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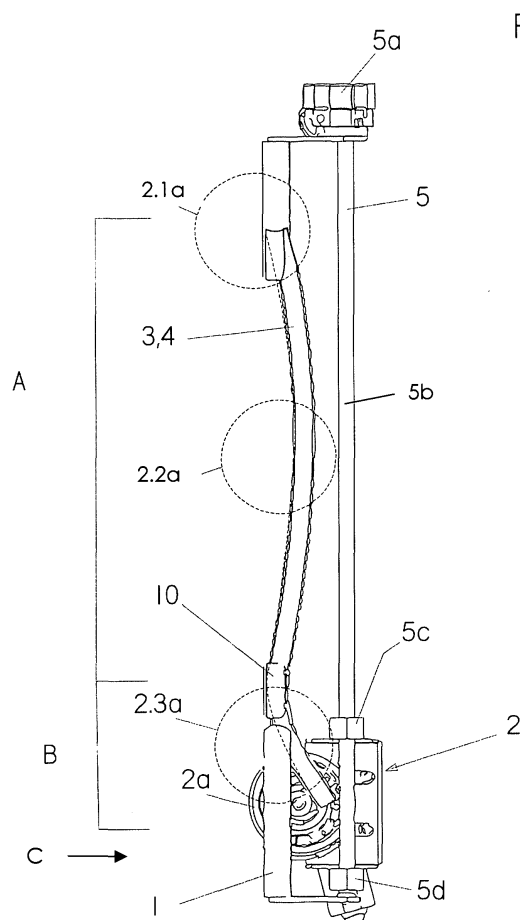
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Remarks:

Amended claims in accordance with Rule 86 (2) EPC.

(54) **Massage device for furniture for sitting or reclining**

(57) The invention relates to a massage device for furniture for sitting or reclining, with a basic frame, a massage unit which has a drivable massage element and at least one guide profile along which the massage unit can be moved by a motor in order to carry out a massage, the guide profile having a curvature adapted to the contour of the spinal column of a person to be massaged. The guide profile is divided into three regions, wherein in the first region the massage unit enables a massage of the person located on the massage device, in the second region it acts as a lordosis support and in the third region it reaches a parked position in which the massage arrangement does not exert any pressure.



Description

[0001] The invention relates to a massage device for furniture for sitting or reclining, with a basic frame, a massage unit which has a drivable massage element and at least one guide profile along which the massage unit can be moved by a motor in order to carry out a massage, the guide profile having a curvature adapted to the contour of the spinal column of a person to be massaged.

[0002] Such a massage device is described in DE-A1-195 05 445 and makes targeted massage of the back region and also of the neck region possible. However, items of furniture for sitting and reclining which are equipped with massage devices are usually used only when a massage is to be carried out.

[0003] The object of the invention, therefore, is to improve the massage device for furniture for sitting or reclining in such a way that the furniture for sitting or reclining also offers a high level of comfort when no massage is to be carried out.

[0004] This object is achieved according to the invention by the features of Claim 1.

[0005] The massage device according to the invention for furniture for sitting or reclining comprises a basic frame, a massage unit which has a drivable massage element and at least one guide profile along which the massage unit can be moved by a motor in order to carry out a massage, the guide profile having a curvature adapted to the contour of the spinal column of a person to be massaged. In this case the guide profile is divided into three regions, wherein in the first region the massage unit enables a massage of the person located on the massage device, in the second region it acts as a lordosis support and in the third region it reaches a parked position in which the massage arrangement does not exert any pressure on the person.

[0006] Due to the special configuration of the guide profile the massage unit can be moved into a parked position when no massage is to take place. In this parked position the massage element is moved so far back from the person sitting on the item of furniture for sitting or reclining that no unpleasant pressure is exerted. For anatomically favourable seating, in the second region of the guide profile the massage unit can act as a lordosis support. Therefore the furniture for sitting or reclining with such a massage device can also be used with great comfort when no massage is carried out.

[0007] In the massage device known from DE-A1-195 95 445 the guide profile designed so that the massage unit can only be moved in a range which is suitable for massage.

