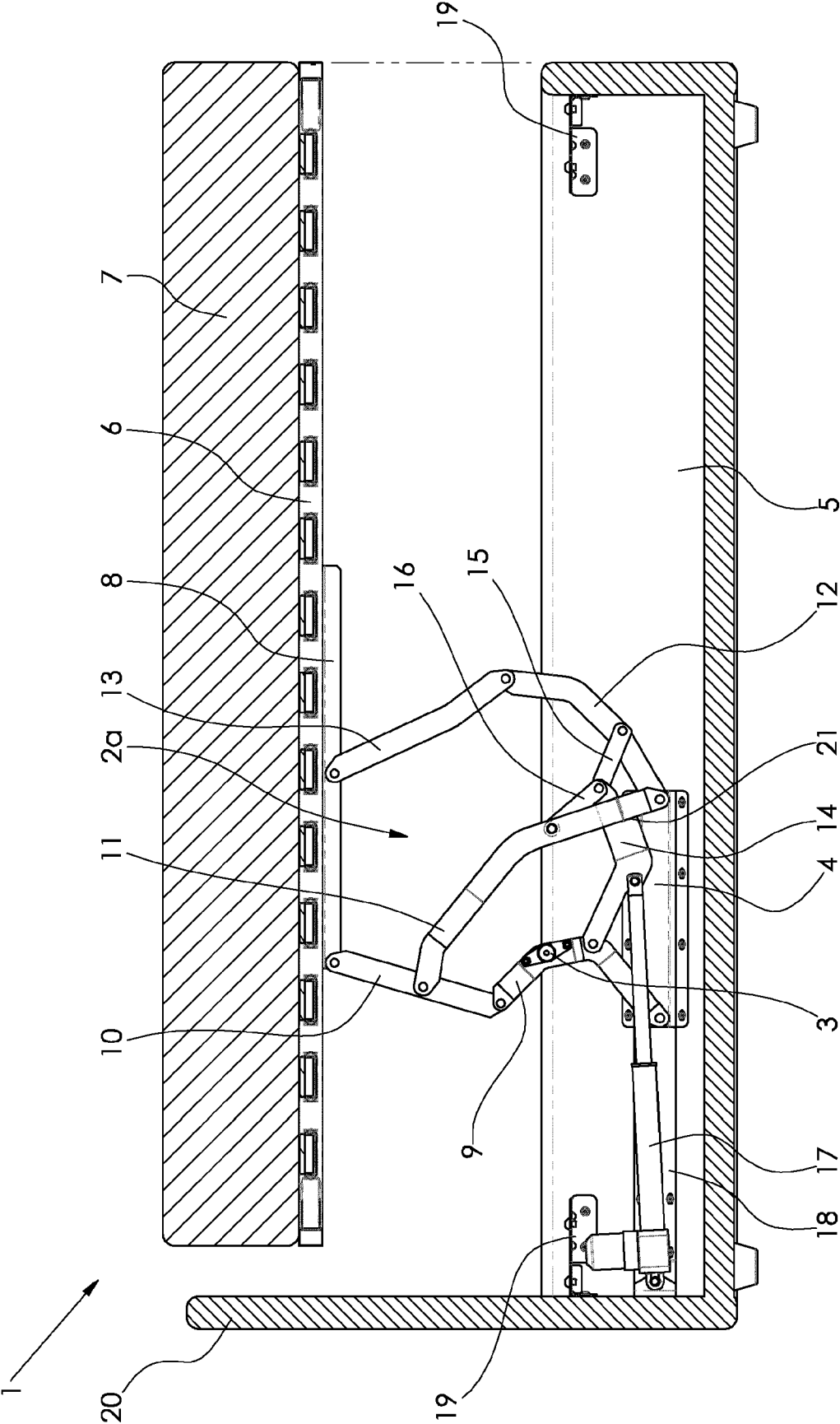


FIGURE 6



REFERENCES CITED IN THE DESCRIPTION

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