

A Rocking Chair

The present invention relates to a rocking chair.

Rocking chairs are well-known in which a seat having two curved bearers (commonly known as "rockers") is rockably mounted on a non-rocking base. As the bearers rock backwards and forwards on the base, the gap between the bearers and the base constantly changes. If anyone, for example, a small child, were to insert their fingers or toes between the bearers and the base, there would be a serious risk of pinching, and even crushing of bone.

This problem is addressed in UK patent application No. 9910930.7 by the inclusion of a box as a shield around each of two bearers thus reducing the risk of finger pinching. Although this measure is effective, the boxes surrounding the bearers detract from the aesthetic characteristics of the chair. The chair is also relatively complicated to manufacture. Furthermore, the additional components result in increased production costs.

Some upholstered rocking chairs also have a skirt portion which hangs below the seat of the chair and shields the bearers. However, such a skirt is not always desirable. The inclusion of a skirt also adds to the production costs of the chair.

An object of the invention is to provide a rocking chair in which the disadvantages of the prior art are overcome.

The invention provides a rocking chair as claimed in Claim 1.

The supporting surface is the surface that supports the person seated in the chair but does not include fixed cushioning or removable cushions. For instance, the supporting surface may be formed of board, slats or of webbing, as is well known in chair construction. The level of the supporting surface can be determined when the supporting surface is generally horizontal, or in a stationary, tilted-back position in which case the level would be determined at the intersection of the supporting surface with a vertical line through the level of the contacting rocking surfaces.

It will be understood that "the level of the contacting rocking surfaces" refers to the line of contact therebetween (i.e. transversely of the chair) in the stationary position of the chair. The term "rocking surface" refers to a surface of rocking.

The level of the contacting rocking surfaces, as defined above, may be located at, below or above the level of the supporting surface, preferably up to 15cm from the level of the supporting surface. The level of the rocking surfaces is preferably at least 20cm above floor level.

Preferably, the rocking surface(s) of the seat is/are curved. Alternatively, the rocking surface(s) of the non-rocking base is/are curved. It is even possible for the rocking surfaces of both the seat and the non-rocking base to be curved.

Embodiments of the invention will now be described with reference to the accompanying drawings, wherein:

Fig. 1 shows a side view of a rocking chair in accordance with the invention in different rocking positions,

Fig. 2 shows a side view of the rocking chair of Figure 1 in an upright position,

Fig. 3 shows a side view of the rocking chair of Figure 1 in a rearward rocked position,

Fig. 4 shows a front view of the rocking chair of Figure 1,

Fig. 5 shows a side view of a further embodiment of a rocking chair according to the invention,

Fig. 6 shows a side view of the rocking chair of Figure 4 in a rearward rocked position,

Fig. 7 shows a front view of the rocking chair of Figure 4,

Fig. 8 shows a side view of a further embodiment of a rocking chair according to the invention, and

Fig. 9 shows a side view of a still further embodiment of a rocking chair according to the invention.

In Figure 2, a rocking chair 1 comprises a seat 2 having a pair of curved bearers 3 rockably mounted via contacting rocking surfaces 3¹, 7 on respective non-rocking bases 4. Here, the rocking surfaces 3¹ are curved, whereas the rocking surfaces 7 are flat. The seat 2 has a generally horizontal supporting surface 2a, on which the occupant is supported, and a cushion 2b placed thereon. The mechanism by way of which the seat 2 is mounted on the bases 4 is well-known, and need not be described here. Any suitable mechanism that allows the seat 2 to rock on the bases 4 may be used. Each base 4 has legs 4a. The seat 2 has arms 5 and a back portion 6.

The curved bearers 3 and non-rocking bases 4 are located in the arms 5 of the seat 2, a bearer 3 and non-rocking base 4 being located in each arm 5. Location of the curved bearers 3 and non-rocking bases 4 within the arms 5 prevents access to the rocking surfaces 3¹ and 7.

For simplicity, the single curved bearer 3 and corresponding base 4 will be described.

The non-rocking base 4 is raised above floor level so that the level of the rocking surfaces 3¹, 7 is located within the seat 2 at a height a above floor level. The level of the rocking surfaces 3¹, 7 is located at a distance b below the level of the supporting surface 2a. The distance b is measured from the horizontal of the generally horizontal supporting surface 2a. The height a must be of a sufficient magnitude to ensure that the rocking surfaces 3¹, 7 remain within the seat 2 whilst the seat 2 is rocked, so that the rocking surfaces 3¹, 7 are inaccessible under normal use and pinching of fingers or toes is, therefore, avoided. Similarly, the distance b must be sufficiently small so that the rocking surfaces 3¹, 7 do not protrude beyond the base of the seat 2 at any stage during the rocking of the seat 2. A clearance c between the base of the seat 2 and the floor ensures that the chair rocks freely. The height a is greater than the distance b , i.e. the level of the rocking surfaces is closer to the level of the supporting surface 2a than to the floor. The height a is at least 20cm, whereas the distance b may be up to 15cm. The distance b may be zero, i.e. the level of the rocking surfaces is level with the level of the supporting surface 2a.

