

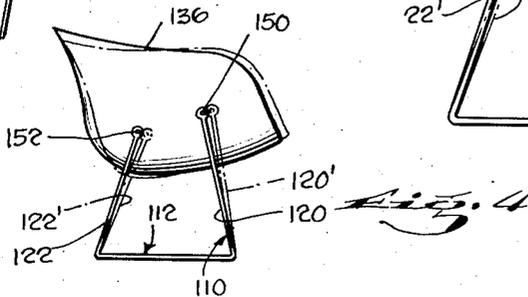
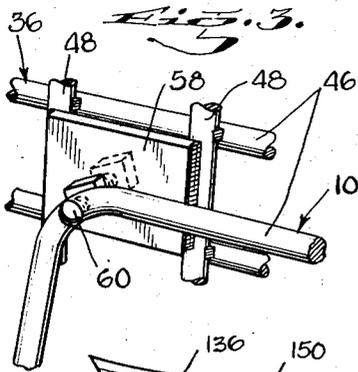
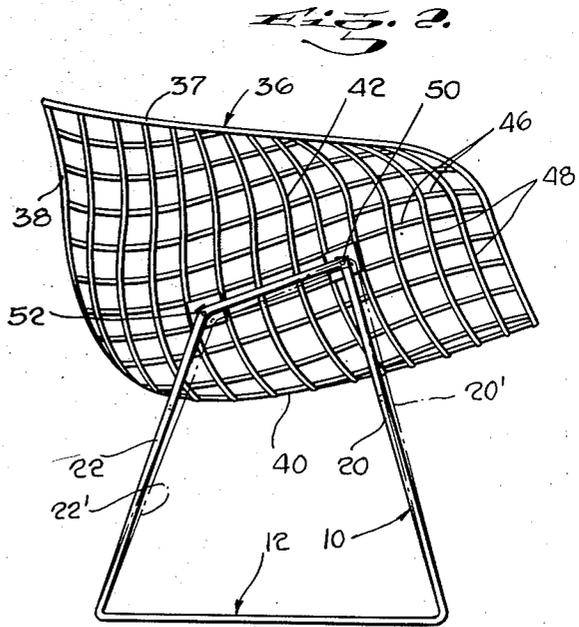
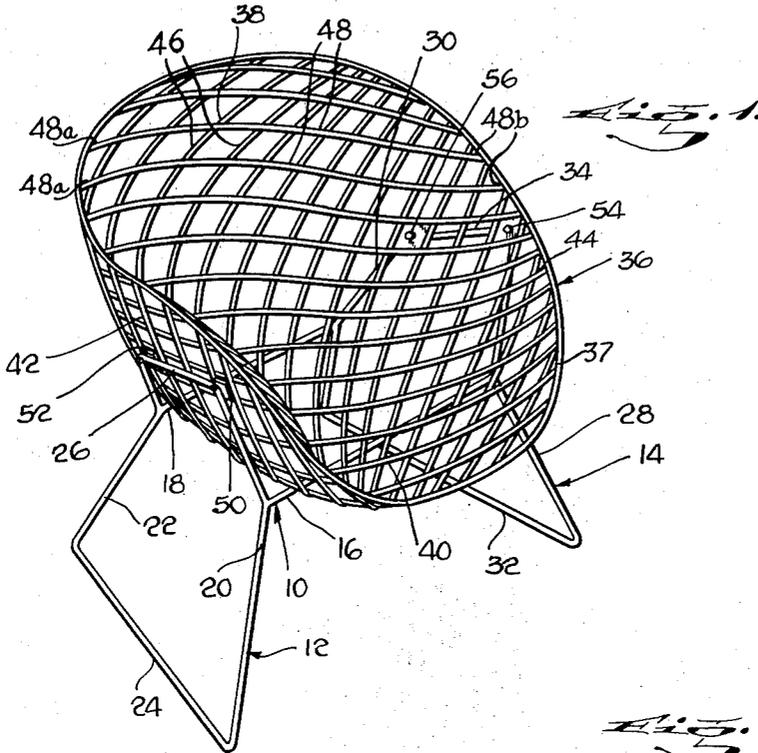
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FLEXIBLE CONTOUR CHAIR

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2,763,318

FLEXIBLE CONTOUR CHAIR

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This invention relates to articles of furniture and more particularly to articles of repose for supporting the body of a person.

An object of the invention is to provide an article of repose, for example a chair, wherein a shell-like body including the back and the seat of the article is carried by a support in such a manner that stresses due to the sitting of a person on the article are most advantageously distributed throughout the entire system.

Another object of the invention is to provide an article of repose wherein a shell-like body including the back and the seat of the article is connected with a support at two points on each side of the article and, yet, a person sitting on the article may perform rocking movements to some extent.

A further object of the present invention is to improve on the art of articles of repose as now customarily made.

Other objects and structural details of the invention will be apparent from the following description when read in conjunction with the accompanying drawings forming part of this specification, wherein:

Fig. 1 is a perspective view of a chair according to the invention,

Fig. 2 is a side elevational view of the chair shown in Fig. 1,

Fig. 3 is a perspective view of a detail of the chair shown in Fig. 1, and

Fig. 4 is a side elevational view of a different embodiment of a chair according to the invention.

