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FURNITURE CONSTRUCTION

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Fig. 1.

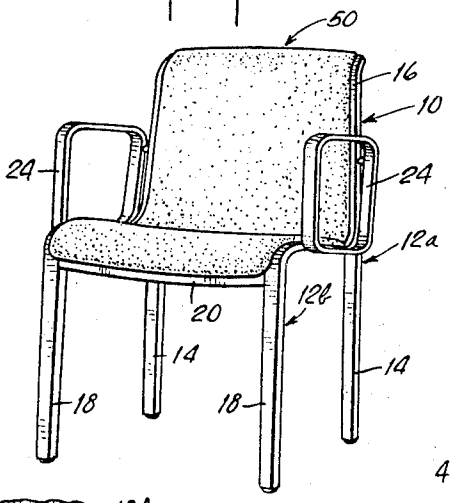
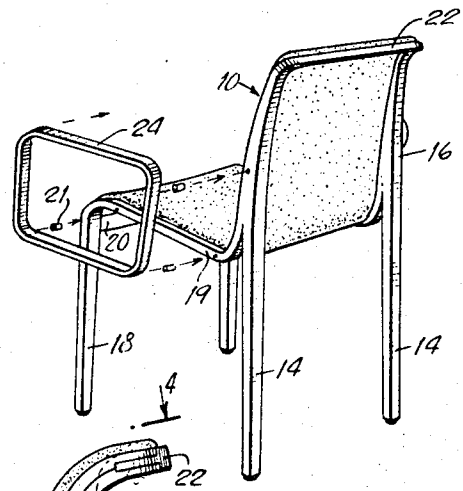


Fig. 2.



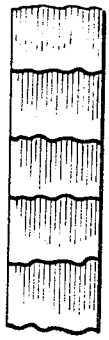


Fig. 14.

Fig. 3.

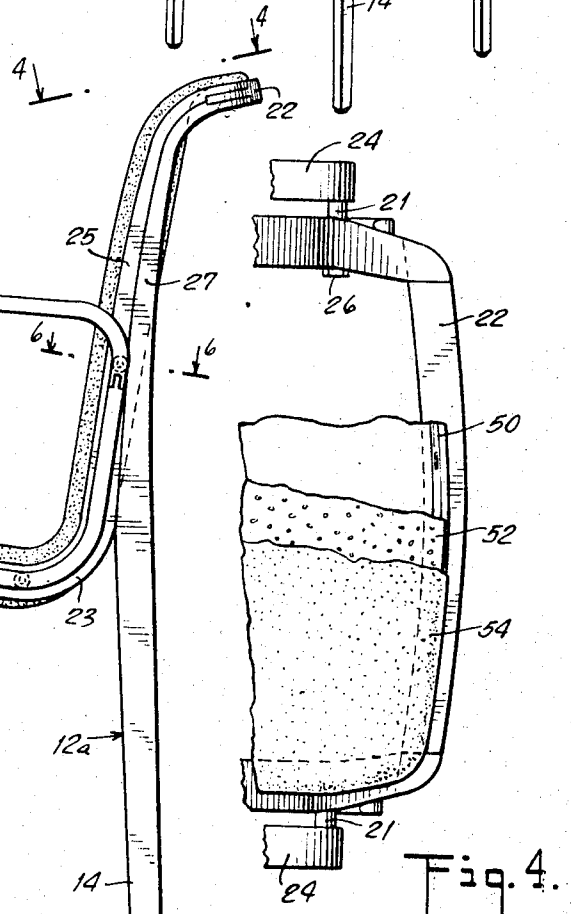


Fig. 4.

