United States Patent [19]

Morton

[11] **3,883,176**

[45] **May 13, 1975**

[54] **CHAIR SHELL**

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[73] Assignee: **Pel Limited,** Worcestershire, England

[22] Filed: **Jan. 14, 1974**

[21] Appl. No.: **433,103**

[30] **Foreign Application Priority Data**

Jan. 23, 1973 United Kingdom..... 3389/73

[52] **U.S. Cl.**..... **297/457;** 297/454

[51] **Int. Cl.**..... **A47c 3/00;** A47c 7/02

[58] **Field of Search** 297/445, 451, 452, 454, 297/455, 457, 458

[56] **References Cited**

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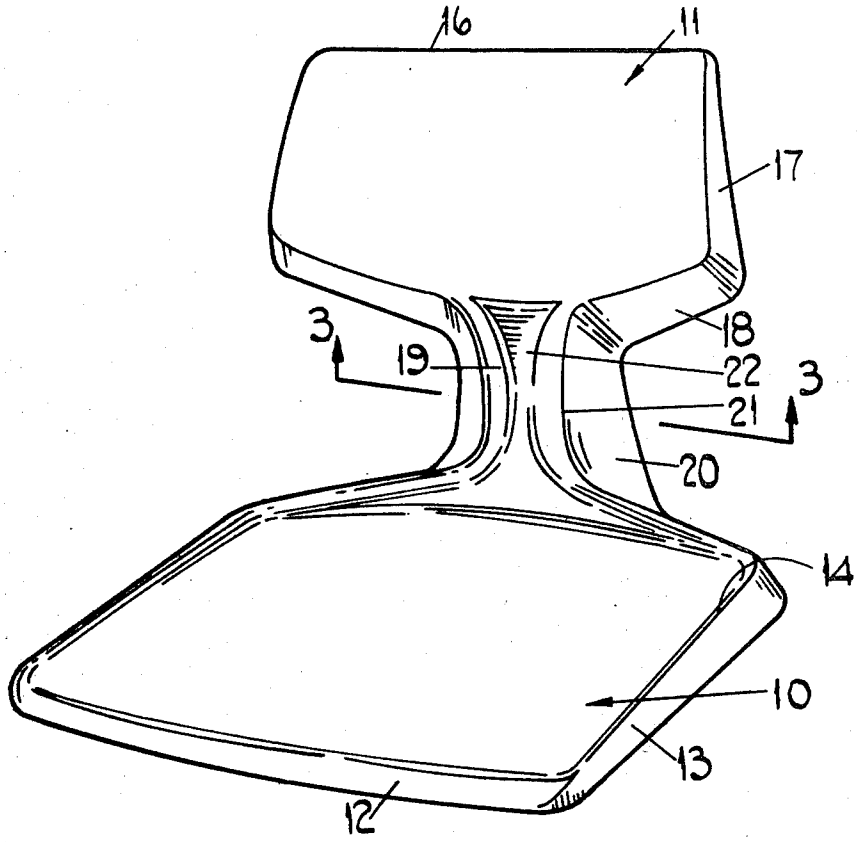
[57] **ABSTRACT**

A one piece chair shell comprising a seat portion and a backrest portion connected by a vertically corrugated integral connecting section.

4 Claims, 5 Drawing Figures



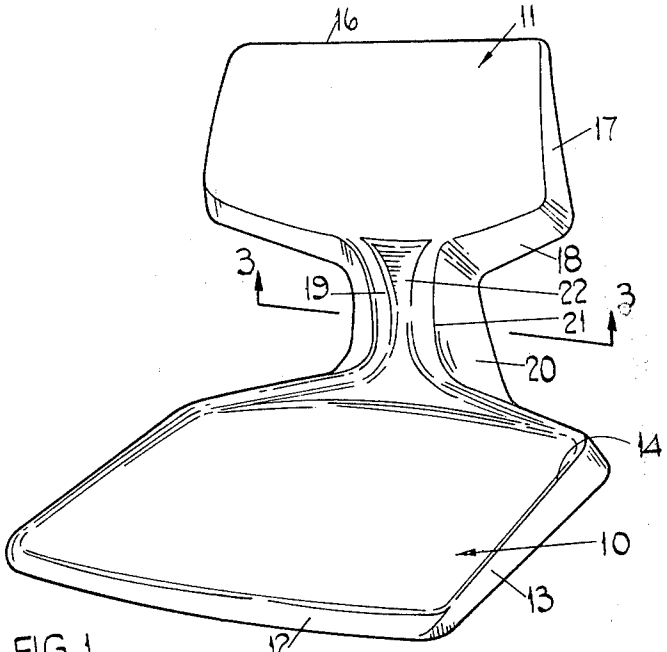


FIG. 1.

