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Remarks:

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

(54) **Massage bed**

(57) The invention relates to a massage bed with a frame (1), a mattress (2) and a massage device (3). The mattress has a removable mattress part (2a) and in order

to carry out a massage on a person lying on the mattress - after removal of the mattress part - the massage device can be moved from a rest position into the region of the removed mattress part.

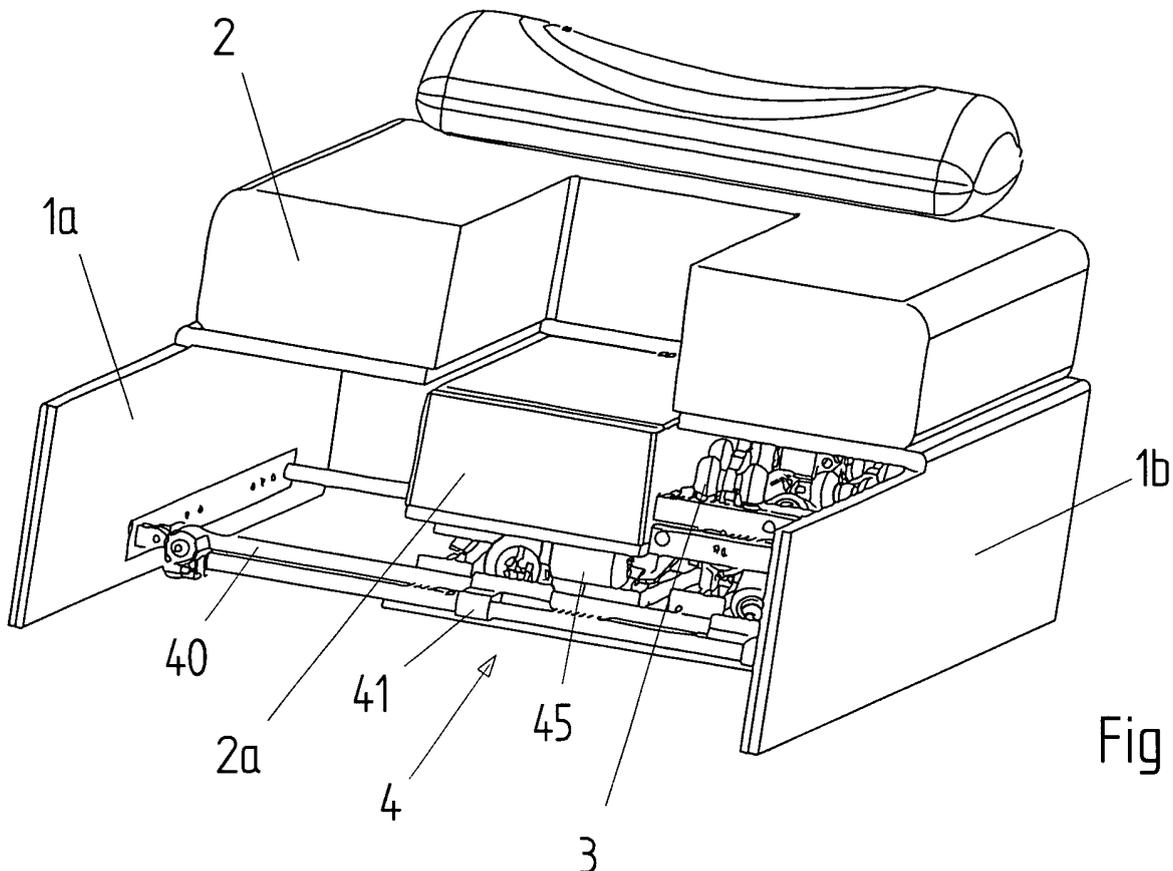


Fig 3

Description

[0001] The invention relates to a massage bed with a frame, a mattress and a massage device.

[0002] Massage devices in the form of items of furniture for sitting and/or reclining are known in the art in the most varied designs. Usually in the region of the back rest a height-adjustable massage device is provided which can carry out kneading, tapping and/or stroking massages.

[0003] Even when the massage device is switched off, the massage elements are in many cases perceptible in an unpleasant manner to a person sitting or lying on the massage chair, so that the furniture for sitting and/or reclining can only be used for massage.

[0004] The object of the invention, therefore, is to provide a massage bed which offers a high level of comfort even when the massage device is not used.

[0005] This object is achieved according to the invention by the features of Claim 1.