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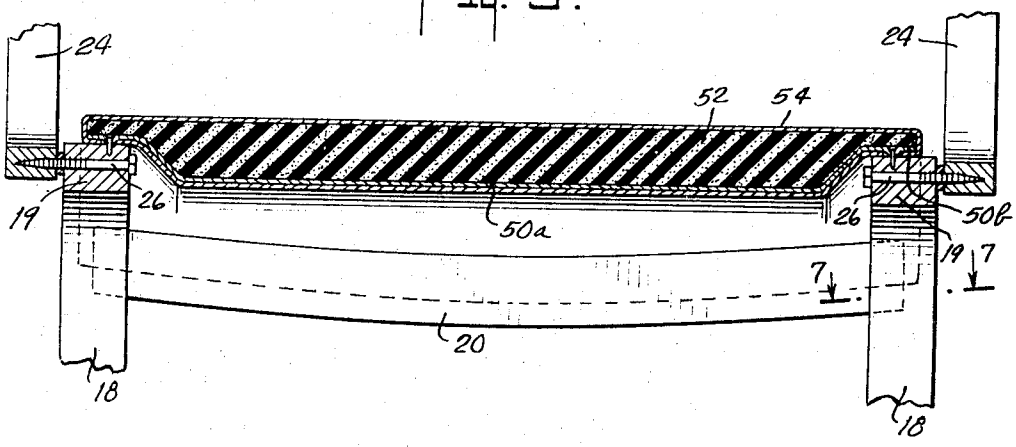
Fig. 5.



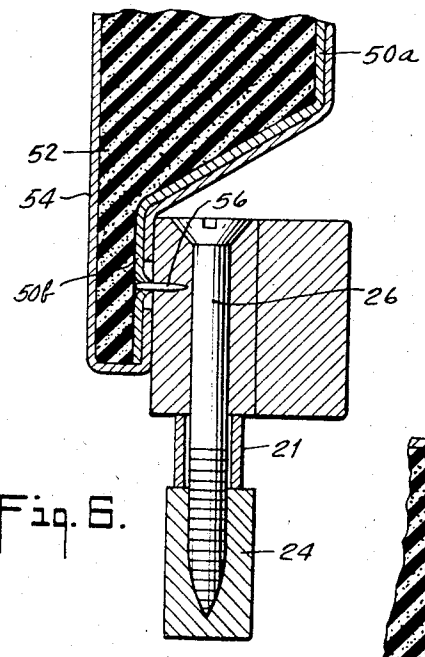


Fig. 6.

Fig. 7.

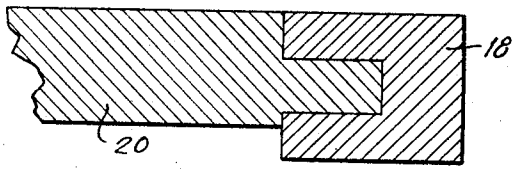
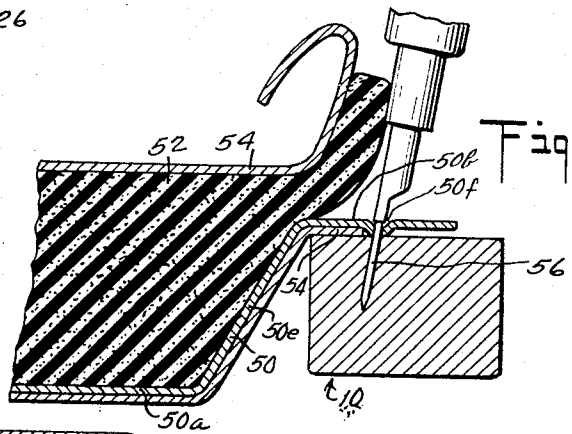


Fig. 8.



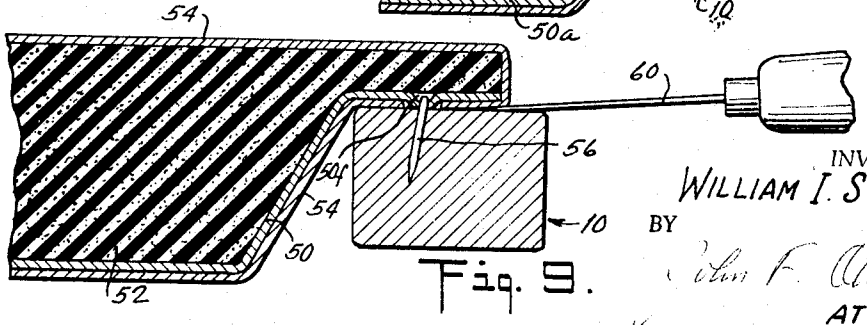


Fig. 9.

