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(54) **FURNITURE**

(57) Furniture (1) comprising a supporting portion (2) which is movable up and down between a base position and a rising position and comprising wheels (3), wherein the furniture (1) comprises a brake system with a basic brake device comprising a brake element (4) to prevent rotation of the wheels (3), wherein this brake element (4) is to this end displaceable between a rotation position and a braking position, wherein the brake system furthermore comprises a second brake device with a blocking element (5, 6), wherein this blocking element (5, 6) is connected to the brake element (4) and can assume at least a first state and a second state, wherein, in the first state, the brake element (4) is freely movable between its rotation position and braking position, and wherein, in the second state, the brake element (4) is held in its braking position, and wherein the transition between the first and the second state of the blocking element (5, 6) is coupled to the movement of the supporting portion (2) between its base position and the rising position.

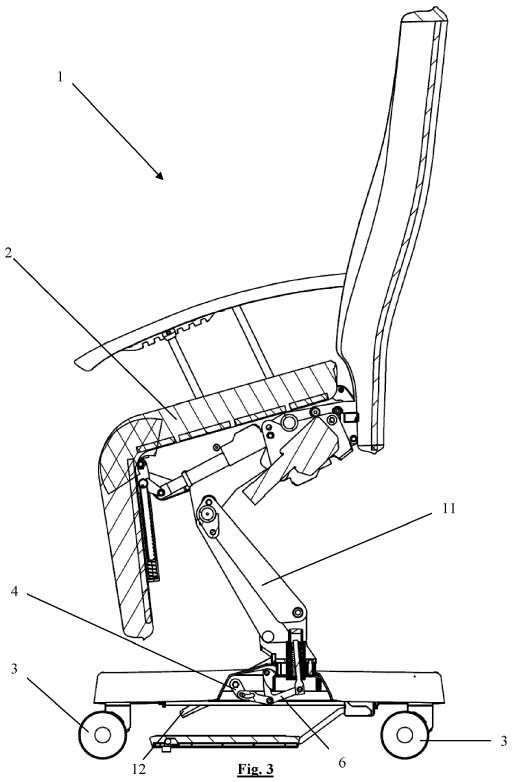

Fig. 3

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Description

[0001] The present invention relates to a furniture comprising a supporting portion which is movable up and down between a base position and a rising position in order to assist a person when getting up from the furniture and comprising several wheels, each of which is rotatable about a respective axis of rotation for moving the furniture, wherein the furniture comprises a brake system to prevent the rotation of one or several of said wheels about their respective axis of rotation, wherein the brake system comprises a basic brake device with a brake element to prevent rotation of at least one said wheel about its axis of rotation, wherein this brake element is to this end displaceable between a rotation position in which said at least one wheel is arranged so as to be rotatable about its axis of rotation, and a braking position in which the rotation of said at least one wheel about its axis of rotation is prevented.

[0002] There are several types of furniture which is able to assist people when getting up from the furniture. This is usually accomplished by means of a supporting portion which is movable up and down between a base position and a rising position. This up and down movement can be achieved by a rotation about a horizontally extending axis, or can be achieved by moving the supporting portion up and down parallel to the floor. Preferably, however, the up and down movement is a combination of a movement of the entire or a part of the supporting portion upwards and a rotation about a horizontal axis in order thus to bring the supporting portion at an angle to a horizontal surface. The up and down movement is usually carried out by means of a high/low system which is able to cause for example (a part of) the frame of a supporting portion to move upwards and/or to rotate. The furniture may be, for example, a seating unit in which the supporting portion is then for example a seat part. However, the furniture may also be a bed device in which the supporting portion is then, for example, a mattress portion in which the base position then is, for example, the reclined position in which the mattress portion extends virtually horizontally or at a slight incline and in which, in the rising position, a part of the mattress portion is directed obliquely upwards.

[0003] For furniture which is not provided with wheels, the movement from the base position to the rising position does not cause any problems, since the furniture cannot start to move in this case. However, for furniture comprising wheels, it is very important that when a person gets up from the furniture, during the transition from the base position to the rising position and/or when the furniture is in the rising position, said furniture does not start to move, in order to prevent the person who wants to get up from falling over. Such furniture therefore has to be provided with a brake system by means of which one or several of the wheels can be braked in order thus to prevent the furniture from moving while a person is getting up. The problem which occurs with existing furniture is that, before a person can get up, the wheels have to be put in their braking position and/or it has to be checked if the wheels are already braked. If this is forgotten, there is a risk that the wheels are not braked and that the furniture may therefore move when a person is getting up and the latter may fall over.

[0004] It is therefore an object of the present invention to provide a furniture with a supporting portion which is movable up and down between a base position and a rising position, and with wheels, in which the risk of someone falling over when getting up from this furniture is reduced.

[0005] This object is achieved by providing a furniture as described in the first paragraph of this description wherein the brake system furthermore comprises a second brake device with a blocking element, wherein this blocking element is connected to the brake element and can assume at least a first state and a second state, wherein, in the first state, the brake element is freely movable between its rotation position and braking position, and wherein, in the second state, the brake element is held in its braking position by the blocking element and wherein the transition between the first and the second state of the blocking element is coupled to the movement of the supporting portion between its base position and the rising position in such a way that, in the base position, the blocking element is in the first state, in the rising position, the blocking element is in the second state and that, during the movement of the supporting portion from the base position to the rising position, the blocking element moves from the first state to the second state in order thus to bring or hold the brake element in its braking position. When the blocking element moves from the first state to the second state, this blocking element preferably exerts a force on the brake element in order thus to bring or hold the brake element in its braking position.

[0006] Here, this second brake device thus always ensures that, in the rising position of the supporting portion, the required one or several wheels are prevented from rotating about their axis of rotation. This is because, in the rising position, the blocking element is in its second state and the brake element is in its braking position and cannot go to its rotation position. The furniture is prevented from moving in the rising position in this case and, in addition, while moving the supporting portion from the base position to the rising position, the blocking element preferably exerts a force on the brake element in order thus to bring or hold the brake element in its braking position, as a result of which it is always ensured that a person can get up from the furniture in a safe manner during the transition of the supporting portion from the base position to the rising position and/or when the supporting portion is in the rising position. It is therefore not necessary in this case to think about braking the wheels before getting up. The only action that is required is to bring the supporting portion to its rising position. This furniture is therefore very safe.

[0007] When the supporting portion is in the base po-

sition and the brake element is in the rotation position, it is possible to move the furniture. In this case, the blocking element is in the first state, as the supporting portion is in the base position. If a person then wishes to get up, the supporting portion is brought to its rising position, as a result of which the blocking element will then move to its second state and consequently bring the brake element to its braking position. Said at least one wheel is prevented from rotating, as a result of which the furniture is prevented from moving and a person can safely get up from the supporting portion.

