June 30, 1964 O. C. HERSHBERGER ETAL 3,139,308

CHAIR SEAT CONSTRUCTION

Filed April 15, 1963

FIG. 1

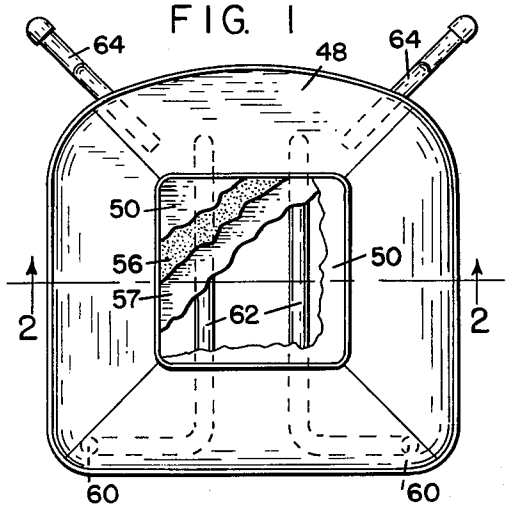
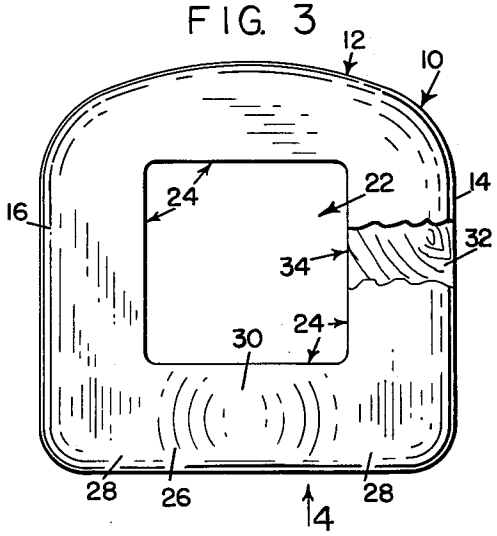