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Fig. 10.

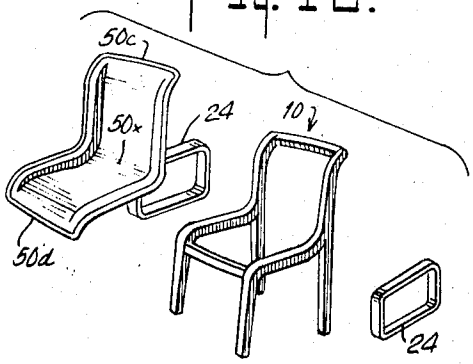


Fig. 11.

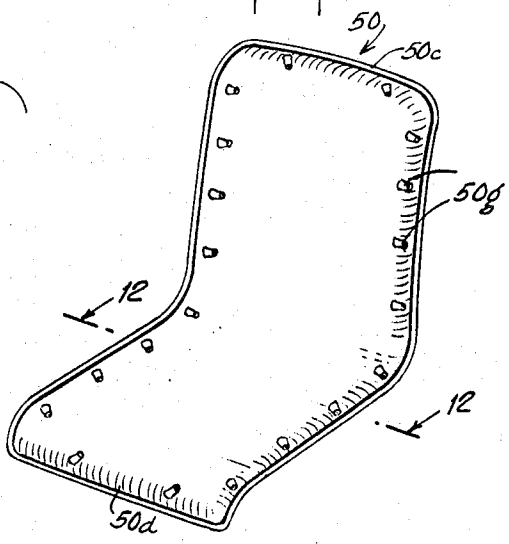


Fig. 12.

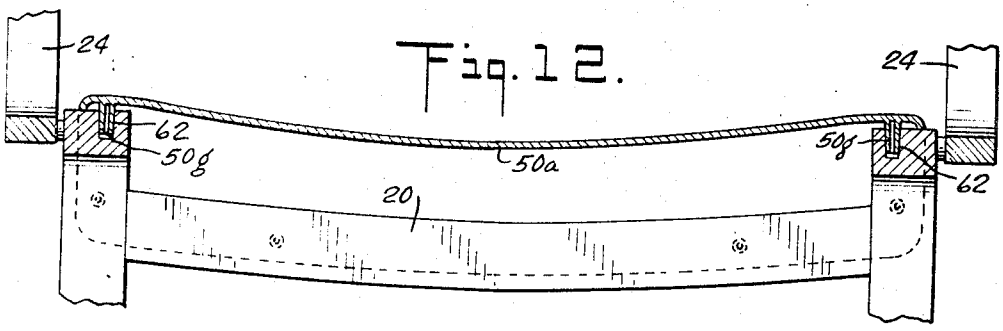
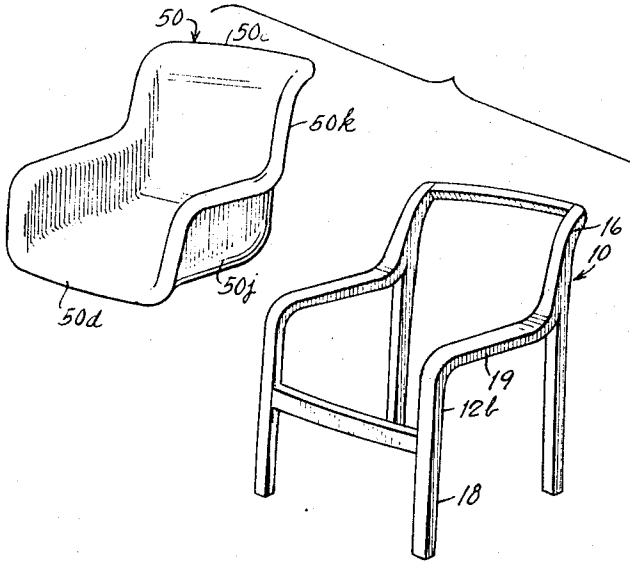


Fig. 13.



