



US 20060238006A1

(19) **United States**

(12) **Patent Application Publication**

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(10) **Pub. No.: US 2006/0238006 A1**

(43) **Pub. Date: Oct. 26, 2006**

(54) **ARMCHAIR FOR FORMATION AND
CORRECTION OF HUMAN SPINE**

Publication Classification

(51) **Int. Cl.**
A47C 7/02 (2006.01)

(52) **U.S. Cl.** **297/284.3**

(57) **ABSTRACT**

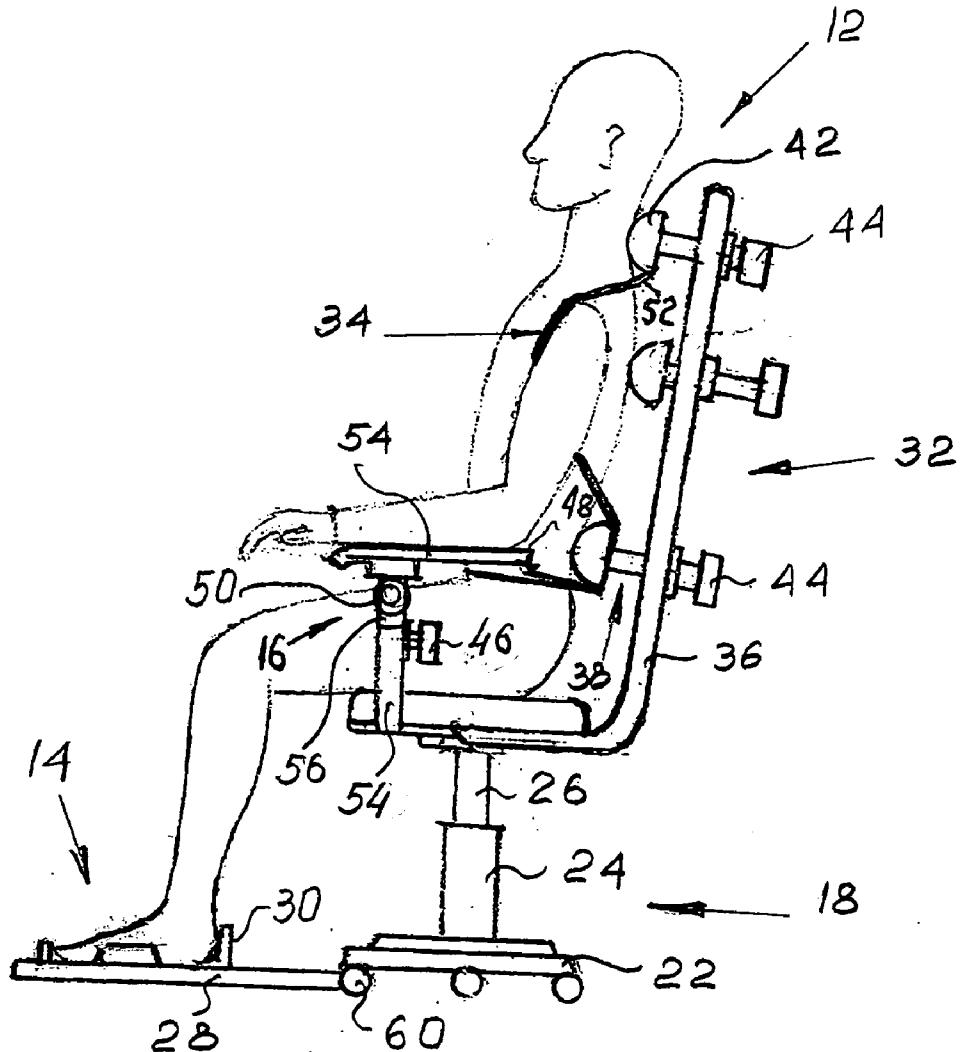
An armchair includes a base with a seat placed upon it, a backrest, the arm rest, and a feet platform with adjustable feet fixation limiters. Said seat is able to turn in horizontal flatness and to regulate its height. Said backrest includes at least two back supports, which are independent and can be regulated and fixated in the vertical and horizontal directions. The seat belt attached to the backrest is supposed to fixate the correct torso positioning of the user's spine relatively to the armchair backrest. The arm supports (elbow-rests) are connected with the armchair seat and are regulated in the desired height and incline in vertical flatness. The feet, platform is attached to the base and equipped with the adjustable feet limiters to keep the user's feet from moving during his/her seat turning.

