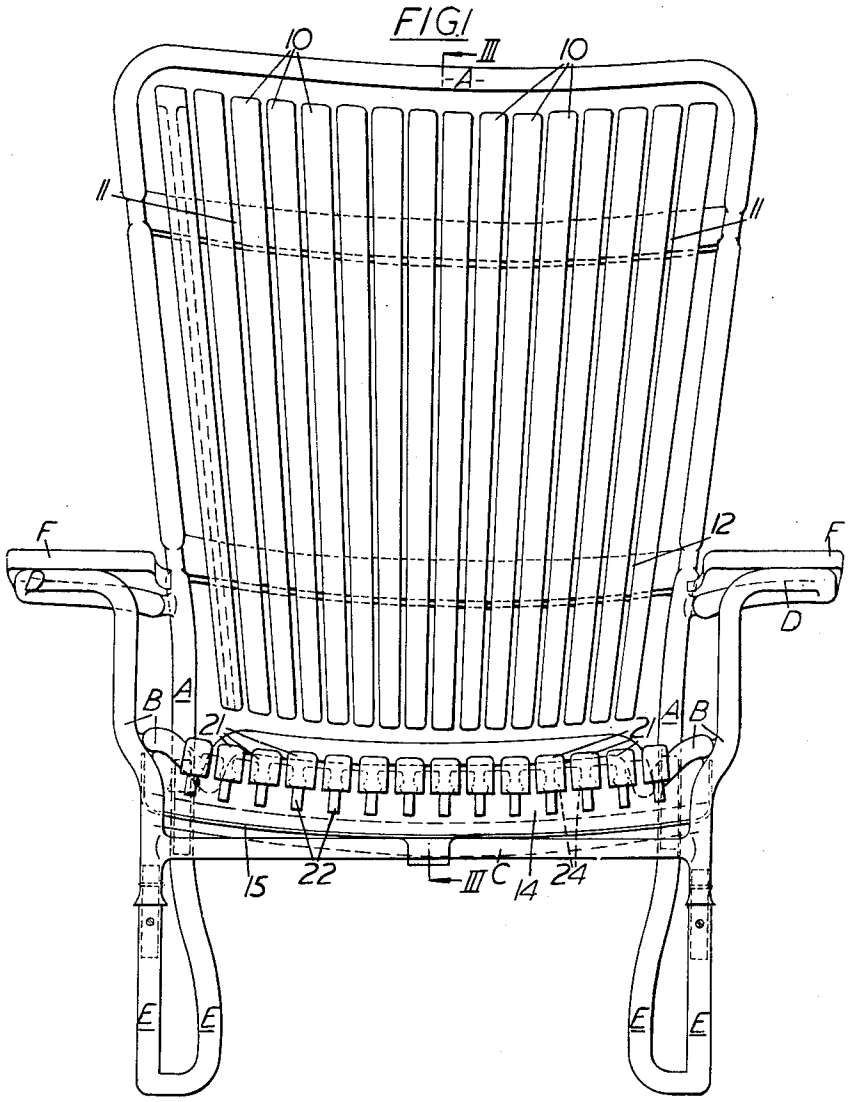
Aug. 31, 1965 V. H. SEYMER 3,203,734

CHAIR

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FIG. 1



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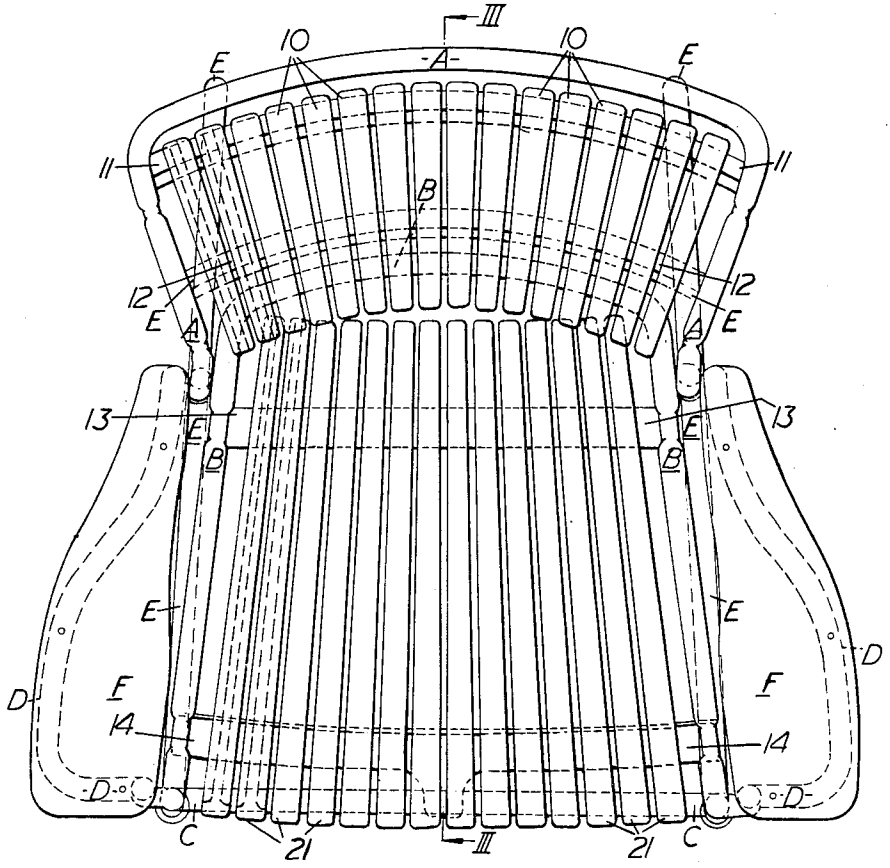
