(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) **EP 2 632 297 B1**

(12) **EUROPEAN PATENT SPECIFICATION**

(45) Date of publication and mention of the grant of the patent:
19.11.2014 Bulletin 2014/47

(21) Application number: **11785804.3**

(22) Date of filing: **20.10.2011**

(51) Int Cl.:
A47C 9/00 *(2006.01)*

(86) International application number:
PCT/PL2011/000109

(87) International publication number:
WO 2012/057639 (03.05.2012 Gazette 2012/18)

(54) A FURNITURE UNIT TO SIT-ON

MÖBELSTÜCK ZUM DARAUFSITZEN

ÉLÉMENT DE MOBILIER PERMETTANT DE S'ASSEOIR

(84) Designated Contracting States:
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

(30) Priority: **26.10.2010 PL 39275110**

(43) Date of publication of application:
04.09.2013 Bulletin 2013/36

(73) Proprietor: **Tadeusz Mazur Centrum Rehabilitacji "ZDROWIE"**
31-048 Kraków (PL)

(72) Inventor: **MAZUR, Tadeusz**
32-091 Michalowice (PL)

(74) Representative: **Radlowski, Jakub**
Kancelaria Optimas
Ul. Krakowska 332
32-080 Zabierzów (PL)

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Description

[0001] The present Invention provides a furniture unit to sit on it; it is designed for application when resting or performing office work.

[0002] One of the known solutions of such furniture units to sit-on is disclosed in the international invention description under the Patent No. WO 95/16374**. It is a chair** with a seat fixed to the frame in a manner permitting the frame to move in all directions. For this purpose, the seat is mounted to the frame using a spiral spring, a ball joint, or any other adequate mechanism. Such a seat is reposed on a ball-shaped head having a relatively large radius and placed within the concave bottom plane of a cylinder encompassing the entire head. The cylinder height determines the inclination angle; additionally, this angle may be properly adjusted using a screw mechanism or through the diameter of a hole in the cylinder lid. Such a chair allows for the increased mobility of the upper body part of a person working in a sitting position; it also enables the improvement of the chair's user posture. Moreover, the stimulation of the nerve at the end of the spinal column enhances the physical state.

[0003] Another known chair solution is disclosed in the invention description under the Patent No. WO 2009157148. The solution cited comprises a rocking chair equipped with a seat with a lower convex part forming a spherical surface with its central point set above the seat. The rotating rollers contacting the lower convex surface allow for the convex part to move along the spherical surface and the chair supporting part. Another chair is known from WO 90/14031.

[0004] The hitherto used furniture units designed for sitting on allow that the following movements of the sitting person's body are possible: leaning, vibrations, rocking or driving, but the individual body parts move toward each other only accidentally.

[0005] The objective of the Invention is, on the one hand, to ensure, while sitting, the stabilization of specific body axes. On the other hand, the objective is to concurrently ensure a motion around those axes in order to enable the controlled rotational movements of torso since they determine the frequent and easy changing of the workload of particular surfaces and capsules, ligaments, and muscles.

[0006] According to the present Invention, the furniture unit to sit-on comprises the features of claim 1.

[0007] Preferably, the backrest frame is equipped with three independent movable rest elements; the middle rest element may be embedded in the frame using a ball joint, and, additionally, both the upper and the lower rests can be made of two independent elements placed parallel toward each other and symmetrically, towards the vertical axis, to the backrest frame.

[0008] Preferably, one embodiment variant of the furniture unit to sit-on is equipped with a footrest with two movable props for feet; the props are pivotally connected with the frame of the footrest using a crank assembly. Additionally, in the upper part of the backrest frame, an element may be fixed and serve as a rest for raised upper extremities.

[0009] The furniture unit may be also equipped with an armrest mounted to the base of the backrest frame. To this base, either a work surface or a top for a monitor can be fixed, or those two elements. Owing to this specific construction, the applied Invention as shown above makes it possible to comfortably perform any office work.

[0010] A small diameter of the ball joint guarantees that the body rotation axis agrees with or is close to agree with the spinal column axis, therefore, the destructive transverse forces are eliminated. The inter-segmental mobility of spinal column is guaranteed by the stability of specific axes of the sitting person's body (spinal column axis, lateral axis at the head base, and lateral axis of pelvis), and by the possible motion of the body around those axes; the Invention simultaneously ensures both the necessary stability and the motion potential.