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(21) Appl. No.: **11/103,400**

(22) Filed: **Apr. 8, 2005**



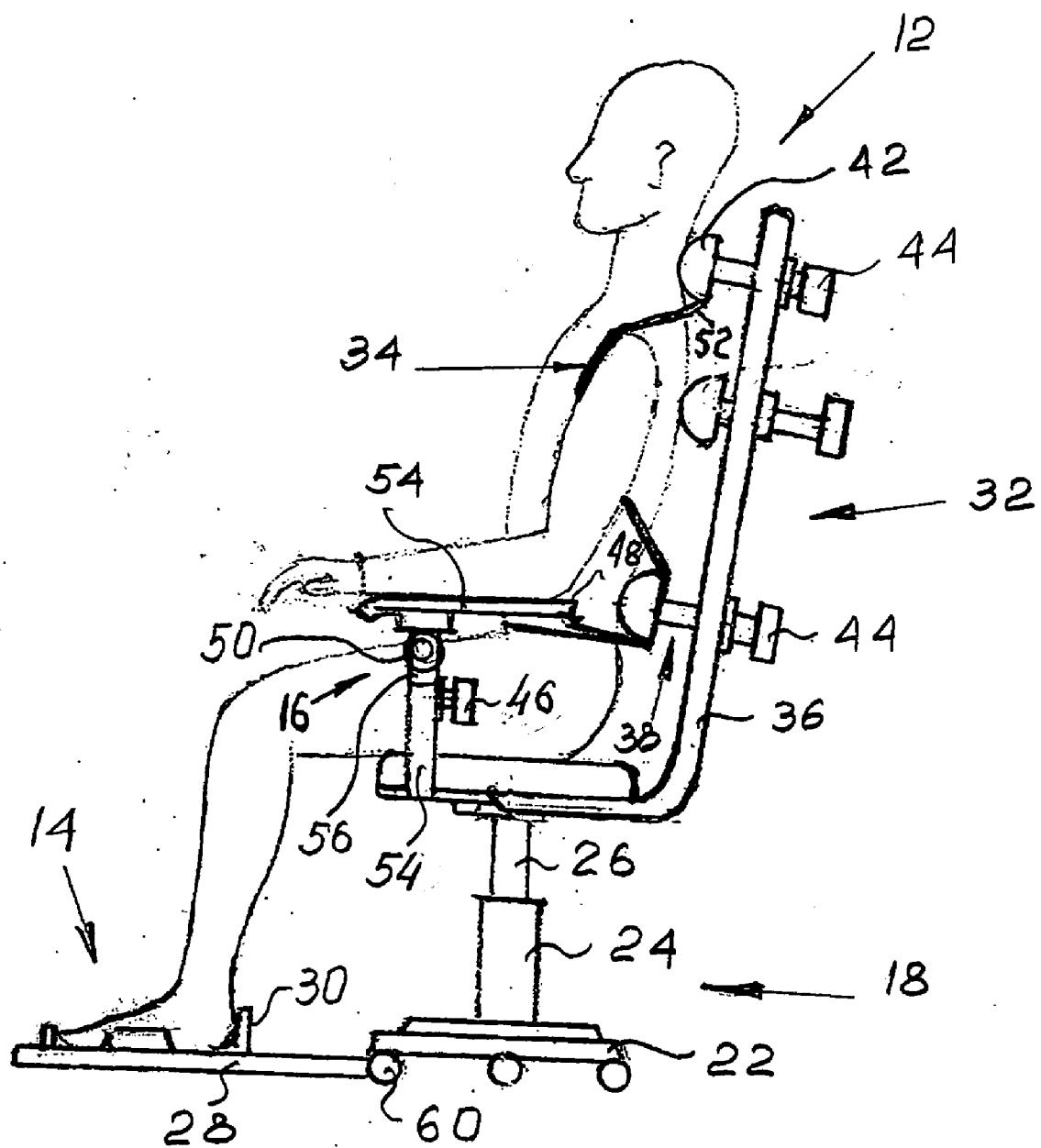


Fig. 1

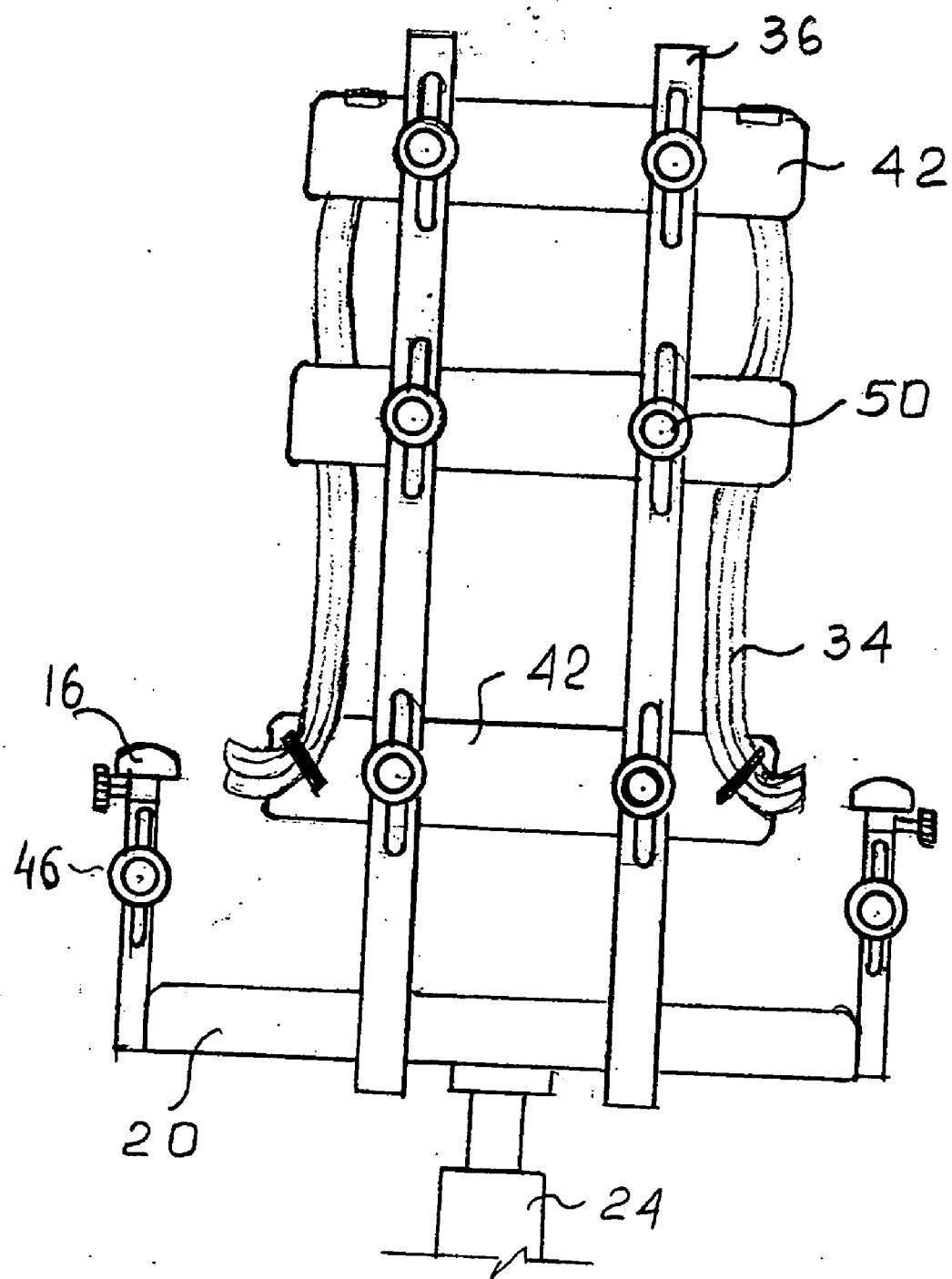


Fig. 2

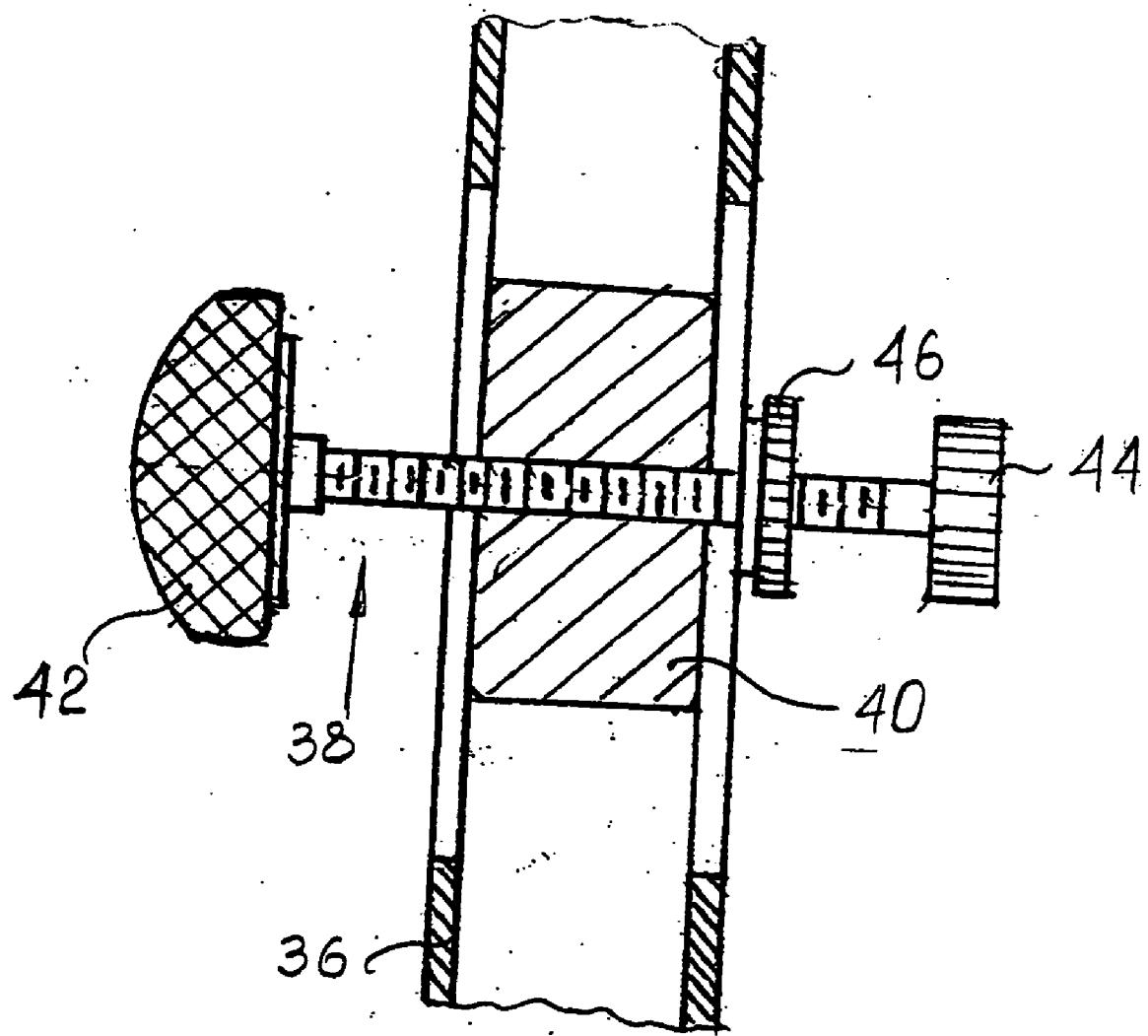


Fig. 3

ARMCHAIR FOR FORMATION AND CORRECTION OF HUMAN SPINE

FIELD OF THE INVENTION

[0001] The present invention refers to the medical treatment, more exactly—to the specialized medical supplies designed for human posture formation and correction.

BACKGROUND OF THE INVENTION

[0002] The incorrect posture not only ruins the person's appearance, but—and what is much more dangerous—causes serious medical problems, such as scoliosis, kyphosis, lordosis, spine pathology, degradation of the stomach and back muscles. Meanwhile, nowadays hypodynamia as a style of life, got so widespread, that it became almost a global threat.

DESCRIPTION OF THE PRIOR ART

[0003] Different types of medical training equipment destined to load various types of muscles, represent the well-known curative-training devices. These are often used in prevention-sanitary clubs and medical offices. Some of these devices are presented in the U.S. Pat. Nos. 6,824,505B1; 6,830,542B2; 6,827,676B2; 4,471,993. In addition, there are some different armchairs of common use, which include separate fragments of the present invention, such as, for example, U.S. Pat. Nos. 4,480,867; 5,704,689; 5,988,746; 5,975,639; 6,431,647B2.

