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J. O. TURNER
CHAIR CONSTRUCTION
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2,731,077

FIG. 1

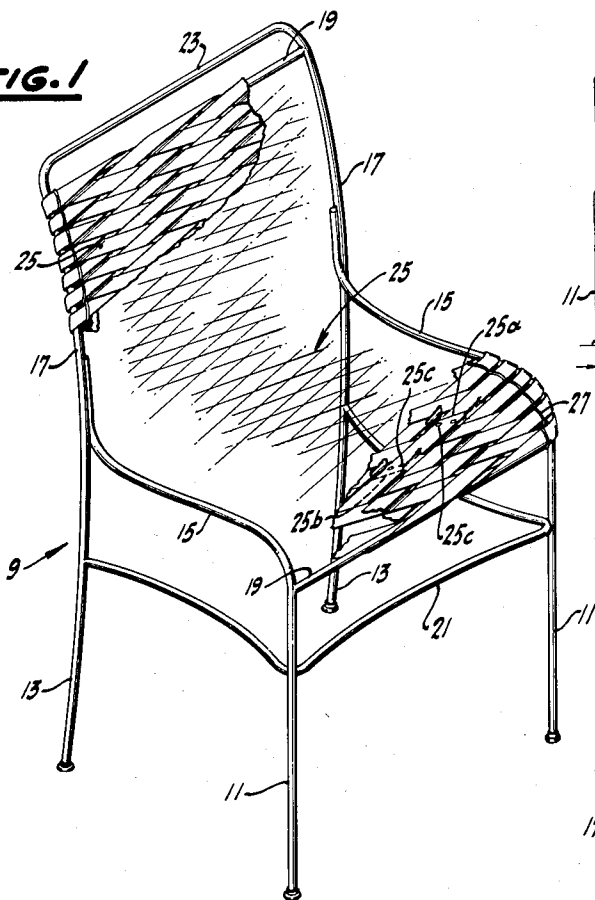


FIG. 2

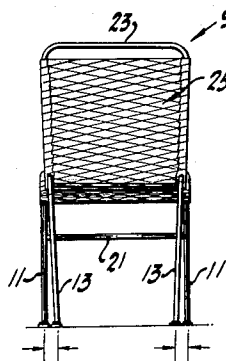


FIG. 3

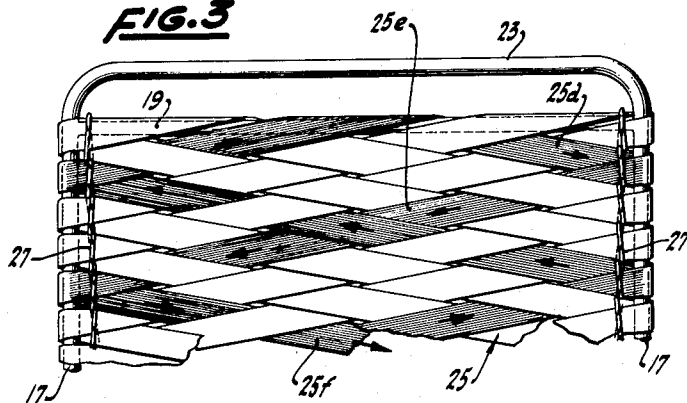
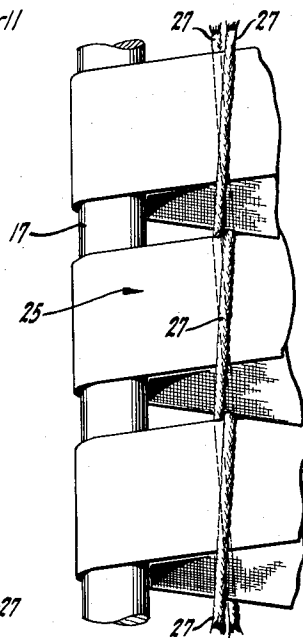


FIG. 4



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CHAIR CONSTRUCTION

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7 Claims. (Cl. 155—187)

This invention relates to articles of furniture and particularly to a chair having a flexible load supporting surface. The present application is copending with, and may be considered as a similar embodiment to my prior application, Serial No. 216,121, filed March 17, 1951, and entitled "Chair."

In my prior application above-identified, there is disclosed a chair having a flexible load-supporting surface formed by strands laced back and forth between back and seat side rails, and being supported from the rails and certain cross members in some cases by being threaded through openings formed in said rails and members, and in other instances being supported by cord loops which are in turn variously supported by the side rails and cross members, and through which end loops of the strands are threaded.

It is a primary object of the present invention to provide a chair generally similar to the chair above described, but differing therefrom in that the strand reaches are merely looped around the side rails and certain cross members to be supported thereby, thus eliminating the necessity of forming and threading through openings in the side rails and cross members or the provision of and the necessity of threading strands through cord loops on said rails and cross members.