[0011] When a person's back is supported point wise in one or more points, the sitting and working person can comfortably rest and it a rigid, unchangeable position of his back during a longer period of time.

[0012] The use of footrest with movable props for the feet makes it possible that the lower extremities work continuously while the person sits, and, thus, the muscle pump of lower extremities is activated; this prevents varices.

[0013] The subject under this Invention is exemplified in the drawings attached to this Application. They show one embodiment of the Invention. In Fig. 1, there is a diagrammatic drawing of a side-view of the furniture unit to sit-on, whereas in Fig. 2, there is a diagrammatic drawing of the furniture unit without its seat.

[0014] The furniture unit to sit-on has a main frame 2 connected by a joint with the frame base of the backrest 3. Above the main frame 2, a seat 1 is placed; it is fixed to the main frame 2 or, alternatively, to the frame base of the backrest 3 by a ball joint A. The said connection is made so that a bearing A1 of the ball joint A is mounted to the seat 1, and the ball A2 of the ball joint A is fixed onto the main base 2 or, alternatively, onto the frame base of the backrest 3. The frame base of the backrest 3 has armrests 11 mounted to an adjustable jib, as well as a working surface or a top 12 for a computer keyboard, mounted onto an another jig 13. An arm for securing a top for LCD monitor or PC screen is mounted to the jib 13 that fixes a working surface or a top 12 for keyboard.

[0015] The backrest frame 4 has a durable connection with the frame base of the backrest 3 and those two elements have jointly a possibility to adjust the up or down position and/or the inclination angle. The backrest frame 4 is equipped with three (3) independent movable rests: an upper headrest 5, a middle chestrest 6, and a lower backrest 7. The middle chestrest 6 is secured to the backrest frame 4 using a ball joint C whereas the upper rest 5 and the lower rest 7 are connected with the backrest frame 4 in a way that makes it possible to slightly (within

a short distance range) move them forwards and backwards, or up and down, or aside. The rest elements 5 and 7 may be coupled with the backrest frame 4 using a spring-loaded telescopic mechanism. In the upper part of the backrest frame 4, a rest element 10 for lower extremities is placed on a jib.

[0016] To the main frame 2, a footrest 8 is secured; it has two movable props for feet, which are connected by a flexible joint with the footrest frame using a crank assembly 9. The foot props can move up and down, as well as rotate. The footrest 8 is secured so that it can be freely pulled out and placed in a position allowing to place his/her feet thereon or it can be placed under the main frame 2 when not used. The footrest 8 can be situated using, for example, a rail, or it can have a telescopic connection. The latter makes it possible to adjust the distance between the footrest and the main frame 2.

Claims

1. A Furniture Unit to sit-on that comprises a main frame, a seat, and a backrest frame where the seat is secured to the frame or to the base of the backrest frame using a ball joint (A) which diameter is smaller than 15 cm, and wherein the backrest frame is adjustable and equipped with at least one rest element embedded in the backrest frame (4) using a ball joint, wherein the bearing of the ball joint (A1) is secured to the seat (1), and the ball of the ball joint (A2) is secured to the main frame (2) or to the base of the backrest frame (3).

2. The Furniture Unit to sit-on as set forth in Claim 1, wherein the backrest frame is equipped with three independent movable elements (5), (6), and (7), and the middle rest (6) is embedded in the backrest frame (4) using a ball joint (C).

3. The Furniture Unit to sit-on as set forth in Claim 2, wherein each of the rests (5) and (7) consists of two elements situated parallel to each other and symmetrically towards the vertical axis of the backrest frame (4), and each element is fixed independently to the backrest frame (4).

4. The Furniture Unit to sit-on as set forth in Claim 1, Claim 2, or Claim 3, wherein this Furniture Unit is equipped with a footrest (8) with two movable props for feet, connected with the footrest frame by a flexible joint using a crank mechanism (9).

5. The Furniture Unit to sit-on as set forth in Claim 1, Claim 2, Claim 3, or Claim 4, wherein the prop (10) for the raised upper extremities is secured to the backrest frame (4).

6. The Furniture Unit to sit-on as set forth in Claim 1, Claim 2, Claim 3, Claim 4, or Claim 5, wherein the armrests (11) are fixed to the base of the adjustable backrest frame (3).

