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(54) **A DEVICE FOR THE BALANCING MOVEMENT OF A CHAIR**

(57) The chair allowing balance of the seat cushion compared to the stand in all directions, which consists of two opposite carriers when one carrier is fastened under the seat cushion and the second opposed piece is fastened to the rack. These carriers are in regular or irregular intervals (angles) provided with opposite pins, with opposite thread always at the opposite pins. To these pins the springs are deployed, preferably screwed on the

thread in the opposite pins. Such an arrangement allows a balanced movement in all directions, including the back of the chair and the different length and stiffness of the springs allows you to adjust the degree of swing, and it is possible to adapt the chair to the weight of the user. Also the irregular placement of the pins may influence the range of swinging in different directions.

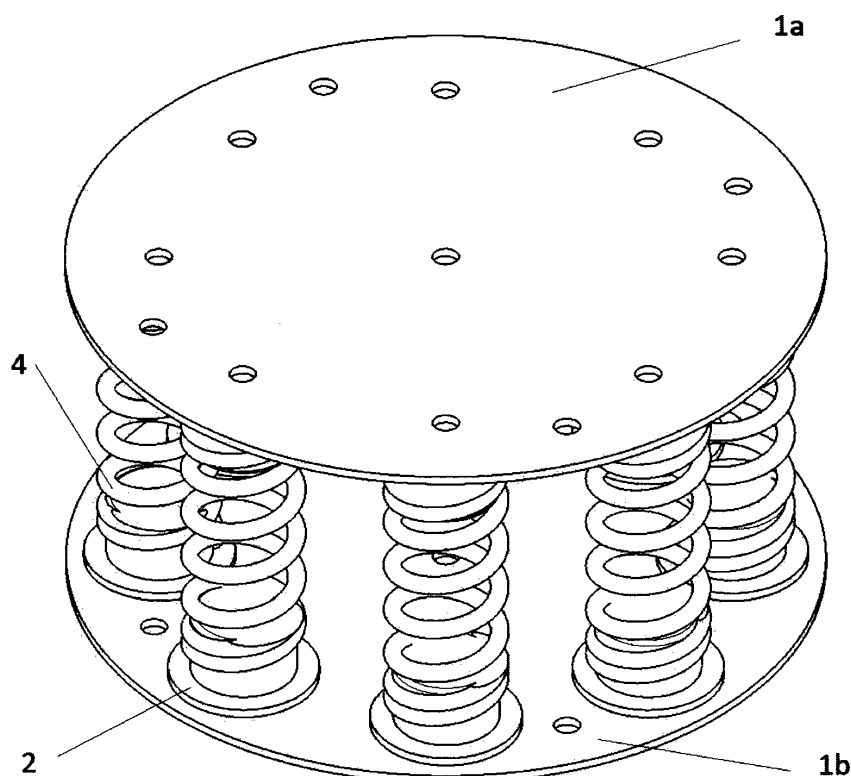


Fig. 1

Description

Technology area

[0001] The technical solution relates to a construction of the chairs, especially the office chairs, thanks to which the chair enables the movement of the seat also with a backrest, and in all directions.

Present condition of technology

[0002] Currently, there are known mainly the balance chairs where the spring protrudes cushion downward and the spring is connected with a stand. This solution has the disadvantage that the rocking motion is enabled only to the seat cushion, not to the backrest of the chair. Other known solutions are the balance chairs, where between the cushion and the stand there is arranged a bellows in the shape of a torus. Furthermore, there are known solutions using opposite carriers integrated between the seat and the stand, when between these carriers there is inserted at least one elastic-plastic part.

[0003] The disadvantage of the above described solutions and other known solutions is the fact that some solutions do not allow a rocking motion in all directions and are only focused on the rocking motion from front to back, or allow the rocking motion in all directions with the help of various parts made of rubber or plastic, sometimes with the help of air cushions. Here an obvious disadvantage is the durability of such material. Another disadvantage is the limited possibility of adapting the strength of the structure to the weight of the user, or a limited opportunity to secure the maximum deviation in all directions.

Principle of technical solution

[0004] The above-mentioned disadvantages to a large extent eliminates the construction of the chair allowing balance of the seat cushion compared to the stand in all directions, which consists of two opposite carriers when one carrier is fastened under the seat cushion and the second opposed piece is fastened to the rack. These carriers are in regular or irregular intervals (angles) provided with opposite pins, with opposite thread always at the opposite pins. To these pins the springs are deployed, preferably screwed on the thread in the opposite pins.

[0005] Such an arrangement allows a balanced movement in all directions, including the back of the chair and the different length and stiffness of the springs allows you to adjust the degree of swing, and it is possible to adapt the chair to the weight of the user. Also the irregular placement of the pins may influence the range of swinging in different directions.