FIG. 3



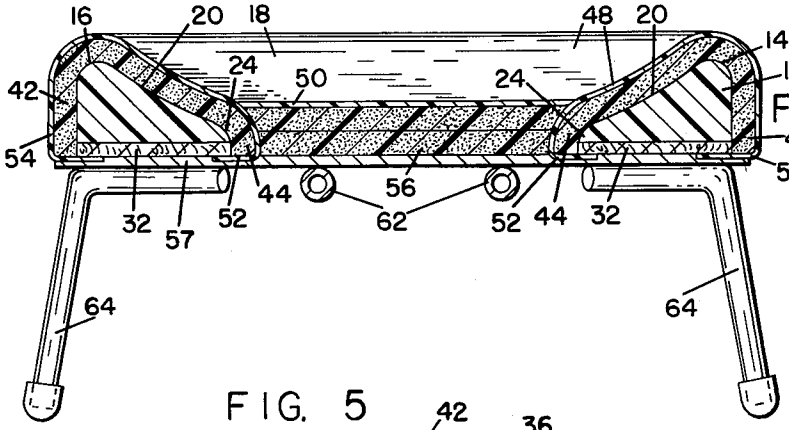


FIG. 2

FIG. 5

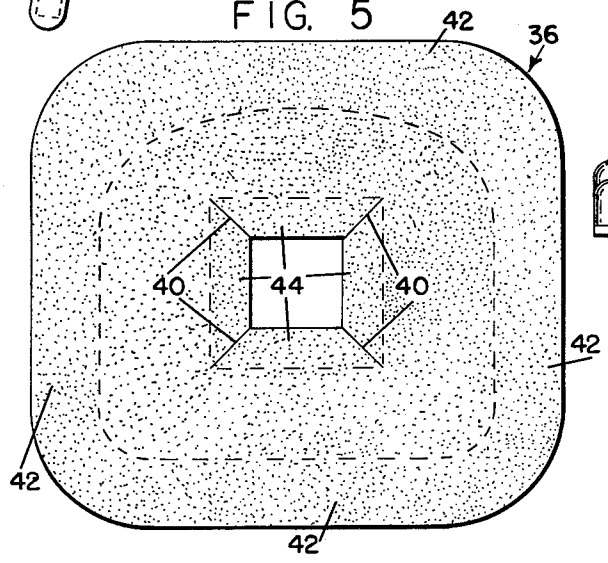
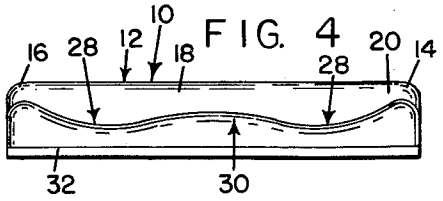


FIG. 4



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CHAIR SEAT CONSTRUCTION

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This invention resides in the provision of a new and improved construction for the manufacture of chair seats and the like, and the principal object of the invention resides in the provision of such a construction which is strong, sturdy and comfortable to sit on and at the same time very inexpensive to manufacture.

Other objects of the invention include the provision of a molded contoured seat base frame of expanded cellular plastic material that is lightweight, strong, and rigid, forming the basis of the construction of the present invention. On this frame which has an opening in the center, there is provided a somewhat correspondingly shaped cushion of soft spongy material such as flexible cellular expanded plastic material. Under the open frame which is flat on the bottom while being contoured to the human form on the top surface, there is an open frame comprising a piece of plywood or some similar inexpensive material, the cushion of flexible material overlying the contoured frame including the outer edges thereof as well as the edges at the opening in the center, said cushion being bound over these edges and secured, the central opening being closed by a separate cushion of flexible soft sprongy material such as expanded cellular plastic, this being held in place by a cover piece of any suitable material which covers the entire bottom of the chair seat. The construction also includes extra support means which comprises portions of the chair legs for the seat which extend under the seat frame and across the opening supporting the central separate member of soft material as well as the underlying cardboard member.

The invention further relates to arrangements and combinations of parts which will be hereinafter described and more particularly set forth in the appended claims.

Reference is to be had to the accompanying drawings, in which:

FIG. 1 is a plan view of the seat construction, parts being broken away for clarity of illustration;

FIG. 2 is an enlarged section on line 2—2 of FIG. 1;

FIG. 3 is a top plan view of the rigid contoured seat base frame, part being broken away;

FIG. 4 is a view in front elevation of the seat-forming member of FIG. 3, looking in the direction of arrow 4 in FIG. 3, and

FIG. 5 is a view showing the cushion material completely extended preparatory to being secured down about the edges of the seat base frame.

The chair seat member of the present invention can of course be for any kind of chair to which it is adapted, and can also be used for love seats, sofas, etc. It comprises a molded rigid lightweight expanded cellular plastic base frame portion which is perhaps best shown in FIGS. 3 and 4. This is molded in one piece. It is generally indicated by the reference numeral **10** and at the rear edge thereof as at **12** which is thick, it slants downwardly and inwardly and it does the same in the side portions **14**, **16** thereof which are correspondingly thick at the edges. The downwardly inclined surfaces are indicated in FIG. 4 at **18** and **20**, and they terminate in an opening **22** having edges which are indicated by the reference numeral **24**. The opening can be square or rectangular or any other convenient shape. The front portion of the frame at **26** is contoured with spaced depressions **28**, **28** to accommodate the legs of the sitter, and between the depressed portions **28** there is a raised center portion **30**.

This contoured base frame member **10** has an underlying strengthening piece of inexpensive material such as plywood, this being indicated by the reference numeral **32**. This plywood member is also open corresponding to the edges **24** as seen at **34** in FIG. 3, and is flat.