[0008] When the supporting portion is in the base position and the brake element is in the braking position, the furniture cannot start to move. In this case, the blocking element is in the first state, since the supporting portion is in the base position. If a person then wishes to get up, the supporting portion is brought to its rising position, as a result of which the blocking element will move to its second state and will consequently prevent the brake element from moving to its rotation position. Said at least one wheel is prevented from rotating, as a result of which the furniture is prevented from moving and a person can safely get up from the supporting portion.

[0009] Preferably, the blocking element exerts a pulling force on the brake element in the second state, as a result of which the brake element cannot move to its rotation position. In an alternative embodiment, the blocking element may exert a pushing force on the brake element in the second state, as a result of which the brake element cannot move to its rotation position.

[0010] The transition between the first and the second state of the blocking element can be coupled to the movement of the supporting portion between its base position and the rising position in various ways. Thus, the blocking element may be a cable and the brake element may be a cam, one end of which is rotatable about a horizontally extending axis in use and the other end of which is connected to the one end of the cable, wherein said positions of the brake element are then two rotation positions. The cable then exerts, for example, a pulling force on the brake element during the transition between the first and the second state and thus brings the brake element to its braking position or holds the brake element in its braking position. The other end of the cable may then be directly connected to the supporting portion, so that an upward movement of the supporting portion also results in a movement of the cable. Thus, the cable may be connected to the seat frame if the furniture is a seating unit, in which case this seat frame is then movable up and down by means of a high/low system. The other end of the cable may also be connected to a component which is movable up and down due to the up and down movement of the supporting portion. Thus, the second brake device comprises, for example, a driving portion, wherein the blocking element is coupled to this driving portion, and this driving portion is displaceable due to the up and down movement of the supporting portion. This component, being the driving portion, may comprise or be, for example, a resilient and/or elastic element, for example an upright spring, such as a hydraulic cylinder, a gas spring, a pressure buffer or a pressure spring which is compressed by the supporting portion in the base position and which is then not compressed, or to a lesser extent, by the supporting portion in the rising position. The driving portion may also comprise or be a draw spring, a draw buffer or a rubber band. The cable may also be connected to a component of the high/low system. It is also possible to use one or several interconnected rods instead of a cable. A cable can be very compact and requires little maintenance.

[0011] In a preferred embodiment, the second brake device comprises an upright spring, wherein, in the base position of the supporting portion, the spring is compressed and the spring is not compressed, or to a lesser degree, in the rising position of the supporting portion, so that the top side of the spring is upwardly displaceable by the transition of the supporting portion from the base position to the rising position, and wherein the transition between the first and the second state of the blocking element is coupled to the movement of the spring. The term spring denotes, for example, a resilient and/or elastic element which is able to store mechanical energy, such as a hydraulic cylinder, a gas spring, a pressure buffer, an air bellows or a pressure spring. This spring can thus also be referred to by the following terms: resilient element, elastic element or elastic object. This spring is, for example, a compressible element. This spring may, for example, be directly or indirectly compressed by the supporting portion and/or may be directly or indirectly compressed by a component of the high/low system if a high/low system is used to move the supporting portion between its said positions. The transition between the first and the second state of the blocking element is coupled to the movement of the spring. This upright spring preferably extends between the brake element and the supporting portion. In order to be able to assist a person well when getting up, the supporting portion performs a relatively large movement between the base position and the rising position. By using a spring in this case which is, for example, not compressed in the rising position, the transition between the first state and the second state can be coupled to a less large movement, because the top side of the spring can only perform a movement which is smaller than that of the supporting portion. As a result, it is easy to provide a blocking element which is directly or indirectly connected to the spring or is connected to a component which rests on the spring, in such a way that the blocking element does not perform an excessively large movement during transition from the first state and the second state and this blocking element is then also suitable to bring or hold the brake element in its braking position. A spring is also readily capable of exerting a large force in a relatively short time, so that the brake element is virtually immediately brought or held in its braking position during the transition between the base position and the rising position. It is also readily possible

to provide a strong spring, as the supporting portion has a certain weight and it is not necessary for lighter items to be able to compress this spring. Providing a strong spring also prevents the brake element from still moving from the braking position into the rotation position after the supporting portion is in its rising position. This upright spring may be, for example, a coiled pressure spring.

[0012] Furthermore preferably, the upright spring extends below the supporting portion, in which case this supporting portion rests directly or indirectly on the spring in the base position of the supporting portion and thus compresses the spring and that the spring is not compressed, or to a lesser degree, by the supporting portion in the rising position. This supporting portion may, for example, rest directly on the spring or on an element which rests on the spring. In order to move the supporting portion between its said positions, the furniture may feature a high/low system, in which the supporting portion then rests, for example, on the high/low system and this high/low system is then able to move the supporting portion up and down between its two positions. A component of the high/low system may then be configured to rest on the spring and thus to compress the spring in the base position of the supporting portion, while this component then no longer rests on the spring in the rising position and the spring is thus no longer compressed in the rising position. Said component may optionally contribute to supporting the supporting portion.

[0013] Also furthermore preferably, the second brake device comprises a driving element which rests directly or indirectly on top of the upright spring, wherein the blocking element is connected to this driving element, so that the transition between the first and the second state of the blocking element is coupled to the up and down movement of the top side of the spring. The blocking element may, for example, comprise a cable or one or several interconnected rods, wherein the one end is then connected, for example, to the brake element and the other end is connected to the driving element.

[0014] Furthermore, still more preferably, the second brake device comprises a holding part which rests on top of the upright spring, wherein this holding part comprises a receiving space in which the driving element is accommodated, wherein for example in the base position of the supporting portion, this supporting portion rests on the holding part and thus compresses the spring.

[0015] Furthermore, still more preferably and when the blocking element is a cable, the second brake device comprises a tension spring, wherein this tension spring is accommodated in the receiving space and the driving element rests on this tension spring, wherein, in the first state of the cable, this tension spring is configured to tension the cable and to allow the brake element to be moved between its braking position and rotation position. Here, this tension spring is then preferably a spring which is less strong than said upright spring. This tension spring prevents the cable from hanging too loose and consequently becoming entangled and/or touching the ground when moving the furniture. As an alternative, it would also be possible to use a winding mechanism, wherein this winding mechanism is configured to wind up a part of the cable in the first state of the blocking element.

[0016] In a specific embodiment, the basic brake device comprises a transmission mechanism which is connected to the brake element and to at least two of said several wheels, in order to transmit the movement of the brake element to these at least two wheels. Here, the brake element is then preferably a driving cam which is configured to drive at least two wheels and is preferably configured to drive all wheels. All are preferably brakable, in which case then, in the braking position of the brake element, the rotation of all wheels about their axis of rotation is prevented. Here, this brake element is then, for example, a rod-shaped element, one end of which is hingeably arranged and the other end of which is connected to the blocking element, so that this brake element is hinged/rotated between the braking position and the rotation position.