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FIG. 2



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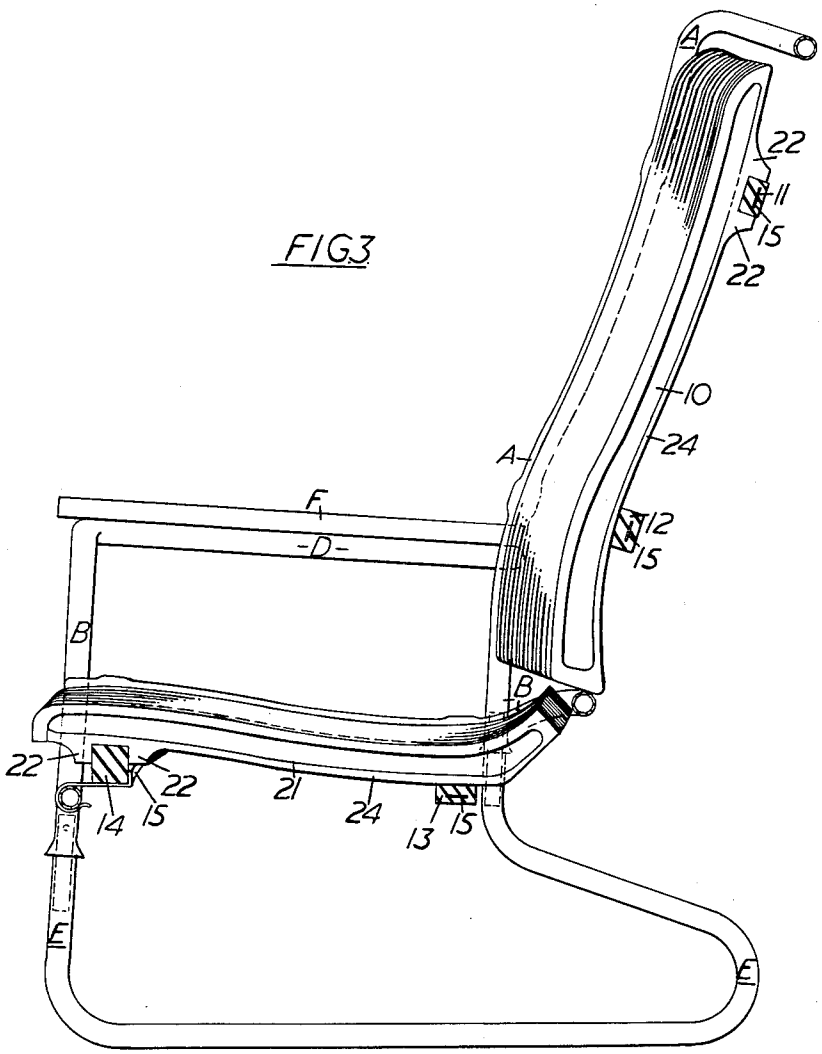
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FIG3