List of pictures in the drawing

[0006] The technical solution will be closer explained

using the drawing, where figure 1 illustrates structural design of the axonometric view, and fig. 2 shows a front view of the structural layout of the device.

5 Examples of technical solution conduct

[0007] Device for balancing movement of the chair in all directions consists of a pair of mutually opposing carriers 1a and 1b, which are equipped with 8 opposing pins 2 with the thread 3. On the pins 2 the springs 4 are screwed. Carriers 1a and 1b contain the holes for the connection of the carriers with the seat of the chair and with the stand of the chair.

[0008] Such an arrangement allows a balanced movement in all directions and thanks to the same force in all springs the balancing movement is always the same in any direction. In the case of uneven deployment of the springs or different force of the spring it is achieved the uneven balancing movement.

20 This device for balancing movement of the chair allows the use of springs in compression and the towing direction (i.e. without the need for hard stops, such as multi-stage control of balancing movement in extreme positions).

25 This fitted chair allows an active sitting with the advantage of automatically activating the abdominal and dorsal muscles of the middle part of the body when sitting and deflecting from the axis of the stand of the chair.

30 Industrial efficiency

[0009] This technical solution is usable in any chair with a central base/stand of the chair, whether with wheels or without them, particularly in office chairs.

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Claims

1. Device for balancing movement of the chair, **characterized in that** consists of a pair of mutually opposite carriers (1a) and (1b) which are provided with at least three pins (2) on which the springs (4) are deployed when the carrier (1a) is disassembly or non-disassembly mounted under the seat cushion of the chair and the carrier (1b) is disassembly or non-disassembly fixed on the centre stand of the chair, when the shape of the carrier (1a) and (1b) is different.

2. Device for balancing movement of the chair according to the claim 1, **characterized in that** the pins (2) are provided with threads (3) for screwing the spring (4).

3. Device for balancing movement of the chair according to the claim 1, **characterized in that** the pins (2) are placed on the carriers (1a) and (1b) opposite each other.