[0008] Further embodiments of the invention are the subject matter of the subordinate claims.

[0009] According to a particular embodiment of the invention, in order to move the massage unit along the guide profile a displacement means is provided which comprises a spindle which can be rotated by way of a drive and at least one nut which is displaceable along

the spindle, the massage unit being connected to the at least one nut. In this case the massage unit can comprise a first part which can be moved in a straight line by way of a displacement means and a second part which retains the at least one massage element, wherein the second part is retained so as to be movable relative to the first part and is coupled to the at least one guide profile (3, 4).

[0010] Further variants and advantages of the invention are explained in greater detail with reference to the following description of an embodiment.

[0011] In the drawings:

Figure 1 shows a side view of the massage device according to the invention,

Figure 2 shows a three-dimensional representation of the massage device according to Figure 1, and

Figure 3 shows a three-dimensional partial representation of the massage unit in its parked position.

[0012] The massage device shown in the drawings for furniture for sitting or reclining basically comprises a basic frame 1, a massage unit 2 which has at least one drivable massage element 2a and two guide profiles 3, 4 along which the massage unit can be moved by a motor in order to carry out a massage. The guide profiles have a curvature which is adapted to the contour of the spinal column of a person to be massaged.

[0013] In the illustrated embodiment the two guide profiles 3, 4 form a part of the basic frame.

[0014] In order to move the massage unit 2 along the guide profiles 3, 4 a displacement means 5 is provided which comprises a spindle 5b which can be rotated by way of a drive 5a and two nuts 5c, 5d which are displaceable along the spindle, the massage unit 2 being connected to the two nuts.

[0015] Since the spindle 5b is of straight construction, the massage unit 2 can accordingly also be moved only a straight line. So that the massage elements 2a can nevertheless follow the contour of the guide profiles 3, 4 the massage unit has a first part 2b which can be moved in a straight line by way of the displacement means 5 and a second part 2c which retains the at least one massage element 2a, the second part being retained so as to be movable relative to the first part and coupled to the guide profiles 3, 4.

[0016] The relative movability of the two parts 2b, 2c can be achieved in different ways. Thus for example pivot levers may be considered. In the illustrated embodiment the two parts are formed by two housing parts which can be moved relative to one another by way of slots 2d and bolts 2e.

[0017] The coupling of the second part 2c to the guide profiles 3, 4 can for example take place by construction of the guide profiles as U profiles and the second part has rollers which are guided in the two guide profiles. In the illustrated embodiment the second part 2c likewise

has rollers 6. Furthermore a pivot lever 7 with a pin 8 is pivotably retained on the axle of the roller 6. As can be seen in particular from Figure 3, the guide profile is disposed between the roller 6 and the pin 8. The clear distance between the roller and the pin is advantageously somewhat greater than the width of the guide profile lying between them, in order to enable operation with the least possible friction. Instead of the pin 8, naturally a corresponding spring could also be provided which is disposed so that it pushes both parts 2b, 2c together.

[0018] Depending upon the requirements, the massage unit 2 can be constructed in a manner which is known *per se*. In the illustrated embodiment two massage elements 2a are provided which can be driven by way of a motor 9. Tapping, kneading or stroking massages can for example be carried out depending upon the design.

[0019] The guide profiles 3, 4 have a curvature which is adapted to the contour of the spinal column of a person to be massaged in such a way that for each region of the back the optical pressure is exerted on the user's back.

[0020] The guide profiles 3, 4 are divided into three regions, wherein the first region A is formed by the upper part, the second region B is formed by the part adjoining it at the bottom and the third region C is formed by the lowest part of the guide profile. If the massage unit is located in the first region A, which is indicated in Figure 1 by the positions 21a or 2.2a of the massage element 2a, a massage can be carried out on the person located on the massage device. If the massage unit is located in the second region B, as indicated by the position 2.3a of the massage element 2a, the massage unit acts as a lordosis support for the lumbar vertebral region. If the massage unit is moved completely downwards it is located in the third region C which forms a parked position in which the massage unit does not exert any pressure on the person.