[0017] Preferably, said at least one wheel is additionally arranged so as to be rotatable about a second axis in order to change the direction of movement of the wheel, wherein the brake element is displaceable between at least three positions, being said rotation position, wherein said wheel is additionally arranged so as to be rotatable about its second axis in order to change the direction of movement of the wheel, said braking position and a fixing position, wherein said wheel is arranged so as to be rotatable about its axis of rotation in order to move the wheel and prevent the rotation of said wheel about the second axis. Here, the axis of rotation is then the axis which makes it possible to move the wheel on the floor. Here, this axis of rotation preferably extends parallel to the floor on which the furniture rests. The second axis is the axis which causes the direction of travel of the wheel to be changeable. This second axis extends, for example, at right angles to the floor on which the furniture rests. Preventing the rotation about the second axis makes it possible to move the furniture in a straight line more easily. This is also referred to as fixing the direction of travel in the fixing position. In this case, a suitable transmission mechanism is then provided, so that preventing said rotations is always transmitted well during the transition between said positions of the brake element. The rotation position may extend, for example, between the fixing position and the braking position. If the basic brake device comprises a transmission mechanism which is connected to the brake element and to at least two of said several wheels in order to transmit the movement of the brake element to these at least two wheels, these two wheels may additionally be arranged so as to be rotatable about a second axis in order to change the direction of movement of the wheels, in which case the brake element is displaceable between said at least three positions. As a result thereof, the direction of travel of two wheels can be fixed. This makes it more readily possible to move the furniture in a straight line in a simple manner.

[0018] In a highly preferred embodiment, said brake element is a central brake element which is configured to prevent the rotation of all said wheels about their respective axis of rotations, wherein, in the rotation position, all said wheels are arranged so as to be rotatable about their axis of rotation in order to move the wheels and, in the braking position, so as to prevent the rotation of all wheels about their respective axis of rotations. Here, the brake element is then preferably connected to a suitable transmission mechanism which is connected to all wheels. This transmission mechanism may comprise, for example, several rods.

[0019] Preferably, the basic brake device comprises a brake pedal for mechanically driving the movement of the brake element between its said positions in the first state of the blocking element. In this way, it is easily possible to adjust the position of the brake element when the supporting portion is in the base position. The brake element may be connected, for example, to a physical axis which is arranged so as to be rotatable, wherein the movement of the brake element between its positions produces a corresponding rotation of this physical axis, wherein this brake pedal is then connected to this physical axis and this physical axis will start to rotate when the brake pedal is moved down or up, thus also moving the brake element between its respective positions.

[0020] In a highly preferred embodiment, the furniture comprises an underframe, wherein this underframe comprises said wheels and the basic brake device, and wherein the furniture comprises an intermediate portion which substantially extends between the supporting portion and the underframe, wherein this intermediate portion comprises the second brake device and the mechanism in order to move the supporting portion between its said positions and wherein the supporting portion rests on the underframe by means of the intermediate portion.

[0021] The present invention will now be explained in more detail by means of the following detailed description of a preferred embodiment of a furniture according to the present invention. The sole aim of this description is to give illustrative examples and to indicate further advantages and features, and can therefore by no means be interpreted as a limitation of the area of application of the invention or of the patent rights defined in the claims.

[0022] In this detailed description, reference numerals are used to refer to the attached drawings, in which:

- ***Fig. 1*** shows a cross section of a seating unit according to a first embodiment according to the invention in the base position (seated position) of the supporting portion and in the fixing position of the brake element;
- ***Fig. 2*** shows a cross section of the seating unit illustrated in Fig. 1 in the base position of the supporting portion and in the braking position of the brake element;
- ***Fig. 3*** shows a cross section of the seating unit illustrated in Fig. 1 in the rising position of the supporting portion;
- ***Fig. 4*** shows a detail view of the seating unit illustrated in Fig. 1, wherein the supporting portion is in the base position and the brake element is in the rotation position;
- ***Fig. 5*** shows a detail view of the seating unit illustrated in Fig. 1, wherein the supporting portion is in the rising position;
- ***Fig. 6*** shows a detail view of a seating unit according to a second embodiment of the invention at the location of components of the brake system and the supporting portion, wherein the supporting portion is in the rising position;
- ***Fig. 7*** shows a detail view of the seating unit as illustrated in Fig. 6, wherein the supporting portion is in the base position and the brake element is in the rotation position.

[0023] In the figures, two different embodiments of the invention are illustrated. A first embodiment is illustrated in Figs. 1 to 5 and a second embodiment in Figs. 6 and 7.

[0024] The only difference between these embodiments is in the brake system which is used. Below, a general description is given first, followed by the specific features of the various brake systems.

[0025] Each seating unit (1) comprises a supporting portion (2) which is movable up and down between a base position (seated position) and a rising position. The movement from the base position to the rising position is used to assist a person in getting up from the seating unit (1). The supporting portion (2) comprises a seat frame which is upholstered and on which a person is intended to place his posterior. In the base position, this seat frame extends at a limited distance from the floor. During the transition to the rising position, this seat frame is moved upwards and also tilted forwards, so that the seat frame ends up at a greater distance from the floor and at an angle thereto and is thus able to assist a person in getting up from the seating unit (1). Each seating unit (1) furthermore comprises an underframe with 4 wheels (3) which are rotatable about respective axis of rotations in order to move the seating unit (1) and the seating unit (1) also comprises an intermediate portion which extends substantially between the supporting portion (2) and the underframe. Furthermore, each seating unit (1) comprises a brake system to prevent rotation of the four wheels (3) about their respective axis of rotations, wherein the brake system comprises a basic brake device with a brake element (4) to prevent the rotation of all said wheels (3) about their axis of rotations and an additional second brake device. The underframe comprises this basic brake device. Furthermore, this basic brake device comprises a transmission mechanism which is connected to the brake element (4) and to all wheels (3) in order to transmit the movement of the brake element (4) to these wheels (3). The intermediate portion comprises a high/low system (11) to move the supporting portion (2) between its said positions, wherein the supporting portion (2) rests

on the underframe by means of this high/low system (11). Furthermore, this intermediate portion comprises the second brake device, wherein this second brake device is different for the embodiments illustrated in the figures. Each wheel (3) is furthermore in addition arranged so as to be rotatable about an upright axis, so that the direction of movement of each wheel (3) is changeable.

[0026] The brake element (4) is a brake cam, one end of which is connected to a rod (15) of the transmission mechanism, wherein this rod (15) is arranged so as to be rotatable about an axis which, in use, extends virtually horizontally, and the other end of which is connected to the second brake device. This brake element (4) is movable between three positions due to the rotation of the rod (15) about said axis. The transmission mechanism comprises transmission means in order thus to transmit the rotation of the rod (15). The three positions of the brake element (4) are the following: the rotation position in which all wheels (3) are freely rotatable about their respective axis of rotations and upright axis, the braking position in which the rotation of all wheels (3) about their axis of rotations is prevented, and a fixing position in which the four wheels (3) are freely rotatable about their axis of rotations, two of the four wheels (3) are arranged so as to be freely rotatable about their upright axis and the rotation of the other two of the four wheels (3) about their upright axis is prevented. The rotation position is situated in the centre between the braking position and the fixing position.