[0006] The massage bed according to the invention basically comprises a frame, a mattress and a massage device. The mattress has a removable mattress part and in order to carry out a massage on a person lying on the mattress - after removal of the mattress part - the massage device can be moved from a rest position into the region of the removed mattress part.

[0007] This massage bed on the one hand makes a high-quality massage possible and on the other hand offers the greatest possible comfort to the person lying on the mattress when the massage device is in the rest position.

[0008] According to a preferred embodiment the removable mattress part can be retained on a common displacement means. In a first preferred embodiment the removable mattress part and the massage device are retained so as to be rotatable about a common axis. In this case for example the removable mattress part and the massage device are fixed on two opposing sides of a rotatable mounting, the massage device being movable by rotation of the mounting from the rest position into the region of the removed mattress part.

[0009] In another embodiment of the invention the removable mattress part can be lowered and can be moved under the remaining mattress. For this purpose the removable mattress part and the massage device are for example retained on a common displacement means, wherein the displacement means comprises a movable slide. The removable mattress part and the massage device can be disposed with a lifting means in each case on the slide.

[0010] The massage device itself comprises one or a plurality of massage elements, for example massage rollers, which can be driven by one or a plurality of motors in order to carry out a massage.

[0011] Further advantages and variants of the invention are explained in greater detail below with reference to two embodiments.

[0012] In the drawings:

Figure 1 shows a three-dimensional representation of the massage bed according to the invention,

Figure 2 shows a three-dimensional cross-sectional representation of the massage bed according to a first embodiment,

Figure 3 shows a three-dimensional cross-sectional representation of the massage bed according to the first embodiment with the mattress part lowered,

Figure 4 shows a three-dimensional cross-sectional representation of the massage bed according to the first embodiment with the mattress part pushed under the remaining mattress,

Figure 5 shows a three-dimensional cross-sectional representation of the massage bed according to the first embodiment with the massage device moved into the region of the removed mattress part,

Figure 6 shows a cross-sectional representation of the massage bed according to a second embodiment in which the massage device is in the rest position,

Figure 7 shows a cross-sectional representation of the massage bed according to the second embodiment in which the removable mattress part and the massage device are in a rotated intermediate position, and

Figure 8 shows a cross-sectional representation of the massage bed according to the second embodiment in which the massage device is in the operating position.

[0013] The massage bed illustrated in Figure 1 and Figure 2 basically comprises a frame 1, a mattress 2 and a massage device 3. The mattress has a removable mattress part 2a which is retained together with the massage device 3 on a common displacement mechanism 4.

[0014] The displacement mechanism 4 shown in Figure 2 to Figure 5 is formed by a displacement device which comprises guide rails 40 which extend between two lateral frame parts 1a, 1b of the frame 1. Furthermore a slide 41 is provided which is movable on the guide rails 40. Both the removable mattress part 2a and the massage device 3 are each disposed on the slide 41 with a lifting means 42, 43 respectively.

[0015] The removable mattress part 2a and the massage device 3 are movable perpendicular and parallel to the plane of the mattress 1, wherein a first drive motor 44 is provided for the displacement parallel to the plane of the mattress, a second drive motor 45 is provided for the vertical displacement of the mattress part 2a and a third drive motor 46 is provided for the vertical displacement

ment of the massage device 3.

[0016] In the position shown in Figure 1 and Figure 2 the massage device is in its rest position. In order that the massage device can pass from the rest position according to Figure 2 into the operating position according to Figure 5, first of all the removable mattress part 2a is lowered by means of the second drive motor 45 (Figure 3). Then by means of the first drive motor 44 the slide is moved in the direction of the arrow 5 so that the removable mattress part 2a is pushed under the remaining mattress 1 and at the same time the massage device is moved under the opening produced in the mattress. Then the third drive motor 46 is actuated which moves the massage device 3 vertically upwards into the region of the previously removed mattress part. In this operating position the desired massage can take place.

[0017] A second embodiment of the massage bed according to Figure 1 is illustrated in Figures 6 to 8. Here the common displacement mechanism 6 is formed by a rotating means, the removable mattress part 2a and the massage device 3 being retained so as to be rotatable about a common axis 61. Here the removable mattress part 2a and the massage device 3 are fixed on two opposing sides of a rotatable mounting 62, the massage device being movable by rotation of the mounting 62 from the rest position into the region of the removed mattress part. At the same time the removable mattress part is rotatable downwards. The sequence of the rotation is illustrated in Figure 6 to Figure 8.

