May 12, 1970 F. E. DRABERT 3,511,533

CHAIRS

Filed Nov. 17, 1967 2 Sheets-Sheet 1

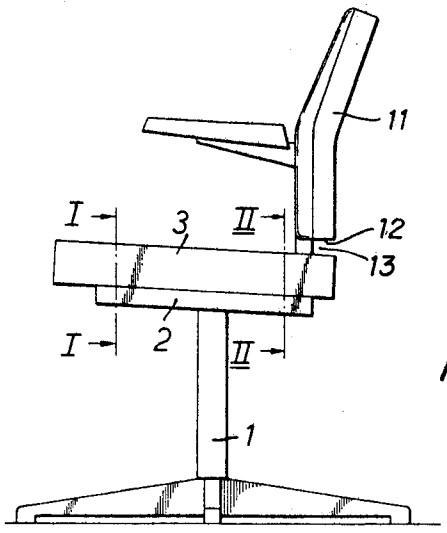


FIG. 1.

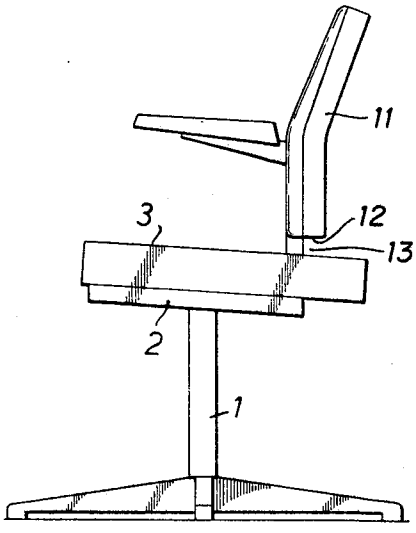


FIG. 2.

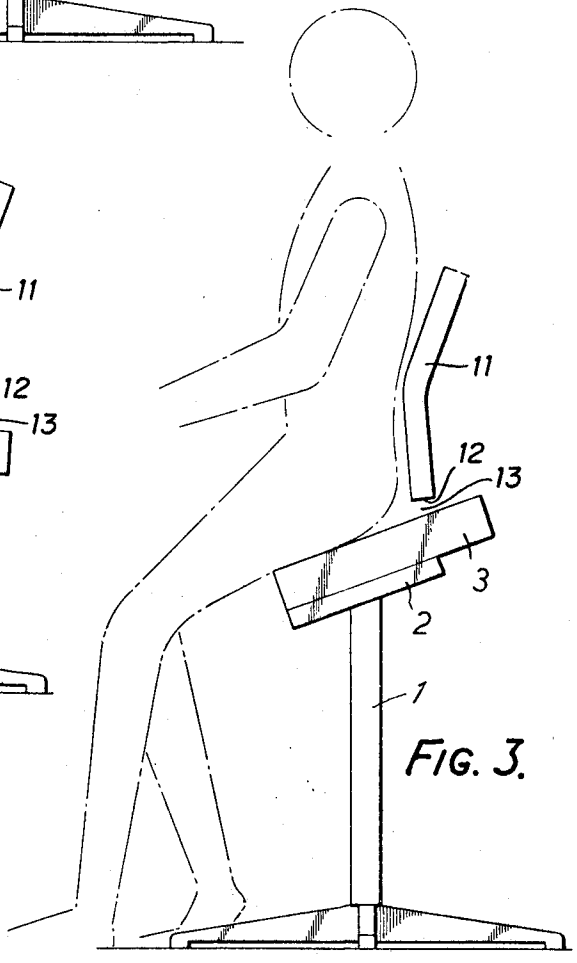


FIG. 3.

INVENTOR
FRITZ E. DRABERT.
BY
ATTORNEY

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CHAIRS

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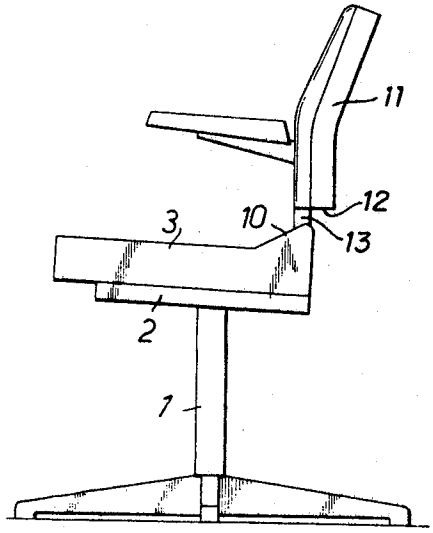


FIG. 4.

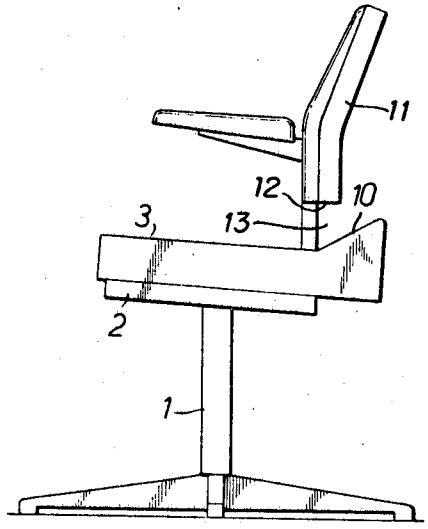


FIG. 5.