ADVANTAGES OF THE INVENTION

[0004] However, none of those samples posses a full set of functional devices able to provide adequate medicinal care and curative effect, which could be reached by the usage of the present invention.

[0005] In addition, the presented device conceptual distinction in comparison with the previous inventions provides the possibility to be used in every day's life: at home, at working place, in kindergartens, classrooms, office premises, reading halls, during vacations, in the buildings designed for entertainment and cultural events, etc. . . . The present device possesses the additional functional and structural peculiarities, which provide, unlike the existing ones, its usage not only episodically, but also ubiquitously during the working hours, as well as in domestic life. Such kind of usage provides effective formation and fixation of correct stereotype of human posture. Besides, everyday's usage of the present device helps to keep the acquired or corrected human posture and constantly supports and enhances the user's spine mobility in all points of the lumbar area.

SUMMARY OF THE INVENTION

[0006] According to the present invention the armchair can be used in the health-improvement medicinal field, more exactly—for the user's posture stereotype formation.

[0007] Besides, the offered armchair usage on the daily basis allows user to keep the acquired or corrected posture, which can permanently support and increase the user's mobility in all spine sections.

[0008] Furthermore, the armchair has the additional advantages: it provides the seat height regulation which allows adjusting it to the most comfortable position for the

user and all members of his/her family, as well as for any user from the health-improvement group according to their height and individual physical singularity;

[0009] It allows regulation of the height and incline of the arm-rest, which provides the user the most correct and comfortable arms position during the different types of work;

[0010] It allows regulation of the user back supports according the user's correct spine profile depending on his/her individual physical singularity. This advantage adds the usage universality for all the user's family members, as well as for all members of health-improvement group;

[0011] It is provided with the support rollers, which allow the user free movement inside the premises without dislocating his/her fixated position.

[0012] For example, the armchair can include the different device structures of the seat height regulation, back supports position in vertical and horizontal flatness, as well as the arm-rests height and incline or foot movement regulation depending on his/her peculiarities.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] FIG. 1 is a main view of the Armchair for spinal deceases prevention and treatment.

[0014] FIG. 2 is a back view of the Armchair for spinal deceases prevention and treatment.

[0015] FIG. 3 is a vertical section of the device for the adjustment of back support in vertical and horizontal flatness.

LIST of REFERENCE NUMERALS

- [0016] 10—sitting means 32—backrest
- [0017] 12—spine formation means 34—torso fixation device
- [0018] 14—feet fixation device 36—guide
- [0019] 16—armrest 38—back support
- [0020] 18—base 40—slide-block
- [0021] 20—seat 42—pillow
- [0022] 22—bearing plate 44—screw
- [0023] 24—stand 46—lock-nut
- [0024] 26—pipe 48—arm lining
- [0025] 28—feet platform 50—hinge
- [0026] 30—feet movement limiters 52—seat belt
- [0027] 54—tube-guide
- [0028] 56—slide-rod
- [0029] 58—roller

Description of the Preferred Embodiments

[0030] FIG. 1 presents the main view of the preferred embodiment of said armchair. An under mentioned description and the accompanying drafts show one of possible version of its manufacturing.

[0031] The present armchair includes a sitting means (10), a user's spine formation means (12), as well as attached to the armchair a feet fixation device (14), and two armrests (16).

[0032] The device (10) for sitting includes the base (18) and the seat (20) located upon said base.

[0033] The base (18) can be designed as any existing base designed for usual working armchair. . . .

[0034] According to the presented draft, the base (18) includes a bearing plate (22) with vertical hollow cylinder stand (24) attached to said plate and a pipe (26) placed inside the said stand. The pipe (26) is attached to the backside of the seat (20). A turning of the seat (20) in the horizontal flatness and an adjustment of its height are realized by a screw-thread connection, which is performed on inside of the stand (24) and on outside of the pipe (26).

[0035] The feet fixation device (14) is attached to the bearing plate (22) of the base (18). Said device includes a feet platform (28) and attached to it feet movement limiters (30) to hold down the users feet during of his/her turning.