[0018] The massage device 3 has in the usual way one or a plurality of massage elements, for example massage rollers, which can be driven by one or a plurality of motors in order to carry out a massage.

[0019] In the rest position of the massage device the full comfort of the mattress 1 is available. In order to carry out the massage the massage device is merely moved (pushed or rotated) into the region of the removable mattress part. Thus in the rest position the massage device does not exert any unwanted pressure on the person lying on the mattress. On the other hand the effect of the massage in the operating position is not damped by the mattress, so that a direct and effective massage can take place.

[0020] In the two embodiments described above, although the removable mattress part 2a and the massage device 3 are retained on a common displacement mechanism, it would also be conceivable that the removable mattress part is removed by hand and the massage device is moved upwards in a suitable manner. However, the common displacement makes very simple and uncomplicated handling possible.

Claims

1. Massage bed with a frame (1), a mattress (2) and a massage device (3), **characterised in that** the mattress has a removable mattress part (2a) and in order

to carry out a massage on a person lying on the mattress - after removal of the mattress part - the massage device (3) can be moved from a rest position into the region of the removed mattress part.

2. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are retained on a common displacement mechanism (4, 6).

3. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are retained so as to be rotatable about a common axis (61).

4. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are fixed on two opposing sides of a rotatable mounting (62), the massage device being movable by rotation of the mounting from the rest position into the region of the removed mattress part.

5. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) can be lowered and can be moved under the remaining mattress (3).

6. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are retained on a common displacement means, wherein the displacement means comprises guide rails (40) which extend between two lateral frame parts (1a, 1b) of the frame and furthermore a slide (41) is provided which is movable on the guide rails (40).

7. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are retained on a common displacement means, wherein the displacement means comprises a movable slide (41).

8. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are retained on a common displacement means, wherein the displacement means comprises a movable slide and the removable mattress part (2a) and the massage device (3) are disposed with a lifting means (42, 43) in each case on the slide (41).

9. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are movable perpendicular and parallel to the plane of the mattress (1), wherein a first drive motor (44) is provided for the displacement parallel to the plane of the mattress, a second drive

motor (45) is provided for the perpendicular displacement of the mattress part (2a) and a third drive motor (46) is provided for the perpendicular displacement of the massage device (3).

10. Massage bed as claimed in Claim 1, **characterised in that** the massage device (1) comprises one or a plurality of massage elements which can be driven by way of one or a plurality of motors in order to carry out a massage.

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

1. Massage bed with a frame (1), a mattress (2) and a massage device (3), wherein the mattress has a removable mattress part (2a) and in order to carry out a massage on a person lying on the mattress - after removal of the mattress part - the massage device (3) can be moved from a rest position into the region of the removed mattress part, **characterised in that** the removable mattress part (2a) and the massage device (3) are retained on a common displacement mechanism (4, 6).

2. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are retained so as to be rotatable about a common axis (61).

3. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are fixed on two opposing sides of a rotatable mounting (62), the massage device being movable by rotation of the mounting from the rest position into the region of the removed mattress part.

4. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) can be lowered and can be moved under the remaining mattress (3).

5. Massage bed as claimed in Claim 1, **characterised in that** the displacement mechanism comprises guide rails (40) which extend between two lateral frame parts (1a, 1b) of the frame and furthermore a slide (41) is provided which is movable on the guide rails (40).

6. Massage bed as claimed in Claim 1, **characterised in that** the displacement mechanism comprises a movable slide (41).

7. Massage bed as claimed in Claim 6, **characterised in that** the removable mattress part (2a) and the massage device (3) are each disposed on the slide (41) with a lifting means (42, 43).

8. Massage bed as claimed in Claim 1, **characterised in that** the removable mattress part (2a) and the massage device (3) are movable perpendicular and parallel to the plane of the mattress (1), wherein a first drive motor (44) is provided for the displacement parallel to the plane of the mattress, a second drive motor (45) is provided for the perpendicular displacement of the mattress part (2a) and a third drive motor (46) is provided for the perpendicular displacement of the massage device (3).

9. Massage bed as claimed in Claim 1, **characterised in that** the massage device (1) comprises one or a plurality of massage elements which can be driven by way of one or a plurality of motors in order to carry out a massage.

