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(54) **DEVICE FOR SUPPORTING GARMENTS AND FURNITURE COMPRISING SUCH A DEVICE**

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DISPOSITIF DE SUPPORT DE VÊTEMENTS ET MEUBLE COMPRENANT UN TEL DISPOSITIF

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Description**TECHNICAL FIELD OF THE INVENTION**

[0001] The present invention regards a device for supporting garments or hangers in a housing space of a furniture piece or a wardrobe, as well as a furniture piece comprising one such device.

STATE OF THE PRIOR ART

[0002] In order to make the best possible use of the housing spaces for garments in wardrobes, it has been proposed to arrange multiple rows of garments one on top of the other, so as to actually obtain superimposed compartments or housing spaces.

[0003] Nevertheless, the arranging and picking up of garments, and if provided clothes hangers in the/from the upper compartments can be difficult, whether ladders or stools are used, or if tools are used for coupling or releasing the hangers to/from a rod or crosspiece provided in the upper compartments of a wardrobe.

[0004] Therefore, in the upper compartments of the wardrobes, ascending-descending devices have been provided for wardrobes, i.e. devices for articulating a respective crosspiece for supporting the clothes hangers.

[0005] Such devices usually have a rather complex structure and in addition they do not always ensure a satisfactory and safe operation. For such purpose, some ascending-descending devices are difficult to move between respective operative positions, while others - as soon as they are driven - are overturned so as to place the safety of the user at risk.

[0006] GB2114426A, JPH04325105A, JPS6163983U, EP0845233A2 and JPH02164313 teach respective solutions according to the state of the art.

OBJECTS OF THE INVENTION

[0007] One object of the present invention is to provide a new device for supporting garments or hangers for garments in a housing space of a wardrobe.

[0008] Another object of the present invention is to provide a support device as stated above that ensures a correct and balanced support in all the respective operative positions.

[0009] Another object of the present invention is to provide a support device for hangers or garments that is versatile and easily adaptable to spaces or compartments of different size.

[0010] Another object of the present invention is to provide a support device for hangers or garments that is resistant and reliable.

[0011] In accordance with one aspect of the invention, a device is provided according to claim 1.

[0012] The dependent claims refer to preferred and advantageous embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] Other characteristics and advantages of the invention will be more evident from the description of one embodiment of a support device, illustrated by way of example in the enclosed drawings, in which:

- figures 1 to 3 are slightly top perspective views of a support device according to the present invention in respective operating positions;
- figures 4 to 6 illustrate a detail in enlarged scale of the support device, respectively, of figures 1, 2 and 3 with parts removed;
- figures 7 and 8 are perspective views of a detail of the support device of fig. 1 with parts removed and partially exploded;
- figures 9 to 12 are perspective views from respective sides and exploded of a detail of the support device of fig. 1;
- figures 13 to 22 each illustrate a component of the support device of fig. 1;
- figures 23 to 25 are exploded views of a detail of the support device of fig. 1.

[0014] In the enclosed drawings, equivalent parts or components were marked with the same reference numbers.

EMBODIMENTS OF THE INVENTION

[0015] With reference to Figures 1 to 25, a device 1 is illustrated according to the present invention for supporting garments or clothes hangers in a housing space, i.e. an ascending-descending device for wardrobes, which comprises one or more upright components 2, at least one crosspiece component 3 connected to the upright component or components 2. The crosspiece component 3, if desired, has substantially horizontal trim.

[0016] The device 1 then also comprises an articulation group 4 for articulating the upright component(s) 2 to a panel 5 around a first articulation axis x-x, between at least one first position or raised or initial position (see figures 1 and 4) and at least one second position or lowered or final position (see figures 3 and 6) in which the crosspiece component 3 is at a lower level than the first position. In the passage from the first to the second position, in fact, the or each upright component 2 undergoes an angular movement around the articulation axis x-x, while the crosspiece component 3 is lowered and moved towards the front of the device until, if desired, it exits from the respective housing space. In the first position, the or each upright component 2, advantageously, has substantially vertical trim or is slightly tilted with respect to the vertical, while in the second position it can be substantially horizontal and, if desired, orthogonal to the crosspiece component 3, or slightly tilted with respect to the vertical.

[0017] The articulation group 4 then comprises at least

one resisting element 6, which is intended to yieldingly oppose movements of the or of a respective upright component 2, and hence of the crosspiece component 3, between the first position and the second position.

[0018] The resisting element 6 can for example comprise a spring, if desired a gas spring, and the same can have pneumatic or hydraulic actuation, or actuation of another type. The resisting element 6 can comprise a cylinder 6a, which can be extended into and be pivoted to the or to an upright component 2, as well as a stem 6b removable/insertable from/into the cylinder 6a. If the cylinder 6a is mounted in the upright component 2, then the stem 6b is extended outside the upright component 2 or better yet outside a first hollow end 2a thereof. Naturally, the resisting element 6 could also have a stem 6b extended into and pivoted to the upright component 2 and a cylinder 6a extended outside the upright component 2.

[0019] Advantageously, the resisting element 6 is connected, if desired pivoted to the upright component 2, such that the movement of the upright component 2 from the first position to the intermediate position and from the latter to the second position causes a corresponding movement, if desired angular, of the resisting element 6. The resisting element 6 can be pivoted to the upright component 2 around an axis substantially parallel to the first articulation axis x-x. For such purpose, the end 6d of the cylinder 6a distant from the stem 6b could be pivoted to the upright component 2 and, if desired, into the upright component 2.

[0020] The articulation group 4 then comprises adjustment means 7, 8 for adjusting the resistance torque applied by the resisting element 6 in the passage from the first to the second position, which are intended to increase the resistance torque at least when the upright component 2 is moved from the first position to at least one intermediate position (see figures 2 and 5) between the first and the second position. Subsequently, i.e. in the passage from the intermediate position to the second position, as a function of the resisting element 6, in combination with the adjustment means 7, 8, the resistance torque could be decreased, or if desired even further increased. Moreover, as will also be explained hereinbelow, the resisting element 6 and the adjustment means 7, 8 could be such to determine, when the or each upright component 2 is in the second position, a torque in accordance with the torque generated by the weight force and by the lowering force applied by the user.

[0021] In the intermediate position, the or each upright component 2 could be tilted with respect to the vertical, e.g. between about 30° and about 60° with respect to the vertical, if desired at about 45° with respect to the latter.

[0022] It should then be noted that the resisting element 6 applies, to the upright component 2 or better yet to the respective articulation group 4 and hence to the upright component 2, a resistance force along an application direction AD and the adjustment means are intended to increase the distance between the application

direction AD and the articulation axis x-x when the upright component 2 is moved from the first position to the intermediate position or if desired between the first position and the intermediate position. For such purpose, if the resisting element comprises a stem 6b or a cylinder 6a pivoted to the adjustment means 7, 8, the application direction AD is defined by the longitudinal extension of the stem 6b or of the cylinder 6a. If a stem 6b is provided for, the latter, in the passage from the first position to the second position, if desired, is angularly moved relative to the respective upright component 2.

[0023] With reference to such aspect, with reference in particular to figures 4 and 5, it will be observed that the distance between the articulation axis x-x or better yet between a respective pin P3 and the direction or line of application AD increases in the passage from the first position (figure 4) to the intermediate position (figure 5), which causes an increase of the resistance torque applied by the resisting element 6 to the upright component 2 or better yet to the respective articulation group 4 and, therefore, to the upright component 2. In substance, the distance between the application direction AD and the articulation axis x-x constitutes the arm which, due to the resistance force by the resisting element, gives rise to the resistance torque.

[0024] If desired, in the passage from the intermediate position (figure 5) to the second position (figure 6), the distance between the application direction AD and the articulation axis x-x can decrease until it is even equal to zero. According to the non-limiting embodiment illustrated in the figures, when the resisting element 6 reaches the second position (figure 6), it can be arranged in a manner such to apply a torque to the upright component(s) 2 that is opposite to that applied in the preceding steps; therefore, in the second position, the actuation direction DA could also be placed slightly beyond the articulation axis x-x, with respect to the trim of the first position and of the intermediate position.

[0025] Advantageously, the adjustment means comprise at least one first engagement component 7 constrained to the resisting element 6, if desired pivoted to the stem 6b thereof, as well as a second engagement component 8 constrainable or fixable to a panel 5 and intended to engage the first engagement component 7, such that the second engagement component 8 would be fixed during the device movement steps, while the first engagement component 7 would be movable. In addition, the zone of engagement or contact between the first engagement component 7 and the second engagement component 8 is moved away from the resisting element 6, if desired from the tip of a respective stem 6b, in the passage from the first to the second position, i.e. that the engagement zone EZ1 between the first engagement component 7 and the second engagement component 8, when the upright component 2 is in the first position is at a greater distance from the resisting element 6 than the engagement zone EZ2 between the first engagement component 7 and the second engagement

component 8, when the upright component 2 is in the second position. In addition, the engagement zone EZ3 between the first engagement component 7 and the second engagement component 8, when the upright component 2 is in an intermediate position between the first position and the second position, is at a smaller distance from the resisting element 6 with respect to EZ1 and at a greater distance with respect to EZ2.

[0026] In the passage from the first to the second position, if desired, the resisting element 6 can set forth the same resistance force, or it can be stressed so as to bring forward a resistance force against its movement that is increasingly large.

[0027] More particularly, the resisting element 6 can be provided with a good viscous braking, in order to ensure a slow movement of the device, in particular when the upright component(s) is/are in the first and/or in the second position. For such purpose, when the ascending-descending device is moved towards the raised or lowered position, hence with upright component(s) towards the first position or towards the second position, a high viscous braking of the resisting element 6 allows reducing the movement speed of the ascending-descending device, thus limiting damages to the components thereof. In addition, as will also be stated hereinbelow, in order to attenuate or damp the movement of the ascending-descending device towards the lowered position, a suitable damping element can also be used, if desired in combination with a resisting element with good viscous braking.

[0028] With reference to the non-limiting embodiment illustrated in the figures, the first engagement component comprises a first toothed section or first gear 7 pivoted, by means of a first pin P1, around a second axis y-y to the resisting element 6, by means of a second pin P2 around a third axis z-z to the articulation group 4, while the second engagement component comprises a second toothed section or second gear 8, e.g. fixable to a panel 5 and intended to engage, via meshing, the first toothed section 7.

[0029] Advantageously, the second axis y-y and the third axis z-z are substantially parallel to each other and with respect to the first articulation axis x-x.

[0030] According to the invention, the first toothed section 7 has a substantially curved toothed portion 7b, while the second toothed section 8 has a substantially curved extension and the curvature radii of the substantially curved toothed portion 7b and of the second toothed section 8 are not coaxial with each other, nor with the articulation axis x-x, but are such to ensure, during the movement from the first to the second position, a desired variation of the tilt of the resisting element 6 and, if provided, of a respective stem component 6b with respect to the upright component 2 as well as to a casing or box of the articulation group 4 connected or fixed to a respective upright component 2. In addition, the substantially curved toothed portion 7b and the second toothed section 8 have, according to the invention, a respective curvature

radius that is not constant, hence variable from one end to the other.