Referring now to Figs. 1-3, 10 generally indicates a support substantially in the shape of a cradle made of rods welded together. Said support 10 comprises two side frames 12 and 14, one on each side of the chair, said side frames being connected with each other by transverse rods 16 and 18. The side frame 12 comprises two uprights 20 and 22 connected with each other by a lower connecting member 24 and an upper connecting member 26; according to the embodiment shown in the drawings the members 20, 22, 24 and 26 of the side frame 12 are made of a single rod having its ends welded together, whereby a closed frame of an endless rod is formed. In a similar manner the other side frame 14 is in the shape of an endless rod frame having the uprights 28 and 30 and the connecting members 32 and 34. The cradle, thus formed by the side frames 12 and 14 connected with each other by the transverse rods 16 and 18 being rigid in vertical direction for safely carrying a load is resiliently flexible in forward and backward direction to a certain extent, so that, for example, the uprights 20 and 22 may assume the reclined position 20' and 22' shown in Fig. 2.

36 generally indicates a shell-like body including a back 38, a seat 40 and side-walls 42 and 44. According to the embodiment shown in the drawings, said shell-like body has no arm-rests, but, if desired, arm-rests could be included in said shell-like body.

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According to Figs. 1-3, the shell-like body 36 is made of a plurality of wires 46 and 48 arranged in such a manner that they form a plurality of meshes. As best shown in Fig. 1, each wire 48 is so arranged that it extends from a point 48a at one side of the shell-like body to a point 48b at the other side thereof at a different level. The arrangement of the wires 46 fully corresponds to the arrangement of the wires 48. At the points of contact, the wires 46 and 48 are welded together as best shown in Fig. 3. Thus, the shell-like body 36 is made of a material having the appearance of a network. A continuous wire rim 37 extends around the periphery of the body 36 and is attached to the ends of the wires 46 and 48. This attachment may be made in any suitable manner, for example, by welding similar to the welding of the wires 46 and 48. Owing to the construction of the shell-like body described above, it is resiliently flexible in itself to some extent, so that the shell-like body may be deformed slightly and give, when a person sitting on the chair presses against the back 38 for performing a rocking movement. When the pressing action by the person stops, the shell-like body automatically assumes again its original form.

At each side of the chair, the support 10 is attached to a side-wall 42, 44 respectively at two spaced points 50, 52 and 54, 56 respectively. Said points are located substantially in the middle portion of the side-wall. The front point 50, 54 of attachment is at a level above the level of the rear point 52, 56 of attachment. As best shown in Fig. 3 at the point of attachment a plate 58 having a bore is welded to adjacent wires 48 of the shell-like body 36. The side frame 10 is attached to said plate 58 by means of a screw 60 passing through registering bores of the side frame 10 and the plate 58.

Owing to the attachment of the support to the shell-like body 36 at two spaced points at each side-wall, substantially in the center of the latter, the upper portion of the shell-like body is supported by the support while the lower portion of the shell-like body is suspended from the support. Thus, stresses due to the sitting of a person on the chair are most advantageously distributed throughout the system. The partial support and partial suspension of the shell-like body permits the distribution of the weight throughout the entire wire system of the shell-like body.

Even if the support is rigid in every direction, a person sitting on the chair may perform slight rocking movements of limited degree, as for the reasons set forth above, the shell-like body made of wires arranged and connected with each other substantially in the shape of a network is resiliently flexible in itself and may be slightly deformed. The resiliency inherent in the shell-like body tends to reinstate its original form thus assisting in the rocking movements. A somewhat larger degree of rocking movements may be obtained, when the support 10 is also somewhat resiliently flexible in forward and backward direction.

According to the embodiment shown in Fig. 4, again the support 110 is attached to the side-walls of the shell-like body 136 at two spaced points 150, 152, on each side of the chair. Again these points 150, 152 of attachment are located substantially in the center of the side-wall, and the front point 150 of attachment is at a level above the level of the rear point 152 of attachment.

The shell-like body 136 including the back and the seat of the chair is made of a non-perforated material, for example of a plastic, but it is understood that the shell-like body 136 could be made of a wire-network substantially of the type as described above in connection with Figs. 1-3.

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The side frames, for example the side frame 112 of the support 110 are open at their upper ends, i. e. the uprights 120 and 122 of the side frame 112, for example, are not connected by a connecting rod. The side frames of the support 110 are resiliently flexible in forward and backward direction, so that, for example, the uprights 120 and 122 may assume the inclined position 120' and 122' respectively. The upper ends of the side frames are pivotally connected with the shell-like body 136 at the points of attachment.

Thus, according to the embodiment shown in Fig. 4, the shell-like body 136 is also partially supported and partially suspended from the support 110 by the described arrangement of the pivots connecting the support with the side frames of the shell-like body 136 in the center thereof at spaced points. Furthermore, a person sitting on the chair may perform rocking movements owing to the pivotal connections between the shell-like body 136 and the support 110 and owing to the flexibility of the uprights of the cradle-like support 110.