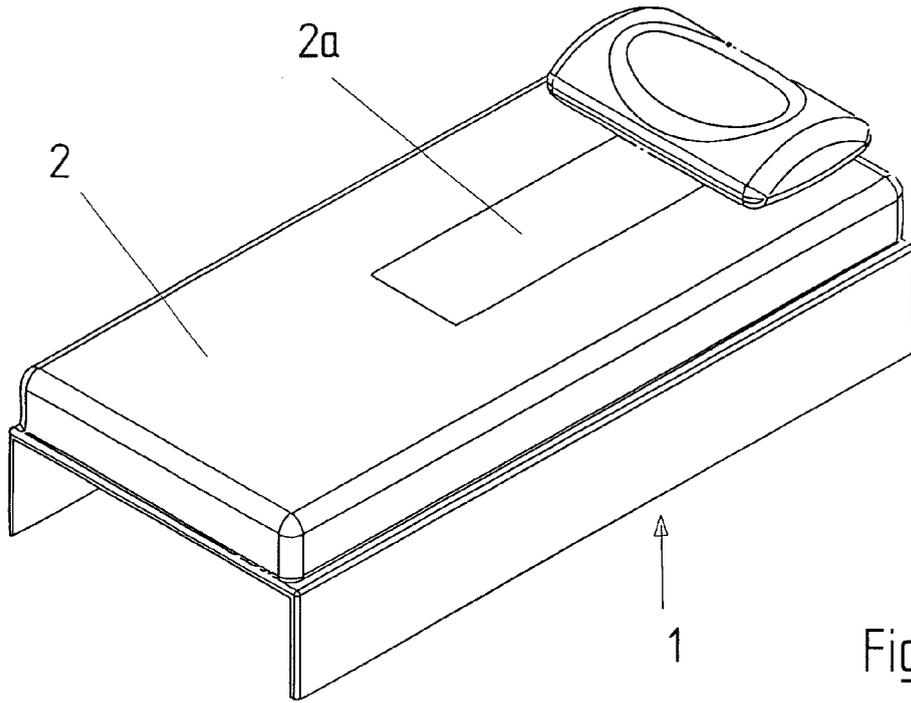


Fig 1

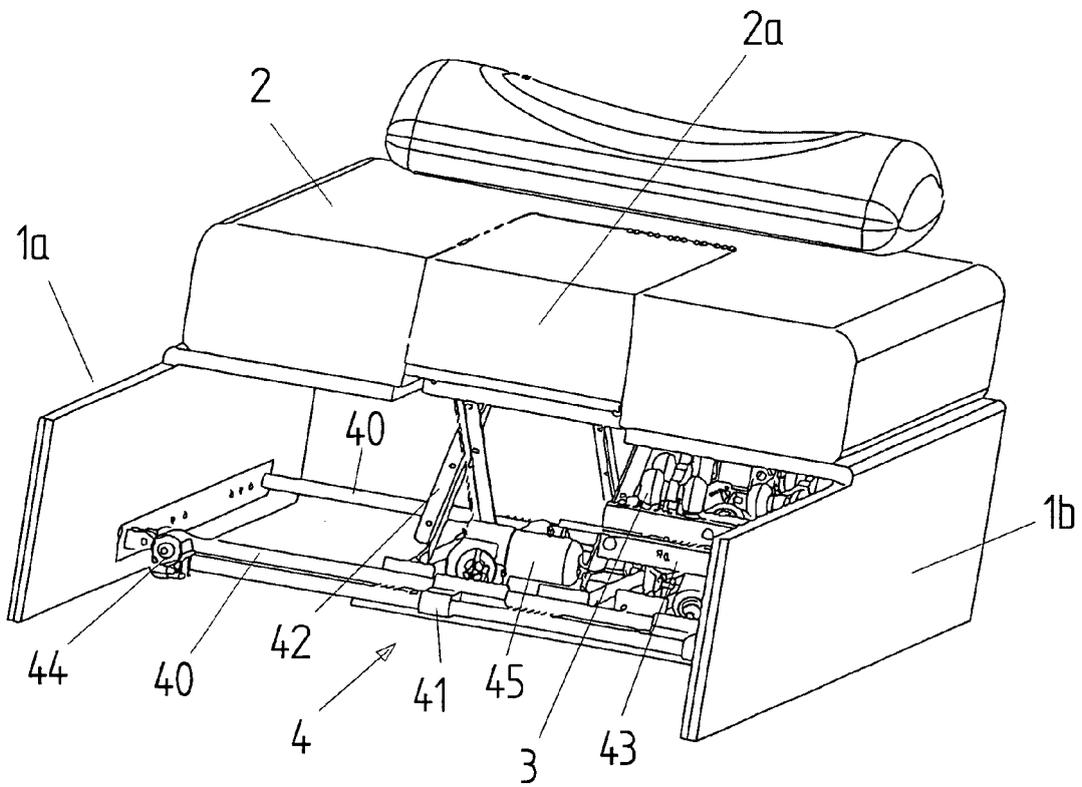