[0027] Each second brake device comprises an upright spring (7), being a push spring, which extends between the underframe and the seat frame of the supporting portion (2). In the base position, this upright spring (7) is compressed indirectly by the seat frame of the supporting portion (2). In the rising position, this upright spring (7) is no longer compressed. The top side of the upright spring (7) is thus movable between its lowest position in the base position of the supporting portion (2) and its highest position in the rising position of the supporting portion (2).

[0028] Furthermore, each second brake device comprises a holding part (9) which rests on top of the upright spring (7), a driving element (8) which is accommodated in this holding part (9), and a blocking element (5, 6) which, on the one hand, is connected to the brake element (4) and, on the other hand, is connected to the driving element (8). In the base position of the supporting portion (2), the high/low system (11) pushes against the holding part (9), as a result of which the upright spring (7) is compressed. During the transition between the base position and the rising position, the top side of the upright spring (7) moves and thus the holding part (9) also moves along the upright direction and the driving element (8) also moves along the upright direction. As a result thereof, the position of the blocking element (5, 6) also changes. The blocking element (5, 6) can assume a first state and a second state, wherein, in the first state, the brake element (4) is freely movable between its rotation position and braking position and wherein, in the second state, the brake element (4) is held in its braking position by the blocking element (5, 6). The transition between the first and the second state of the blocking element (5, 6) is coupled to the movement of the supporting portion (2) between its base position and the rising position in such a way by means of the driving element (8), the holding part (9) and the upright spring (7) that, in the base position, the blocking element (5, 6) is in the first state, in the rising position, the blocking element (5, 6) is in the second state, and that, during movement of the supporting portion (2) from the base position to the rising position, the blocking element (5, 6) moves from the first state to the second state and exerts a force on the brake element (4) in order thus to bring or hold the brake element (4) in its braking position.

[0029] With the first embodiment illustrated here, the blocking element is a rod system (6) using several interconnected rods. The rod which is connected to the brake element (4) in this case comprises an opening (13) which extends along a circular arch. The brake element (4) comprises a projection (14) which extends through this opening (13). In the base position of the supporting portion (2), the rod system (6) is in the first state. As can be seen in Figs. 1, 2 and 4, said projection (14) can freely move in this opening (13) in order thus to rotate the brake element (4) between its various positions, being the rotation position (see Fig. 4), the braking position (see Fig. 2) and the fixing position (see Fig. 1). When the supporting portion (2) is in the rising position, the rod system (6) is in its second state, as a result of which the brake element (4) can only assume its braking position (see Fig. 3) due to the fact that the projection (14) in this case cannot move in said opening (13) in order to bring the brake element (4) into one of its other positions. The second brake device thus ensures that, once the supporting portion (2) is in the rising position, all four wheels (3) are prevented from rotating, as a result of which it is safe to get up from the seating unit (1).

[0030] With the second embodiment illustrated here, the blocking element is a cable (5). This cable (5) is then, on one side, connected to the brake element (4) and, on the other side, connected to the driving element (8). When the supporting portion (2) is in the base position, the cable (5) is in its first state and this cable (5) makes it possible to move the brake element (4) between its said positions. When the supporting portion (2) is in the rising position, the cable (5) is in its second state and pulls on the brake element (4) in such a way that the brake element (4) cannot move from its braking position into its other positions. The second brake device thus ensures that, once the supporting portion (2) is in the rising position, all four wheels (3) are prevented from rotating, as a result of which it is safe to get up from the furniture (1). The second brake device additionally comprises a tension spring (10), wherein this tension spring (10) is a push spring which is smaller and less strong than the upright spring (7). This tension spring (10) is

accommodated in a receiving space of the holding part (9), and the tension spring (10) and the driving element (8) are positioned in this receiving space in such a manner that the driving element (8) rests on the tension spring (10). In the first state of the cable (5), this tension spring (10) will ensure that the cable (5) is always tensioned sufficiently, so that it does not hang loosely on the ground and/or can become entangled with other components, such as the wheels (3) of the seating unit (1). However, the tension spring (10) is not too strong, as a result of which a movement of the brake element (4) between its said positions is still possible in the first state of the cable (5).

[0031] Furthermore, each basic brake device also comprises a brake pedal (12) by means of which the brake element (4) is movable between its said positions in the first state of the blocking element (5, 6). To this end, the brake pedal (12) is connected to the rod (15) to which the brake element (4) is connected.

Claims

1. Furniture (1) comprising a supporting portion (2) which is movable up and down between a base position and a rising position in order to assist a person when getting up from the furniture (1) and comprising several wheels (3), each of which is rotatable about a respective axis of rotation for moving the furniture (1), wherein the furniture (1) comprises a brake system to prevent the rotation of one or several of said wheels (3) about their respective axis of rotation, wherein the brake system comprises a basic brake device with a brake element (4) to prevent rotation of at least one said wheel (3) about its axis of rotation, wherein this brake element (4) is to this end displaceable between a rotation position in which said at least one wheel (3) is arranged so as to be rotatable about its axis of rotation, and a braking position in which the rotation of said at least one wheel (3) about its axis of rotation is prevented, **characterized in that** the brake system furthermore comprises a second brake device with a blocking element (5, 6), wherein this blocking element (5, 6) is connected to the brake element (4) and can assume at least a first state and a second state, wherein, in the first state, the brake element (4) is freely movable between its rotation position and braking position, and wherein, in the second state, the brake element (4) is held in its braking position by the blocking element (5, 6) and wherein the transition between the first and the second state of the blocking element (5, 6) is coupled to the movement of the supporting portion (2) between its base position and the rising position in such a way that, in the base position, the blocking element (5, 6) is in the first state, in the rising position, the blocking element (5, 6) is in the second state, and that, during the movement of the supporting portion (2) from the base position to the rising position, the blocking element (5, 6) moves from the first state to the second state in order thus to bring or hold the brake element (4) in its braking position.

2. Furniture (1) according to Claim 1, **characterized in that** the second brake device comprises an upright spring (7), wherein, in the base position of the supporting portion (2), the spring (7) is compressed and, in the rising position of the supporting portion (2), the spring (7) is not compressed, or to a lesser degree, so that the top side of the spring (7) is upwardly displaceable by the transition of the supporting portion (2) from the base position to the rising position, and wherein the transition between the first and the second state of the blocking element (5, 6) is coupled to the movement of the spring (7).

3. Furniture (1) according to Claim 2, **characterized in that** the upright spring (7) extends below the supporting portion (2), in which case this supporting portion (2) rests directly or indirectly on the spring (7) in the base position of the supporting portion (2) and thus compresses the spring (7).

4. Furniture (1) according to Claim 2 or 3, **characterized in that** the second brake device comprises a driving element (8) which rests directly or indirectly on top of the upright spring (7), wherein the blocking element (5, 6) is connected to this driving element (8), so that the transition between the first and the second state of the blocking element (5, 6) is coupled to the up and down movement of the top side of the spring (7).