A soft flexible expanded cellular plastic cushion or padding material in sheet form is indicated generally by the reference numeral **36** in FIG. 5. This sheet is of somewhat the same shape as the outline of the base member **10** but it has a smaller opening **38** centrally thereof. This opening is provided with a series of slits **40**, **40** extending diagonally with respect to the opening **38**. As shown in FIG. 5, the seat frame member **10** is indicated in dotted lines underlying the sheet **36** and the plywood member **32** underlies the member **10**. When in this position with the sheet **36** superposed, the side edge portions and the front and rear portions **42**, **42** of the cushion are folded down over the corresponding portions of the seat frame and are secured thereto and to the plywood member **32** by any means desired such as clips, cement, etc. Also the flaps **44** occasioned by the slits **40** are tucked down at the edges **24** of the opening **22** and also secured by any desired means so that the entire frame **10** is covered with soft comfortable cellular material, but the central opening at **24** is of course still open.

The contour frame **10** is now completely covered with the cushion, and over this there is now provided a flexible upholstery member generally indicated by the reference numeral **48**. This member has a center portion **50** overlying the opening **22** and corresponding to the opening member **48** has skirts which extend downwardly as at **52**, these being tucked under the edges **24** and secured to the bottom of the plywood member **32** by any means desired. The portions **50** may be separate, having integral flaps **52**, and secured by sewing to the edges of an opening in the member **48**. Similar skirts at **54** extend down over all of the outside edges of the cushioned frame and are secured in any way desired to the plywood member **32**. Then a cushion **56**, the size and shape of the frame opening, is inserted from the bottom closing the opening.

Underlying the entire seat there is then applied an inexpensive closure material such as cardboard as shown at **57**, this member having the size and contour of the complete seat.

Although the upholstery material at **50** and the cardboard layer **57** will tend to support the padding material **56** in the position described, nevertheless it is preferred that the chair **60** shall have extension pieces **62** extending to underlie the opening **22** supporting the central portion of the upholstery material as perhaps best illustrated in FIGS. 1 and 2. Actually the legs **60** can take any form and either front or rear legs or both, or other similar means can be utilized for this purpose. Rear legs **64** may be similar or different with regard to the front legs.

Since all of the parts going to make the seat above described can be provided and assembled very inexpensively, it is believed that it will be clear that a very comfortable sturdy and inexpensive article of furniture is provided by the present invention.

Having thus described our invention and the advantages thereof, we do not wish to be limited to the details herein disclosed, otherwise than as set forth in the claims, but what we claim is:

1. A chair seat comprising a rigid one-piece expanded cellular plastic frame having a coplanar lower surface and an upper surface contoured generally to accommodate the human form, the central portion of the frame being

open, a sheet of flexible expanded cellular plastic cushion material overlying the contoured surface of the frame, said flexible sheet having a central opening therein of lesser dimensions than the opening in the contoured frame, said sheet being greater in breadth and width than the contoured frame, a rigid strengthening member underlying the contoured seat frame and having a similar outline including a central opening therein conforming to the opening in the contoured frame, the edge portions of the flexible cushion sheet being turned down about the side, front, and the rear edges of the seat frame, and also at its center down into the opening in the contoured seat frame and being secured to the frame, upholstery material covering the cushioning material throughout the entire upper surface of said contoured frame, a separate soft flexible expanded plastic cushion member closing the opening in the contoured seat frame, and means holding the separate central cushioning member in position in the opening of the contoured seat frame.

2. The chair seat recited in claim 1 wherein the upholstery material covers the entire seat, said upholstery material including side, rear and front skirts extending down over the side, rear and front portions of the frame being secured to the strengthening member underneath the contoured seat frame.

3. The chair seat recited in claim 1 wherein the upholstery material covers the entire seat, said upholstery material including side, rear and front skirts extending down over the side, rear and front portions of the frame being secured to the strengthening member underneath the contoured seat frame, said upholstery material including a central skirt member extending down about the inner edges of the opening in the frame in part enclosing the central separate cushion member.

4. The chair seat recited in claim 1 including a rigid member extending across the lower surface of the frame and across the opening in the frame, under the separate cushion member.

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