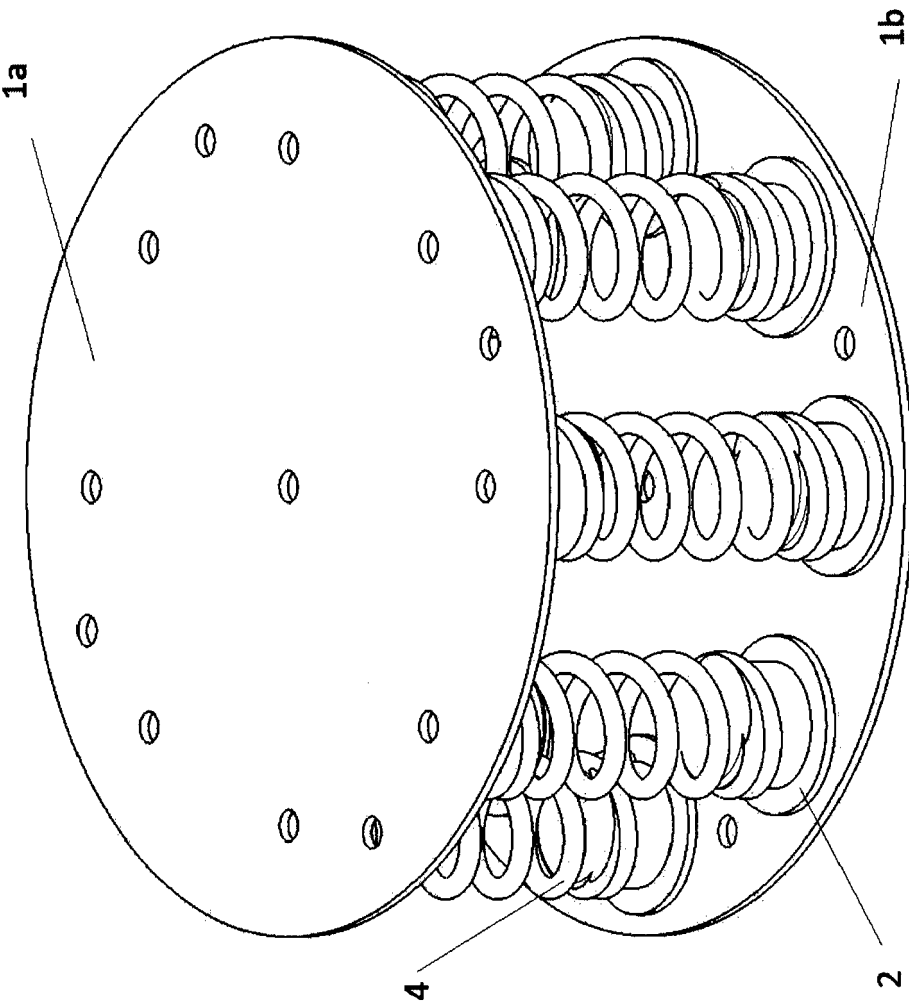
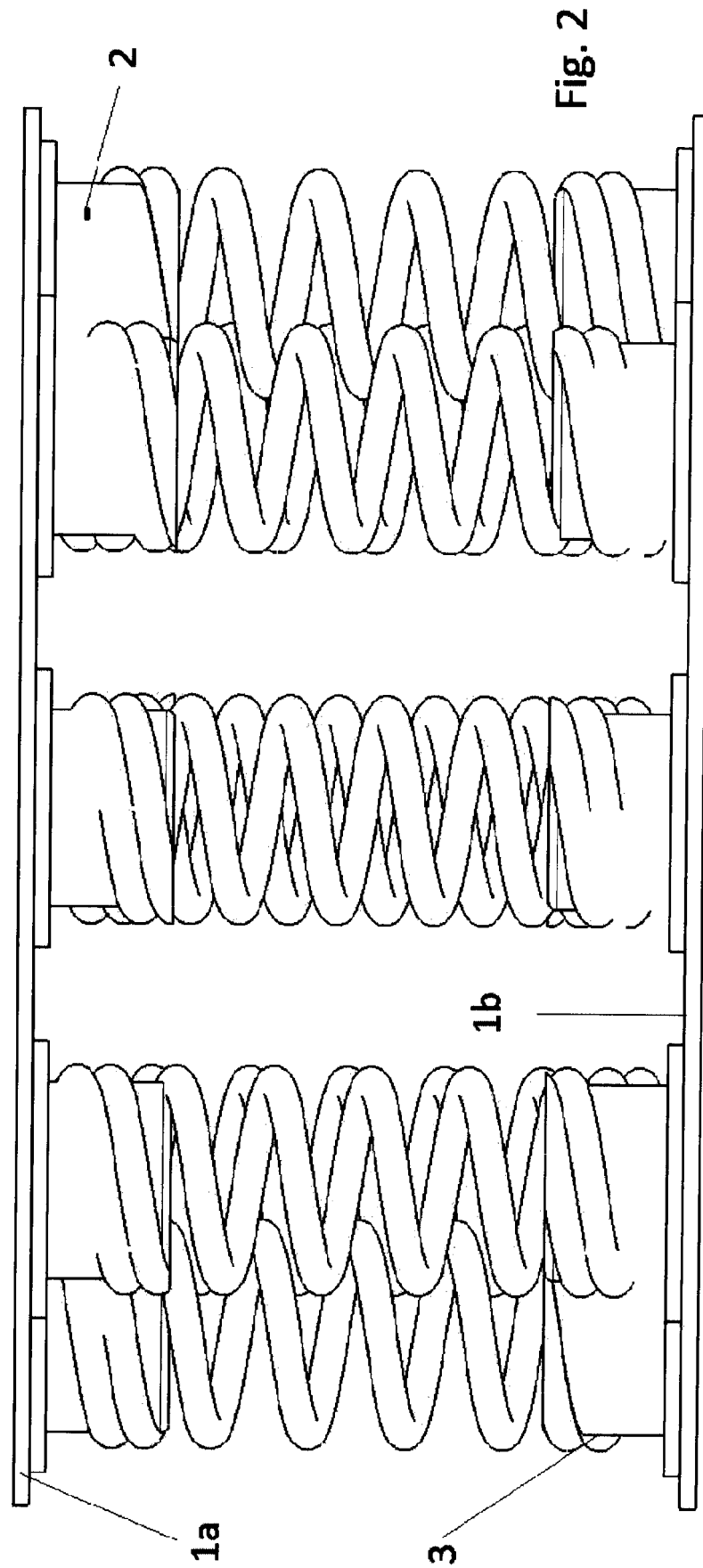


Fig. 1





EUROPEAN SEARCH REPORT

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EP 17 46 6009

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X	US 1 129 175 A (DESSELLE PETER J [US] ET AL) 23 February 1915 (1915-02-23) * page 1, line 45 - line 80; figure 1 *	1,3	TECHNICAL FIELDS SEARCHED (IPC)
			A47C
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 22 February 2018	Examiner Jacquemin, Martin
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
ON EUROPEAN PATENT APPLICATION NO.**

EP 17 46 6009

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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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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82