[0031] The first toothed section 7 can comprise a base block having two main faces, if desired substantially flat and parallel 7a, as well as a shaped edge, so as to have on one side a substantially curved toothed portion 7b and on the other side a curved edge portion, if desired having concave zones alternated with convex zones.

[0032] In the base block of the first toothed section 7, two through holes can then 7c, 7d be formed, a first hole 7c for pivoting, by means of a respective first pin P1, the first toothed section 7 around the second axis y-y to the resisting element 6 and the other or second hole 7d for pivoting, by means of a respective second pin P2, the first toothed section 7 around the third axis z-z to the articulation group 4. The two holes 7c and 7d are advantageously parallel to each other and to the articulation axis x-x and, if desired, are substantially orthogonal to the faces 7a.

[0033] Advantageously, the teeth of the toothed portion 7b are extended around the hole 7d, and, if desired, the distance of the toothed portion 7b from the hole 7d decreases from a first end 7b1 to the other or second end 7b2 thereof. The hole 7c can instead be delimited at a first end 7b1 of the toothed portion 7b, if desired, at the end of the same further away from the hole 7d.

[0034] With regard then to the second toothed section 8, in detail this can have a substantially curved extension, with a first end 8a engageable by the first toothed section 7 or better yet by the first end 7b1 when the upright component 2 is in the first position, as well as a second end 8b engageable by the first toothed section 7 or better yet by the second end 7b2, when the upright component 2 is in the second position. The second end 8b is, advantageously, closer to the articulation axis x-x than the first end 8a.

[0035] With reference now to the non-limiting embodiment illustrated in the figures, the second engagement component 8 is extended from a base plate 8c, if desired configured as a disc and fixable, e.g. by means of screws or bolts, to a panel 5; such disc-shaped base plate 8c can be mounted substantially coaxial, during use, to the articulation axis x-x. For such purpose, the base plate 8c can delimit a substantially central through hole 8d for the passage of the third pin P3 for articulating the articulation group 4 or of a casing (which will be better described hereinbelow). The second toothed section 8 can instead be extended starting from a respective edge section of the base plate 8c; in such case, the teeth of the same are directed towards the articulation axis x-x or better yet towards the third pin P3.

[0036] The stem 6b of the resisting element 6 can be pivoted to the adjustment means 7, 8, more particularly to the first engagement component 7, e.g. by means of the first pin P1 around the second axis y-y.

[0037] As will be understood, the adjustment means could be different from those described above and comprise, for example, a belt suitably returned between the

first and second engagement component so as to obtain the above-described desired effect.

[0038] The device can then comprise one or more stop 9 or damping 10 elements of the upright component 2 in the first and/or in the second position.

[0039] For such purpose, a first stop element, if desired, for the first position, can comprise a third component with toothed section 9 intended to engage a fourth component with toothed section 11 constrainable or fixable to a panel 5. If desired, the fourth toothed section 11 is integrally formed with the second toothed section 8. In such case, if a base plate 8c is also provided, then the fourth toothed section 11 is extended therefrom and, more particularly, from an edge section of the same adjacent to and following the edge section from which the second toothed section 8 is extended.

[0040] Advantageously, the stop element 9 can be fixable in multiple operative positions, so as to allow adjusting the trim of the upright component 2 in the first and/or in the second position. For such purpose, the stop element 9 can comprise a base body 9a delimiting a through hole 9b for fixing or pivoting to the articulation group 4 as well as an edge with toothed section, whose teeth are at different distance from the hole 9b with respect to each other. In substance, the stop element 9 is eccentrically configured. The stop element 9 can also comprise a ring nut element 9c that is fixed or integral with the base body 9a and on which marks, e.g. numbers are reported, aimed to indicate the position of the stop element 9. In addition, the ring nut element 9c can also be used for controlling the rotation of the ring nut element 9c around a fourth pin P4 passing through the hole 9b.

[0041] In addition, the stop element 9 can also be used for the correct mounting of the device, in particular if the spring 6 is preloaded, in such case the stop element 9, after the assembly of the components, is moved such to establish the initial trim of the device.

[0042] A second stop or damping element can be provided, if desired comprising a damping piston element 10 intended to be abutted against an abutment surface 12 when the upright component 2 is moved towards the second position, so as to slow the movement of the device until it reaches the latter. The damping piston element 10 can be constrained or pivoted to the resisting element 6, e.g. to the cylinder 6a thereof and then has a stem 10a slidably mounted in a respective cylinder 10b, as well as a buffer 10c placed at a free end of the stem 10a and intended to be abutted against the abutment surface 12.

[0043] With reference to such aspect, if a base plate 8c is provided, then the abutment surface 12 can be extended therefrom. More particularly, according to the non-limiting embodiment illustrated in the figures, the abutment surface 12 is integrally formed with the second toothed section 8 and with the base plate 8c.

[0044] If desired, the articulation group 4 also comprises a box or a casing 13 for delimiting the positioning and containment zone PZ of all or some of the components

of the group 4; such casing 13 can be composed of two half-shells 13a, 13b engageable with each other, if desired by means of snap connection means, shape coupling means and/or screws or bolts.

[0045] In such case, the casing 13 is pivoted to a respective panel 5 around the articulation axis x-x by means of the third pin P3, if desired with interposition of a plate 14, in turn fixed to the panel 5. The casing 13 or a half-shell 13a thereof can then delimit a window or opening 13c at the face or proximal surface 13d and constrainable to a respective panel 5, through which the second toothed section 8 can be extended, as well as, if provided, the fourth toothed section 11 and the abutment surface 12. If a base plate 8c is provided, then the same, during use, is arranged between a panel 5 and the aforesaid proximal face 13d of the casing 13 and, if desired, in abutment against the proximal face 13d.

[0046] In addition, a cover mask 15 can be arranged and fixed on the casing 13, in particular on the face 13e thereof that is free or distant from the panel 5.

[0047] More particularly, in the positioning zone PZ of the casing 13, the adjustment means 7, 8 can be arranged and, if provided, the stem 6b of the resisting element 6 and the stop elements 9 and 10. For such purpose, in the positioning zone PZ, suitable slots or impressions can be delimited for receiving the aforesaid components.

[0048] In addition, the casing 13 can also delimit a seat 13f for a first end 2a, lower during use, of the upright component 2; in such end, the stem 6b of the resisting element can be mounted and exit outward, if such component is provided.

[0049] The or each upright component 2 can comprise a shaped component, if desired hollow or delimiting a longitudinal through opening from the first end 2a or end, which during use and in the first position is the lower end, to the second end 2b, which during use and in the first position is the upper end.

[0050] With regard to the crosspiece component 3, this can be in a single piece or it can have multiple sections adjustably connected with each other. For such purpose, the crosspiece component 3 can comprise a first section 3a as well as a second section 3b, the second section 3b having a first part 3b1 inserted in the first section 3a and a part 3b2 outside the latter.

[0051] Means are then provided for locking 16a, 16c, 17 the second section 3b with respect to and in the first section 3a. More particularly, the second section 3b delimits a longitudinal through opening open at the ends, respectively first 3b1 and second 3b2 opening, while the locking means comprise a tensioning or screw element 16a inserted in the aforesaid through opening and intended to engage, if desired via screwing, at an end 16b thereof, if desired externally threaded, a cap component 16c, e.g. with frustoconical lateral wall and if desired delimiting an internally threaded through opening. The cap component 16c is intended to be introduced by means of engagement, if desired via screwing, with the respective

end 16b of the tensioning element 16a, in the first end 3b1 of the second section 3b inserted in the first section 3a, so as to determine an expansion of such end 3b1 and the consequent engagement thereof and hence of the second section 3b with the first section 3a; for such purpose, the second section 3b, at its first end 3b1, can have notches or incisions 3c so as to facilitate the expansion following the insertion therein of the cap component 16c.

[0052] The second section 3b is then connected to an upright component 2, if desired at the head thereof. For such purpose, the second section 3b or better yet the second end 3b2 thereof, can be inserted in and fixed to the upright component 2, directly, or by means of engagement, e.g. via screwing, of the other end 16d or the tensioning or screw element 16a (i.e. the end opposite that engaged with the cap component 16c) on which a nut or head element 16e of the tensioning or screw element 16a can be provided or screwed, such nut or head element 16e can also be used for controlling the rotation of the tensioning element 16a for the use of the cap component 16c.

[0053] For such purpose, the upright component 2 can be provided with one hollow end, if desired upper 2b and in the same the following can be formed: a first hole 2c of greater section than the second section 3b and a second hole 2d, substantially aligned with the first 2c, but of smaller section than the second section 3b and greater than the tensioning element 16a. Then, the second section 3b is inserted in the first hole 2c and the tensioning element 16a is inserted through the first hole 2d and through the second hole 2c until it projects into the second section 3b of the crosspiece component 3 and until it engages the cap component 16c, after which the tensioning element 16a is connected by operating on the head 16e and the upright component 2 is thus tightened with the crosspiece component 3.

[0054] Within the end 2b of the upright component 2, a sleeve element 17 can also be provided, if desired internally threaded and having a through opening aligned with the holes 2c, 2d and 18a, in which, during use, the terminal end 16d of the tensioning element 16a is inserted and if desired screwed.

[0055] On the first section 3a or better yet on the end thereof in which the second section 3b is slidably mounted, a ring 19 can then be fit that has diameter or internal section substantially equal to the diameter or external section of the second section 3b.

[0056] In addition, also a closure or cover component 18 can be provided, if desired configured as a roller with an open section in order to be fit on and around the hollow end 2b of the upright component 2, which can have two substantially flat main faces, in each a respective through hole 18a being formed that is aligned with the through hole on the other face. During use, the second section 3b with the tensioning element 16a received therein passes and is inserted through a first through hole 18a of the closure component 18, while through the other

through hole 18a, only the tensioning element 16a passes and is inserted.

[0057] The second end 3b2 of the second section 3b of the crosspiece component can then have one or more teeth or projecting portions 3b3, if desired two angularly spaced portions intended to engage, e.g. to be inserted to size in respective grooves 2e, if desired through, formed in the end 2b of a respective upright component 2, e.g. around a hole 2d. The engagement between the teeth 3b3 of the crosspiece component 3 and the grooves 2e of the upright component 2 ensures a very rigid connection between the upright component 2 and the crosspiece component 3, which prevents possible undesired movements between such components.

[0058] As will be understood, if a crosspiece component 3 with a first section 3a and a second section 3b is provided, the second section 3b can be connected to a respective upright component 2 as indicated above, while the first section 3a can be connected to the other upright component 2, e.g. by means of a tensioning element 16a intended to be engaged, if desired via screwing, with a sleeve component 17 and also teeth 3b3 can be provided in the crosspiece component 3 intended to engage grooves 2e in the upright component 2.

[0059] A furniture piece for garments including a support device according to the present invention then comprises one or, if desired, a pair of substantially parallel panels 5, to which a respective upright component 2 is connected by means of a respective articulation group 4.

[0060] According to the embodiment illustrated in the figures, the device comprises a pair of uprights 2 bridge-connected by means of a crosspiece component 3 and each connected to a respective panel 5 by means of a respective articulation group 4. The two panels 5 are parallel and each upright component 2 is connected to a respective face of the respective panel 5 directed, during use, towards the other panel 5.