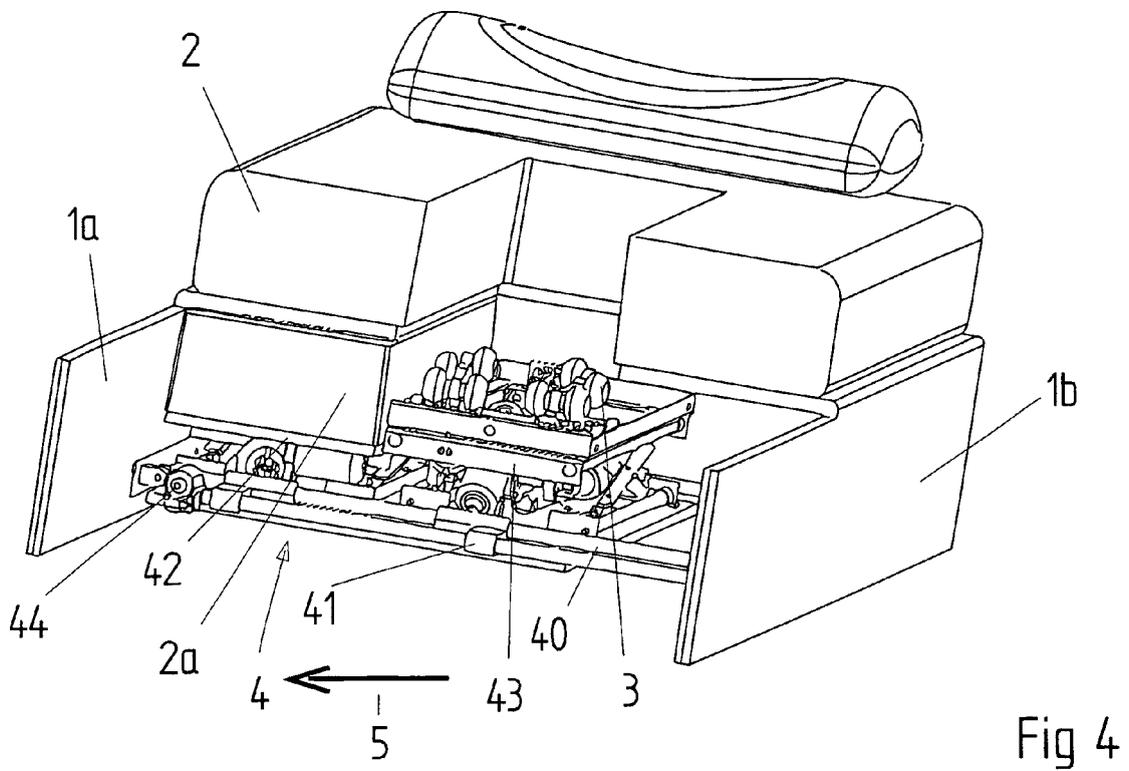
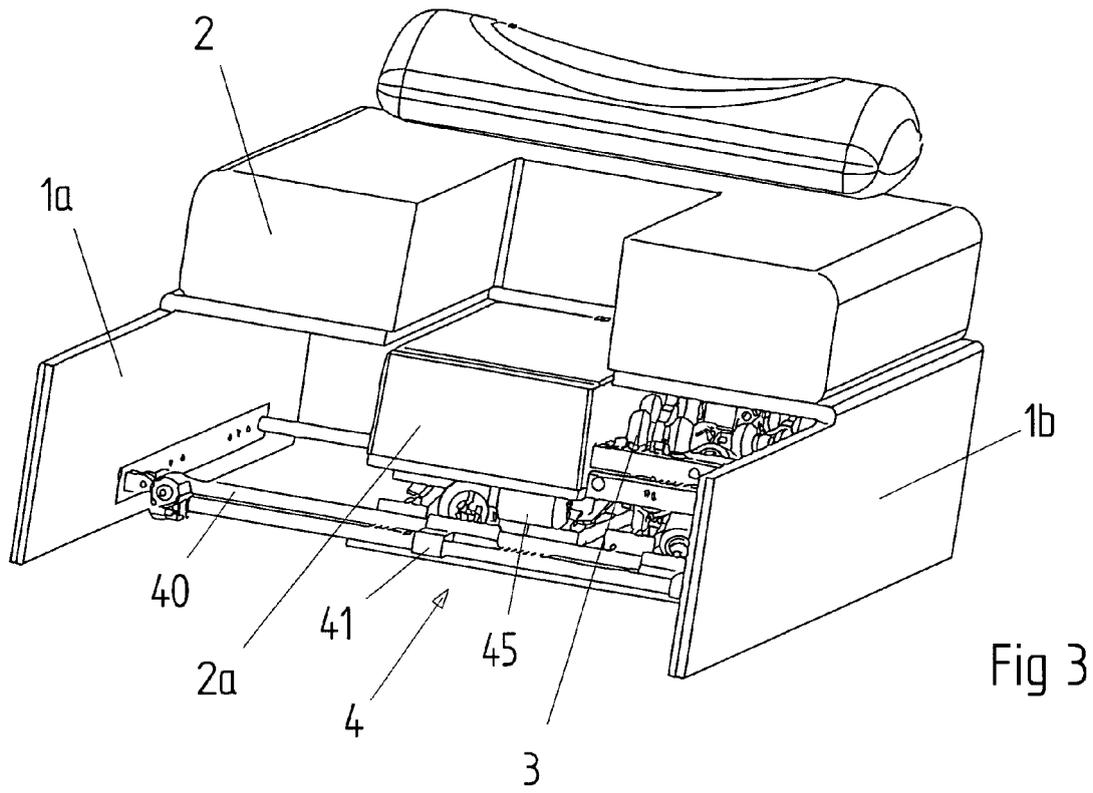