A further object of the present invention is to provide a construction as above described wherein there is provision for preventing the end reaches of the supporting surface from slipping off the exposed ends of the side rails.

Another object of the present invention is to provide a chair wherein the framework adjacent the lower ends of the back side rails and the rear ends of the seat side rails is sprung inwardly, and wherein there is a flexible load supporting surface extending between and connected to the side rails to maintain the sprung condition of the framework, thus ensuring that the flexible supporting surface will not become slack even though in use some permanent stretching of the material of the supporting surface does occur, and also providing a more comfortable chair in that the framework may be deformed to a limited extent (defined by the material and dimension of the framework) when a person seats himself on the chair.

Various other objects of the present invention will be apparent from the following description taken in connection with the accompanying drawings, wherein:

Fig. 1 is a perspective view of a chair embodying the concepts of the present invention, a part of the flexible load supporting surface thereof being shown somewhat schematically for convenience in illustration.

Fig. 2 is a rear elevational view of the chair disclosed in Fig. 1.

Fig. 3 is an enlarged fragmentary view showing the upper part of the back of the chair and particularly the manner in which adjacent reaches of the flexible load supporting surface are interwoven.

Fig. 4 is still further enlarged fragmentary view showing a side portion of the back of the chair.

Referring to the accompanying drawings wherein similar reference characters designate similar parts throughout, there is disclosed a chair embodying the concepts of the present invention and including an open framework generally entitled 9, comprising front legs 11, rear legs 13, seat side rails 15, back side rails 17, cross members 19, a reinforcing U-shaped member 21 connected to the legs,

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and an upper cross member 23 connecting the upper extremities of the back side rails. It is pointed out that the framework is only connected by cross members 23 and upper member 19 at the upper ends of the back side rails and lower member 19 and U-shaped member 21 at the forward ends of the seat side rails. This permits the framework to be sprung inwardly in the region of the lower ends of the back side rails and the rear ends of the seat side rails, as it is most clearly apparent from Fig. 2. Maintaining this sprung condition is a flexible load supporting surface 25 extending between and supported by the seat and back side rails 15 and 17 and cross members 19. This construction provides a very comfortable chair in that the seating surface itself has some inherent give and when combined with the limited deformable character of the framework, there is provided a resilient yet relatively firm supporting surface. It is apparent that any permanent stretching of the material of the flexible supporting surface will be taken up by an expansion of the framework outwardly so that the flexible supporting surface is never allowed to become slack.

The flexible supporting surface comprises a single length of webbing looped back and forth over the seat and back side rails and looped over cross members 19 whereby the webbing is supported from the framework in a simple and novel manner without requiring the provision of openings through the side rails and cross members, or the provision of anchoring cords such as provided in the chair of my prior copending application above identified. The ends 25a and 25b of the length of webbing are joined in the seat portion of the supporting surface in a concealed fashion, i. e., the ends are overlapped and the terminals are hidden by crossing reaches, and the ends being connected by suitable fasteners 25c located beneath crossing reaches.

From Fig. 3 it is evident that adjacent reaches of the web are interwoven to provide a supporting surface having stability longitudinally of the chair. The interwoven pattern is made more readily apparent by the provision of shading and arrows in Fig. 3, wherein in the particular pattern shown it is apparent that the parallel reaches extending in the same direction and separated from each other longitudinally of the web by only one reach extending diagonally therebetween are spaced from one another by a plurality of intermediate reaches (five in the particular embodiment of the invention shown). For instance, reaches 25d, 25e and 25f are reaches forming a continuation of one another, wherein reaches 25d and 25f are parallel to one another and separated longitudinally of the web by diagonal reach 25e and are spaced from each other by five intermediate reaches. The invention is not intended to be limited to this particular pattern, since the pattern may be varied to adapt the same for different sizes and shapes of the articles of furniture to which the flexible supporting surface is applied. The separation of parallel reaches forming a continuation of one another by a plurality of intermediate reaches is important in order to provide for an interwoven pattern so that the flexible supporting surface has stability longitudinally of the chair. For instance, it is apparent that reach 25e is woven in and out of the five intermediate parallel reaches between parallel reaches 25d and 25f.

In order to prevent the end reaches of the supporting surface from slipping off of the top and front ends of the back and seat side rails, respectively, means are provided for anchoring these reaches against slippage. In the particular embodiment of the invention shown, these means assume the form of two parallel cords 27 extending longitudinally of the flexible supporting surface and being woven in and out of the reaches and crossed between reaches as clearly shown in Fig. 4. By this construction, the end reaches are prevented from slipping off the framework.