7. The Furniture Unit to sit-on as set forth in Claim 1, Claim 2, Claim 3, Claim 4, Claim 5, or Claim 6, wherein the top or the working surface (12) for the PC keyboard is secured to the base of the backrest frame (3) and this top or working surface is equipped with the fixing jib (13).

Patentansprüche

1. Sitzmöbeleinheit, welche aus dem Hauptgestell, Sitz und Rückenlehnerahmen eines Sessels besteht, wobei der Sitz an das Gestell bzw. Rückenlehnerahmengrundlage mit einem Kugelgelenk (A) befestigt ist, dessen Durchmesser kleiner als 15 cm ist und in welchem der Rückenlehnerahmen einstellbar ist und mindestens ein Ruheteil hat, eingebettet auf dem Rückenlehnerahmen (4) mit dem Kugelgelenk, in dem das Kugelgelenklager (Al) am Sitz (1) festgemacht ist, und die Gelenkkugel (A2) am Hauptgestell (2) bzw. an der Rückenlehnerahmengrundlage (3) befestigt ist.

2. Sitzmöbeleinheit, wie im Patentanspruch 1 dargestellt, an welcher der Rückenlehnerahmen mit drei unabhängigen beweglichen Teilen (5), (6) und (7) ausgerüstet ist, und der mittlere Teil (6) im Rückenlehnerahmen (4) mit dem Kugelgelenk (C) eingebettet ist.

3. Sitzmöbeleinheit, wie im Patentanspruch 2 dargestellt, an der jede der Lehnen (5) und (7) aus zwei Teilen besteht, welche aneinander parallel und an die vertikale Rückenlehnerahmenachse (4) symmetrisch angeordnet sind (4), und jeder Teil unabhängig vom Rückenlehnerahmen (4) befestigt ist.

4. Sitzmöbeleinheit, wie im Patentanspruch 1, Patentanspruch 2 bzw. Patentanspruch 3 dargestellt, in denen das Möbelstück mit einer Fußablage (8) mit zwei beweglichen Fußrasten ausgerüstet ist, verbunden mit dem Fußablagerahmen über elastische Verbindung mit Kurbelmechanismus (9).

5. Sitzmöbeleinheit, wie im Patentanspruch 1, Patentanspruch 2, Patentanspruch 3 bzw. Patentanspruch 4 dargestellt, in welchem die in die höchste Endposition gehobene Abstützung (10) am Rückenlehnerahmen (4) befestigt ist.

6. Sitzmöbeleinheit, wie im Patentanspruch 1, Patentanspruch 2, Patentanspruch 3, Patentanspruch 4 bzw. Patentanspruch 5 dargestellt, an der die Seitenlehnen (11) an die einstellbare Rückenlehnerah-

mengrundlage (3) befestigt sind.

7. Sitzmöbeleinheit, wie im Patentanspruch 1, Patentanspruch 2, Patentanspruch 3, Patentanspruch 4, Patentanspruch 5 bzw. Patentanspruch 6 dargestellt, an der das Blatt bzw. Arbeitsfläche (12) für PC-Tastatur an der Rückenlehnerahmengrundlage (3) befestigt ist, und das Blatt bzw. Arbeitsfläche ist mit Befestigungsausleger (13) ausgerüstet.

Revendications

1. Une Unité de Meuble pour s'asseoir qui comprend un châssis principal, un siège et un cadre de dossier sur lequel le siège est fixé au châssis ou à la base du cadre du dossier au moyen d'un joint à rotule (A) dont le diamètre est plus inférieur à 15 cm, et dans lequel le cadre du dossier est réglable et équipé d'au moins un élément d'appui intégré au cadre du dossier (4) au moyen d'un joint à rotule, dans lequel le palier de l'articulation à rotule (A1) est fixé sur le siège (1), et la boule de la rotule (A2) est fixée au châssis principal (2) ou à la base du cadre du dossier (3).

2. L'Unité de Meuble pour s'asseoir selon la Revendication 1, dans laquelle le cadre de dossier est équipé de trois éléments mobiles indépendants (5), (6) et (7) / et l'appui central (6) est intégré dans le cadre du dossier (4) utilisant un joint à rotule (Ç).

3. L'Unité de Meuble pour s'asseoir selon la Revendication 2, dans laquelle chacun des appuis (5) et (7) se compose de deux éléments situés parallèlement les uns aux autres et symétriquement par rapport à l'axe vertical du cadre du dossier (4), et chaque élément est fixé indépendamment au cadre du dossier (4).