[0061] If desired, the crosspiece component 3 can be rotatably coupled to a rod 20, at one end thereof a handle 21 being provided for controlling the device so as to move the upright component(s) 2 and hence the crosspiece component 3 from the first to the second position.

[0062] With a device and a furniture piece according to the present invention, a user who must pick up or hang garments or clothes hangers on the device or better yet on the crosspiece component 3, starting from the configuration with upright component(s) 2 and thus with the crosspiece component 3 in the first position, could move the upright component(s) 2 from the first position to the second position so as to lower the crosspiece component 3. At this point, the user could easily hang or pick up garments and thus would control a backward movement of the upright component(s) 2, i.e. in the first position, so as to cause a lifting of the crosspiece component 3.

[0063] During the movement from the first position to the intermediate position of the or of each upright component 2, the resisting element 6 is stressed, which yieldably opposes to further movements of the upright com-

ponent 2, while the adjustment means 7, 8 cause, as the angular movement of the upright component 2 increases, an increase of the resistance torque applied by the resisting element 6 to the upright component(s) 2.

[0064] As stated above, this can be obtained, for example, by connecting, e.g. by means of pivoting, the resisting element 6 to the upright component 2 so as to apply a resistance force to the latter along an application direction AD; in such case, the adjustment means are intended to increase the distance between the application direction AD and the articulation axis x-x when the upright component 2 is moved from the first position to the intermediate position.

[0065] With reference to the non-limiting embodiment illustrated in the figures, this is obtained by means of pivoting the resisting element 6 to the upright component 2 as well as due to the action of the adjustment means, e.g. the engagement between the first 7 and second 8 engagement component. For such purpose, the moving away of the application direction AD from the articulation axis x-x in the passage from the first position to the intermediate position causes an increase of the resistance torque applied by the resisting element 6 to the upright component(s) 2 in the passage from the first position to the intermediate position. This ensures or in any case assists the user in obtaining a lowering of the crosspiece component 3 that is slow and not sudden, thus limiting possible risks for the user, as well as for the device itself.

[0066] As will be understood, in fact, in the passage from the first position to the intermediate position, the center of gravity as well as the point of application of the lowering action by the user is moved away from the articulation axis x-x or from the pin P3, which causes an increase of the arm of application of the weight force (among other things due to the weight of the garments hung on the crosspiece component 3) and of the force of the user. As a function thereof, the angular movement speed of the device would tend to increase, which among other things would place the safety of the user at risk.

[0067] However, due to a device according to the present invention, since as stated the resistance torque is increased in the passage from the first position to the intermediate position, it is possible to damp the above-indicated effect and hence allow a gradual and non-sudden movement of the device.

[0068] Hence, once the intermediate position is reached and in the further movement of the device up to the second position, the resistance torque could also decrease, which would involve an acceleration in the movement of the device in the terminal part of the lowering path of the crosspiece component 3. In addition, as stated above, when the resisting element 6 reaches the second position, it could be arranged in a manner such to apply, to the upright component(s) 2, a torque that is opposite that applied in the preceding steps, such that the torque applied by the resisting element 6 would actually contribute to maintaining the upright component(s) 2 and the crosspiece component 3 in the second position.

[0069] With regard then to the backward movement of the device, i.e. in order to lift the crosspiece component 3 by moving the upright component(s) 2 from the second position to the first position, this would naturally involve opposite behavior with respect to that described above, among other things with a decrease of the resistance torque in the passage from the intermediate position to the first position.

[0070] In addition, due to the stop elements, in particular due to the stop element 10, it is possible to ensure a reliable and precise stop of the device when the or each upright component reaches the respective second position.

[0071] It will also be understood that the locking means 16 of the first 3a and second 3b section of the crosspiece component 3, if provided, allow easily locking-releasing such components, thus enabling a simple and quick adjustment of the relative position of such sections and hence of the length of the crosspiece component 3. In addition, it has been established that the locking means 16, unlike the solutions according to the state of the art, are not released (unlocked), unless a suitable tool is used.

[0072] Similar considerations can be made for the connection of the upright components 2 to the crosspiece component 3, a connection which, if made with the above-described elements, is reliable and at the same easy to achieve.

[0073] Modifications and variations of the invention are possible within the protective scope defined by the claims.

Claims

1. Device for supporting garments in a housing space, comprising at least one upright component (2), at least one crosspiece component (3) connected to said at least one upright component (2), as well as a articulation group (4) for articulating said at least one upright component (2) to at least one panel (5) about a first articulation axis (x-x) between a first position or raised position and a second position or lowered position wherein said crosspiece component (3) is at a lower level with respect to said first position, **characterized in that** said articulation group (4) comprises at least one resisting element (6) intended to yieldingly oppose movements of said at least one upright component (2) between said first position and said second position, as well as adjustment means (7, 8) for adjusting the resistant torque applied by said at least one resisting element (6) in the passage from said first position to said second position, said adjustment means (7, 8) being intended to increase said resistant torque when said at least one upright component (2) is moved from said first position to at least one intermediate position between said first and said second position,

said adjustment means comprising at least one first engagement component (7) constrained to said at least one resisting element (6), as well as a second engagement component (8) constrainable to a panel (5) and intended to engage said first engagement component (7),

wherein said at least one first engagement component comprises a first toothed section (7) pivoted around a second axis (y-y) to said at least one resisting element (6) and around a third axis (z-z) to said articulation group (4), while said at least one second engagement component comprises a second toothed section (8) fixable to a panel (5) and intended to mesh engage said first toothed section (7),

wherein said first toothed section (7) has a substantially curved toothed portion (7b), while said second toothed section (8) has a substantially curved extension and the radii of curvature of said substantially curved toothed portion (7b) and said second toothed section (8) are not coaxial neither with respect to each other nor with said articulation axis (x-x), and **characterized in that** said substantially curved toothed portion (7b) and said second toothed section (8) have a respective non-constant radius of curvature and thus their radius of curvature is variable from one end to the other.

2. Device according to claim 1, wherein said at least one resisting element (6) is connected to said at least one upright component (2) so as to apply to the latter a resistant force along an application direction (AD), said adjustment means (7, 8) being intended to increase the distance between said application direction (AD) and said articulation axis (x-x) when said at least one upright component (2) is moved from said first position to said intermediate position.
3. Device according to claim 2, wherein said at least one resisting element (6) comprises a stem (6b) or a cylinder (6a) pivoted to said adjustment means (7, 8) and in that said application direction (AD) is defined by the longitudinal extension of said stem (6b) or of said cylinder (6a).
4. Device according to any previous claim, wherein said first toothed section (7) comprises a base block having two main faces (7a) as well as a shaped edge having on one side said substantially curved toothed portion (7b) and on the other a curved edge portion, and wherein in said base block two through holes are formed (7c, 7d), a first hole (7c) for pivoting said first toothed section (7) around said second axis (y-y) to said resisting element (6) and a second hole (7d) for pivoting said first toothed section (7) around said third axis (z-z) to said articulation group (4) and in that the teeth of said toothed portion (7b) extend around said second hole (7d), while the distance of

said toothed portion (7b) from said second hole (7d) decreases from a first end (7b1) to a second end (7b2) of said toothed portion (7b).

5. Device according to any previous claim, wherein said at least one second toothed section (8) has a substantially curved extension, with a first end (8a) engageable by said first toothed section (7) when said upright component (2) is in said first position, as well as a second end (8b) engageable by said first toothed section (7) when said upright component (2) is in said second position, said second end (8b) of said second toothed section (8) being closer to said first articulation axis (x-x) with respect to said first end (8a) of said second toothed section (8).
6. Device according to claim 3, wherein said stem (6b) is pivoted to said at least one first engagement component (7).
7. Device according to any one of the preceding claims when depending upon claim 3, wherein said at least one resisting element comprises a cylinder (6a) as well as a stem (6b) removable/insertable from/into said cylinder (6a), said cylinder (6a) or said stem (6b) being pivoted to said at least one upright component (2), while the other between said stem (6b) and said cylinder (6a) is pivoted to said adjustment means (7, 8).
8. Device as claimed in claim 7, wherein said cylinder (6a) or said stem (6b) extends within said at least one upright component (2), whereas the other between said stem (6b) or said cylinder (6a) extends outside said at least one upright component (2).
9. Device according to any one of the preceding claims, wherein said articulation group (4) comprises a box or a casing (13) for delimiting a positioning and containment zone (PZ) of all or some of the components of said group (4), said casing (13) being pivoted to a respective panel (5) about said first articulation axis (x-x).
10. Device according to claim 9, wherein said adjustment means are located in said positioning zone (PZ) of said casing (13).
11. Device according to claim 10 and according to any previous claim when depending upon claim 3, wherein said stem (6b) or said cylinder (6a) of said resisting element (6) is located in said positioning zone (PZ) of said casing (13).
12. Device according to claims 7 and 10, wherein said casing (13) delimits a seat (13f) for a first end (2a), lower during use, of said upright component (2), said stem (6b) or said cylinder (6a) of said resisting ele-

ment (6) being mounted and exiting outward from said first end (2a).

13. Device according to any one of the preceding claims, comprising at least one stop element (9, 10) of said at least one upright component (2) in said first and/or in said second position. 5
14. Device according to claim 13, wherein said at least one stop element comprises a damping piston element (10) intended to abut against an abutment surface (12) when said at least one upright component (2) is moved towards said second position, thereby slowing the movement of said device until said at least one upright component (2) reaches said second position. 10
15. Device according to any one of the preceding claims, wherein said at least one crosspiece component (3) comprises a first section (3a) as well as a second section (3b), said second section (3b) having a part (3b1) inserted inside said first section (3a), said second section (3b) delimiting a through longitudinal gap open at a first (3b1) and a second (3b2) end of said second section (3b), and in that it comprises locking means (16a, 16c, 17) for locking said second section (3b) with respect to and into said first section (3a), said locking means comprising a tensioning element (16a) inserted into said through longitudinal gap and being intended to engage at an end thereof (16b) a cap component (16c) intended to be fitted by engagement with the respective end (16b) of said tensioning element (16a) into said first end (3b1) of said second section (3b), thereby causing an expansion of said first end (3b1) of said second section (3b) and the consequent engagement of said second section (3b) to said first section (3a). 15
16. Piece of furniture for garments, **characterized in that** it comprises at least one panel (5) as well as at least one device according to any one of the preceding claims, said articulation group (4) being connected to said at least one panel (5). 20