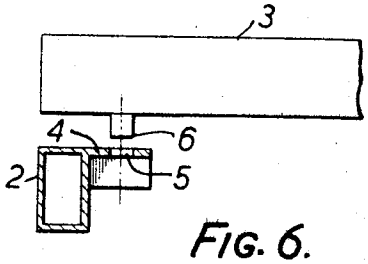


FIG. 6.

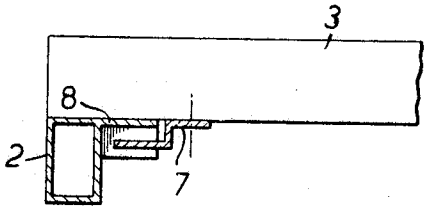


FIG. 7.

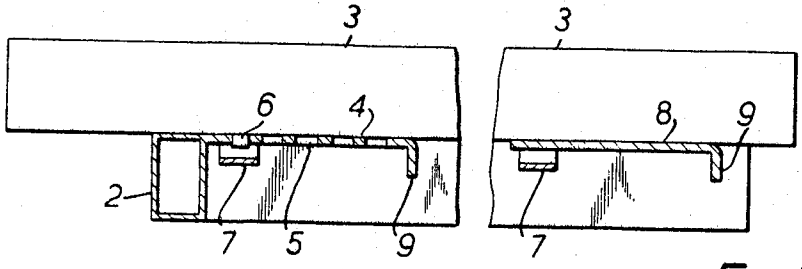


FIG. 8.

INVENTOR
FRITZ E. DRABERT.
BY
ATTORNEY

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CHAIRS

Fritz E. Drabert, Marienstrasse 37, Minden, Westphalia, Germany

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Claims priority, application Germany, Nov. 25, 1966, D 51,639
Int. Cl. A47c *15/00*
U.S. Cl. 297—337 11 Claims

ABSTRACT OF THE DISCLOSURE

A chair with a seat which is adjustable forwardly and rearwardly with respect to a backrest. The seat carries pins which selectively engage holes in a transverse support.

This invention relates to chairs.

Working chairs in general have the seat rigidly secured to the lower framework. This non-adjustable seat often has disadvantages for the user, whether seated at a desk or at a machine. According to the user's size, including thigh length, which differs from one person to another, there is a desire to adjust the distance between the front edge of the seat and the chair back and to adapt it to the sitting position of the moment, so that the seated person may still feel the benefit of the backrest, whatever his posture. Thus, for example, a shorter seat length is desirable in front of a typewriter and of office machines in general, because of the forward posture, than for reading at a desk, for which purpose the sitter's torso is positioned further back. An object of the invention is to provide a general purpose chair incorporating the best seating characteristics and suitable for all places of work. This means, in other words, that the distance between the front edge of the seat and the chair backrest can be readily adjusted by the user.

In conjunction with this, the backrest may be resilient, that is to say, it can be tilted, but it has no horizontal adjustment in the plane of the seat. There are, too, some working positions in which the torso is supported by the pelvis in what may be called a "standing seat" position. For this, an inclined and perhaps tiltable seat can be fitted to an extra high chair base, so that the seat can be moved as far as desired, until it presents but a short supporting surface, as is usual with the "standing seat."

Seat adjustment according to the invention is very simple to carry out. For this, the seated person raises his thighs a little, so as to take his weight off the seat, and he can then move the seat forward or back with one hand, as he wishes, no locking mechanism being required.

According to one feature in accordance with the invention, the positioning rails are fixed to the seat bearer.

Another feature in accordance with the invention is that at least two retainers are fixed to the underside of the seat, to prevent this from coming completely adrift from the sea bearer. These retainers are formed from Z-sectioned angle iron.

In accordance with a further feature, the clearance between the one horizontal arm of each retainer and the corresponding positioning rails is such that, when the seat is raised, the peg just clears the corresponding holes in the positioning rail.

Each positioning rail has a stop against which the retainer comes to bear when the seat is in one of its extreme positions. This stop is formed by bending over one end of each positioning rail.

Various practical examples of chairs, embodying the

invention are described hereinafter in conjunction with the accompanying purely diagrammatic drawings, in which:

FIGS. 1 and 2 are side elevations of a chair as herein proposed, with the seat in the front and rear positions respectively;

FIG. 3 is a side elevation of a chair as herein proposed, with an extra high base and a tilting seat having a short supporting face;

FIGS. 4 and 5 are side elevations of a slightly modified version of the chair shown in FIGS. 1 and 2;

FIG. 6 is a partial section along the line I—I in FIG. 1;

FIG. 7 is a partial section along the line II—II in FIG. 1; and

FIG. 8 is a discontinuous longitudinal section of the seat of a chair in accordance with the invention.