5. Furniture (1) according to Claim 4, **characterized in that** the second brake device comprises a holding part (9) which rests on top of the upright spring (7), wherein this holding part (9) comprises a receiving space in which the driving element (8) is accommodated.

6. Furniture (1) according to one of the preceding claims, **characterized in that** the blocking element is a cable (5).

7. Furniture (1) according to Claims 5 and 6, **characterized in that** the second brake device comprises a tension spring (10), wherein this tension spring (10) is accommodated in the receiving space and the driving element (8) rests on this tension spring (10), wherein, in the first state of the cable (5), this tension spring (10) is configured to tension the cable (5) and to allow the brake element (4) to be moved between its braking position and rotation position.

8. Furniture (1) according to one of the preceding claims, **characterized in that** the basic brake device

comprises a transmission mechanism which is connected to the brake element (4) and to at least two of said several wheels (3), in order to transmit the movement of the brake element (4) to these at least two wheels (3).

9. Furniture (1) according to one of the preceding claims, **characterized in that** said at least one wheel (3) is additionally arranged so as to be rotatable about a second axis in order to change the direction of movement of the wheel (3), and wherein the brake element (4) is displaceable between at least three positions, being said rotation position, wherein said wheel (3) is additionally arranged so as to be rotatable about its second axis in order to change the direction of movement of the wheel (3), said braking position and a fixing position, wherein said wheel (3) is arranged so as to be rotatable about its axis of rotation in order to move the wheel (3) and prevent the rotation of said wheel (3) about the second axis.

10. Furniture (1) according to one of the preceding claims, **characterized in that** said brake element (4) is a central brake element (4) which is configured to prevent the rotation of all said wheels (3) about their respective axis of rotations, wherein, in the rotation position, all said wheels (3) are arranged so as to be rotatable about their axis of rotation in order to move the wheels (3) and, in the braking position, so as to prevent the rotation of all wheels (3) about their respective axis of rotations.

11. Furniture (1) according to one of the preceding claims, **characterized in that** the basic brake device comprises a brake pedal (12) for mechanically driving the movement of the brake element (4) between its said positions and this in the first state of the blocking element (5, 6).

12. Furniture (1) according to one of the preceding claims, **characterized in that** the furniture (1) comprises an underframe, wherein this underframe comprises said wheels (3) and the basic brake device, and wherein the furniture (1) comprises an intermediate portion which substantially extends between the supporting portion (2) and the underframe, wherein this intermediate portion comprises the second brake device and the mechanism (11) in order to move the supporting portion (2) between its said positions and wherein the supporting portion (2) rests on the underframe by means of the intermediate portion.

13. Furniture (1) according to one of the preceding claims, **characterized in that** the furniture (1) is a seating unit (1) and the supporting portion (2) is a seat part (2).