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FIG10

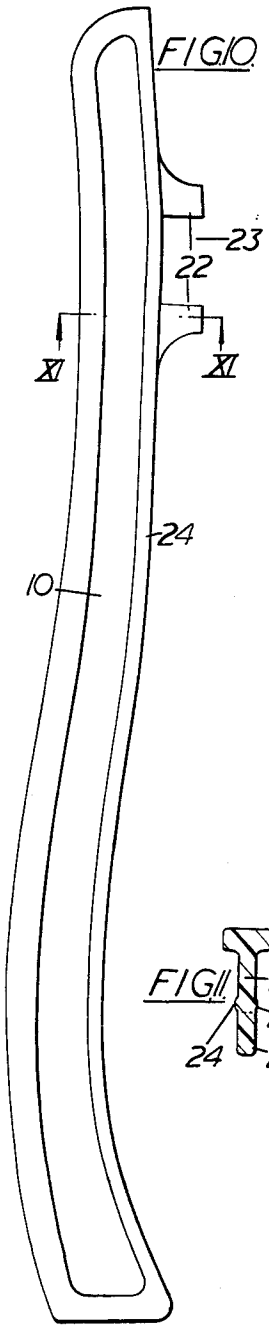


FIG4

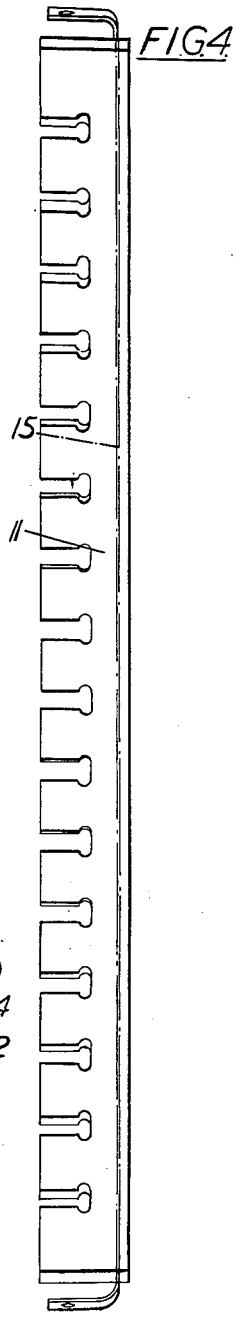


FIG5

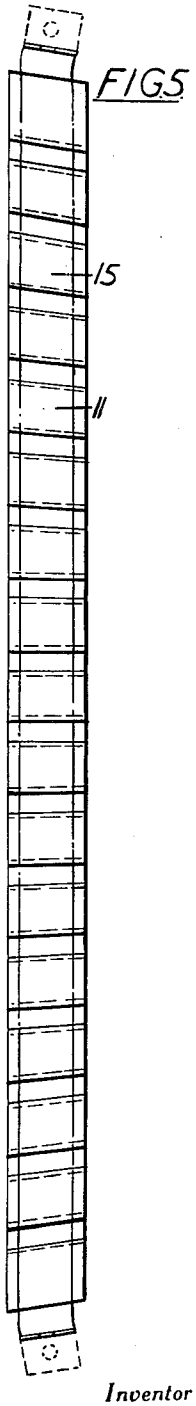


FIG11

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FIG.8

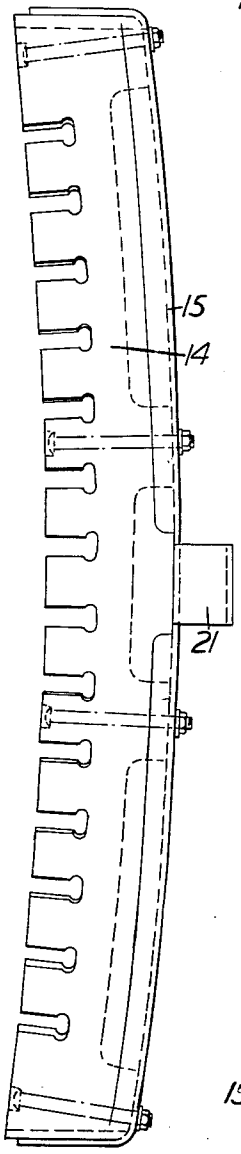


FIG.9

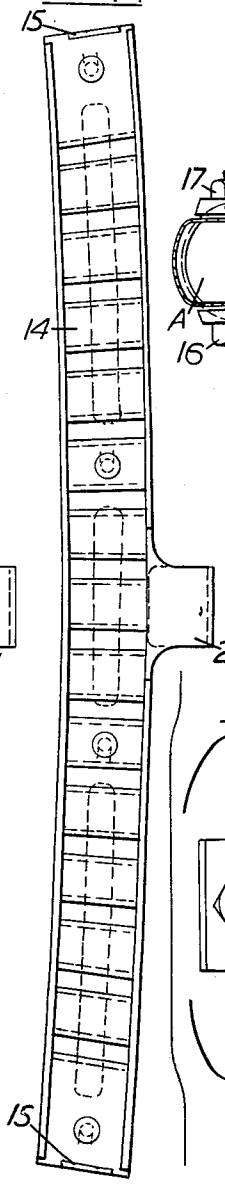
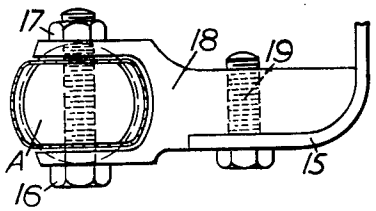
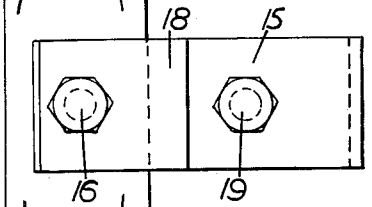


FIG.6



A

FIG.7



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3,203,734

CHAIR

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Claims priority, application Great Britain, Jan. 15, 1963, 1,715/63
13 Claims. (Cl. 297—458)

This invention relates to chairs.

It is particularly concerned with such chairs adapted for outside use, its aim being to ensure improved comfort with economy of parts.

The invention consists in a chair having a seat and a back each or either of which is formed of a series of substantially parallel separate slats which, adjacent their ends, fit into slots formed in cross-members or cradles made of resilient material.

Thus not only is each slat independently and resiliently mounted so that each series can more easily conform to the body of the sitter, but each slat can twist slightly about its longitudinal axis and thus ensure still closer conformation of its contact surface to the body of the sitter.

The slats in cross-section are preferably of substantially T-form such that the broad part of the T forms the contact surface. Additional side flanges are preferably formed on each slat, and the slots in the resilient cross-members or cradles have corresponding cross-slots into which the side flanges fit.

The slats are preferably of moulded synthetic material: and the resilient cross-members are preferably made of rubber or its equivalent, reinforced by an internal steel or like strap.