Patentansprüche

1. Vorrichtung zum Aufhängen von Kleidungsstücken in einem Aufnahmeraum, umfassend mindestens eine aufrechte Komponente (2), mindestens eine Querträgerkomponente (3), die mit der besagten mindestens einen aufrechten Komponente (2) verbunden ist, sowie eine Gelenkgruppe (4) zum gelenkigen Verbinden der besagten mindestens einen aufrechten Komponente (2) mit mindestens einer Platte (5) um eine erste Gelenkachse (x-x) zwischen einer ersten Position oder angehobenen Position und einer zweiten Position oder abgesenkten Position, 25

tion, worin sich die besagte Querträgerkomponente (3) auf einer niedrigeren Ebene in Bezug auf die besagte erste Position befindet, **dadurch gekennzeichnet, dass** die besagte Gelenkgruppe (4) mindestens ein Widerstandselement (6) umfasst, das dazu bestimmt ist, Bewegungen der besagten mindestens einen aufrechten Komponente (2) zwischen der besagten ersten Position und der besagten zweiten Position nachgiebig entgegenzuwirken, sowie Einstellmittel (7, 8) zum Einstellen des Widerstandsdrehmoments, das von dem besagten mindestens einen Widerstandselement (6) beim Übergang von der besagten ersten Position zu der besagten zweiten Position aufgebracht wird, wobei die besagten Einstellmittel (7, 8) dazu bestimmt sind, das besagte Widerstandsdrehmoment zu erhöhen, wenn die besagte mindestens eine aufrechte Komponente (2) von der besagten ersten Position zu mindestens einer Zwischenposition zwischen der besagten ersten und der besagten zweiten Position bewegt wird, wobei die Einstellmittel mindestens eine erste Eingriffskomponente (7), die an das besagte mindestens eine Widerstandselement (6) gebunden ist, sowie eine zweite Eingriffskomponente (8), die an eine Platte (5) gebunden werden kann und zum Eingriff der besagten ersten Eingriffskomponente (7) bestimmt ist, umfassen, 30

worin die besagte mindestens eine erste Eingriffskomponente einen ersten gezahnten Abschnitt (7) umfasst, der drehbar um eine zweite Achse (y-y) zu dem besagten mindestens einen Widerstandselement (6) und um eine dritte Achse (z-z) zu der besagten Gelenkgruppe (4) gelagert ist, während die besagte mindestens eine zweite Eingriffskomponente einen zweiten gezahnten Abschnitt (8) umfasst, der an einer Platte (5) fixierbar ist und dazu bestimmt ist, mit dem besagten ersten gezahnten Abschnitt (7) gezhant in Eingriff zu kommen, 35

worin der besagte erste gezahnte Abschnitt (7) einen im Wesentlichen gekrümmten gezahnten Abschnitt (7b) aufweist, während der besagte zweite gezahnte Abschnitt (8) eine im Wesentlichen gekrümmte Erstreckung aufweist und die Krümmungsradien des im Wesentlichen gekrümmten gezahnten Abschnitts (7b) und des besagten zweiten gezahnten Abschnitts (8) weder in Bezug zueinander noch zu der besagten Gelenkachse (x-x) koaxial sind, und **dadurch gekennzeichnet, dass** der besagte im Wesentlichen gekrümmte gezahnte Abschnitt (7b) und der zweite gezahnte Abschnitt (8) einen jeweiligen nicht konstanten Krümmungsradius aufweisen und somit ihr Krümmungsradius von einem Ende zum anderen variabel ist. 40

2. Vorrichtung nach Anspruch 1, worin das besagte mindestens eine Widerstandselement (6) mit der besagten mindestens einen aufrechten Komponente (2) verbunden ist, um auf die letztere eine Wider- 45

- standskraft entlang einer Aufbringungsrichtung (AD) aufzubringen, wobei die besagten Einstellmittel (7, 8) dazu bestimmt sind, den Abstand zwischen der besagten Aufbringungsrichtung (AD) und der besagten Gelenkachse (x-x) zu erhöhen, wenn die besagte mindestens eine aufrechte Komponente (2) von der besagten ersten Position zu der besagten Zwischenposition bewegt wird.
3. Vorrichtung nach Anspruch 2, worin das besagte mindestens eine Widerstandselement (6) einen Schaft (6b) oder einen Zylinder (6a) umfasst, der drehbar an den besagten Einstellmitteln (7, 8) gelagert ist, und dadurch, dass die Aufbringungsrichtung (AD) durch die Längserstreckung des besagten Schaftes (6b) oder des besagten Zylinders (6a) definiert ist.
 4. Vorrichtung nach irgendeinem vorangegangenen Anspruch, worin der besagte erste gezahnte Abschnitt (7) einen Basisblock mit zwei Hauptflächen (7a) sowie eine geformte Kante umfasst, die auf der einen Seite den besagten im Wesentlichen gekrümmten gezahnten Abschnitt (7b) und auf der anderen einen gekrümmten Kantenabschnitt aufweist, und worin in dem besagten Basisblock zwei Durchgangslöcher ausgebildet sind (7c, 7d), ein erstes Loch (7c) zum Drehen des besagten ersten gezahnten Abschnitts (7) um die besagte zweite Achse (y-y) zu dem besagten Widerstandselement (6) und ein zweites Loch (7d) zum Drehen des besagten ersten gezahnten Abschnitts (7) um die besagte dritte Achse (z-z) zu der besagten Gelenkgruppe (4) und dadurch, dass sich die Zähne des besagten gezahnten Abschnitts (7b) um das besagte zweite Loch (7d) erstrecken, während der Abstand des besagten gezahnten Abschnitts (7b) von dem besagten zweiten Loch (7d) von einem ersten Ende (7b1) zu einem zweiten Ende (7b2) des besagten gezahnten Abschnitts (7b) abnimmt.
 5. Vorrichtung nach irgendeinem vorangegangenen Anspruch, worin der besagte mindestens eine zweite gezahnte Abschnitt (8) eine im Wesentlichen gekrümmte Erstreckung aufweist, mit einem ersten Ende (8a), das mit dem besagten ersten gezahnten Abschnitt (7) in Eingriff bringbar ist, wenn sich die besagte aufrechte Komponente (2) in der besagten ersten Position befindet, sowie ein zweites Ende (8b), das mit dem besagten ersten gezahnten Abschnitt (7) in Eingriff bringbar ist, wenn sich die besagte aufrechte Komponente (2) in der besagten zweiten Position befindet, wobei das besagte zweite Ende (8b) des besagten zweiten gezahnten Abschnitts (8) näher an der besagten ersten Gelenkachse (x-x) in Bezug auf das besagte erste Ende (8a) des besagten zweiten gezahnten Abschnitts (8) liegt.
 6. Vorrichtung nach Anspruch 3, worin der besagte Schaft (6b) drehbar an der besagten mindestens einen ersten Eingriffskomponente (7) gelagert ist.
 7. Vorrichtung nach irgendeinem der vorangegangenen Ansprüche, wenn abhängig von Anspruch 3, worin das besagte mindestens eine Widerstandselement einen Zylinder (6a) sowie einen Schaft (6b) umfasst, der aus dem/in den besagten Zylinder (6a) herausnehmbar/einführbar ist, wobei der besagte Zylinder (6a) oder der besagte Schaft (6b) an der besagten mindestens einen aufrechten Komponente (2) drehbar gelagert ist, während der andere zwischen dem besagten Schaft (6b) und dem besagten Zylinder (6a) an den besagten Einstellmitteln (7, 8) drehbar gelagert ist.
 8. Vorrichtung nach Anspruch 7, worin sich der besagte Zylinder (6a) oder der besagte Schaft (6b) innerhalb der besagten mindestens einen aufrechten Komponente (2) erstreckt, wohingegen sich der andere zwischen dem besagten Schaft (6b) oder dem besagten Zylinder (6a) außerhalb der besagten mindestens einen aufrechten Komponente (2) erstreckt.
 9. Vorrichtung nach irgendeinem der vorangegangenen Ansprüche, worin die besagte Gelenkgruppe (4) einen Kasten oder ein Gehäuse (13) zum Begrenzen einer Positionier- und Einschlusszone (PZ) aller oder einiger Komponenten der besagten Gruppe (4) umfasst, wobei das besagte Gehäuse (13) an einer entsprechenden Platte (5) um die besagte erste Gelenkachse (x-x) drehbar gelagert ist.
 10. Vorrichtung nach Anspruch 9, worin die besagten Einstellmittel in der besagten Positionierzone (PZ) des besagten Gehäuses (13) angeordnet sind.
 11. Vorrichtung nach Anspruch 10 und nach jedem vorangegangenen Anspruch, wenn abhängig von Anspruch 3, worin der besagte Schaft (6b) oder der besagte Zylinder (6a) des besagten Widerstandselements (6) in der Positionierzone (PZ) des besagten Gehäuses (13) angeordnet ist.
 12. Vorrichtung nach den Ansprüchen 7 und 10, worin das besagte Gehäuse (13) einen Sitz (13f) für ein bei Verwendung unteres erstes Ende (2a) der besagten aufrechten Komponente (2) begrenzt, wobei der besagte Schaft (6b) oder der besagte Zylinder (6a) des besagten Widerstandselements (6) montiert ist und von dem ersten besagten Ende (2a) auswärts austritt.
 13. Vorrichtung nach irgendeinem der vorangegangenen Ansprüche, umfassend mindestens ein Anschlagelement (9, 10) der besagten mindestens einen aufrechten Komponente (2) in der besagten ers-

ten und/oder in der besagten zweiten Position.

14. Vorrichtung nach Anspruch 13, worin das besagte mindestens eine Anschlagelement ein Dämpfungskolbenelement (10) umfasst, das dazu bestimmt ist, an eine Anlagefläche (12) anzustoßen, wenn die besagte mindestens eine aufrechte Komponente (2) zu der besagten zweiten Position hin bewegt wird, wodurch die Bewegung der besagten Vorrichtung verlangsamt wird, bis die besagte mindestens eine aufrechte Komponente (2) die besagte zweite Position erreicht. 5
15. Vorrichtung nach irgendeinem der vorangegangenen Ansprüche, worin die besagte mindestens eine Querträgerkomponente (3) einen ersten Abschnitt (3a) sowie einen zweiten Abschnitt (3b) umfasst, wobei der besagte zweite Abschnitt (3b) einen Teil (3b1) aufweist, der in den besagten ersten Abschnitt (3a) eingesetzt ist, der besagte zweite Abschnitt (3b) einen durchgehenden Längsspalt begrenzt, der an einem ersten (3b1) und einem zweiten (3b2) Ende des besagten zweiten Abschnitts (3b) offen ist, und dadurch, dass sie Verriegelungsmittel (16a, 16c, 17) zum Verriegeln des besagten zweiten Abschnitts (3b) in Bezug auf den und in dem besagten ersten Abschnitt (3a) umfasst, wobei die besagten Verriegelungsmittel ein Spannelement (16a) umfassen, das in den besagten durchgehenden Längsspalt eingesetzt ist und dazu bestimmt ist, an einem Ende davon (16b) an einer Kappenkomponente (16c) einzugreifen, die dazu bestimmt ist, durch Eingriff mit dem jeweiligen Ende (16b) des besagten Spannelements (16a) in das besagte erste Ende (3b1) des besagten zweiten Abschnitts (3b) eingesetzt zu werden, wodurch eine Erstreckung des besagten ersten Endes (3b1) des besagten zweiten Abschnitts (3b) und der daraus folgende Eingriff des besagten zweiten Abschnitts (3b) in den besagten ersten Abschnitt (3a) bewirkt wird. 10 15 20 25 30 35 40
16. Möbelstück für Kleidungsstücke, **dadurch gekennzeichnet, dass** es mindestens eine Platte (5) sowie mindestens eine Vorrichtung nach irgendeinem der vorangegangenen Ansprüche umfasst, wobei die besagte Gelenkgruppe (4) mit der besagten mindestens einer Platte (5) verbunden ist. 45