4. L'Unité de Meuble pour s'asseoir selon la Revendication 1, Revendication 2 ou Revendication 3, dans laquelle cette Unité de Meuble est équipée d'un repose-pied (8) avec deux accessoires mobiles pour les pieds, reliés avec le cadre du repose-pied par un joint flexible à l'aide d'un mécanisme à manivelle (9).

5. L'unité de Meuble pour s'asseoir selon la Revendication 1, Revendication 2, Revendication 3 ou Revendication 4, dans laquelle l'hélice (10) des extrémités de la partie supérieure est fixée sur le cadre du dossier (4).

6. L'unité de Meuble pour s'asseoir selon la Revendication 1, Revendication 2, Revendication 3, Revendication 4 ou Revendication 5, dans laquelle les accoudoirs (11) sont fixés à la base du cadre du dossier réglable (3).

7. L'Unité de Meuble pour s'asseoir selon la Revendication 1, Revendication 2, Revendication 3, Revendication 4, Revendication 5 ou Revendication 6, dans laquelle la partie supérieure ou la surface de travail (12) pour le clavier de l'ordinateur sont fixées à la base de l'armature du dossier (3) et cette partie supérieure ou surface de travail est équipée d'un bras de fixation (13).

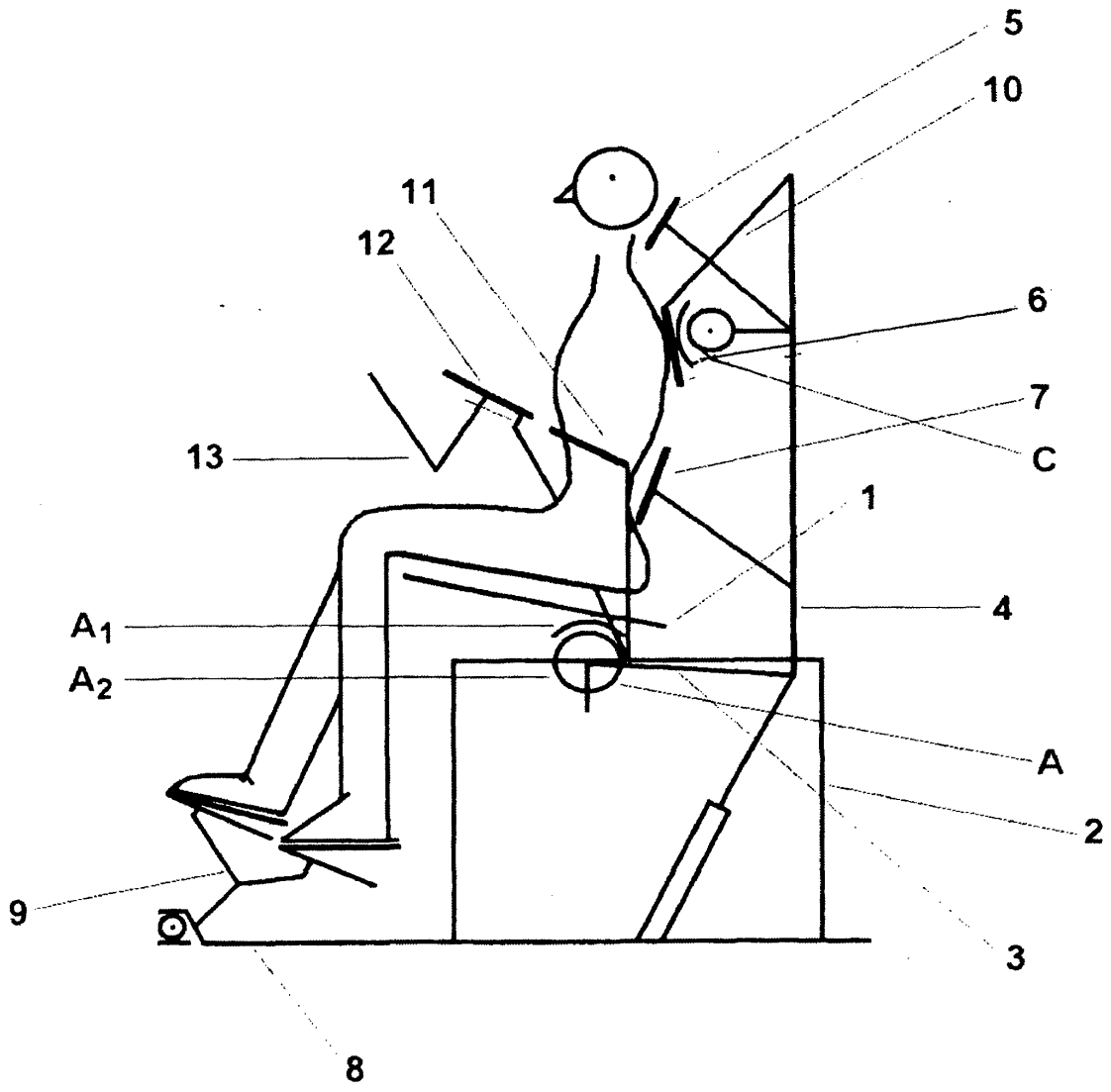

Fig. 1

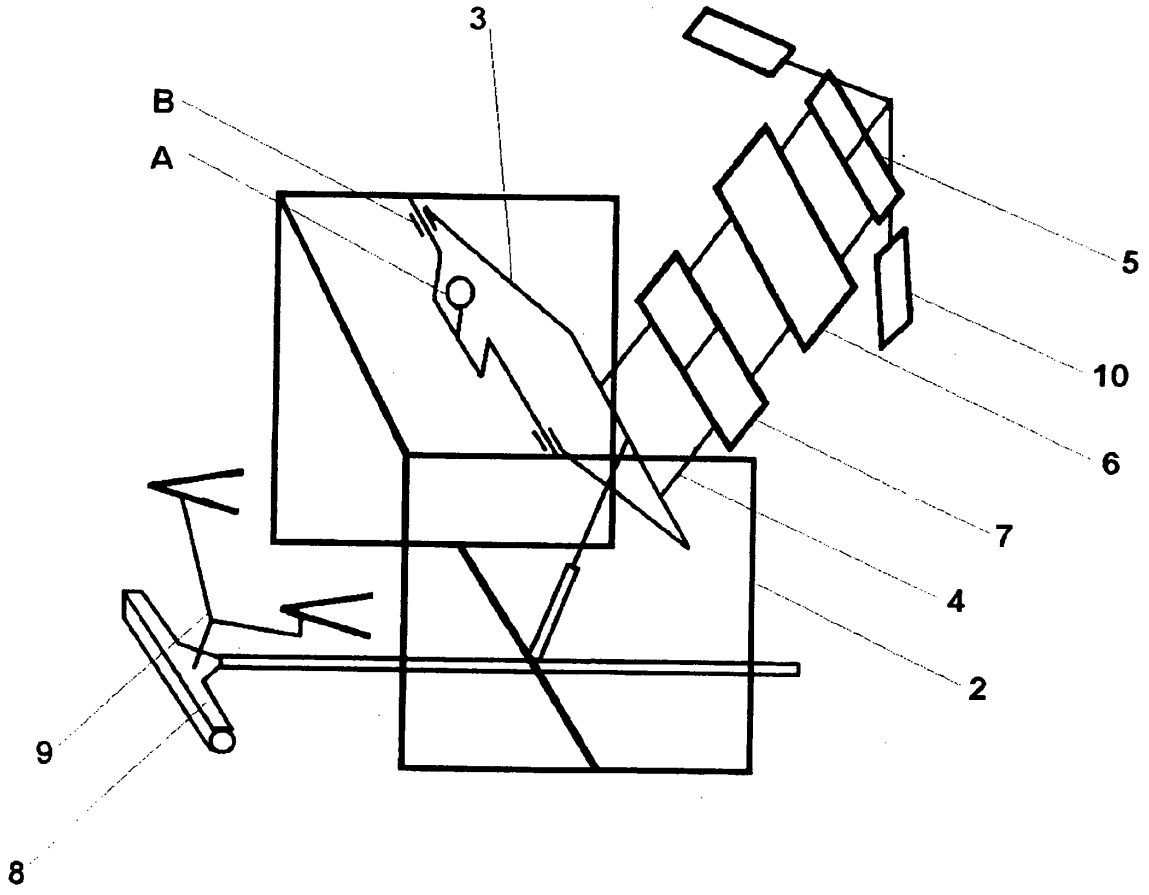

Fig. 2

REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- WO 9516374 A **[0002]**
- WO 2009157148 A **[0003]**
- WO 9014031 A **[0003]**