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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WORKING CHAIRField of the Invention

The present relates to a working chair, which has a stand, a seat, which is mounted on the stand, and castors, which are mounted on the stand to allow movement of the chair on a floor.

Background Art

A working chair of this type is used to perform different kinds of work. The user is then seated on the chair with both feet resting on the floor. When seated, the user can move the chair on the floor by means of his feet between different working positions. In some types of work, it may be necessary to alter between sitting and standing working positions. Such alternation between different working positions is also advantageous from an ergonomic point of view, since it reduces the risk of strain injuries. When the work is performed in a sitting position, it may be comfortable for the user to lean against a support. Such a support is suitably placed on a level with the user's buttocks.

Summary of the Invention

One object of the present invention is to provide a working chair, which is constructed such that it can be used as a working chair in the ordinary way, but can also be used as a support of the above-mentioned kind without rolling off on its castors or tipping over.

According to the invention, this object is achieved by means of a working chair, which is of the kind mentioned by way of introduction and characterised in that a foot-operated tipping support is mounted on the stand, which tipping support is movable between a raised inactive position, in which it is situated at a distance from the floor and allows movement of the chair on the floor, and a lowered active position, in which it abuts against the floor and renders movement of the chair on the floor

difficult, and that the seat is pivotable between a substantially horizontal sitting position, in which a user can sit on the seat, and a substantially vertical support position, in which the user, while standing on the tipping support and thereby keeping it in its lowered active position, can lean against the seat.

The tipping support is preferably spring-biased towards its raised position.

In a preferred embodiment, the tipping support is a substantially horizontal foot plate which is vertically adjustable. The foot plate is suitably formed such that the user can stand thereon with both feet.

The seat is advantageously mounted on the stand in a vertically adjustable manner.

15 Brief Description of the Drawings

Fig. 1 is a perspective view showing a working chair according to the present invention in a first position.

Fig. 2 is a perspective view showing the working chair according to Fig. 1 in a second position.

20 Description of a Preferred Embodiment

The working chair shown in the drawings has a stand 1, on which a seat 2 is mounted. The stand 1 is composed of a 5-star castor base 3, which has five substantially horizontal arms which are uniformly distributed in the circumferential direction, and a vertical column 4, which is connected to the castor base and is in the form of a gas spring with a cylinder 4a and a piston rod 4b. The seat 2 is attached to the piston rod 4b of the gas cylinder at the upper end thereof. The seat 2 is pivotable about a horizontal axis (not shown) between a substantially horizontal position (Fig. 1) and a substantially vertical position (Fig. 2). The seat 2 is releasably securable in the respective positions. In an alternative embodiment, the seat is spring-biased towards its substantially vertical position. The vertical position of the seat 2 is adjustable by regulating the extended position of the piston rod 4b in relation to the gas cylinder 4a.

Each one of the five arms of the castor base 3 supports a castor 5. As a result, the working chair can be moved on a floor.

The working chair is provided with a foot-operated tipping support in the form of a horizontal foot plate 6, which is vertically adjustable. The foot plate 6 is mounted on a holding means 7, which is attached to the underside of the castor base 3 in the front portion thereof. The foot plate 6 is made of a metal sheet and has such a shape and is placed in such manner on the castor base 3 as to be symmetrical in relation to a forwardly directed arm of the castor base. The foot plate 6 has a front cut-away portion 8 for the castor 5 that is supported by the forwardly directed arm.

In the shown example, the holder means 7 is composed of a plurality of square pipes, which are welded together. The holding means 7 consists of a tubular piece 7a, which extends perpendicular to the forwardly directed arm in the castor base 3 between the arms in the castor base 3 that are located closest to this arm, two short tubular pieces 7b, which are attached to the tubular piece 7a and extend forward a short distance from each of its ends, two tubular pieces 7c, which are attached to the tubular piece 7a in the middle portion thereof and extend forward on each side of the forwardly directed arm in the castor base 3, as well as a tubular piece 7d, which extends transversely of the tubular pieces 7c interconnecting their free ends.