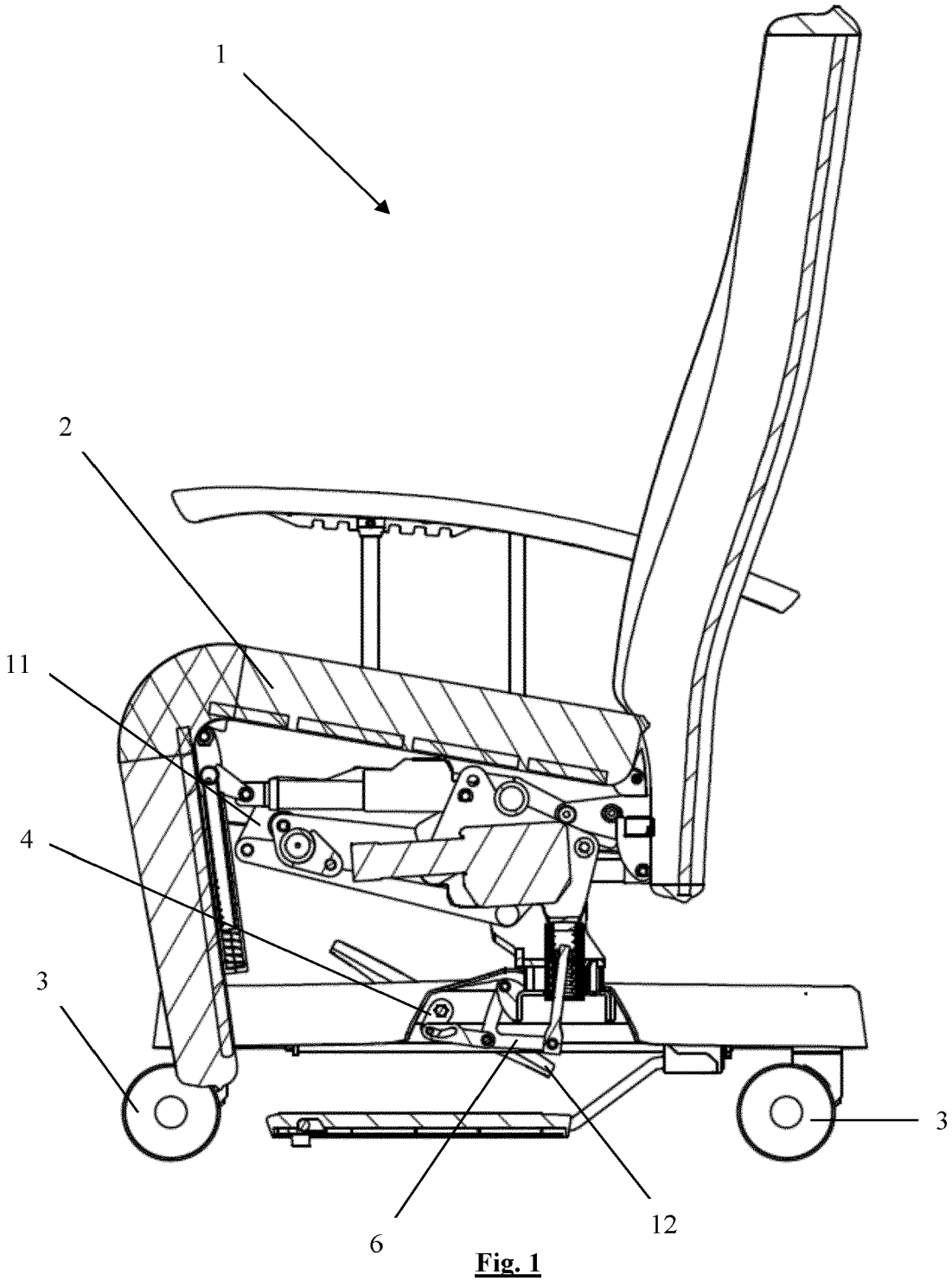

Fig. 1

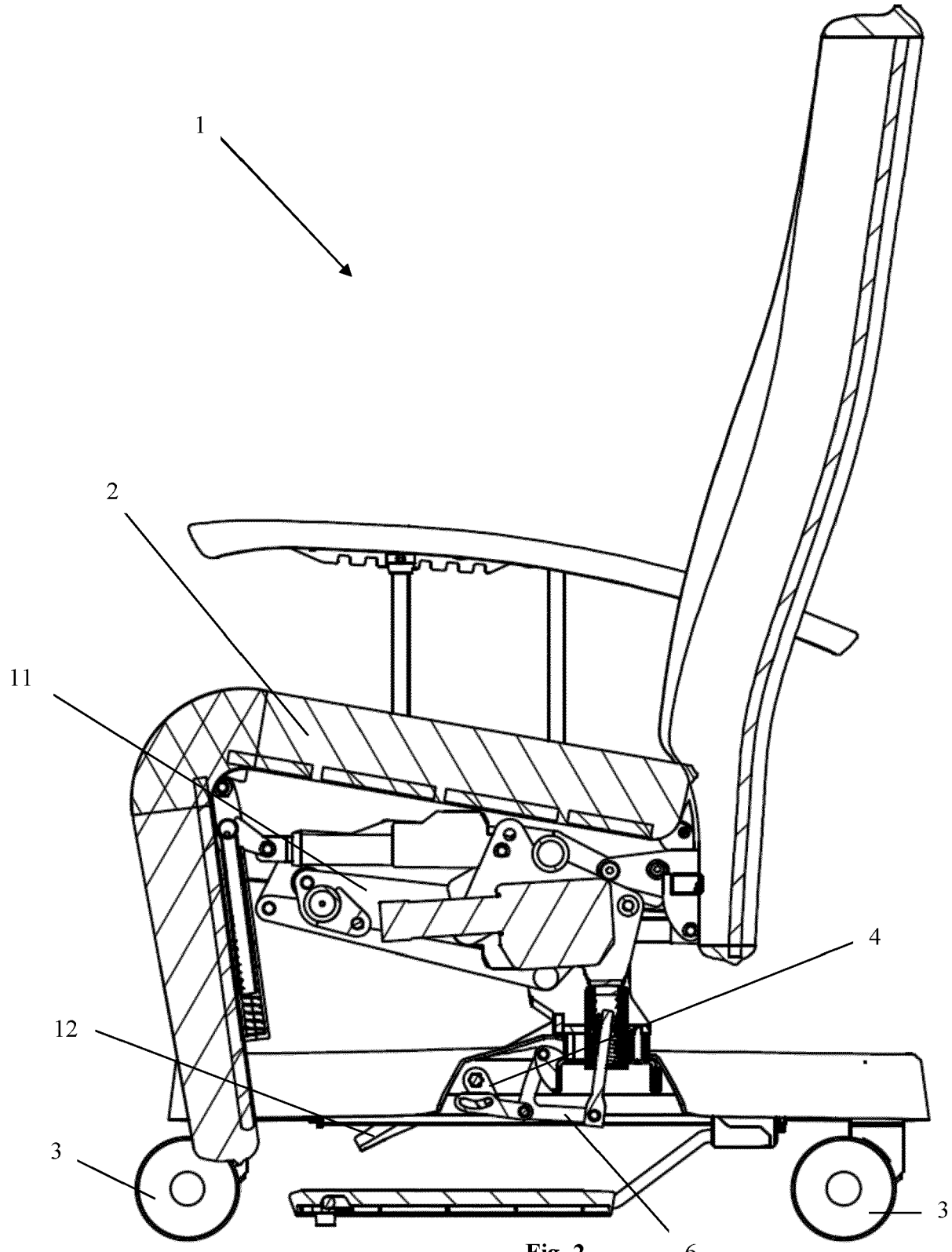

Fig. 2

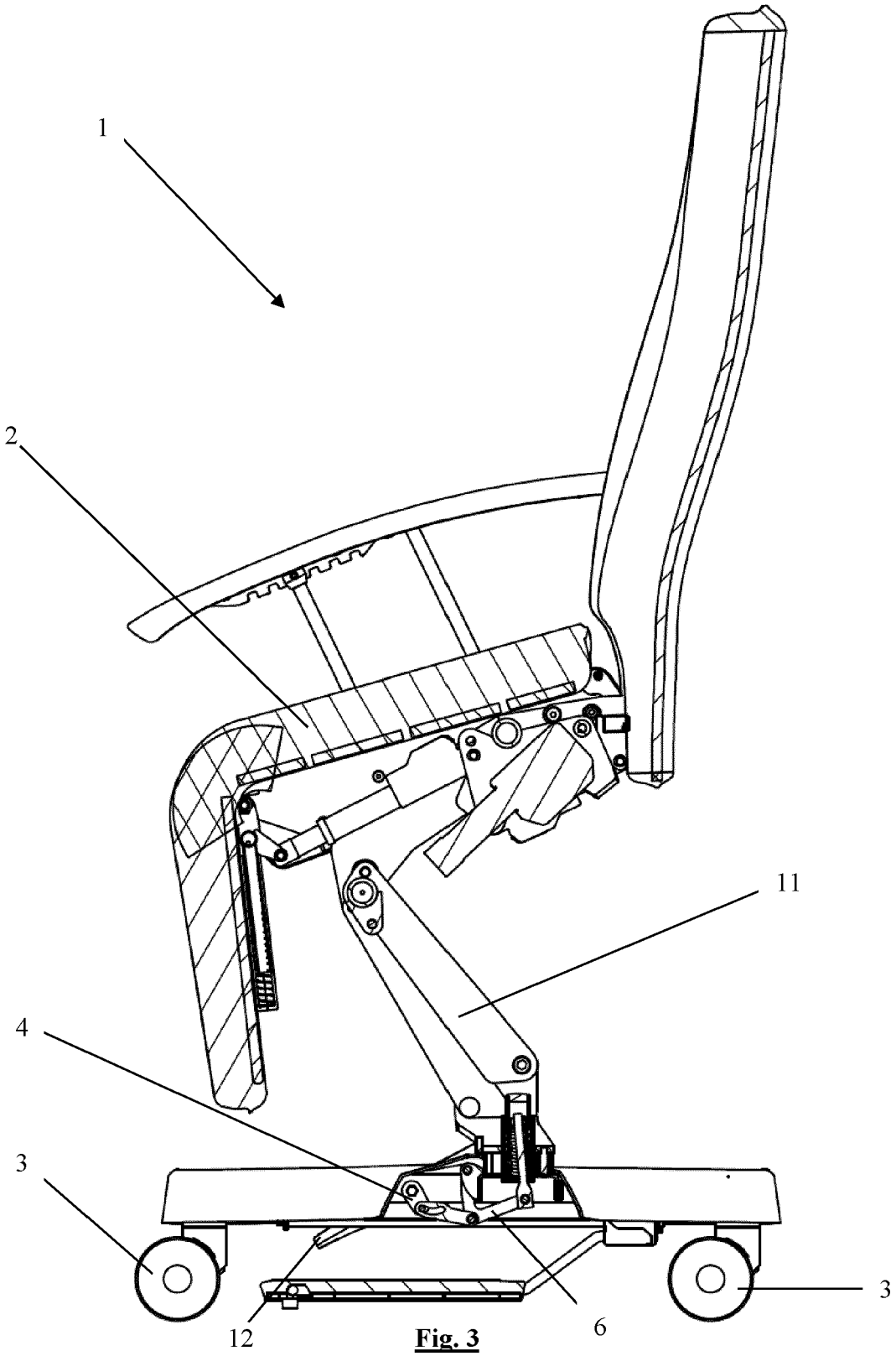

Fig. 3

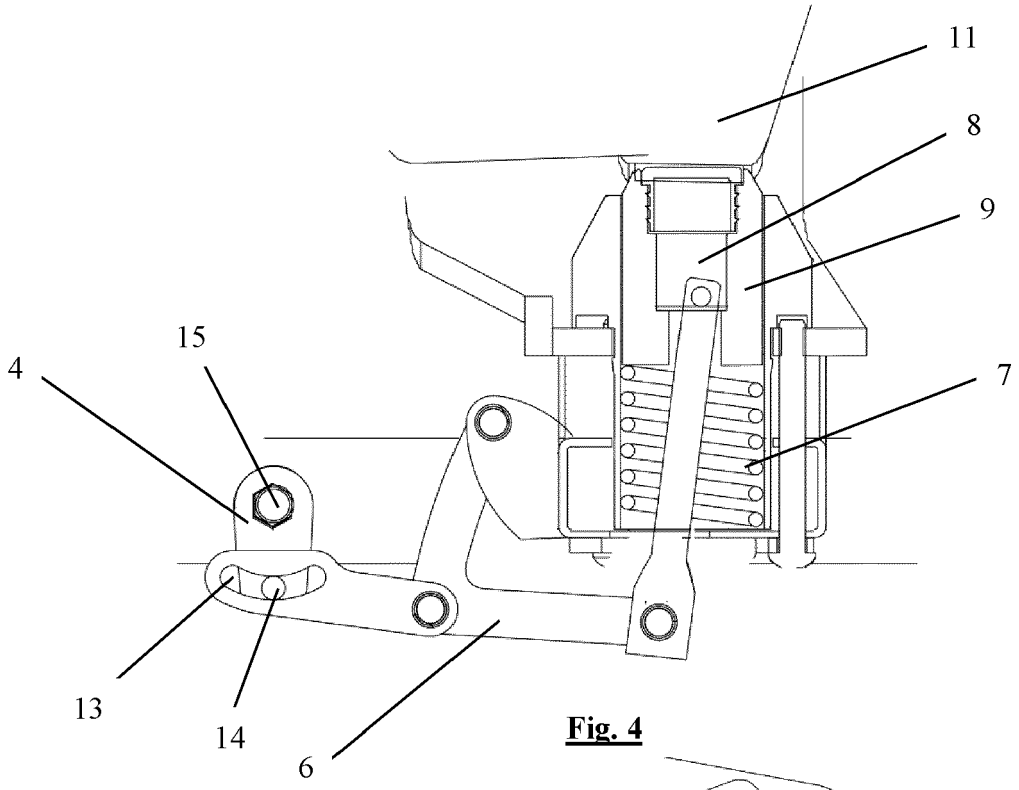

Fig. 4

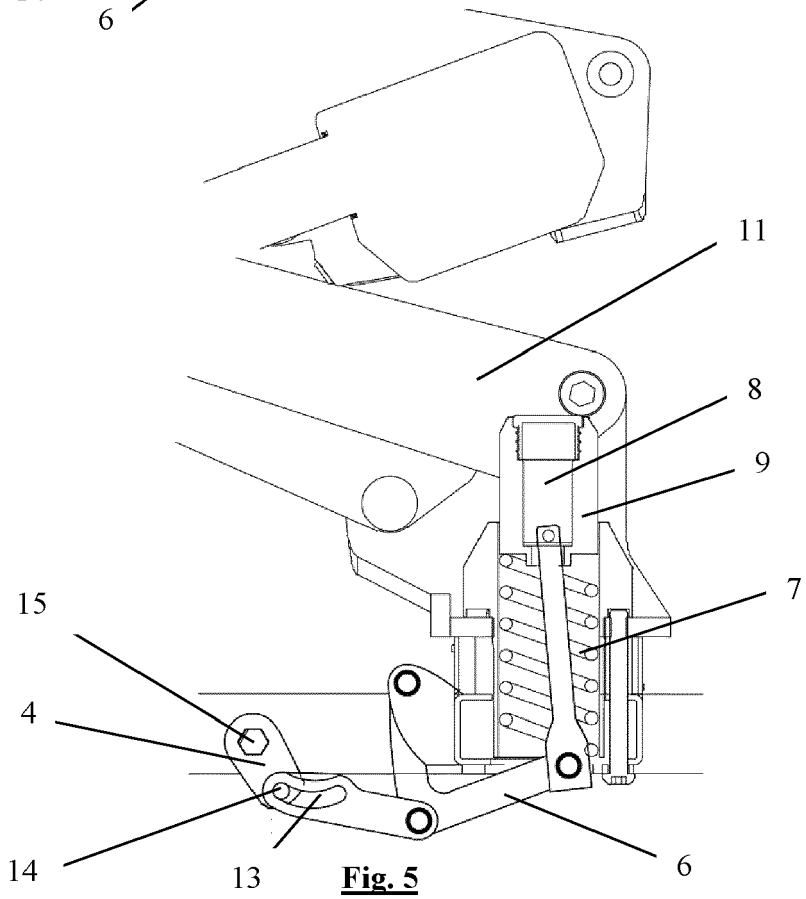

Fig. 5

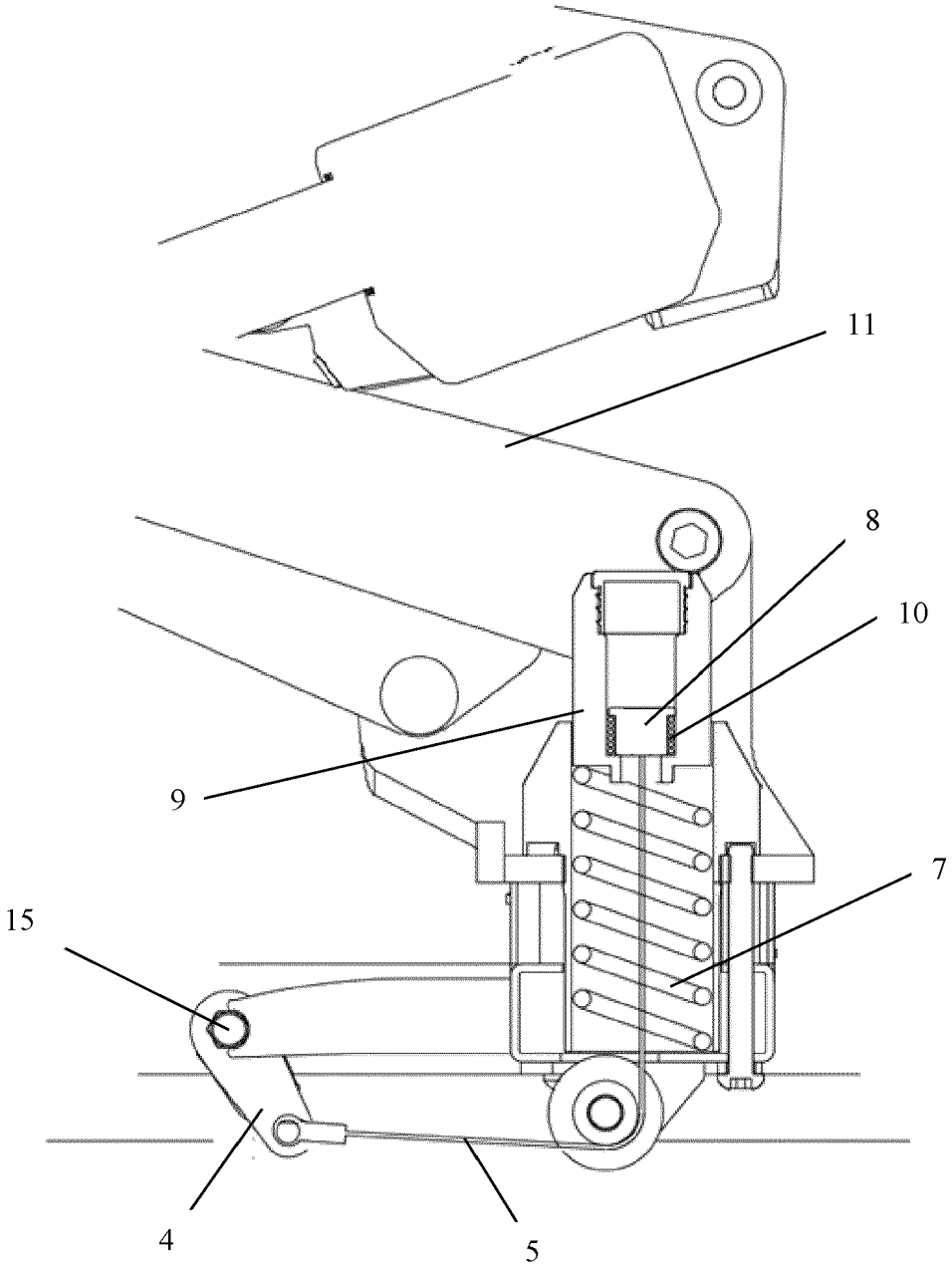

Fig. 6