Revendications

1. Dispositif pour supporter des vêtements dans un espace de logement, comprenant au moins un composant vertical (2), au moins un composant de traverse (3) raccordé audit au moins un composant vertical (2), ainsi qu'un groupe d'articulation (4) pour articuler ledit au moins un composant vertical (2) sur au moins un panneau (5) autour d'un premier axe 50

d'articulation (x-x) entre une première position ou position relevée et une deuxième position ou position abaissée dans laquelle ledit composant de traverse (3) est à un niveau inférieur par rapport à ladite première position, **caractérisé en ce que** ledit groupe d'articulation (4) comprend au moins un élément résistant (6) destiné à s'opposer de façon élastique aux mouvements dudit au moins un composant vertical (2) entre ladite première position et ladite deuxième position, ainsi que des moyens de réglage (7, 8) pour régler le couple de résistance appliqué par ledit au moins un élément résistant (6) lors du passage de ladite première position à ladite deuxième position, lesdits moyens de réglage (7, 8) étant destinés à augmenter ledit couple de résistance quand ledit au moins un composant vertical (2) est déplacé de ladite première position à au moins une position intermédiaire entre ladite première et ladite deuxième position, lesdits moyens de réglage comprenant au moins un premier composant d'enclenchement (7) restreint sur ledit au moins un élément résistant (6), ainsi qu'un deuxième composant d'enclenchement (8) pouvant être restreint sur un panneau (5) et destiné à enclencher ledit premier composant d'enclenchement (7), dans lequel ledit au moins un premier composant d'enclenchement comprend une première section dentée (7) articulée autour d'un deuxième axe (y-y) sur ledit au moins un élément résistant (6) et autour d'un troisième axe (z-z) sur ledit groupe d'articulation (4), alors que ledit au moins un deuxième composant d'enclenchement comprend une deuxième section dentée (8) pouvant être fixée à un panneau (5) et destinée à s'engrener avec ladite première section dentée (7), dans lequel ladite première section dentée (7) comporte une partie dentée (7b) sensiblement incurvée, alors que ladite deuxième section dentée (8) comporte une extension sensiblement incurvée et les rayons de courbure de ladite partie dentée (7b) sensiblement incurvée et ladite deuxième section dentée (8) ne sont pas coaxiaux l'un par rapport à l'autre ou avec ledit axe d'articulation (x-x), et **caractérisé en ce que** ladite partie dentée (7b) sensiblement incurvée et ladite deuxième section dentée (8) ont un rayon de courbure non-constant respectif et donc leur rayon de courbure est variable d'une extrémité à l'autre. 55

2. Dispositif selon la revendication 1, dans lequel ledit au moins un élément résistant (6) est raccordé audit au moins un composant vertical (2) afin d'appliquer à ce dernier une force de résistance le long d'une direction d'application (AD), lesdits moyens de réglage (7, 8) étant destinés à augmenter la distance entre ladite direction d'application (AD) et ledit axe d'articulation (x-x) quand ledit au moins un compo-

sant vertical (2) est déplacé de ladite première position à ladite position intermédiaire.

3. Dispositif selon la revendication 2, dans lequel ledit au moins un élément résistant (6) comprend une tige (6b) ou un cylindre (6a) articulé sur lesdits moyens de réglage (7, 8) et en ce que ladite direction d'application (AD) est définie par l'extension longitudinale de ladite tige (6b) ou dudit cylindre (6a).
4. Dispositif selon l'une des revendications précédentes, dans lequel ladite première section dentée (7) comprend un bloc de base comportant deux faces principales (7a) ainsi qu'un bord modelé ayant sur un côté ladite partie dentée (7b) sensiblement incurvée et de l'autre une partie de bord incurvé, et dans lequel dans ledit bloc de base deux orifices traversants sont formés (7c, 7d), un premier orifice (7c) pour faire pivoter ladite première section dentée (7) autour dudit deuxième axe (y-y) sur ledit élément résistant (6) et un deuxième orifice (7d) pour faire pivoter ladite première section dentée (7) autour dudit troisième axe (z-z) sur ledit groupe d'articulation (4) et en ce que les dents de ladite partie dentée (7b) s'étendent autour dudit deuxième orifice (7d), alors que la distance de ladite partie dentée (7b) depuis ledit deuxième orifice (7d) diminue d'une première extrémité (7b1) à une deuxième extrémité (7b2) de ladite partie dentée (7b).
5. Dispositif selon l'une des revendications précédentes, dans lequel ladite au moins une deuxième section dentée (8) comporte une extension sensiblement incurvée, avec une première extrémité (8a) enclenchable par ladite première section dentée (7) quand ledit composant vertical (2) est dans ladite première position, ainsi qu'une deuxième extrémité (8b) enclenchable par ladite première section dentée (7) quand ledit composant vertical (2) est dans ladite deuxième position, ladite deuxième extrémité (8b) de ladite deuxième section dentée (8) étant plus proche dudit premier axe d'articulation (x-x) par rapport à ladite première extrémité (8a) de ladite deuxième section dentée (8).
6. Dispositif selon la revendication 3, dans lequel ladite tige (6b) est articulée sur ledit au moins un premier composant d'enclenchement (7).
7. Dispositif selon l'une quelconque des revendications précédentes quand elle dépend de la revendication 3, dans lequel ledit au moins un élément résistant comprend un cylindre (6a) ainsi qu'une tige (6b) amovible/insérable de/dans ledit cylindre (6a), ledit cylindre (6a) ou ladite tige (6b) étant articulés sur ledit au moins un composant vertical (2), alors que l'autre de ladite tige (6b) et dudit cylindre (6a) est articulé sur lesdits moyens de réglage (7, 8).

8. Dispositif selon la revendication 7, dans lequel ledit cylindre (6a) ou ladite tige (6b) s'étend dans ledit au moins un composant vertical (2), alors que l'autre de ladite tige (6b) ou dudit cylindre (6a) s'étend en dehors dudit au moins un composant vertical (2).
9. Dispositif selon l'une quelconque des revendications précédentes, dans lequel ledit groupe d'articulation (4) comprend un boîtier ou un corps (13) pour délimiter une zone de positionnement et de confinement (PZ) de tout ou partie des composants dudit groupe (4), ledit corps (13) étant articulé sur un panneau (5) respectif autour dudit premier axe d'articulation (x-x).
10. Dispositif selon la revendication 9, dans lequel lesdits moyens de réglage sont situés dans ladite zone de positionnement (PZ) dudit corps (13).
11. Dispositif selon la revendication 10 et selon l'une des revendications précédentes quand elle dépend de la revendication 3, dans lequel ladite tige (6b) ou ledit cylindre (6a) dudit élément résistant (6) est située dans ladite zone de positionnement (PZ) dudit corps (13).
12. Dispositif selon les revendications 7 et 10, dans lequel ledit corps (13) délimite un siège (13f) pour une première extrémité (2a), abaissée pendant l'utilisation, dudit composant vertical (2), ladite tige (6b) ou ledit cylindre (6a) dudit élément résistant (6) étant montée et sortant de ladite première extrémité (2a).
13. Dispositif selon l'une quelconque des revendications précédentes, comprenant au moins un élément de butée (9, 10) dudit au moins un composant vertical (2) dans ladite première et/ou dans ladite deuxième position.
14. Dispositif selon la revendication 13, dans lequel ledit au moins un élément de butée comprend un élément de piston d'amortissement (10) destiné à entrer en butée contre une surface de butée (12) quand ledit au moins un composant vertical (2) est déplacé vers ladite deuxième position, ralentissant ainsi le mouvement dudit dispositif jusqu'à ce que ledit au moins un composant vertical (2) atteigne ladite deuxième position.
15. Dispositif selon l'une quelconque des revendications précédentes, dans lequel ledit au moins un composant de traverse (3) comprend une première section (3a) ainsi qu'une deuxième section (3b), ladite deuxième section (3b) comportant une partie (3b1) insérée à l'intérieur de ladite première section (3a), ladite deuxième section (3b) délimitant un espace longitudinal traversant ouvert à une première (3b1) et une deuxième (3b2) extrémités de ladite deuxième section (3b), et dans lequel il comprend des

moyens de verrouillage (16a, 16c, 17) pour verrouiller ladite deuxième section (3b) par rapport à et dans ladite première section (3a), lesdits moyens de verrouillage comprenant un élément de tension (16a) inséré dans ledit espace longitudinal traversant et destiné à accoupler à une extrémité de celui-ci (16b) un composant de capuchon (16c) destiné à être installé par enclenchement avec l'extrémité (16b) respective dudit élément de tension (16a) dans ladite première extrémité (3b1) de ladite deuxième section (3b), entraînant ainsi une expansion de ladite première extrémité (3b1) de ladite deuxième section (3b) et l'enclenchement conséquent de ladite deuxième section (3b) sur ladite première section (3a).

16. Élément de mobilier pour vêtements, **caractérisé en ce qu'il** comprend au moins un panneau (5) ainsi qu'au moins un dispositif selon l'une quelconque des revendications précédentes, ledit groupe d'articulation (4) étant raccordé audit au moins un panneau (5).