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3,450,435

FURNITURE CONSTRUCTION

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Filed Mar. 31, 1967, Ser. No. 627,529
Int. Cl. A47c 5/14
U.S. Cl. 297—446 32 Claims

ABSTRACT OF THE DISCLOSURE

Furniture construction which uniquely blends a wooden frame with a moldable plastic shell defining the seat and back such that the chair frame and the unitary plastic shell cooperate to stiffen each other whereby a minimum of framework is required.

This invention relates to furniture, and more particularly, to chairs and similar articles of furniture.

The furniture construction envisioned by the present invention comprehends not only side chairs, but arm chairs and lounge chairs, all of which are of extremely simple construction but which provide structural rigidity and comfort for the user.

In the development of modern furniture a number of different approaches have been followed but the basic characteristics of modern furniture construction are simplicity of line along with a marked degree of comfort for the user. Also, modern design has tended to stress a minimum of care of the furniture and durability. Another feature of such design is the ready replaceability for the comfort-providing portions of the furniture. For example, with many pieces of furniture it is intended to be a simple matter to replace the seat and back portions which are subject to great wear.

However, one of the chief objections to much of today's so-called modern furniture is that in its stark simplicity it quite often has an extremely functional appearance and people tend to consider it only suitable for utilitarian purposes and to look upon it with disfavor when considering it from the aesthetic viewpoint.

Accordingly, it is a primary object of the present invention to retain many of the desirable features generally associated with modern furniture design and to enhance its appeal.

Another object is to provide chairs and the like which possess structural strength and durability and yet are extremely pleasing aesthetically.

Another object is to provide furniture that is extremely simple in design and is very readily constructed and assembled.

A fundamental difficulty that is encountered in furniture construction is the necessity for reconciling the flexibility required for the actual body-supporting seat and back members of the furniture with the demand for simplicity and structural rigidity. Some approaches to providing flexibility have resulted in arrangements such as the provision of a web that is stretched between side-supporting members. Although the flexible member then affords convenient replaceability, it does not contribute significantly to the structural strength needed for the chair frame so that the frame per se must be extremely rigid in construction, and this necessitates that the frame include a plurality of cross pieces or bracing members extending from one side of the chair frame to the other. Other types of constructon known in the prior art, while affording good structural rigidity, provide so at the expense of comfort and it is quite frequently the case that extra heavy cushion means must be provided for the user's comfort.

One of the important features of the present invention resides in the unique blending of the desirable qualities imparted to furniture construction by wood grain with the moldable characteristics of synthetic materials such as plastic. The wood grain characteristics are considered of fundamental importance in the appeal to most people's aesthetic sensibilities. Furthermore, the chair resulting from the unique blending is one not only having great structural strength, and therefore durability, but also, with greatly facilitated replaceability at minimum expense of the comfort-providing portions of the chair. The structural strength possessed by the chair construction of the present invention stems from the fact that the chair frame, which is constituted of wooden members, and the unitary seat-and-back plastic shell cooperate to stiffen each other, whereas individually, they are quite flexible. In the construction of a chair, for example, the unitary plastic shell is molded so that its contours ideally fit the contours of the chair frame such that the plastic shell is readily secured at a significant extent of its total perimeter. Because of the contour of the plastic shell the body of a user is accommodated with a great degree of comfort; that is to say, although the plastic shell affords the aforenoted rigidity of structure when secured to the chair frame, it is resilient enough to yield under load. Moreover, this resilience is supplemented by the fact that the plastic shell, in accordance with a preferred form of the present invention, is covered by a layer of foam rubber and in turn this layer of foam rubber is completely covered by a fabric so as to result in an attractive seat and back for the chair. When the fabric becomes soiled or worn, it can be simply removed, as will be explained hereinafter, and can be inexpensively replaced. Moreover, such replacement can be accomplished without return of the chair to the factory. Thus, the flexible shell forming the seat and back for the chair is retained in place and only the fabric—and possibly the foam rubber—need be replaced.