The drawings show a chair underframe or support **1**, to which is fixed a seat bearer **2**. A movable seat **3**, rests on the bearer **2**, which is made up of rectangular-sectioned tubing. Below the seat **3**, rails **4** of a two-part means or positioning device are fixed to the rectangular tubing, following the direction of the seat. These positioning rails **4** contain a number of holes **5**. A peg **6**, firmly fixed to the underside of the seat **3**, fits into one or other of the holes **5** in each positioning rail **4** when the seat **3** rests on the bearer **2**, in contact with the positioning rail the two-part means are rigid with the underside of the seat and with the seat bearer respectively and are capable of selective interengagement at a plurality of positions from a rearward extreme position to a forward extreme position whereby the effective seating depth from front to back is adjustable. In the rearward extreme position a portion of the seat extends through and beyond an opening defined between the lower edge of the back rest and the seat bearer, whereas in the forward extreme position the rear edge of the seat lies in in the opening.

To prevent the seat **3** from becoming completely disengaged, it has substantially Z-shaped retainers **7**, fixed to it. The clearance between the one horizontal arm of each retainer **7** and its corresponding positioning rail **4** is such that, when the seat **3** is raised, the peg **6** just clears the corresponding holes **5** in the positioning rail **4**, so that the pegs **6** can travel along above the rails **4** and be introduced in the next pair of holes.

The rail **8** fixed at the rear end of the bearer **2** below the seat **3** contains no holes at all, being intended only to provide the seat **3** with uniform support.

The purpose of a bent-over stop **9** is to limit the range of adjustment of the seat. A backrest **11** has a lower edge **12** spaced upwardly from the seat bearer **2** to define an opening **13**.

FIGS. 4 and 5 show a chair, the seat **3** of which is provided with a wedge-shaped support for the pelvis. In the normal position (FIG. 4), this support is fully effective, whereas, with the seat **3** in the position shown in FIG. 5, the wedge support **10** has passed below the backrest in the course of adjustment of the seat **3** and is therefore more or less ineffective. In each embodiment the chair has a back rest **11** which is fixed to prevent horizontal adjustment relative to the supporter underframe **1**.

I claim:

1. In a chair comprising

a support,

a seat bearer means,

a seat mounted on the seat bearer means,

a backrest fixed to prevent horizontal adjustment relative to the support, and a lower edge thereof being spaced upwardly from the seat bearer means to define an opening, and

two part means rigid with the underside of the seat and with the seat bearer means respectively capable of selective interengagement at a plurality of positions from a rearward extreme position in which a portion of the seat extends through and beyond the said opening to a forward extreme position in which the rear edge lies in said opening whereby the effective seating depth from front to back of the chair is adjustable progressively by movement of the seat relative to the seat bearer means.

2. A chair according to claim **1**, wherein the seat is self-locking relatively to the seat bearer means in its adjusted position.

3. A chair according to claim **1** comprising a wedge-shaped support for the user at the rear of the seat.

4. A chair according to claim **1** wherein

said two-part means includes

at least one positioning rail having a plurality of holes therein,

and a peg secured to the seat so as selectively to fit into and be retained in one of the holes of the corresponding positioning rail when in the position for locking.

5. A chair according to claim **4** comprising a plurality of said rails, each rail being secured to the seat bearer means.

6. A chair according to claim **4** comprising

at least two retainers secured to the underside of the seat to prevent the latter from becoming completely disengaged from the seat bearer means.

7. A chair according to claim **6**, in which each retainer is in the form of a substantially Z-section member.

8. A chair according to claim **7**, in which the clearance between the one horizontal arm of each retainer and its corresponding positioning rail is such that, when the seat is raised, a corresponding said peg just clears the corresponding holes in the positioning rail.

9. A chair according to claim **6**, in which each positioning rail has a stop, against which the retainer abuts when the seat is in one extreme position.

10. A chair according to claim **9**, in which each stop is formed by a bent-over end of each positioning rail.

11. A chair comprising,

a support,

a seat bearer means,

a back rest fixed against horizontal movement relatively to the support and a lower edge thereof being spaced upwardly from the seat bearer means to define an opening, and

a seat mounted on the seat bearer means, and

said seat bearer means including

a pair of parallel positioning rails each having a plurality of holes apertures spaced along the length thereof,

a corresponding pair of pegs secured to the underside of the seat so as selectively to fit into and be retained in one of the holes of the corresponding positioning rail when in the position for locking, and

at least two Z-section retainers secured to the underside of the seat to prevent the seat from becoming dis-engaged from the rails, said seat bearer means serving to support the seat and to permit adjustment in a horizontal sense at and between two extreme positions in one of which positions a portion of the seat extends through and beyond the said opening and in the other of which positions the rear edge of the seat lies in the opening.

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BOBBY R. GAY, Primary Examiner

G. O. FINCH, Assistant Examiner