Each one of the tubular pieces 7b has a vertical through-hole at its free end. The tubular piece 7d has a vertical through-hole at each of its ends. Just opposite to each of these four holes, the foot plate 6 has a vertical, upwardly directed pin 9, which extends through the respective holes in the holding means 7 and projects a distance above the same. Each pin 9 has a head at its upper end. A compression spring 10 is arranged between the head of each pin 9 and the upper side of the holding means 7. The compression springs 10 thus press the foot plate 6

upwards to a raised position, in which the foot plate abuts against the underside of the holding means 7 and is thus located at a distance from the floor. The foot plate 6 can be pressed down against the action of the springs 10 to a lowered position, in which it abuts against the floor, thus making movement of the working chair on the floor difficult.

When a user wants to sit down on the working chair, the seat 2 of the working chair is placed in the position shown in Fig. 1, that is in a substantially horizontal pivoting position (sitting position) and in a lowered position. The user is then able, while being seated on the chair, to move the same on the floor by means of his feet, which are placed in front of or by the side of the foot plate 6, between different working positions. When the user wants to work in a standing position and use the working chair as a support for his back, the seat 2 is placed in the position shown in Fig. 2, that is in a substantially vertical pivoting position (support position) and in a raised position, in which the seat is situated on a level with the user's buttocks, when he is standing. The user places himself on the foot plate 6 with his feet on each side of the forwardly directed arm in the castor base 3 and is then able, while standing on the foot plate 6 and thereby keeping it in a lowered position, to lean against the seat 2. Since the user stands on the foot plate, thus pressing it down into abutment against the floor, the working chair is prevented from rolling off on its castors and from tipping over.

The invention is not, of course, limited to the embodiment described above but can be modified in a number of different ways within the scope of the appended claims. Thus an arrangement, corresponding to the parts of the pins 9 that are situated above the holding means 7 and the springs 10, can be provided inside the square pipes forming the holding means 7. The foot plate 6 can be coated with a friction-enhancing material on its underside.

CLAIMS

1. A working chair, which has a stand (1), a seat
5 (2), which is mounted on the stand, and castors (5), which
are mounted on the stand to allow movement of the chair on
a floor, characterised in that a foot-operated
tipping support (6) is mounted on the stand (1), which
10 tipping support is movable between a raised inactive po-
sition, in which it is situated at a distance from the
floor and allows movement of the chair on the floor, and
a lowered active position, in which it abuts against the
floor and renders movement of the chair on the floor
difficult, and that the seat (2) is pivotable between a
15 substantially horizontal sitting position, in which a user
can sit on the seat (2), and a substantially vertical
support position, in which the user, while standing on the
tipping support (6) and thereby keeping it in its lowered
active position, can lean against the seat (2).

20 2. A working chair as claimed in claim 1, in which
the tipping support (6) is spring-biased towards its
raised position.

3. A working chair as claimed in claim 1 or 2, in
which the tipping support is a substantially horizontal
25 foot plate (6), which is vertically adjustable.

4. A working chair as claimed in claim 3, in which
the foot plate (6) is formed such that the user can stand
thereon with both feet.

5. A working chair as claimed in any one of the pre-
30 ceding claims, in which the seat (2) is mounted on the
stand (1) in a vertically adjustable manner.