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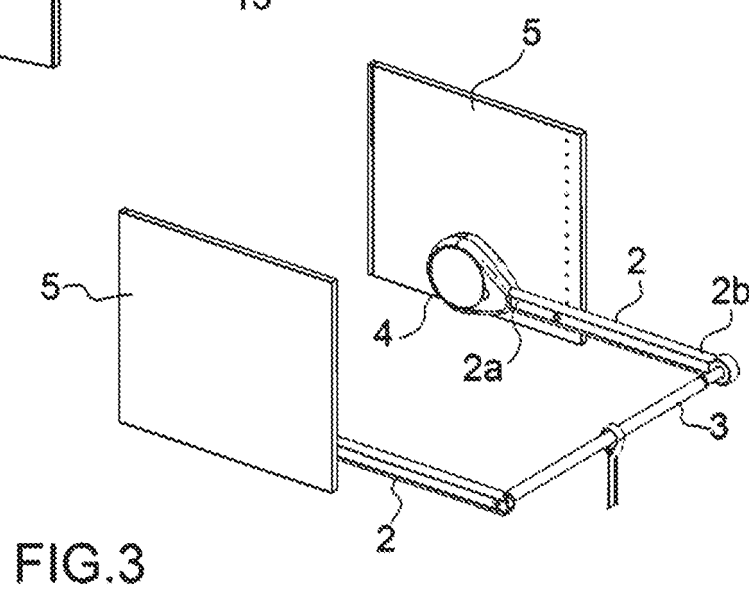
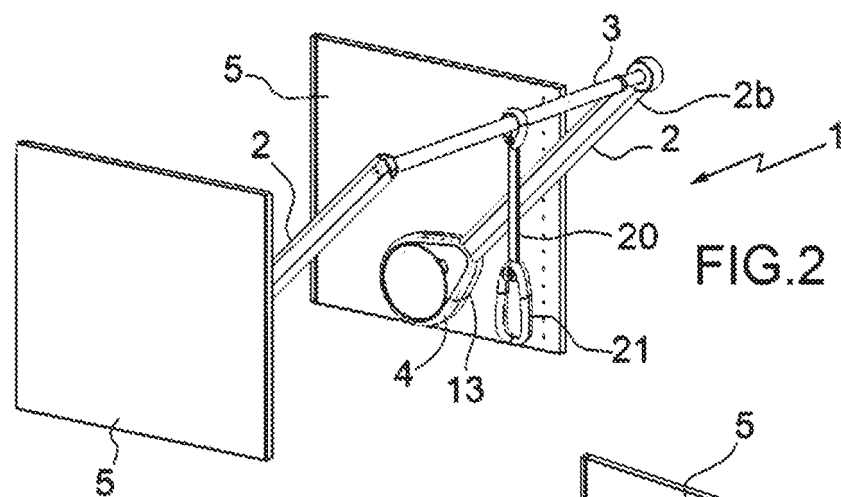
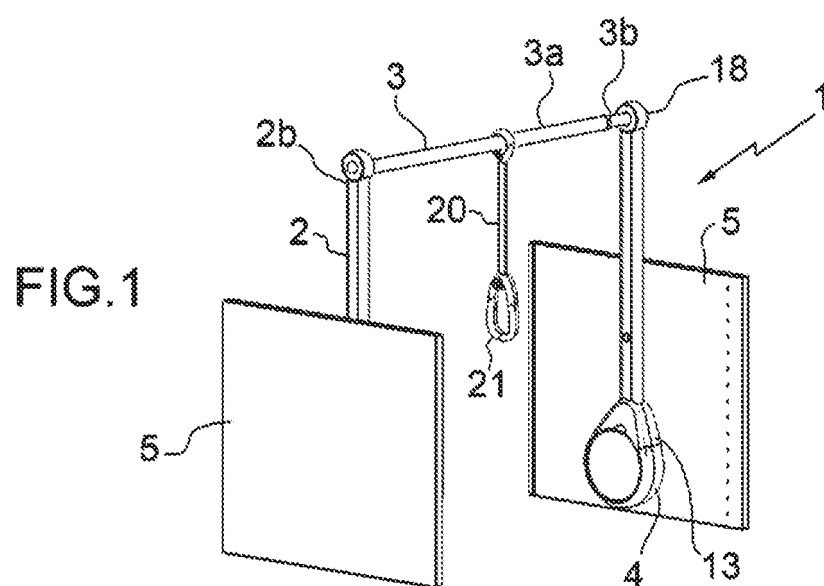
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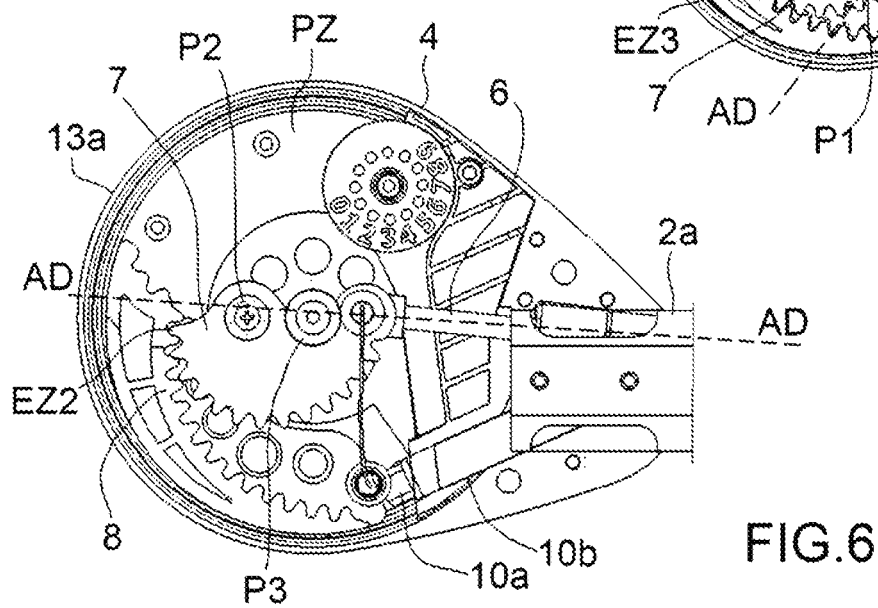
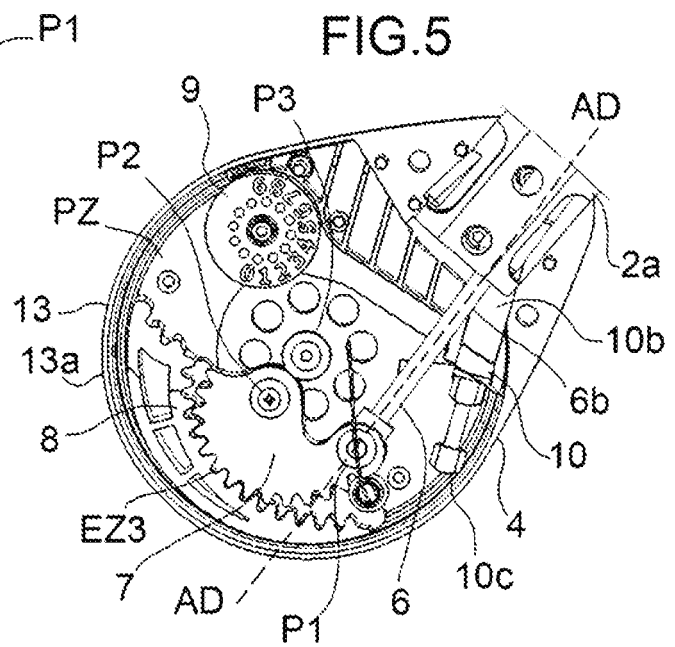
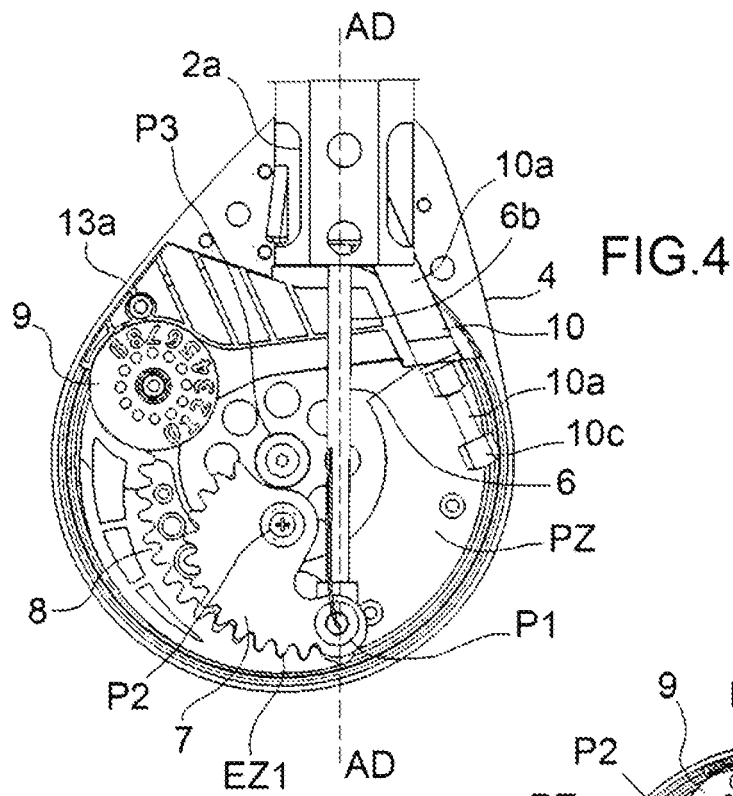
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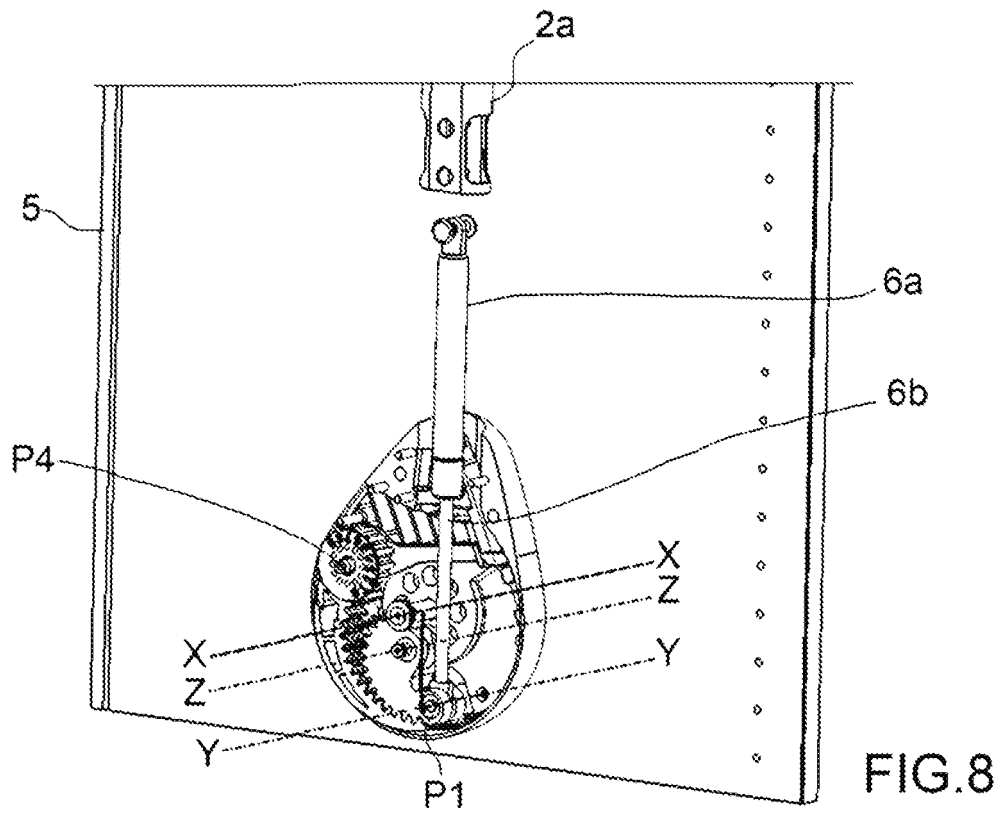
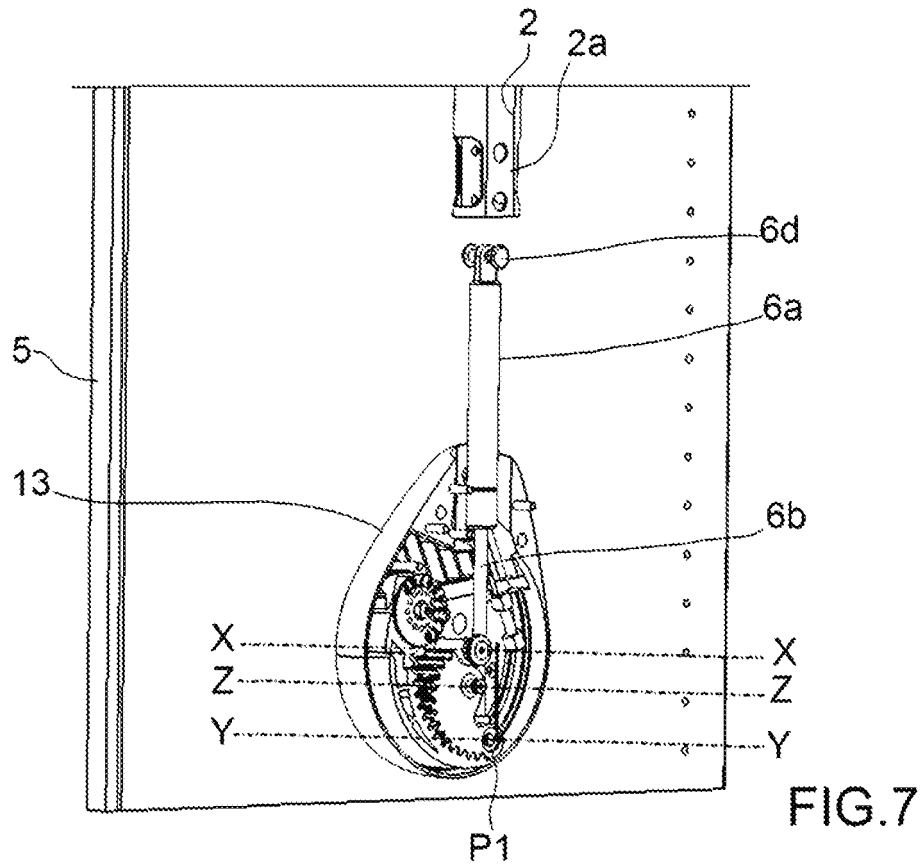
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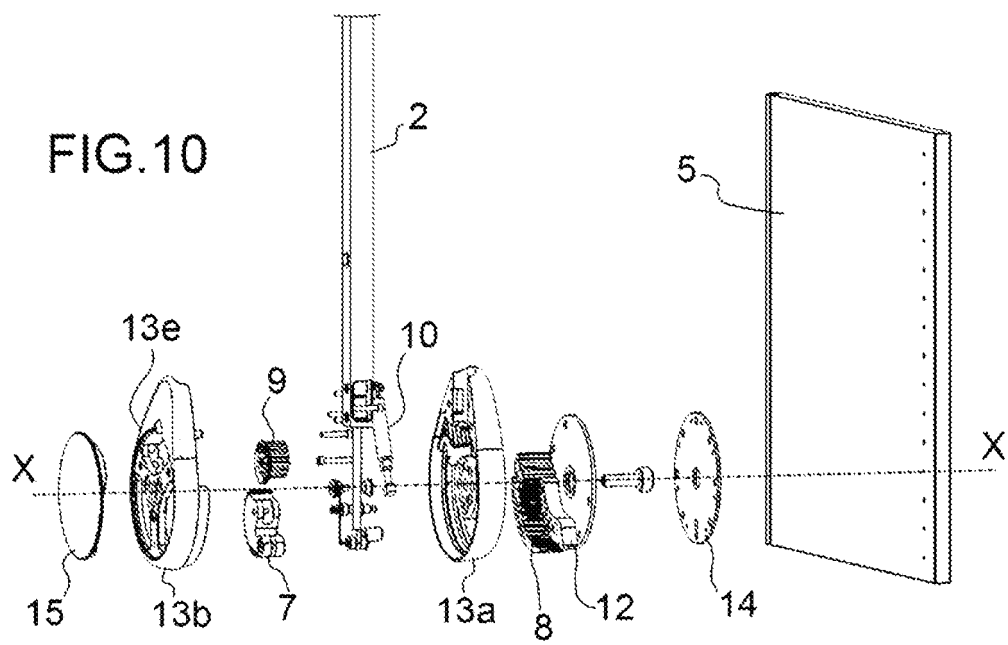
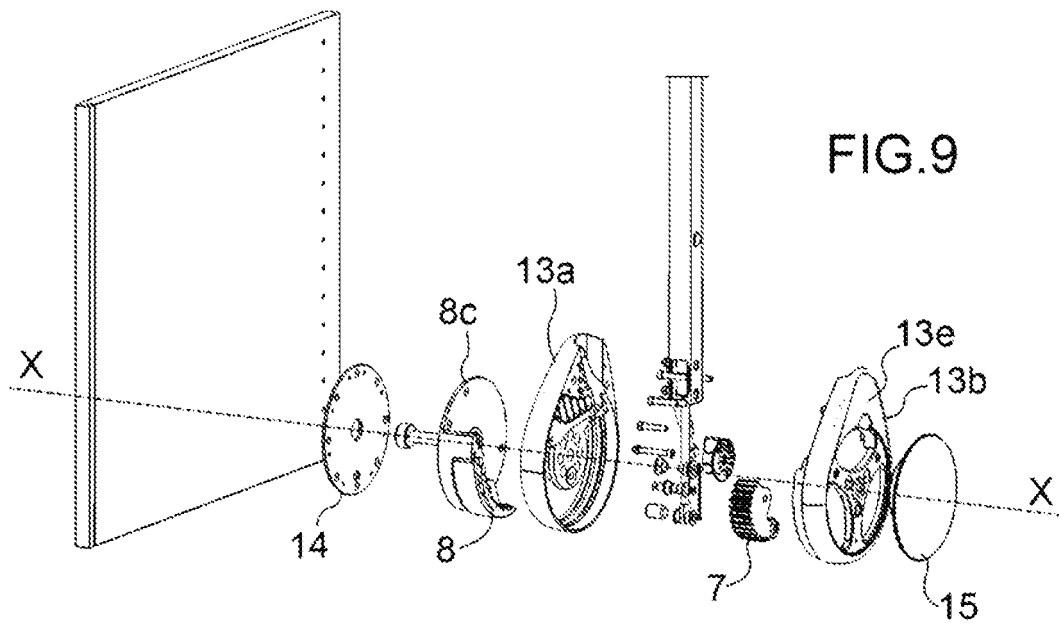
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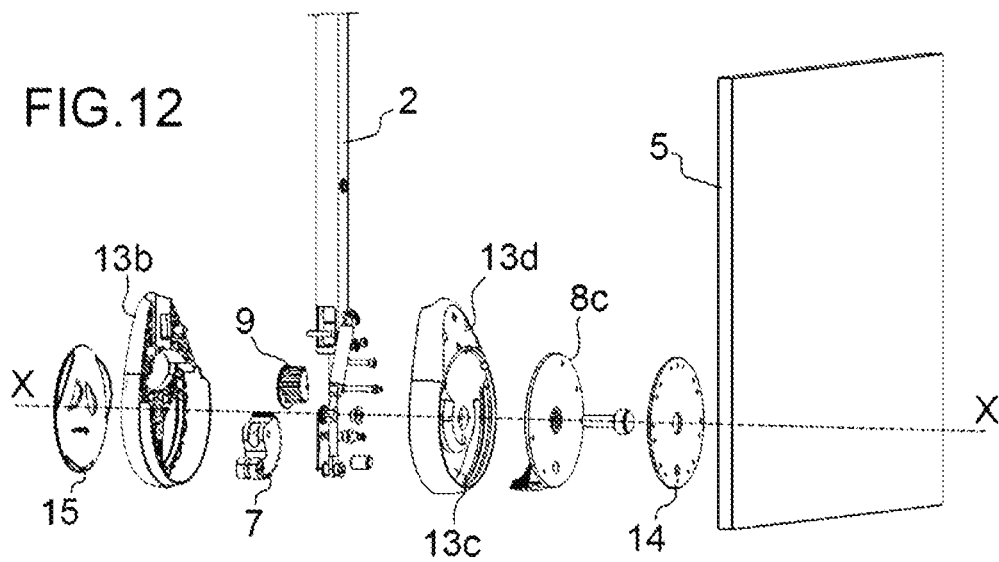
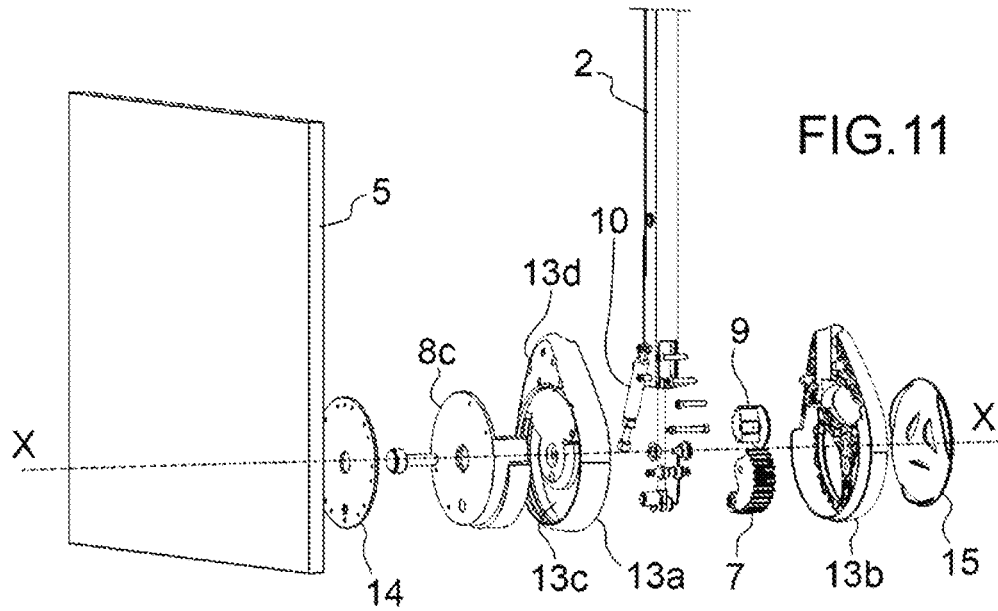


