July 2, 1935. F. J. TRAINOR 2,006,422

RESILIENT FRAME SEAT.

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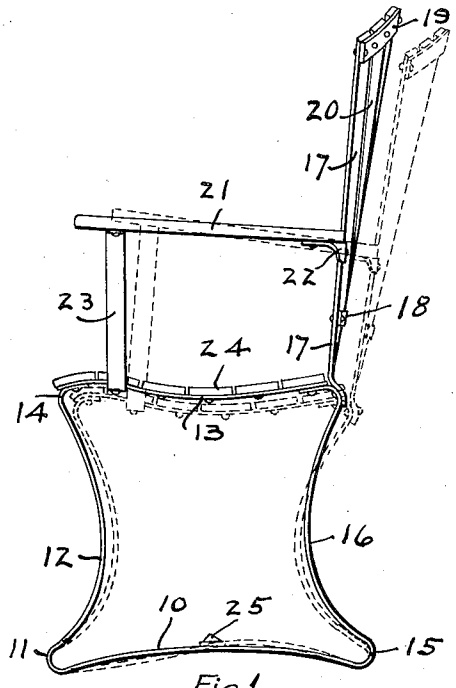


Fig.1

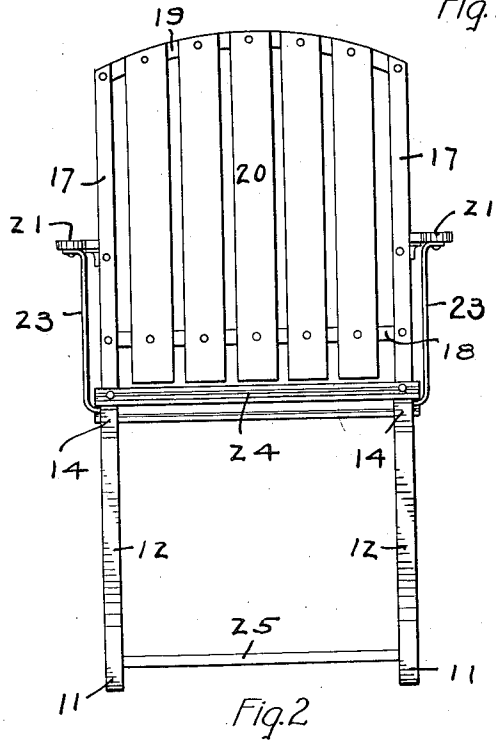


Fig.2

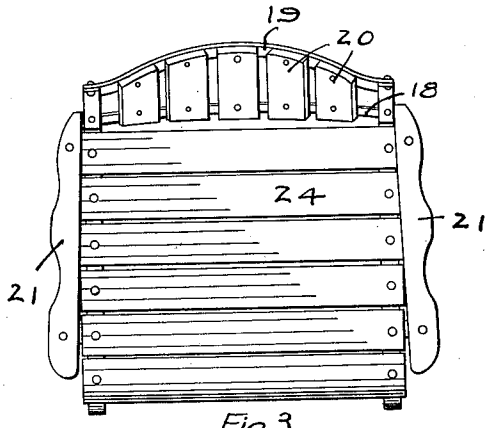


Fig.3

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RESILIENT FRAME SEAT

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2 Claims. (Cl. 155—50)

This invention relates to the art of furniture and particularly to a chair or bench having a resilient supporting structure. It is an important object of my invention to provide a seat structure which will normally be somewhat rigid and yet provide a certain degree of resilience for comfort to the occupant without the necessity of having to employ spring upholstery or the like. A further important object of my invention is to provide an extremely durable structure, light in weight and which will permit a certain limited amount of yielding under load. These and other objects and advantages of my invention will become apparent to those versed in the art in the following description, reference being had to the accompanying drawing, in which

Fig. 1 is a side elevation of a chair embodying my invention;

Fig. 2, a front elevation, and

Fig. 3, a top plan view.

Like characters of reference indicate like parts throughout the several views in the drawing.

I form a pair of end supports each made of spring steel to have a central upwardly bowed portion 10 with a forward end curved around upwardly and rearwardly to form the bend 11, the under side of which forms a floor contacting member. From the bend 11, the steel is carried rearwardly and upwardly in a long sweeping curve 12 to form in effect a forward leg. The upper end of this portion or leg 12 is curved around upwardly and rearwardly and is attached to a seat supporting bar 13, the upper curve on the leg 12 being designated by the numeral 14.