An ancillary feature to the construction described above resides in the manner of attaching the aforenoted upholstery, i.e. the foam rubber pad and fabric combination that serves as a covering and cushioning means for the plastic shell. In accordance with one version of this feature, the pad and its associated fabric are attached to the inner side of the shell before the shell is secured to the wooden frame. However, a small margin of approximately one inch is left outside of a groove which extends around the periphery of the shell. This groove is adapted to receive the securing means, for example, in the form of staples, for securing the shell to the frame. The margin of foam rubber is left unglued in this version and is simply peeled back, to expose the aforenoted groove, when it is desired to secure the shell to the frame. After the shell has been secured the fabric margin that remains, i.e. the loose fabric edge, is tucked in under the edge of the plastic shell which is defined by a flange-like portion extending beyond the groove. This arrangement, of course, makes for very quick and easy assembly and is directed to achieving easy replaceability of the fabric covering as previously noted. Furthermore, this arrangement has the advantage that no welts or other means must be employed to cover up loose fabric edges and, in addition, the securing means are completely hidden from view thereby adding to the finished appearance of the chair.

In accordance with a preferred version of the ancillary feature of upholstery attachment, the plastic shell is secured to the wooden frame prior to covering the inner side of the shell with the upholstery pad and fabric combination. Thus, only the outer side of the plastic shell is covered with a suitable fabric and then the plastic shell is secured in the previously described manner by the use of staples to the chair frame. Thereafter, the foam rubber pad is glued or cemented to the inner side of the shell and the loose fabric edge, as before, is tucked in under the flange-like portion of the plastic shell.

The usual procedure, in connection with the aforedescribed attachment of the foam rubber pad and fabric combination to the inner side of the plastic shell, is to secure a piece of fabric to the outer or back side of the shell. However, an alternative method would be to use a shell that is textured and colored so that it would be suitable for installation without the necessity for covering its outer side.

Briefly described, the chair of the present invention involves the construction of a framework consisting of two side sections that, except at the back-supporting region, are tied or connected together by only a single cross member. This cross member is located such that it appears to define the margin of the forwardly extending extremity of the plastic shell. In other words, it appears to blend with the plastic shell and thereby contributes to the aesthetically pleasing look of the chair. Each of the side sections comprises two basic parts or members, one of which defines a rear leg for the chair. In its extension upwardly, this part contributes to forming the back-supporting rail or edge member. The other part or member of each section provides a front leg for the chair and is so constructed that it cooperates with the first part in defining the back-supporting edge member. In a preferred embodiment of the chair construction the second part is constructed specifically to define a horizontal seat-supporting rail, whereas in an alternative embodiment, the horizontal portion defines a support which makes contact with a flange on the plastic shell and the actual seat-supporting portion of the plastic shell is suspended therefrom.

The only cross member that is used for connecting the legs of the chair frame is a member extending from one of the front legs to the other and it is so positioned so that it extends horizontally at a point just below the lowermost portion of the shell member forming the chair seat. It is advantageously positioned inwardly of this lowermost portion whereby no contact of the user with this cross member is possible.

It will be appreciated then that an important aspect relating to this provision of only a single cross or bracing member for connecting the legs is that the chair is greatly simplified in that the framework is reduced to a bare minimum. Beyond such reduction in the framework is the fact that the chair is "free standing," which is a way of saying that there are no readily apparent cross members which would add to the bulky look of the chair.

The foregoing and other objects, features and advantages of the invention will be apparent from the following more particular description of preferred embodiments of the invention, as illustrated in the accompanying drawings.

FIG. 1 is a front perspective view of a preferred embodiment of a chair in accordance with this invention.

FIG. 2 is a rear perspective view showing the arm rest removed from the chair frame.

FIG. 3 is a side view of the chair.

FIG. 4 is a sectional view taken on the line **4**—**4** of FIG. 3.

FIG. 5 is a sectional view taken on the line **5**—**5** of FIG. 3.

FIG. 6 is an enlarged sectional view taken on the line **6**—**6** of FIG. 3.

FIG. 7 is an enlarged view taken on the line **7**—**7** of FIG. 5.

FIG. 8 is an enlarged sectional view illustrating the step of securing the shell to the chair frame.

FIG. 9 is an enlarged sectional view showing the step of tucking in a fabric.

FIG. 10 is an exploded view showing the several parts of the chair of the present invention.