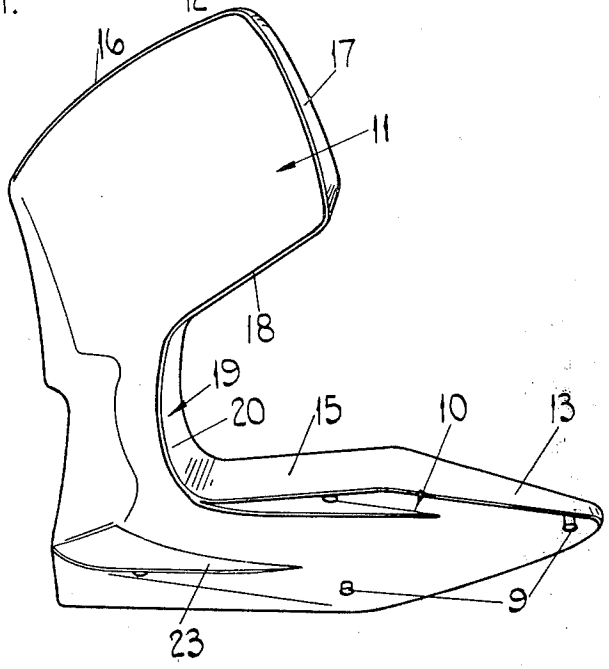


FIG. 2.

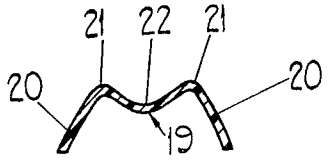


FIG. 3.

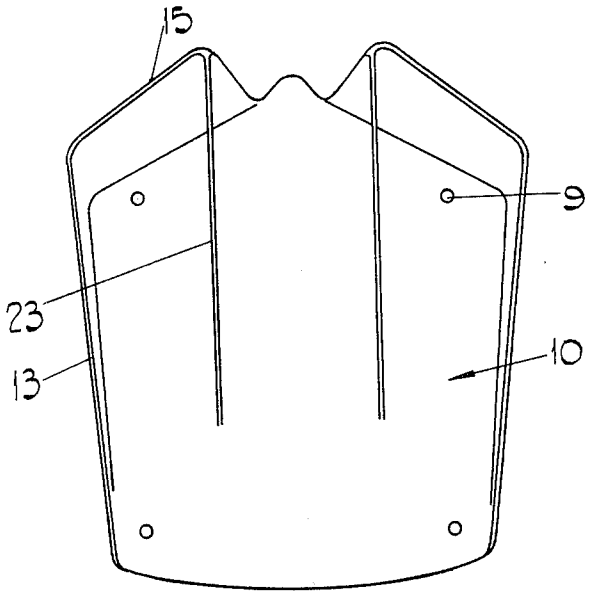


FIG.4.

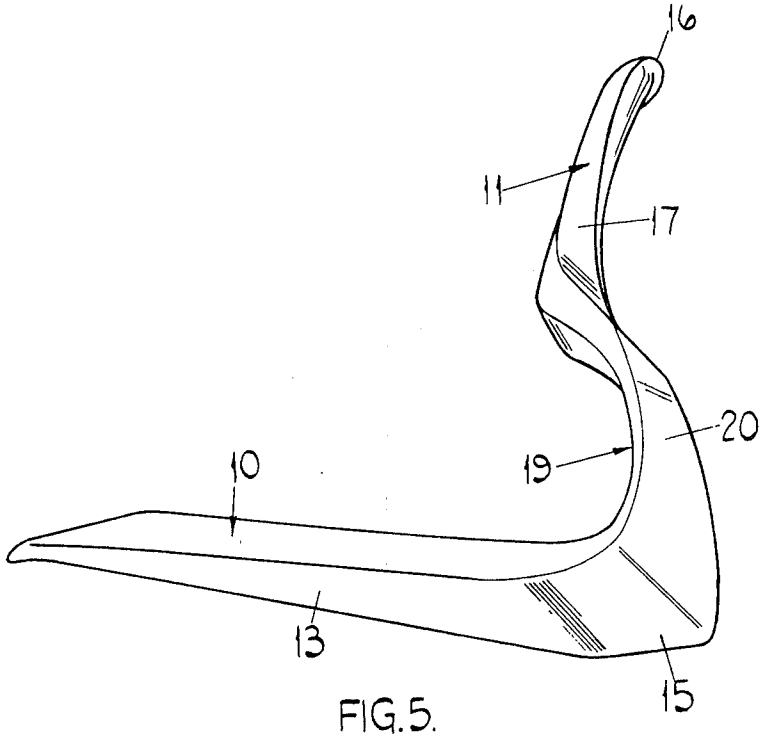


FIG.5.

CHAIR SHELL

BACKGROUND OF THE INVENTION

This invention relates to a chair shell of the kind comprising a one-piece moulding defining a seat portion and a backrest portion. The shell is mounted upon a support structure to make the complete chair.

