

Sept. 3, 1957

H. BERTOIA

2,804,915

ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Filed March 1, 1955

2 Sheets-Sheet 2

Fig. 5.

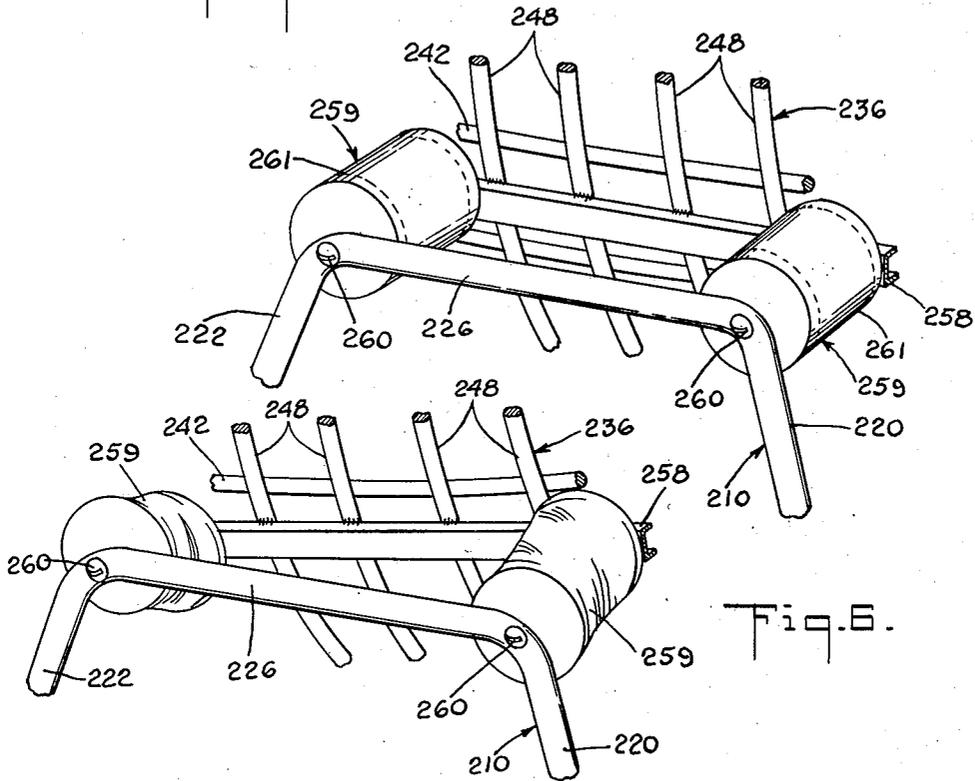
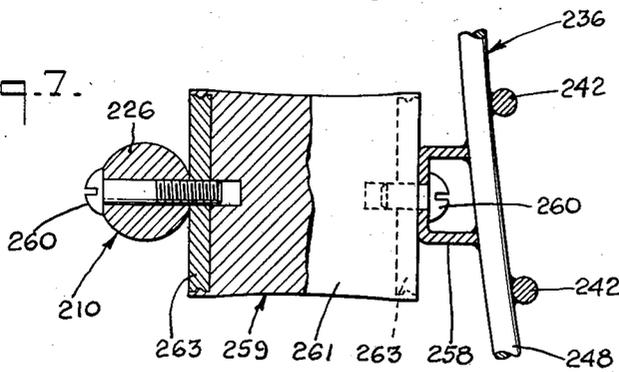


Fig. 6.

Fig. 7.



INVENTOR.
HARRY BERTOIA

BY

ATTORNEY

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ARTICLE OF REPOSE FOR SUPPORTING THE BODY OF A PERSON

Harry Bertoia, Barto, Pa., assignor to Knoll Associates, Inc., New York, N. Y.

Application March 1, 1955, Serial No. 491,493

3 Claims. (Cl. 155—194)

This application is a continuation-in-part of my prior application Serial No. 297,327, filed July 5, 1952, entitled "Article of Repose for Supporting the Body of a Person," now Patent No. 2,763,318, granted Sept. 18, 1956. The invention described and claimed in this application, like that of the prior application 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.

Fig. 5 is a partial perspective view of a detail of another embodiment of the chair, while

Fig. 6 shows the same in a tilted or reclining position.

Fig. 7 is a side view, partially in section, showing the details of the attachment members of the embodiment in Figs. 5 and 6.

Referring now to Figs. 1-3, 10 generally indicates a support substantially in the shape of a cradle made of rods welded together. The support 10 comprises two side frames generally identified by the numerals 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 upright legs 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 upright legs 28 and 30 and the connecting members 32 and 34. The cradle support 10 thus formed by the side frames 12 and 14 connected with each other by the transverse rods 16 and 18, being rigid in

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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.

A shell-like body, generally indicated 36, includes a back 38, a seat 40 and side-walls 42 and 44. According to the embodiment shown in Figs. 1-3 of the drawings, the shell-like body 36 has no arm-rests, but it will be obvious that if arm-rests were desired they could be included in the shell-like body.

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. The wires 46 and 48 are welded together at their crossed points of contact, as best shown in Fig. 3. Thus, the shell-like body 36 is made of a material having the appearance of a network. 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 to give when a person sitting on the chair presses against the back 38 for performing a rocking movement. When the person ceases the pressing action, the shell-like body 36 automatically assumes its original form and position.