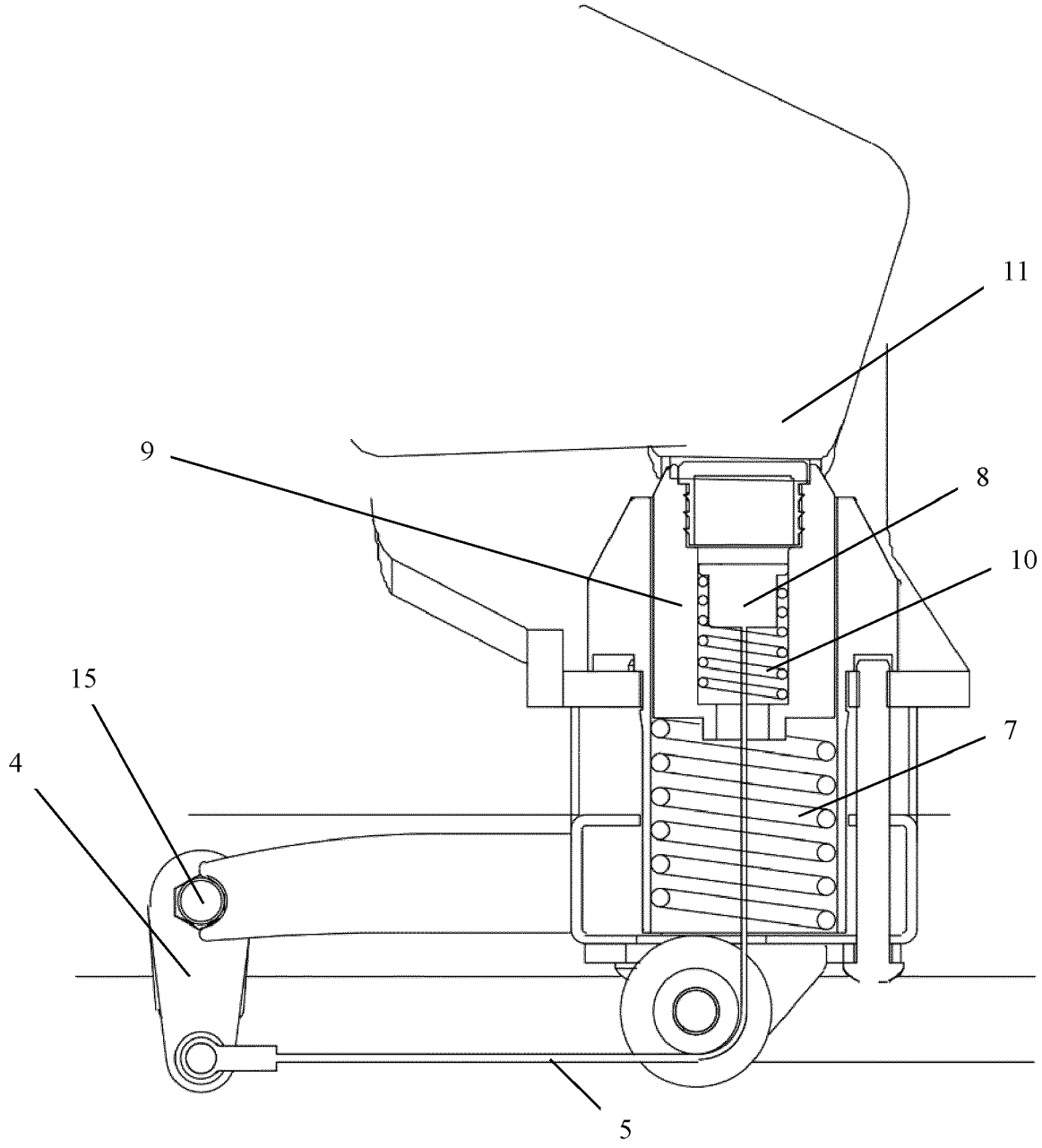

Fig. 7

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EUROPEAN SEARCH REPORT

Application Number
EP 21 16 6578

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X A	EP 3 251 649 A1 (FRANCE BED CO [JP]) 6 December 2017 (2017-12-06) * paragraph [0017] - paragraph [0094] * * figures 1-14 * -----	1,11-13 2-10	INV. A61G5/14
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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	26 August 2021	Ong, Hong Djien

CATEGORY OF CITED DOCUMENTS

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