Since the rocking surface 7 need not be exactly horizontal, e.g. it may slope backwards and downwards, and in the stationary position of the seat 2 the supporting surface 2a may also tilt backwards and downwards, the "levels" of the supporting surface 2a and the rocking surfaces 3¹, 7 are at the point where these surfaces intersect the vertical axis y through the point of contact of the rocking surfaces 3¹, 7 at rest. If in the stationary position of the chair of Fig. 2 the seat 2 is tilted backwards the axis y will be moved to the left of its position shown in Fig. 2.

In an alternative embodiment of the invention, as shown in Figures 5 to 7, the level of the rocking surfaces 3¹, 7 is arranged above the level of the supporting surface 2a. The rocking surfaces 3¹, 7 are located up to 15cm above the level of the supporting surface 2a. Again, access to the rocking surfaces 3¹, 7 is prevented, so that the risk of injury to fingers or toes during rocking is avoided.

In use, the seat 2 may be rocked back and forth by pushing against the floor or a fixed structure, e.g. a reaction member as disclosed in UK Patent No. 2 332 141.

Alternatively, the occupant may cause rocking of the chair 1 by tilting the seat 2 backwards and forwards. In any case, the gap between the curved bearers 3 and the non-rocking base 4 will be covered by the seat 2 so that human fingers or toes, or indeed tails or paws of pets will not be trapped in the gap. The legs 4a on the non-rocking base 4 give the chair the appearance of a conventional non-rocking chair.

Because the rocking surfaces 3¹, 7 are closer to the level of the supporting surface 2a than to floor level, the distance between the user's centre of gravity and the rocking surface is greatly reduced. Consequently, the user must exert an increased force to rock the chair than with conventional rocking chairs, in which the rocking surface is very close to floor level. However, if the rocking surface 7¹ on the non-rocking base is curved, and the rocking surface 3¹¹ on the chair is flat, as in the embodiment of Figure 8, rocking of the chair is made easier. To enhance rocking of the chair, the radius of curvature of the rocking surface 7¹ is preferably significantly less than that of the radius of curvature of the rocking surface 3 of the chairs of Figs. 1 to 7.

In the embodiment of Figure 9 both the rocking surface 3¹¹¹ on the seat and the rocking surface 7¹¹ on the non-rocking base 4 are curved. In view of the "double curvature" of the rocking surfaces, the radius of curvature of the rocking surfaces 3¹¹¹, 7¹¹ are preferably significantly greater than the radius of curvature of the rocking surface 3¹ of the chairs of Figs. 1 to 7, and this enhances stability. Furthermore, the legs 4a have been replaced by a pedestal 4b on opposite sides of the chair.

The remaining features of the chairs shown in Figures 8 and 9 are similar to those of the chairs of Figures 1 to 7.

It will be understood that the level of the contacting rocking surfaces will be the plane of the flat rocking surface 7 of Figures 1 to 7, and at the point of contact of the seat rocking

surfaces 3¹¹ and 3¹¹¹ with the base rocking surfaces 7¹ and 7¹¹ of Figures 8 and 9, respectively, in the stationary position of the seat.

It will be appreciated that further variations of the invention are possible. The non-rocking base 4 may be in the form of a block, without legs. Alternatively, it could be in the form of a platform having a central depending pedestal, two lateral depending supports, or three or four legs. Furthermore, the cushion 2b may be omitted.

**Claims:**

1. A rocking chair comprising a non-rocking base and a seat having two arms and a generally horizontal supporting surface, the seat being rockably mounted on the non-rocking base via contacting rocking surfaces thereof, the seat and the non-rocking base each having at least one rocking surface, wherein the level of the rocking surfaces is closer to the supporting surface than to floor level, and the rocking surfaces are located within the arms of the seat to restrict access thereto and thus reduce the risk of finger pinching.
2. A rocking chair as claimed in Claim 1, wherein the level of the rocking surfaces is arranged below the level of the supporting surface.
3. A rocking chair as claimed in Claim 2, wherein the level of the rocking surfaces is arranged up to 15cm below the supporting surface.
4. A rocking chair as claimed in Claim 1, wherein the level of the rocking surfaces is arranged above the level of the supporting surface.
5. A rocking chair as claimed in Claim 4, wherein the level of the rocking surfaces is arranged up to 15cm above the level of the supporting surface.
6. A rocking chair as claimed in any one of the preceding claims, wherein the level of the rocking surfaces is located at least 20cm above floor level.
7. A rocking chair as claimed in any one of the preceding claims, wherein the at least one rocking surface of the seat is curved.
8. A rocking chair as claimed in any one of Claims 1 to 6, wherein the at least one rocking surface of the non-rocking base is curved.

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9. A rocking chair as claimed in any one of Claims 1 to 6, wherein the at least one rocking surface of the seat and the at least one the rocking surface of the non-rocking base are curved.
10. A rocking chair as claimed in any one of the preceding claims, wherein the seat has a back portion.

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