FIG.13

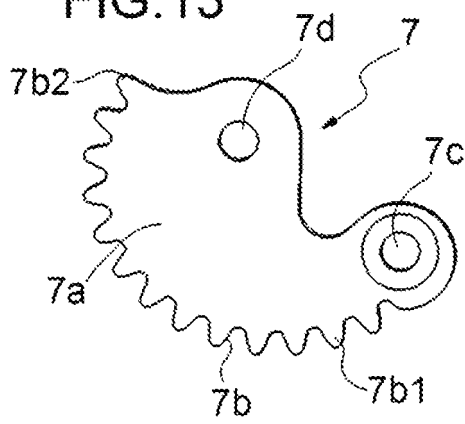


FIG.14

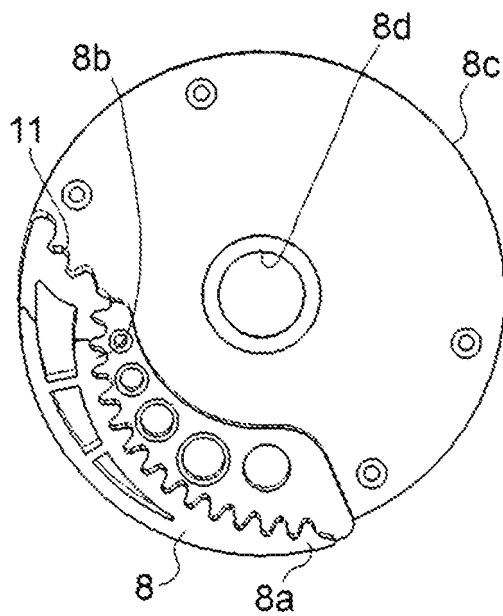
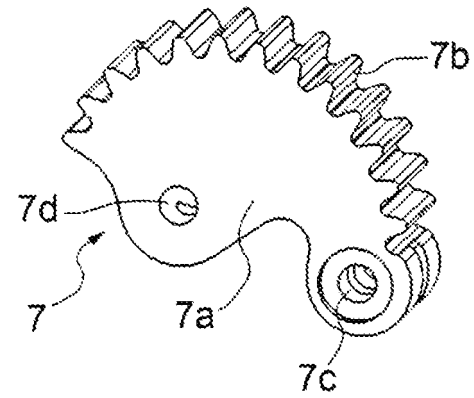