The support 10 is attached to side-walls 42, 44 respectively at the two spaced points 50, 52 and 54, 56 respectively. Said points are located substantially in the middle portion of the side-walls 42 and 44. The front points 50, 54 of attachment are at level above the level of the rear points 52, 56 of attachment. As best shown in Fig. 3 at each of the points of attachment there is a plate 58 (not numbered), having a bore welded to adjacent wires 48 of the shell-like body 36. The side frame 10 is attached to each of the plates 58 by means of a screw 60 passing through registering bores of both the side frame 10 and the plate 58.

Owing to the attachment of the support 10 to the shell-like body 36 at the two spaced points at each of the respective sidewalls 42 and 44, substantially in the center of the latter, the upper portion of the shell-like body is supported by the support 10 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 36 permits the distribution of the weight of a person sitting in the chair throughout the entire wire system of the shell-like body.

Even if the support 10 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 36 being made of wires 46 and 48 arranged and connected with each other substantially in the shape of a wire mesh network is resiliently flexible in itself and may be slightly deformed. The resiliency inherent in the shell-like body 36 constantly tends to return the body to its original form thereby assisting in the rocking movements of the same. A somewhat larger degree of rocking movements may be obtained, when the legs and connecting members of the support 10 are also somewhat resiliently flexible in both the forward and backward directions.

According to the embodiment shown in Fig. 4, the support 110 is also attached to the side-walls of the shell-like body 136 at two spaced points 150, 152, on each side of the chair. The points 150, 152 of attachment are located substantially in the center of the side-walls of the

body 136, and as in the prior embodiment 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 may be made of a non-perforated plastic material, although 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 the embodiment shown in Figs. 1-3.

In the construction of the support 110 the side frames thereof (see frame 112 in Fig. 4), may be open at their upper ends between the uprights 120 and 122, so that they are not connected with each other by a connecting rod as in the previous embodiment. The side frames (see frame 112) of the support 110 flex resiliently in both the forward and backward directions, so that the uprights 120 and 122 may assume the inclined position 120' and 122' respectively. The upper ends of the side frames on each side of the body 136 are pivotally connected therewith at the points of attachment, (see attachments 150 and 152).

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 at spaced points in the center thereof. Hence, 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.

Referring now to the embodiment shown in Figs. 5, 6 and 7, wherein the shell-like body 236 is of substantially the same mesh or welded crossed wire construction as that disclosed in the embodiment of Figs. 1 to 3. In a similar manner, the cradle type support 210 of the present embodiment is also of substantially the same construction as that disclosed in the embodiment shown in Figs. 1 to 3. For that reason, a more detailed showing or description of the body 236 and the support 210 is unnecessary and would only tend to detract from the invention.

In the instant embodiment the shell-like body 236 is supported at the juncture of the connecting member 226 and the forward upright leg 220 at a slightly higher level than the suspension at the juncture of the member 226 and the rear upright leg 222 in the following manner. Although only one side wall 242 is shown in Figs. 5 to 7, at substantially the middle of each of the side walls of the body 236 there is an attachment member 258 secured to the wires 248, as by welding. The attachment members 258 are secured to the body 236 in a relationship parallel to the connecting members 226 so that supporting members 259 may be secured in horizontal alignment between registering or aligned bores (not numbered) in both support 210 and the members 258.

The supporting members 259 are secured at their ends to the attachment members 258 and to the support 210 respectively by the screws or bolts 260. The supporting members 259 may be seen in greater detail in Fig. 7 wherein it will be noted that the same have a resilient body portion 261 bonded to rigid ends 263. The supporting members 259 illustrate the concept of the structure of the instant embodiment wherein the same resiliently, but solidly supports the body 236 to the cradle-like support 210. In practice the members 259 are composed of a relatively strong, but resilient material so that the

members 259 between the forward junctures 226, 220 of the support 210 and the body 236 support the latter on the former, while the members 259 between the rear junctures 226, 222 of the support 210 and the body 236 support the latter in suspension on the former.

The operation of the instant embodiment is substantially the same as that disclosed in the embodiment shown in Figs. 1, 2 and 3. The weave or mesh construction of the body 236 and the inherent resilience of the support 210 permit the chair to tilt or recline in response to a shifting of weight by the person reclining in the same except, however, that when the weight is shifted toward a tilting or reclining position the forward member 259 tilts upwardly while the rear member 259 tilts downwardly (see Fig. 6). At the same time as these members tilt their respective body portions 261 pivotally twist or wind torsionally. When the weight of the person sitting in the chair is lifted the parts thereof will automatically assume their normal positions as shown in Fig. 5.

It will be recognized that other supporting members may fall within the concept of the invention and the teaching of the members 259, for example, a torsion spring. Similarly the supporting construction, including the members 259 may be utilized advantageously in connection with the support 110 of the embodiment shown in Fig. 4.

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 network comprising a first plurality of generally parallel wires, a second plurality of generally parallel wires 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, a pair of rigid reinforcing metal members attached by welding to the outer sides of the wires of said network at opposite sides thereof, and a support for said seat-and-back unit comprising fore-and-aft beam members extending parallel to said reinforcing metal members, means connecting said beam members adjacent their ends to said reinforcing members, and a support for said beam members.

2. A chair or the like as defined in claim 1, in which said connecting means comprises, at each end of each beam member, a connecting member attached at its respective ends to said beam member and to the adjacent reinforcing member.

3. A chair or the like as defined in claim 2, in which each connecting member comprises a block of material capable of substantial torsional deformation to permit the seat-and-back unit to rock.

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