FIG. 11 is a rear perspective view of a modification in the securing of the plastic shell to the chair frame.

FIG. 12 is an enlarged sectional view taken on the line **12**—**12** of FIG. 11.

FIG. 13 is an exploded view showing the parts of another embodiment of a chair in accordance with the present invention.

FIG. 14 is a fragmentary view of a portion of the chair frame to show the construction of the laminated wood stock of which the chair frame is formed.

Referring now to the drawing, and specifically to the FIGURES 1–10 and 14, the chair construction comprises a framework **10** which is formed of laminated wood stock which, as is well-known, provides good structural strength and stability. What is meant by the term "stability" in this context is that a bent or curved piece is in its "normal" shape when finished. Thus, in fabricating the chair frame members, and more particularly, in fabricating the side sections, a panel of considerable width, having separate veneers with bonding means between them, is placed in a press. This laminated panel is curved between formed blocks or dies as the press closes; then, the pressure in the press holds the veneers in intimate contact while heat polymerizes the bonding agent. The result is that a curved laminated panel is removed from the press. The panel will remain in this shape. The frame members are cut transversely from these panels and are of sufficient thickness to form the legs and rails of the chair. Notably, each of the frame members has great strength because all, or substantially all, of the constituent veneers run the length of the frame member.

The above-noted advantages of the laminated wood stock construction can be appreciated by particular reference to FIGS. 1 and 14. There it will be seen that each of the side sections of the chair frame work **10** consists of the two basic parts or frame members designated **12***a* and **12***b*. A fragment of the part **12***b* is shown broken away in FIG. 14 to illustrate the fact that the constituent veneers of the laminated wood stock forming this part **12***b* have been fashioned so that their individual grains all run in their same direction and extend the entire length of this part **12***b*. Not only do the parts **12***a* and **12***b* posses great structural strength in and of themselves because of their aforedescribed fabrication, but they are joined together in such a manner as to retain such strength for the entire side section. The parts **12***a* form the rear legs **14** for the chair, while the parts **12***b* define the front legs **18** for the chair and the seat-supporting side rails **19**. Together, these parts form the back-supporting edge members **16**. The contacting portions of parts **12***a* and **12***b* in so defining these edge members are joined together by a well-known gluing process. It will be appreciated that this gluing together extends over a considerable distance and consequently contributes significantly to the goal of great structural strength for these side sections. The h-shaped side sections thus strongly resemble the branches of a tree joined together to form a common bough and contrast sharply with the product of conventional techniques of joining frame members of this type, such as mortice and tenon arrangements, which, because of their nature, are not capable of providing the structural strength resulting from the described method of joinder.

The side sections of the chair framework **10** are joined together by the cross piece or bracing members **20** and **22**. The bracing member **22** is connected at the top of the chair back and is joined to the edge member **16** by a mortice and tenon arrangement. Similarly, the bracing member **20** extends from one side section to the other and is located so as to join the legs **18**. This is also accomplished typically by a mortice and tenon arrangement.

The basic framework of a side chair in accordance with the present invention is now complete, with only the aforedescribed components. However, for an arm chair the same basic framework is utilized, and arm rests **24** are provided. They are in a generally rectangular shape and are formed by two separate pieces suitably joined together, as can be appreciated by refer-

ence to FIG. 3. Each arm rest **24** is attached to its respective side section by the use of a plurality of threaded connectors **26** received in holes provided in the framework. The lower horizontal portion of the arm rests **24** are aligned with the horizontal run of the part **12***b* which form the side rails **19** and are spaced from the rails **19** by the spacers **21**.

The framework **10**, having a minimum of wooden frame members, is not perfectly rigid and would not normally serve in and of itself for general chair purposes. However, this frame construction is combined with a plastic shell as will now be described. The plastic shell shown and designated **50** provides the actual load-bearing surfaces of the seat and back of the chair. This plastic shell **50** is of unitary construction and typically it is "vacuum formed," or injection molded, and is preferably constituted of polyethylene or similar synthetic resin material. This material has the quality of being somewhat flexible, that is, of being resilient and capable of deformation when loaded. However, the plastic shell **50** is rigid enough so that when it is secured to the framework **10** it cooperates therewith to produce an extremely rigid chair.