Fig 2



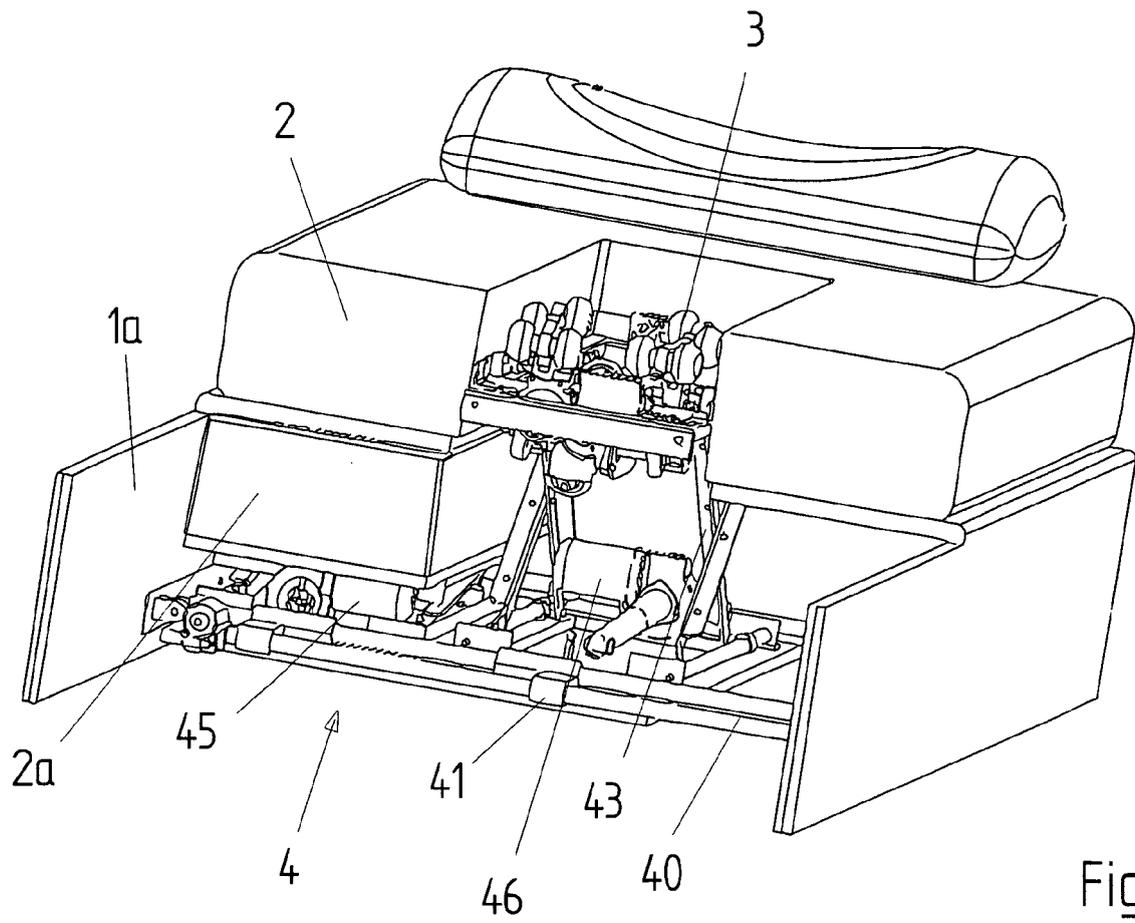


Fig 5

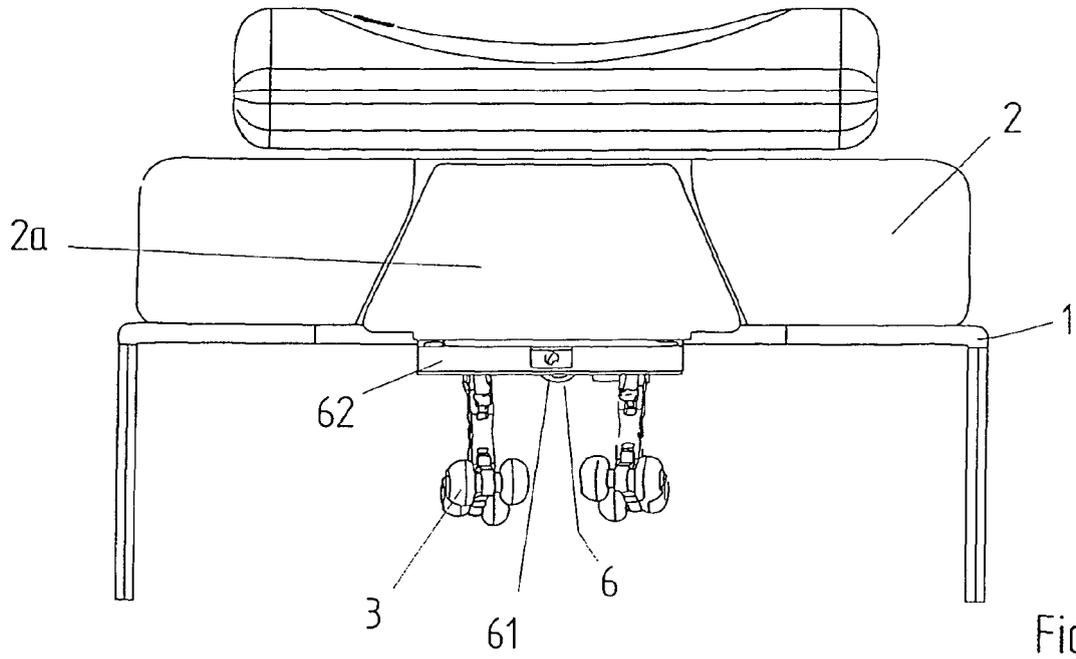


Fig 6

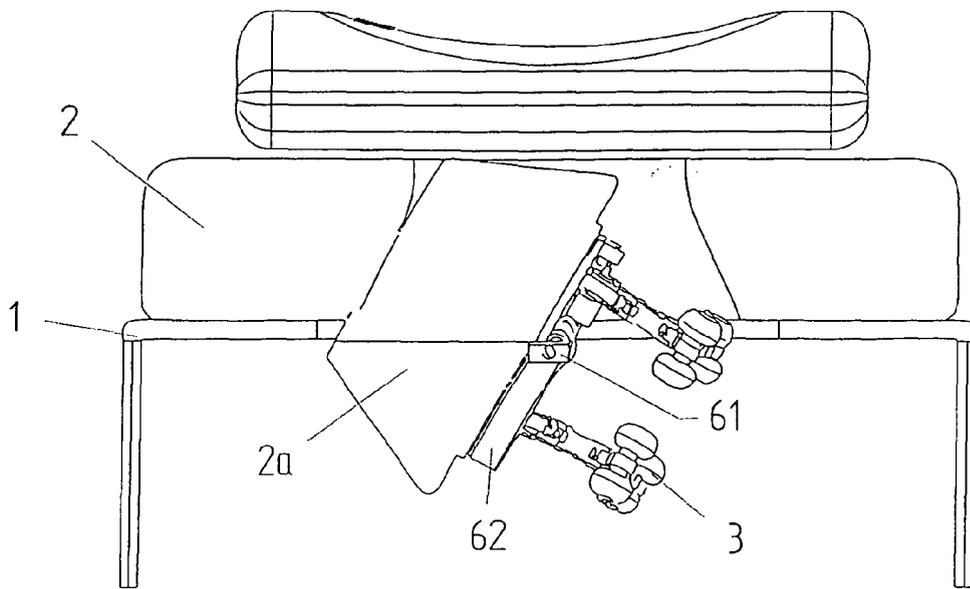


Fig 7

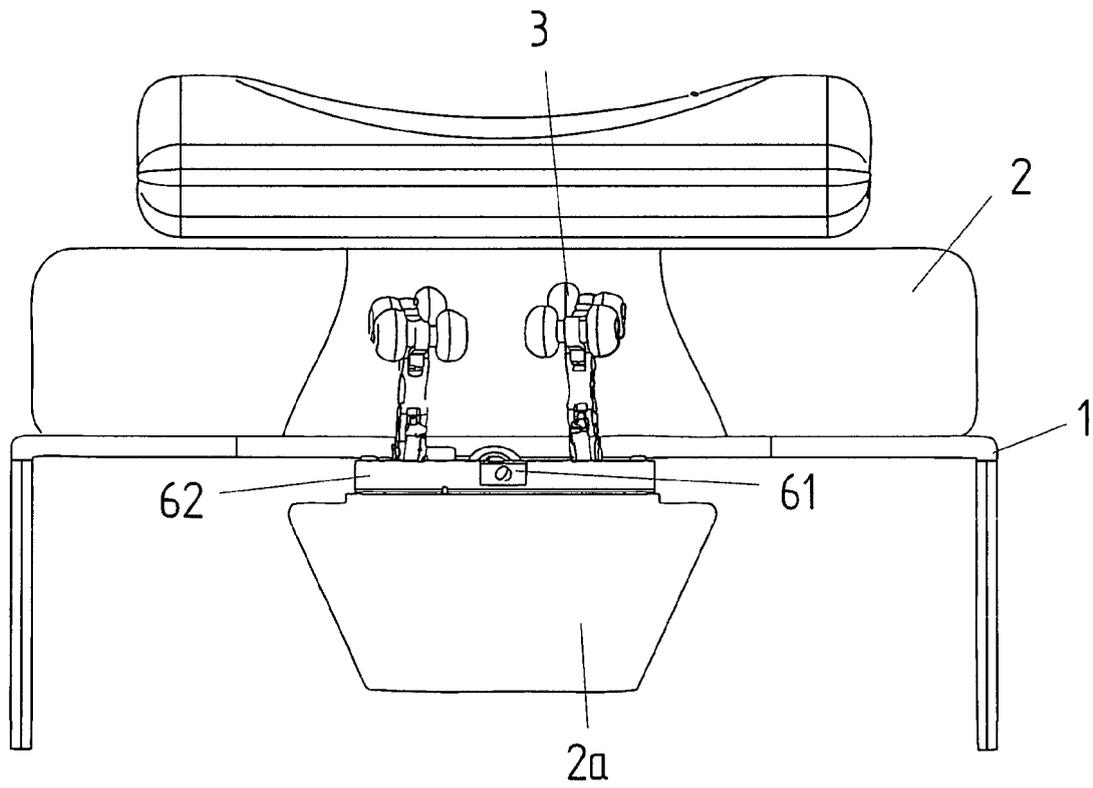


Fig 8



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	GB 2 123 298 A (* MATSUSHITA ELECTRIC WORKS LTD) 1 February 1984 (1984-02-01) * page 3, lines 48-75; figures 1,2,8,10(a),10(b) *	1,5,10	A61H1/00 A61H15/00
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			TECHNICAL FIELDS SEARCHED (IPC)
			A61H A47C
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 23 November 2005	Examiner Elmar Fischer
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

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ANNEX TO THE EUROPEAN SEARCH REPORT
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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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