I have described preferred embodiments of my invention but it is understood that this disclosure is for the purpose of illustration and that various omissions or changes in shape, proportion and arrangement in parts, as well as the substitution of equivalent elements for those herein shown and described may be made without departing from the spirit and scope of the invention as set forth in the appended claims.

What I claim is:

1. A chair or the like comprising a seat-and-back unit for supporting the body of a person, said unit including a continuous wire frame extending around the periphery of the unit, and a network including a first plurality of generally parallel wires attached at their ends to and spanning said frame, a second plurality of generally parallel wires attached at their ends to and spanning said frame and crossing said first plurality of wires at substantial angles and welded connections between said wires at the crossings thereof, said network being contoured to form a seat portion, a back portion, and a curved portion of substantial radius joining said seat portion and said back portion; and a support for said seat-and-back unit comprising two front legs and two rear legs, two transverse members respectively connecting said front legs and said rear legs, four frame members extending upwardly from the ends of said transverse members, and means connecting the upper ends only of said frame members to said network inwardly of said frame and providing the only support for said unit.

2. A chair or the like as defined in claim 1, in which said seat-and-back unit includes side portions connecting said seat-and-back portions, and said connecting means is attached to the seat-and-back unit at said side portions.

3. A chair or the like as defined in claim 2, in which said connecting means comprises, on each side of the chair, two spaced connections between two of said frame members and the adjacent side portion.

4. A chair or the like as defined in claim 3, in which the front one of said two spaced connections is higher than the rear connection.

5. A chair or the like comprising a seat-and-back unit for supporting the body of a person, said unit including a continuous wire frame extending around the periphery of the unit, and a network including a first plurality of generally parallel wires attached at their ends to and spanning said frame, a second plurality of generally parallel wires attached at their ends to and spanning said frame and crossing said first plurality of wires at substantial angles and welded connections between said wires at the crossings thereof, said network being contoured to form a seat portion, a back portion, and a curved portion of substantial radius joining said seat portion and said back portion; and a support for said seat-and-back unit including two side frames, each comprising lower frame means including a rod bent to form a central hori-

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zontal floor-engaging portion and front and rear leg portions and upper frame means including front and rear frame members connected at their lower ends to the upper ends of said leg portions and extending upwardly and laterally outwardly therefrom, means connecting said seat to the upper ends only of said frame members and providing the only support for said seat, two transverse horizontal frame members respectively connecting the upper ends of the front leg portions and the upper ends of the rear leg portions, each said leg portion extending downwardly and outwardly to the side and to the front or back from its upper end, said upper frame members, said transverse frame members and said leg portions cooperating to distribute stresses transmitted through the upper frame means of either side to the lower frame means of both sides.

6. A chair or the like, comprising a body for supporting a person and a support for the body including two side frames, each comprising lower frame means including a rod bent to form a central horizontal floor-engaging portion and front and rear leg portions and upper frame means including front and rear frame members connected at their lower ends to the upper ends of said upright leg portions and extending diagonally upwardly and laterally outwardly therefrom, means connecting said body only at localities inwardly of the periphery thereof to the upper ends only of said frame members and providing the only support for said body, two transverse horizontal frame members respectively connecting the upper ends of the front leg portions and the upper ends of the rear leg portions, each said leg portion extending downwardly and outwardly to the side and to the front or back from its upper end, said transverse frame members functioning only to distribute a portion of the stresses transmitted through the upper frame means of either side to the lower frame means of the opposite side.

7. A chair or the like comprising a seat-and-back unit for supporting the body of a person, said unit including a continuous wire frame extending around the periphery of the unit, and a network including a first plurality of generally parallel wires attached at their ends to and spanning said frame, a second plurality of generally parallel wires attached at their ends to and spanning said frame and crossing said first plurality of wires at substantial angles and welded connections between said wires at the crossings thereof, said network being contoured to form a seat portion, a back portion, and a curved portion of substantial radius joining said seat portion and said back portion; and a support for said seat-and-back unit and means connecting said support to said network inwardly of said frame and providing the only support for the unit.

8. A chair or the like comprising a seat-and-back unit for supporting the body of a person, said unit being an integral, resiliently flexible network consisting of a rim extending around the periphery of the network, a first plurality of generally parallel wires extending across said network from one side to the other and being attached at their ends to said rim, a second plurality of generally parallel wires crossing said first plurality of wires at substantial angles, said second plurality of wires also extending across said network from one side to the other and being attached at their ends to said rim, and welded connections between said wires at the crossings thereof, said network having an unstressed contour conforming generally to the contour of the body of a seated person, and including a seat portion curving upwardly from the center toward the sides, a back portion curving forwardly from the center toward the sides, and a portion of compound curvature of substantial radius smoothly joining the seat portion and the back portion; a base for said seat-and-back unit and means connecting said base to said network only at localities inwardly of said rim, so that all stresses due to loads on said seat-and-back unit are transferred through the network and the connecting means to the base.

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