FIG.15

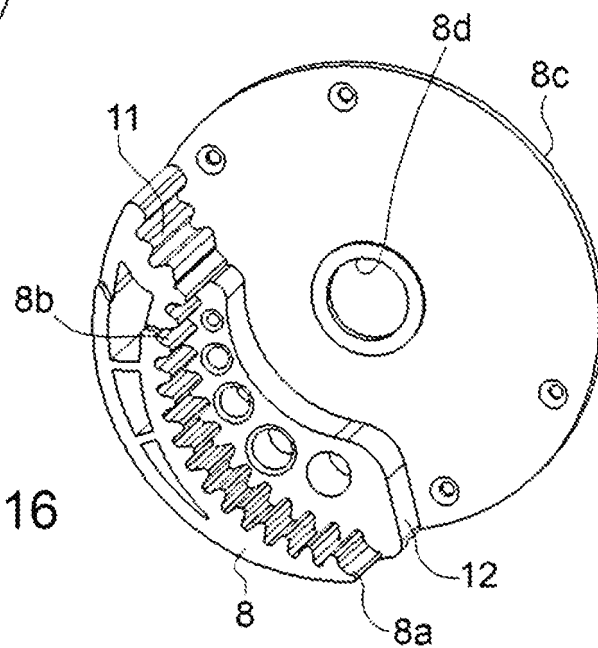


FIG.16

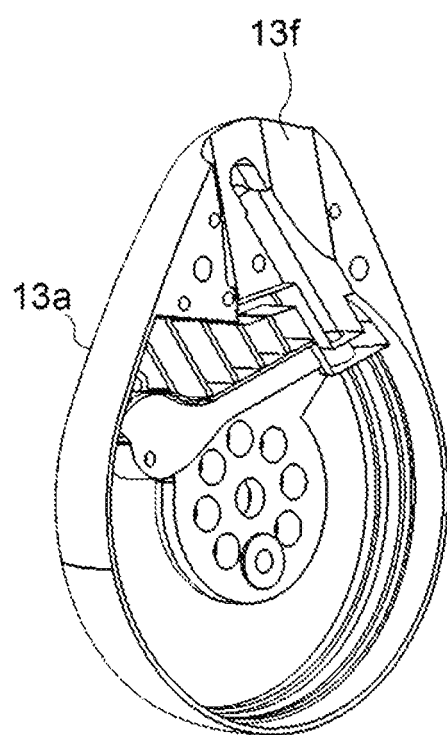


FIG. 17

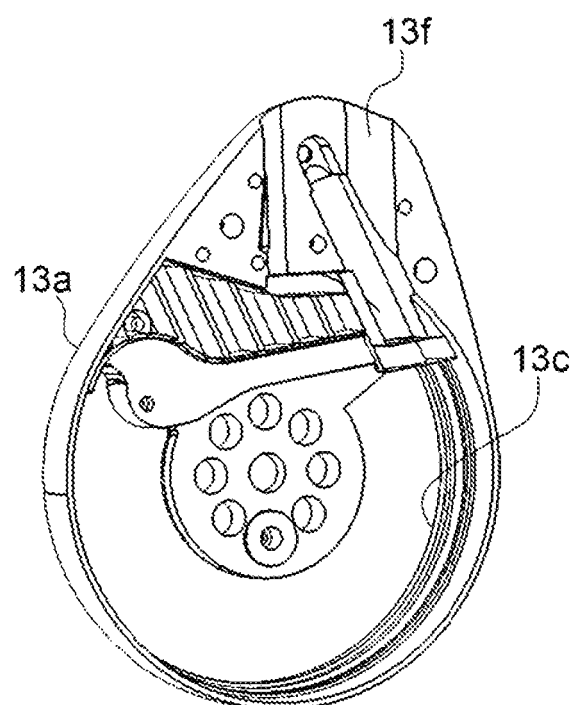


FIG. 18

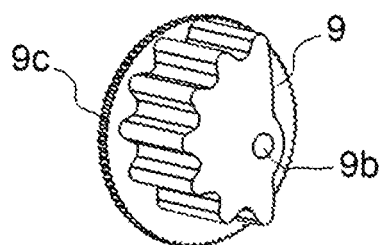


FIG. 19

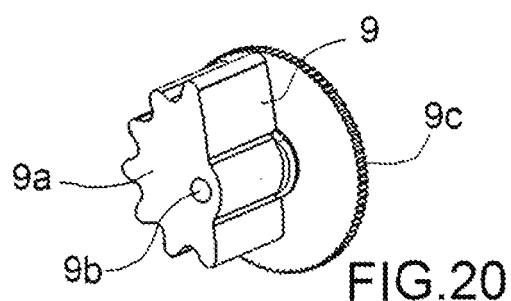


FIG. 20

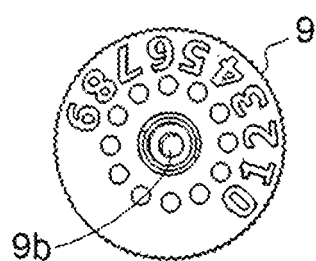


FIG. 21

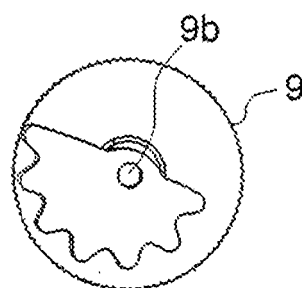
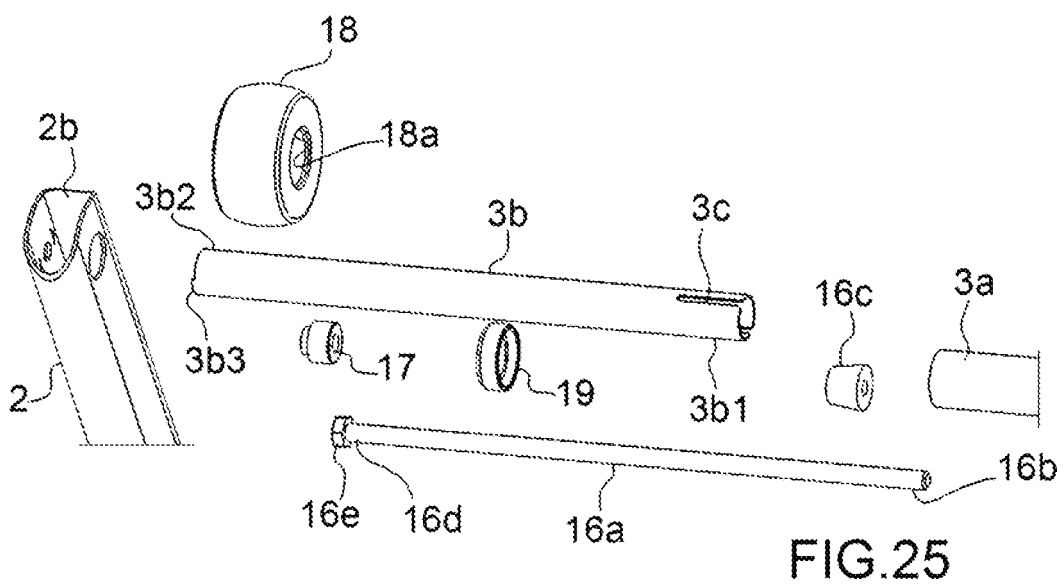
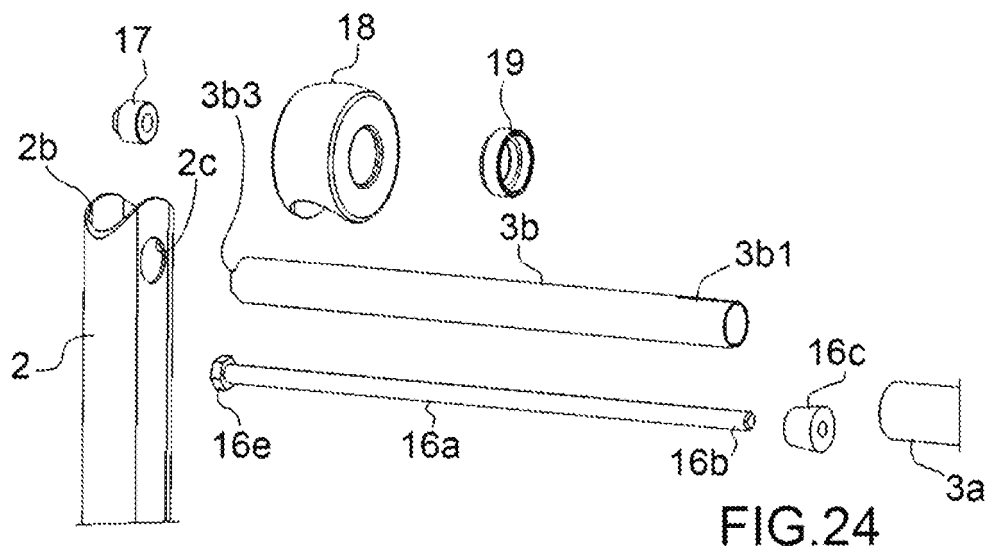
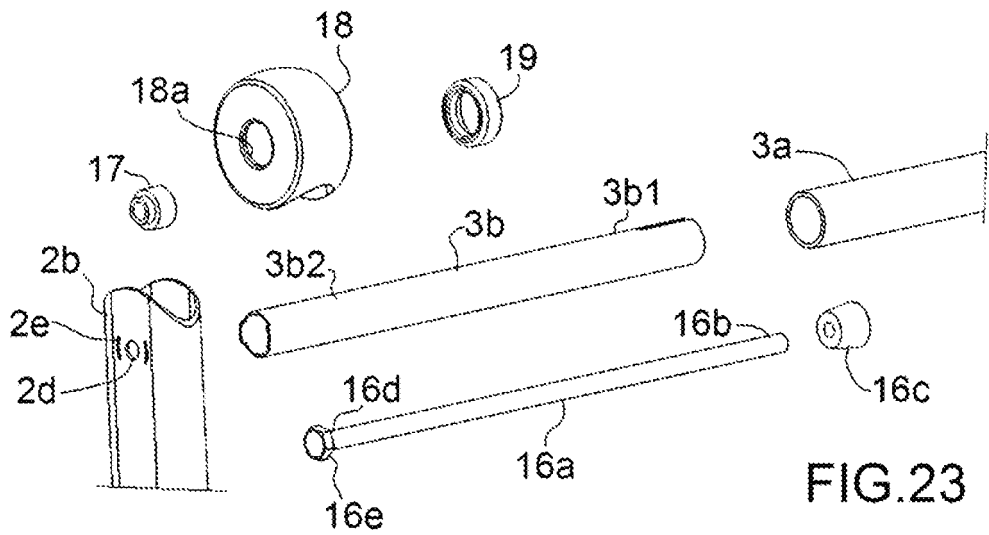


FIG. 22



REFERENCES CITED IN THE DESCRIPTION

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