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As an alternate construction, rivets could be provided at the four internal corners of that portion of the framework formed by the seat and back side rails and cross members 19, to join the front and back portions of the reaches at such places to prevent slippage of the end reaches off the framework. However, the provision of cords 27 is preferable from the standpoint that these cords enhance the appearance of the chair. It is pointed out that cords 27 do not perform the function of the strand-supporting cords of my prior application, where the strands must be laced through the cords during application thereof to the chair, whereas in the present application, the cords 27 can be quickly and readily applied after the supporting surface has been looped and woven onto the framework.

Especially in Fig. 4, and in the other figures to a lesser extent, the spacing between adjacent reaches of the webbing has been somewhat exaggerated for convenience in illustration. In actual practice the end loops of the reaches are preferably disposed more closely to one another, and in some instances substantially in contact.

The particular framework shown in the drawings is constructed of wrought iron pieces, properly welded together at appropriate places, but it is to be understood that the invention is not intended to be limited to this particular kind of framework, since frameworks constructed of other materials and having other configurations obviously fall within the concepts of the present invention.

By the present invention, an article of furniture has been provided wherein the flexible supporting surface comprises webbing looped back and forth over seat and back side rails and looped over certain cross members to provide a very simple and inexpensive yet extremely attractive construction. Also by the present invention, a novel chair has been provided wherein the framework is sprung in the region of the lower ends of the back side rails and the rear ends of the seat side rails and maintained in such condition by a flexible supporting surface to thereby provide a more comfortable chair and one in which the flexible supporting surface will not become slack even though some permanent stretching of the supporting surface does occur, since the framework, being sprung, will expand to take up the slack.

While I have shown the preferred form of my invention, it is to be understood that various changes may be made in its construction by those skilled in the art without departing from the spirit of the invention as defined in the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. A chair having an open framework including legs, laterally spaced seat side rails, laterally spaced back side rails, and cross members connecting said rails only at the upper ends of the back side rails and the forward ends of the seat side rails, the framework at the lower ends of the back side rails and the rear ends of the seat side rails being sprung inwardly, and a flexible load supporting surface extending between and connected to the seat and back side rails to maintain the framework in its sprung condition, said flexible load supporting surface being formed by webbing looped back and forth over and supported by the opposed side rails and certain of the cross members at an angle to said side rails greater than that made with the cross members, the adjacent reaches of the webbing being interwoven.

2. A chair having an open framework including legs, laterally spaced seat side rails, laterally spaced back side rails, and cross members connecting said rails, a flexible load supporting surface formed by strands looped back and forth over the opposed side rails and cross members at an angle to said side rails greater than that made with the cross members, the adjacent reaches of the strands being interwoven.

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3. A chair having an open framework including legs, laterally spaced seat side rails, laterally spaced back side rails, and cross members connecting said rails at least at the upper ends of the back side rails and the forward ends of the seat side rails, and a flexible load bearing surface formed by webbing looped back and forth over the opposed side rails and cross members at an angle to said side rails greater than that made with the cross members, the adjacent reaches of the webbing being interwoven.

4. A chair having an open framework including legs, laterally spaced seat side rails, laterally spaced back side rails, and cross members connecting said rails at least at the upper ends of the back side rails and the forward ends of the seat side rails, a flexible load bearing surface formed by webbing looped back and forth over the opposed side rails and cross members at an angle to said side rails greater than that made with the cross members, the adjacent reaches of the webbing being interwoven, and means for preventing the reaches adjacent the upper ends of the back side rails and the forward ends of the seat side rails from slipping off said ends.

5. A chair having an open framework including legs, laterally spaced seat side rails, laterally spaced back side rails, and cross members connecting said rails at least at the upper ends of the back side rails and the forward ends of the seat side rails, a flexible load bearing surface formed by webbing looped back and forth over the opposed side rails and cross members at an angle to said side rails greater than that made with the cross members, the adjacent reaches of the webbing being interwoven, and means for preventing the reaches adjacent the upper ends of the back side rails and the forward ends of the seat side rails from slipping off said ends, said means comprising cords threaded longitudinally through the reaches and looped around the cross members.

6. A chair having an open framework including legs, laterally spaced seat side rails, laterally spaced back side rails, and cross members connecting said rails at least at the upper ends of the back side rails and the forward ends of the seat side rails, and a flexible load bearing surface formed by webbing looped back and forth over the opposed side rails and cross members at an angle to said side rails greater than that made with the cross members, the adjacent reaches of the webbing being interwoven, said webbing comprising a single length of webbing having its ends joined together.

7. A chair having an open framework including legs, laterally spaced seat side rails, laterally spaced back side rails, and cross members connecting said rails at least at the upper ends of the back side rails and the forward ends of the seat side rails, and a flexible load bearing surface formed by webbing looped back and forth over the opposed side rails and cross members at an angle to said side rails greater than that made with the cross members, the adjacent reaches of the webbing being interwoven, said webbing comprising a single length of webbing having its ends joined together, and wherein those parallel reaches forming a continuation of one another are separated by one or more intermediate reaches.

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