SUMMARY OF THE INVENTION

It is the object of the invention to provide a chair shell which provides a good seating posture commensurate with comfort.

According to the invention a one piece chair shell comprises a seat portion connected to a backrest portion by at least one integral connecting section which is vertically corrugated.

DESCRIPTION OF THE DRAWINGS

The invention will now be described by way of example with reference to the accompanying drawings, in which:

FIG. 1 is a perspective front view of a chair shell constructed in accordance with the invention;

FIG. 2 is an underneath and rear perspective view of the shell;

FIG. 3 is a cross section on the line 3—3 in FIG. 1;

FIG. 4 is an inverted plan view of the seat shell, and

FIG. 5 is a side elevation view.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The chair shell shown is intended to be mounted upon a supporting structure, to which it is connected by fastenings. In this example the shell has headed spigots **9** moulded into its base. These locate in respective apertures formed in lugs on a tubular metal underframe (not shown). The means whereby the shell is attached to the underframe is described and claimed in British Pat. No. 1,086,071. However, other types of fastening means may be substituted for the spigots shown.

The shell comprises a seat portion **10** and a backrest portion **11** which are shaped and positioned in relation to one another to provide comfort as well as a good seating posture. The seat portion **10** is approximately rectangular, having integrally flanged edges. The front edge has a shallow flange **12** joined to the slightly concave seat surface by a curved zone defining on the top surface, a convex surface **12** along the front of the seat. The flanges **13** at the two sides taper in depth, the narrower end being towards the seat front. These flanges **13** are also outwardly flared and join the seat surface with shallow raised lips which are visible in FIG. **1** at **14.** The flanges **13** continue to the rear of the seat portion **10,** where they are of maximum depth. These continuations are indicated at **15.**

The backrest portion **11** is also generally rectangular, though its front surface is substantially curved inwardly to the center. The upper edge of the backrest portion **11** is provided with a shallow flanged edge **16** similar to that at the front of the seat portion **10.** The sides of the backrest portion are also provided with flanges **17** and, in similar manner to the seat portion **10,** the flange depth is greater at the bottom of the backrest portion, the side flanges tapering uniformly. These flanges are furthermore continued along the lower edge of the backrest portion at **18,** at which position their depth is a maximum. The flanges **17, 18** are also outwardly flared or inclined. The lower edge of the backrest portion **11** is of shallow V shape.

Connecting the seat and the backrest portions is a connecting section **19.** This is vertically corrugated as shown in FIGS. **1, 3** and **4.** It has generally convex contoured side flanges **20** bounded by a pair of ridges **21,** between which is defined a concave recess **22.** The side flanges **20** join with the flanges **15** at the rear edge of the seat portion **10** and with the flanges **18** at the lower edge of the backrest portion **11,** as can be seen from FIGS. **1, 2** and **5.**

The central concave recess **22** extends over most of the length of the connecting section **19** but it merges into the respective surfaces of the seat portion **10** and of the backrest portion **11.** The ridges **21** merge with the lips **14** of the seat portion and with the edges of the backrest portion respectively.

The connecting section **19** is moreover, concave as viewed in side elevation and is set back behind the general plane of the surface of the backrest portion **11** of the chair shell. This can be seen in FIG. **5.** Furthermore, the connecting section widens from its upper to its lower end, since the side flanges **20** are wider at their junction with the flanges **15** of the seat portion than they are at the corresponding junctions with the flanges **18** of the backrest portion **11.**

On the underside of the seat portion **10** there are provided integral webs **23.** These join the slightly concave or generally flat portion with the two flange continuations **15** at the rear edge and extend, in this example, in parallel relationship over approximately two thirds of the length of the seat portion. The webs **23** are of the same depth at their rear ends as the flanges **15** which they join but taper to their front ends.

The shell is preferably made from a plastics material having some resilience. It is constructed by a moulding process. One suitable material from which it may be made is polypropylene and another is resin bonded glass fiber. The type of material and its thickness determine the strength and relative resilience of the shell. It is however desirable and is designed to provide great strength with a limited degree of resilience in the connecting section **19.**

Having thus described the invention, what is claimed is:

1. A one piece chair shell comprising a seat portion connected to a backrest portion by at least one connecting section which is vertically corrugated and which is substantially narrower than the seat portion and the backrest portion with the vertical corrugations facilitating support of the substantially narrower connecting section and the remainder of the chair shell.

2. The invention in accordance with claim **1** wherein the connecting section is provided with side flanges and a central recess, the section being concave in side elevation.

3. The invention is accordance with claim **2** wherein the seat and backrest portions are flanged and the flanges merge with the connecting section thereby providing a continuous flange about the circumference of the shell

4. The invention in accordance with claim **1** wherein the shell is of a molded plastics material.

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