Likewise from the rear end of the bowed portion 10, the steel is carried around upwardly and rearwardly to form the bend 15, the under side of which forms a rear floor contacting member. From the bend 15, the steel is carried around forwardly and upwardly and thence somewhat rearwardly to form a long bend 16 being in effect a rear leg. From the upper end of this leg portion 16, the steel is bent around upwardly and forwardly under the rear end of the bar 13 and there attached, all as indicated in Fig. 1. The bar 13 is preferably formed to bow downwardly through its central portion and thence upwardly and around downwardly by its front end to give the usual seat conformation.

A back support bar 17 extends upwardly from an attachment with the upper end of the leg 16 at its top curve and tie bars 18 and 19 extend across near the lower and upper ends of these support bars 17. A suitable back rest is carried by these bars 18 and 19, here shown as comprising a plurality of vertically disposed slats 20. The supports 17 are made of spring steel to be somewhat flexible. An arm rest 21 is provided on each side and is secured by its rear end to the support member 17 by a suitable bracket 22 extending from under the rest 21 and around onto the support 17. The forward end of the rest 21 is supported by means of a bar 23 extending from under the rest downwardly and around over the bar 13 to be engaged therewith.

Now when the chair has an occupant, the load imposed will cause the structure to assume some such position as indicated by the dash lines in Fig. 1. By reason of the resiliency of the supporting structure, the curves 12 and 16 will tend to increase their curvature under load travelling toward each other, thus lowering the seat supporting bars 13 somewhat, although when the occupant leans back against the back rest, to carry it rearwardly, the curve 16 may tend to assume a greater degree of curvature than the curve 12. The upwardly bowed interconnecting portions 10 also are flexed to have the rear portion thereof tended to be carried upwardly while the forward portion tends to travel downwardly as indicated by the dash lines. These bowed portions 10 contribute quite a bit through their elasticity to the desirable characteristics of the seat in that it tends to cooperate in a desirable manner with the flexing of the curves 12 and 16 and at the same time also tends to resist undesired flexing of those members. As indicated in the drawing, the seat supporting members 13 carry a suitable seat structure, here shown as a plurality of cross slats 24.

Preferably I employ a tie bar 25 secured by its ends between the central parts of the upwardly bowed portions 10.

While I have herein shown and described my invention in the one best form as now known to me, it is obvious that structural changes may be made without departing from the spirit of the invention, and I, therefore, do not desire to be limited to that precise form beyond the limitations that may be imposed by the following claims.

I claim:

1. A spring base seat comprising a pair of side members, each having a resilient base bar with a central upwardly bowed portion between floor contacting ends; a resilient front leg extending from the front end of the base bar forwardly, upwardly and around rearwardly to form a U-shaped bend and thence upwardly rearwardly and around forwardly with a sweep forming a major rearwardly bowed length, and finally at the top

curving around rearwardly in a U-bend, a resilient rear leg extending from the rear end of said base bar around upwardly and forwardly in a U-bend and thence upwardly, forwardly and around rearwardly forming a forwardly bowed major length and finally around forwardly in a U-bend; a connecting bar between said top leg U-bends; a seat carried on said connecting bars; a back rest carrying bar fixed on each side member by a lower end at the upper U-bend of the rear legs; a back rest carried between the back rest bars; and arm rests extending forwardly from said back rest bars above said connecting bars and having a member extending downwardly from near the forward ends of the arm rests to engage said connecting bars near the front leg upper U-bends.

2. A spring base seat comprising a pair of side members, each having a resilient base bar with a central upwardly bowed portion between floor contacting ends; a resilient front leg extending from the front end of the base bar forwardly, upwardly and around rearwardly to form a U-shaped bend and thence upwardly rearwardly and around forwardly with a sweep forming a major rearwardly bowed length, and finally at the top curving around rearwardly in a U-bend, a resilient rear leg extending from the rear end of said base bar around upwardly and forwardly in a U-bend and thence upwardly, forwardly and around rearwardly forming a forwardly bowed major length and finally around forwardly in a U-bend; a connecting bar between said top leg U-bends; a seat carried on said connecting bars; a back rest carrying bar fixed on each side member by a lower end at the upper U-bend of the rear legs; a back rest carried between the back rest bars; and arm rests extending forwardly from said back rest bars above said connecting bars and having a member extending downwardly from near the forward ends of the arm rests to engage said connecting bars near the front leg upper U-bends, said U-bends at the upper ends of both front and rear legs being spaced rearwardly and forwardly respectively of the U-bends in the lower ends of those legs.

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