[0021] By way of a control which is not shown in detail a massage function, a lordosis support or a stop function can be selected as required, wherein the massage unit moves into the first region A when the massage function is selected, into the region B when the lordosis support is selected and into the third region C when the stop function is selected.

[0022] Depending upon the design of the massage unit different massages can be carried out when the massage function is selected. When the lordosis support is selected the massage unit can be moved as required into a predetermined position or moved gradually into the region B. When the stop function is selected the massage unit moves from the respective current position to its parked position (region C).

[0023] Advantageously a position sensor 10 is provided between the first and second regions so that the control recognises the lower end of the first region A or the upper end of the second region B and can limit the possible movement of the massage unit to the respective region.

[0024] The furniture for sitting or reclining which is

equipped with the massage device described above enables not only a massage which is adapted to the contour of the user's back but also offers a suitable support in the lumbar vertebral region during sitting, when no massage is required. Furthermore, it is possible to move the massage unit into its parked position in which no pressure whatsoever is exerted on the person by the massage unit.

10 Claims

1. Message device for furniture for sitting or reclining, with

- a. a basic frame (1),
- b. a massage unit (2) which has at least one drivable massage element (2a)
- c. and at least one guide profile (3, 4) along which the massage unit can be moved by a motor - in order to carry out a massage, the guide profile having a curvature adapted to the - contour of the spinal column of a passage to be massaged,

characterised in that the guide profile is divided into three regions (A, B, C), wherein in the first region (A) the massage unit enables a massage of the person located on the massage device, in the second region (B) it acts as a lordosis support and in the third region (C) it reaches a parked position in which the massage arrangement does not exert any pressure.

2. Message device as claimed in Claim 1, **characterised in that** the first region (A) is formed by the upper part of the guide profile, the second region (B) by the part adjoining it at the bottom and the third region (C) by the lowest part of the guide profile.

3. Message device as claimed in Claim 1, **characterised in that** in order to move the massage unit (2) along the guide profile (3, 4) a displacement means (5) is provided which comprises a spindle (5b) which can be rotated by way of a drive (5a) and at least one nut which is displaceable along the spindle, the massage unit being connected to the at least one nut.

4. Message device as claimed in Claim 1, **characterised in that** the massage unit comprises a first part (2b) which can be moved in a straight line by way of a displacement means (5) and a second part (2c) which retains the at least one massage element (2a) and is in operative contact with the at least one guide profile (3, 4).

5. Message device as claimed in Claim 4, **characterised in that** the second part (2c) is displaceably retained on the first part (2b).

6. Message device as claimed in Claim 3 and 4, **characterised in that** two guide profiles (3, 4) are provided along which the message unit (2) can be displaced. 5
7. Message device as claimed in Claim 1, **characterised in that** the message unit (2) is in operative contact with the guide profile (3, 4) by way of at least one roller (6). 10
8. Message device as claimed in Claim 1, **characterised in that** the message unit comprises at least one motor (9) for driving the at least one message element (2a). 15
9. Message device as claimed in Claim 1, **characterised in that** a position sensor (10) is provided which recognises the lower end of the first region. 20
10. Message device as claimed in Claim 1, **characterised by** a control by which a message function, a lordosis support or a stop function can be selected as required, wherein the message unit moves into the first region (A) when the message function is selected, into the second region (B) when the lordosis support is selected and into the third region (C) when the stop function is selected. 25

Amended claims in accordance with Rule 86(2) EPC. 30

1. Message device for furniture for sitting or reclining, with

- a. a basic frame (1), 35
- b. a message unit (2) which has at least one drivable message element (2a)
- c. and at least one guide profile (3, 4) along which the message unit can be moved by a motor - in order to carry out a massage, the guide profile having a curvature adapted to the - contour of the spinal column of a person to be massaged, 40

characterised in that the guide profile is divided into three regions (A, B, C), wherein in the first region (A) the message element (2a) of the message unit enables a massage of the person located on the message device, in the second region (B) it acts as a lordosis support and in the third region (C) it reaches a parked position in which the message unit does not exert any pressure. 45 50