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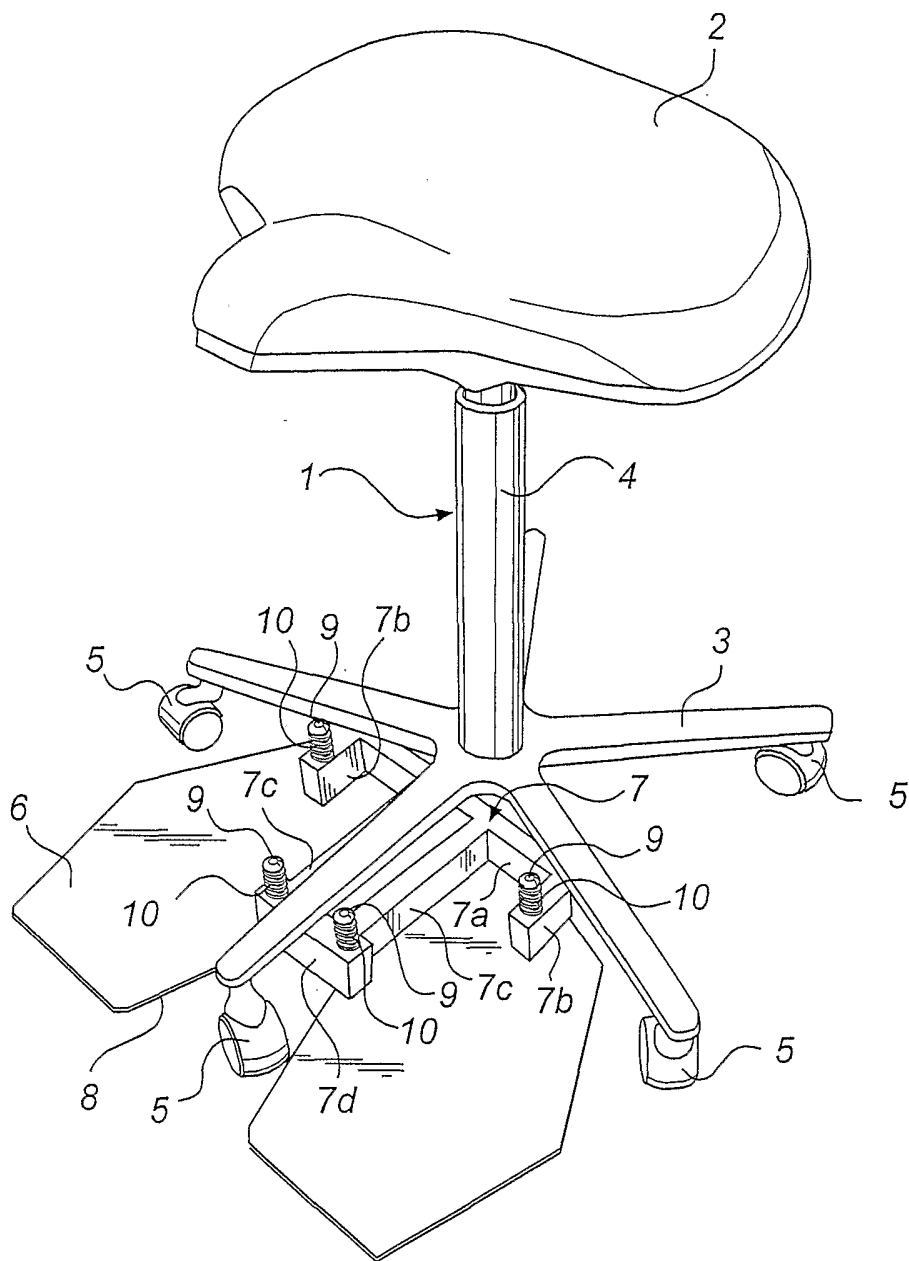