The scope of the invention is defined by the appended claims; and how it can be performed is hereinafter particularly described with reference to the accompanying drawings in which:

FIGURE 1 is a front elevation of one form of chair according to this invention;

FIGURE 2 is a plan of the same;

FIGURE 3 is a side elevation on the lines III—III of FIGURES 1 and 2;

FIGURE 4 is a plan and FIGURE 5 a front elevation of a slotted cross-member or cradle;

FIGURES 6 and 7 are details showing the attachment of such cross-members to the main frame;

FIGURE 8 is an elevation and FIGURE 9 a plan of the slotted cross-member or cradle for the front of the seat; and

FIGURE 10 is a side elevation and FIGURE 11 a section on line XI—XI of one of the slats shaped and adapted to fit in the slots of the cross-members or cradles.

The main frame members of the chair are of orthodox and preferably tubular construction, and consist of a seat back A having a top cross-bar (FIGURE 1) so that it is of inverted U-form; a seat hoop B having a front cross-bar C and arms D; and a pair of leg members E shaped to U-form (FIGURE 3) whose upper ends fit at the rear into bell-mouthed sockets in the down-turned ends of the tubes of the seat back A, and at the front into similar bell-mouthed sockets in the down-turned ends of the tubes of the seat hoop B. Arm rests F are fitted at the tops of the seat hoop B.

In completing the chair according to this invention a series of T or like cross-section slats **10** (FIGURES 10 and 11) **21** are separately fitted in slots in four reinforced rubber cross-members **11**, **12**, **13**, **14**, each of which as shown in detail in FIGURES 4 and 5, has a flexible strap **15** of steel or like high-tensile material. The ends of each strap are bent and apertured as shown in FIGURES 4 and 5 so that they can be attached as shown in FIGURES 6 and 7 to the side frame members A (for the back seat) and E (for the seat).

One form of such attachment is shown in detail in FIGURES 6 and 7. The tube A, for example, is slightly flattened; and the flattened part is bored to hold a screw-bolt **16** which has a nut **17** and which is also passed through the forked ends of a bracket **18** to which one bent end of the strap **15** is fixed by means of another screw-bolt **19**. Each end of each of the straps **11** to **14** is fixed in this way to the main-frame tubular members A and E at the flattened parts thereof shown in FIGURES 1, 2 and 3.

The front cross-member **14** for the seat, shown in FIGURES 8 and 9, is fixed at its ends in this way to the flattened parts (see FIGURE 2) adjacent the front ends of the tubular seat hoop B. In addition, the cross-member **14** is attached at the centre to the front cross-bar C of the seat hoop B by means of a bracket **21** (see FIGURES 3, 8 and 9).

As seen in FIGURES 1, 2 and 3, cross-member **11** is stretched between the uprights of the tubular seat back A adjacent their upper ends. Another **12** is similarly stretched between those uprights adjacent their lower ends in the region of the spine of the sitter. These two resilient cross-members **11**, **12** thus locate and support the separate slats **10** forming the chair back.

The similar cross-members **13**, **14** are stretched between the horizontal parts of the seat hoop B; one towards the rear of the seat and the other towards the front of the seat as best seen in FIGURE 2.

The slats **10** of the chair back seen in detail in FIGURE 10 are in profile slightly concave adjacent the top end, and slightly convex adjacent the bottom end. The slats **21** (FIGURES 1, 2, 3) of the chair seat (which are of similar construction and are not therefore shown in detail) are similarly concave adjacent the rear and convex adjacent the front, as best seen in FIGURE 3. These shapes facilitate anatomical conformation in that the convexity of the back slats **10** supports the "small" of the back of the sitter; and the convexity of the seat slats **21** supports the front ends of the thighs.

Further anatomical conformation for different postures is ensured by the slotted cross-members **11** to **14** in that, being flexible as well as resilient, and fixed only at their extremities, the shape of the lines they assume under the load of the sitter will vary according to the load distribution; and the position of the slats will thus vary slightly according to the loading, and respond to the disposition and movements of the sitter whether he be forward or upright, or leaning to the left or to the right.