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Fig. 1

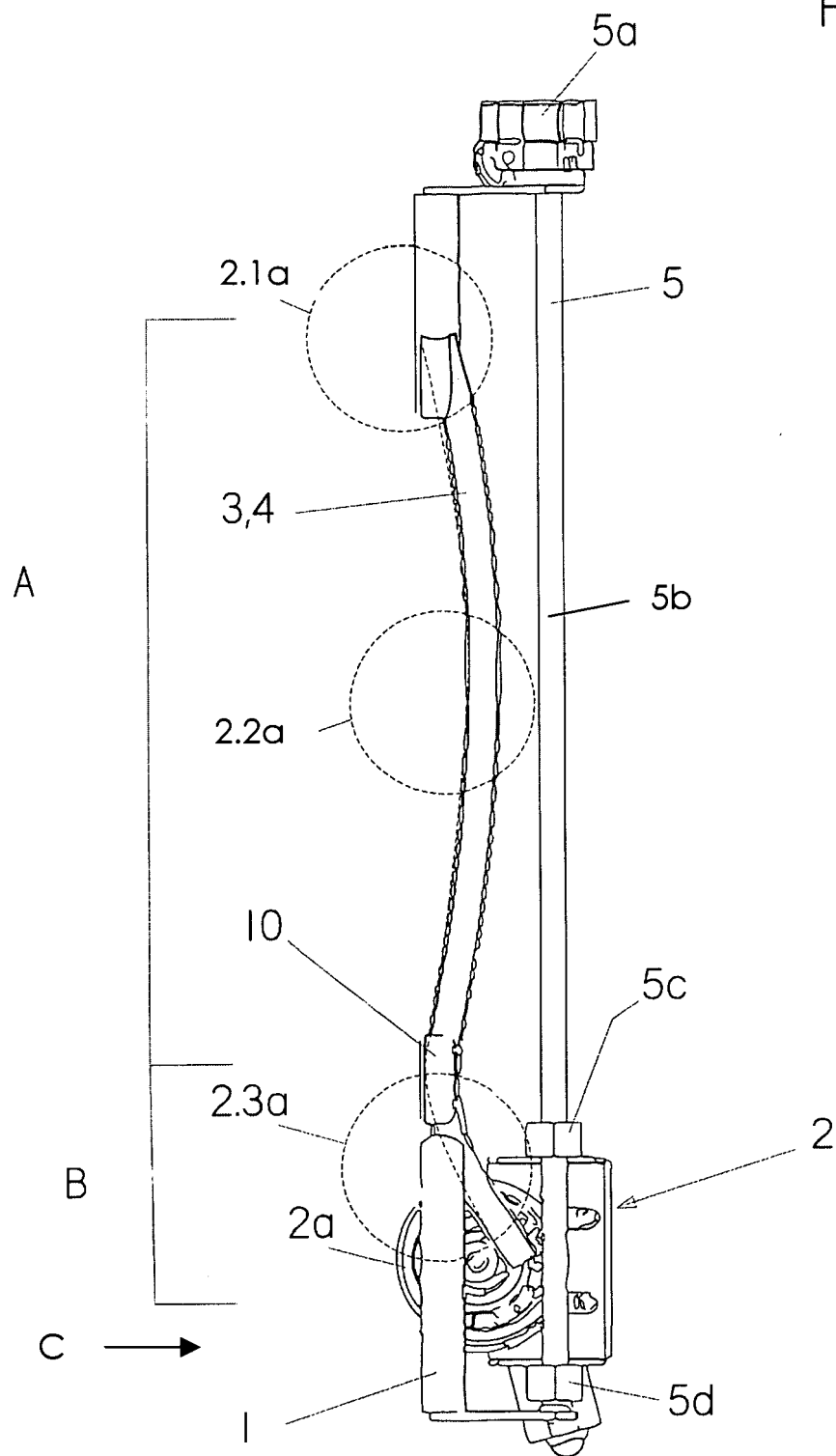


Fig. 2

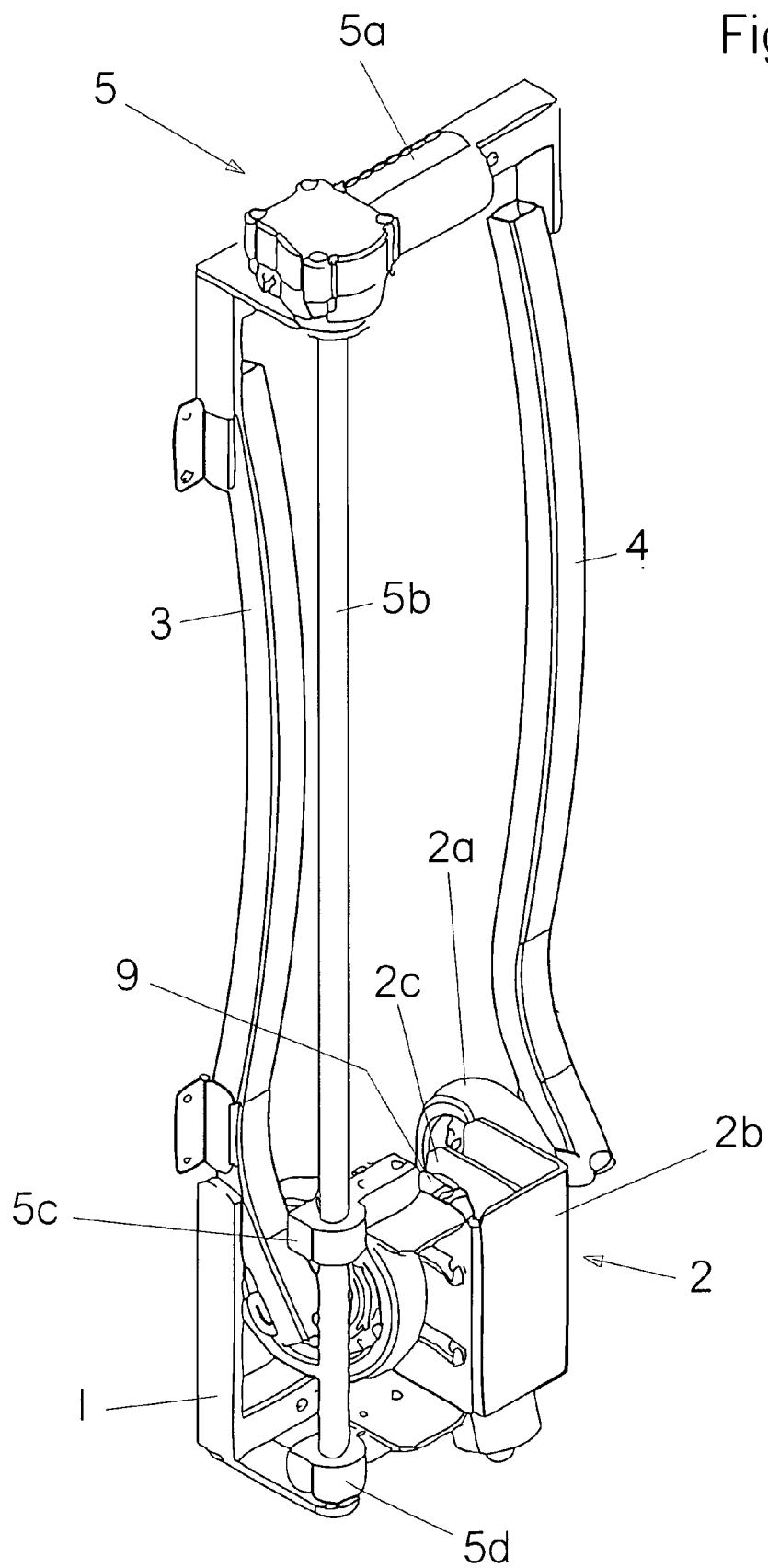
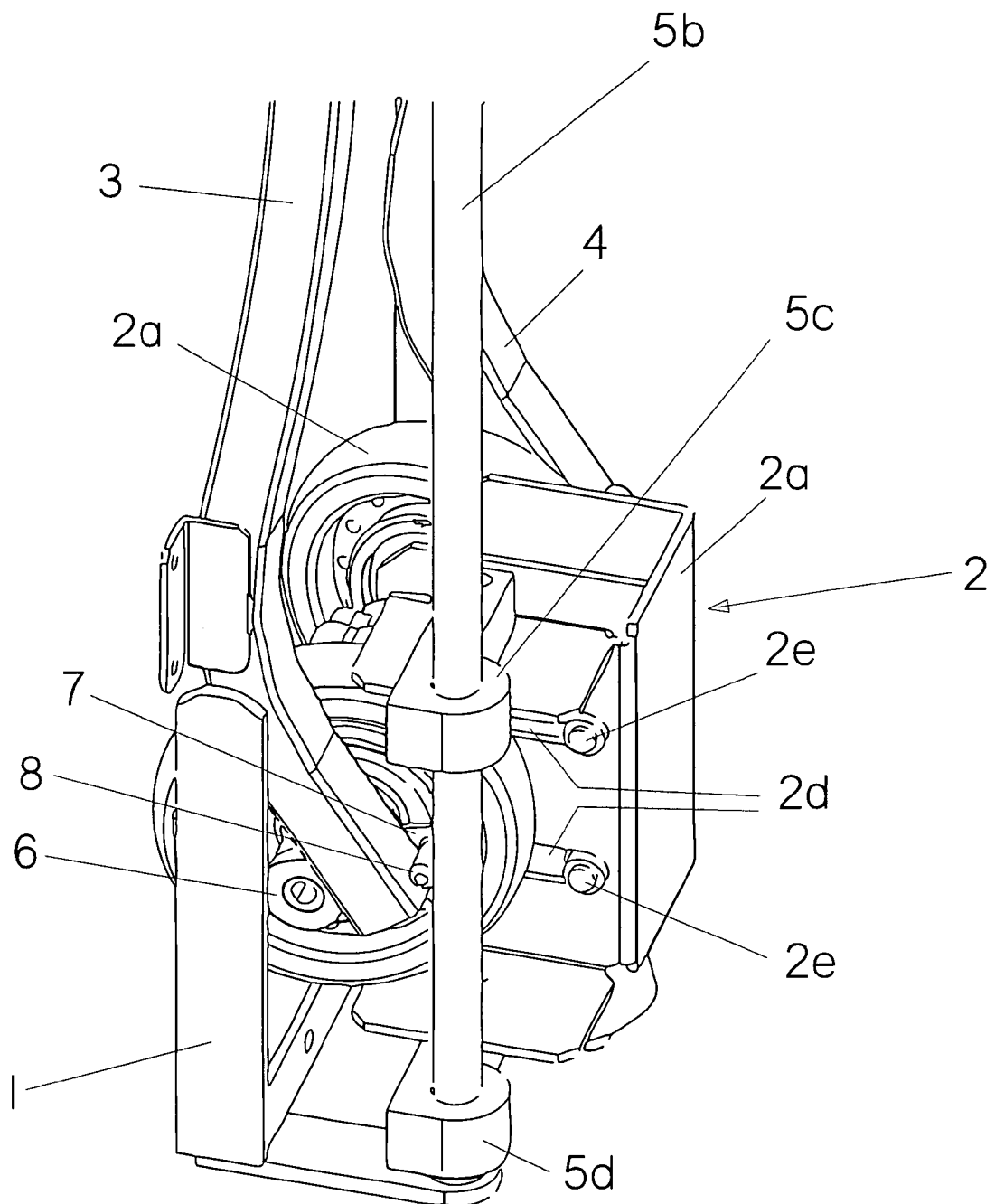


Fig. 3





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Office

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Application Number
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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 6 December 2005	Examiner Tejada Biarge, D
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EPO FORM 1503 03.82 (P04C01)

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