Fig. 1

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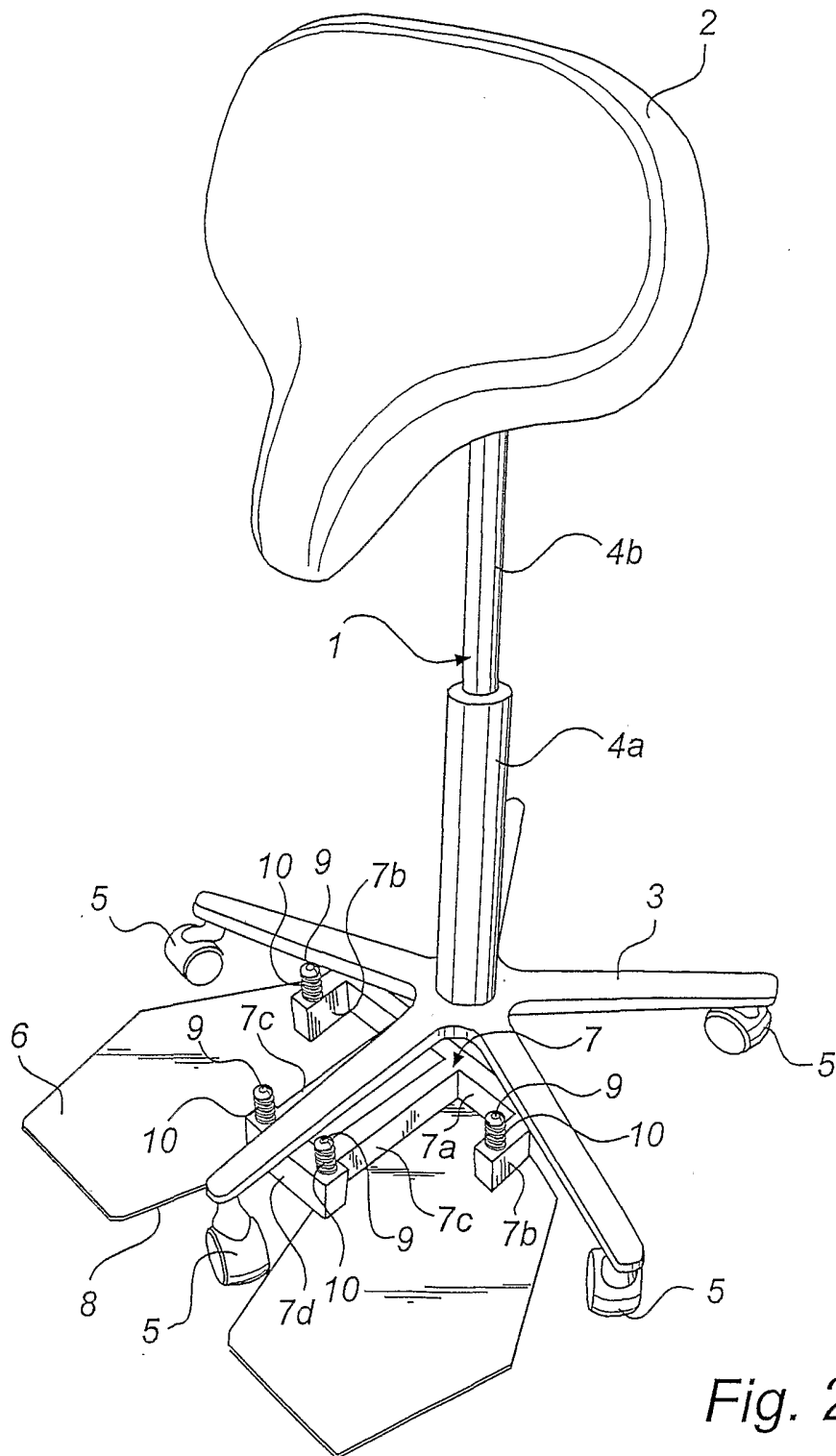


Fig. 2

INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 02/01140

A. CLASSIFICATION OF SUBJECT MATTER

IPC7: A47C 9/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: A47C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5295728 A (SCHAEVITZ), 22 March 1994 (22.03.94) --	1-5
A	DE 3314920 A1 (RAU, SIEGFRIED), 31 October 1984 (31.10.84) -- -----	1-5

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

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Name and mailing address of the ISA/

Swedish Patent Office

Box 5055, S-102 42 STOCKHOLM

Facsimile No. +46 8 666 02 86

Authorized officer

Sven-Erik Bergdahl / JA A

Telephone No. +46 8 782 25 00

INTERNATIONAL SEARCH REPORT

International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5295728 A	22/03/94	NONE	
DE 3314920 A1	31/10/84	CH 664272 A FR 2544601 A,B	29/02/88 26/10/84