In addition to being of flanged T-cross-section as above indicated and as shown in FIGURES 10 and 11 so as to fit into the cross-slots of the resilient cross-members **11** to **14**, the slats **10**, **21** have pairs of projections **22** to form cross-grooves **23** so as to fit to the resilient cross-members **11** to **14** and effect longitudinal location thereon. Two such cross-grooves **23** can be formed in each slat for assembly. Each slat **10** additionally has side flanges **24** (FIGURES 10 and 11) which fit into the cross-slots of T-form in the cross-members (see for example FIGURES 8 and 9). In assembly the slats **10** are pushed into the cross-slots of the resilient cross-members and are held therein by the side flanges **24**.

The number, shape and size of the slats, cross-members and slots can be varied according to practical requirements.

I claim:

1. A chair comprising a frame forming a seat member and a back member, a pair of resilient rubber-like cross-members having slots and being attached at their ends respectively to the sides of one of said members and being of such inherent flexibility as to be conformable in

disposition to the applied load, and a plurality of rigid substantially parallel slats which adjacent their ends fit into the slots of said resilient cross-members, so as to be conformable both in position and orientation to the applied load.

2. A chair comprising a frame forming a seat member and a back member, a pair of resilient cross-members having T-shaped slots and being attached at their ends respectively to the sides of one of said members so as to be conformable in disposition to the applied load, and a plurality of rigid substantially parallel slats having side flanges and which adjacent their ends fit with their side flanges into said T-shaped slots of said resilient cross-members, so that each slat can conform in position and in orientation to the applied load.

3. A chair comprising a frame forming a seat member and a back member, a pair of reinforced resilient rubber-like cross-members having slots and being attached at their ends respectively to the sides of one of said members and being of such inherent flexibility as to be conformable in disposition to the applied load, and a plurality of rigid anatomically shaped substantially parallel slats which adjacent their ends each fit into their respective slots of said resilient cross-members so as to conform in orientation to the applied load.

4. A chair comprising a frame forming a seat member and a back member, a pair of reinforced resilient cross-members having T-shaped slots and being attached at their ends respectively to the sides of one of said members so as to be conformable in disposition to the applied load, and a plurality of rigid, anatomically shaped substantially parallel slats having side flanges and which adjacent their ends fit with their side flanges into said T-shaped slots of said resilient cross-members, so as to be conformable both in position and orientation to the applied load.

5. A chair according to claim 1 in which each slat has a pair of projections forming a cross-groove of a size to fit to one of said resilient and flexible cross-members and thereby locate said slat longitudinally thereon.

6. A chair according to claim 2 in which each slat has a pair of projections forming a cross-groove of a size to fit to one of said cross-members and thereby locate said slat longitudinally thereon.

7. A chair according to claim 3 in which each slat has a pair of projections forming a cross-groove of a size to fit to one of said resilient and flexible cross-members and thereby locate said slat longitudinally theron.

8. A chair according to claim 1 in which said cross-members are formed of resilient material and have a flexible reinforcement strap with attachment means at the ends thereof for connection to the chair frame.

9. A chair according to claim 2 in which said cross-members are formed of resilient material and have a flexible reinforcement strap with attachment means at the ends thereof for connection to the chair frame.

10. A chair according to claim 3 in which said cross-members are formed of resilient material and have a flexible reinforcement strap with attachment means at the ends thereof for connection to the chair frame.

11. A chair according to claim 1 having a front cross-member forming part of the frame and in which the front resilient cross-member has a centre bracket for attachment to said frame front cross-member.

12. A chair according to claim 2 having a front cross-member forming part of the frame and in which the front resilient cross-member has a centre bracket for attachment to said frame front cross-member.

13. A chair according to claim 3 having a front cross-member forming part of the frame and in which the front resilient cross-member has a centre bracket for attachment to said frame front cross-member.

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FRANK B. SHERRY, *Primary Examiner.*