[0036] The spine formation means (12) is connected to the seat (20) and includes a backrest (32) with back supports (38) and torso fixation device (34), which is connected to said back supports.

[0037] The backrest (32) is designed as two guides (36) and three independent back supports (38), which are adjustable and placed on said guides. The back support (38), which showed on FIG. 3, includes the slide-block (40), which is placed into the guide (36) and the pillow (42), which is connected with said slide-block with a help of the screw (44). An adjustment of the back support (38) is realized with a help of screw (44) and lock-nut (46). A height of the back support (38) is tuning by a moving of the slide-blocks (40) along the guides (36); the adjustment of said supports in horizontal direction (a depth of seating) is realized by a way of torsion or wring of the screw (44) from/into the slide-block (40).

[0038] The pillow (42) can be made of any materials traditionally used for similar objects manufacturing.

[0039] The user's torso fixation device (34) is connected to the back supports (38) and can be made as a regular seat-belt.

[0040] The armrests (16) are intended to provide the comfortable users arm position during his/her different kinds of work. Said armrests are performed with the possibility to regulate their height and incline in vertical flatness. The armrest (16) includes the arm-lining (48), attached to a hinge (50), which is connected with slide-rod (56). Said slide-rod is placed into a tube-guide (54), which is attached to the seat (20). The regulation of the armrest (16) height realizes by the moving said slide-rod into the tube-guide (54) and its fixation with a help of the lock-nut (46).

[0041] An incline of the arm-rest (16) is regulated by turning of the hinge (50).

[0042] The presented armchair works as follows: The armchair is in tune with the user's size. The user sits down in the armchair, putting his/her feet upon the feet platform (28), so that both his/her feet are located between the feet movement limiters (30), and both users' arms are located upon the arm-rest (16). The arm-rests (16) height and incline is regulated according to the user's height and occupational

habits (writing with the help of a pen, keyboard or assembly-mounting works, etc.). The optimal positioning of the users torso is determined by moving of the back supports (38) along vertical and horizontal directions in order to provide the correct spine profile according to the user's individual peculiarities. After of the installation of the all adjustable elements, the seat belts (52) are locked in order to fixate the user's torso in the optimal position for his spine. The armchair movement with the user sitting in it is performed with a help of the rollers (58), attached to the bearing plate (22) in the way similar to the usual working armchairs.

1. An armchair for formation and correction of human spine, which includes a seating means and spine formation means, which are connected with each other.

2. An armchair for formation and correction of human spine, which includes a seating means and a feet fixation device, which are connected with each other.

3. The armchair, for formation and correction of human spine, of claim 1, wherein said seating means includes a base and located upon said base a seat which is able to turn in a horizontal flatness.

4. The armchair, for formation and correction of human spine, of claim 1, wherein said seating means includes a base and located upon said base a seat which is adjustable in vertical direction.

5. The armchair for formation and correction of human spine, of claim 1, wherein said means for spine formation includes a back rest with at least two back supports and a torso fixation device, which is connected to a said backrest.

6. The armchair for formation and correction of human spine, of claim 1, which further includes two arm-rests.

7. The armchair for formation and correction of human spine, of claim 6, wherein said arm-rests are able to adjust in vertical flatness.

8. The armchair for formation and correction of human spine, of claim 6, wherein said arm-rests incline are adjustable in vertical flatness.

9. The armchair for formation and correction of human spine, of claim 5, wherein said back supports are adjustable in vertical and in horizontal directions.

10. The armchair for formation and correction of human spine, of claim 5, wherein said torso fixation device is made as a seat belt connected to said back-rest.

11. The armchair for formation and correction of human spine, of claim 2, wherein said seating means includes a base and located upon said base a seat which is able to turn in a horizontal flatness.

12. The armchair for formation and correction of human spine, of claim 2, wherein said seating means includes a base and located upon said base a seat which is adjustable in vertical direction.

13. The armchair for formation and correction of human spine, of claim 2, wherein said feet fixation device includes feet platform equipped with feet movement.

14. The armchair for formation and correction of human spine, of claim 13, wherein said feet limiters are adjustable for the user's feet size.

15. The armchair for formation and correction of human spine, which includes a sitting means, spine formation means, a feet fixation device and arm-rests, which are connected with each other, whereby the user can format or correct his/her posture and at the same time receive treatment for his/her back pain along with resting, eating, performing some kind of job in the convenient seated position.