The plastic shell **50** is contoured to fit the body of the user and its contour is matched to the contour of the framework **10** so that the shell **50** may be secured throughout substantially its entire perimeter. The plastic shell **50** is dish-shaped through most of its length, as may best be appreciated by reference to FIG. 5, so that it has a central concave portion **50***a* as seen in that figure and a flange-like portion **50***b* at which the shell **50** is secured to the framework. However, at its longitudinal extremities, that is, at the top section **50***c* of the portion forming the back of the chair, and at the forward section **50***d* of the portion forming the seat, there is no concavity.

It will be particularly noted by reference to the side elevation of FIG. 3 that the plastic shell **50** has a very straight profile except for the flaring outwardly of the upper portion of the back of the chair, and the flaring downwardly at the forward portion of the seat. Where it flares downwardly, it meets the bracing member **20** and its curvature thereat, that is, its downward curvature from one side of the chair to the other matches very closely the downward curvature of the bracing member **20**. In appearance, then, the bracing member **20** does not stand out as a separate element and seems to form part of the chair seat.

It will be particularly noted that the portions of the plastic shell **50** which define the seat and back of the chair are united by an arcuate section **50***x*. This arcuate section **50***x* finds its counterpart in the chair framework. Thus, the part **12***b* of the chair framework has an arcuate section **23** which joins the side rail **19**, defined by the horizontal run of the part **12***b*, with the upwardly extending portion **25** of part **12***b* that meets with a matching portion **27** so as to define together the back-supporting edge **16**.

In the assembly of the chair of the present invention a cushioning means is affixed to one side, i.e. the inner side of the shell that will be in contact with the user's body. This cushioning means is a supplement to the comfort provided by the flexibility of the shell **50**. The cushioning means consists of a layer **52** of foam rubber or like material. The layer of foam rubber is covered with a layer of fabric **54** and the fabric is extended so as to cover the outer side of the plastic shell **50**. The complete coverage of the plastic shell by the fabric **54** yields a very attractive finish for the chair. However, as noted previously, the shell need not be completely covered if the back side has a suitably attractive finish as is.

As can best be seen in FIG. 8, a technique in accordance with a specfic feature of the present invention is utilized for the securing of the shell **50** and for the securing of the cushion and fabric combination. As can clearly be seen in FIG. 8, the fabric **54** is in contact with the outer surface **50***c* and is conventionally adhered thereto by gluing, for example. The edge of the fabric **54** in contact with the outer surface **50***c* is seen to terminate in the space between the shell **50** and the framework **10**. A typical point of securing the shell **50** to the framework **10** is illustrated here, and either version of the upholstery attachment feature may be applied. That is to say, either the preferable way of first securing the shell to the framework may be followed, or the alternative way of first gluing the foam rubber to the inner side of the shell. In the first case, the staple gun **58** would be brought to bear before the foam rubber **52** is brought into actual contact with the shell **50**. The staple gun **58** is, of course, used to drive the staples **56** into the groove **50***f* and thence into the framework **10**. Then, the entire foam-rubber fabric combination is glued to the shell. The loose edge of the fabric **54** is tucked in under the shell **50**, typically by means of a spatula **60** as shown in FIG. 9.

In the alternative case, most of the foam rubber is already glued to the shell before the staples are driven. A margin of approximately ¾ to 1 inch which has not been glued is then peeled back to allow for affixing the staples. Then, after securing the shell around its entire perimeter, glue is applied to the margin of the foam rubber and to the loose edge of the associated fabric **54** and, as before, this loose edge is tucked under the shell **50**. It will be appreciated that the alternative technique necessitates a two-stage gluing operation, whereas the preferred technique involves only one.

Referring now to FIGS. 11 and 12 there is illustrated an alternative embodiment of a chair comprising a wooden framework and a plastic shell. The same numerals as were used with the preferred embodiment refer to like parts in the alternative embodiment. The essential difference from the preferred embodiment is that in this alternative embodiment the injection-molded plastic shell **50** is itself provided with the securing means. Thus, the shell is formed with hollow lugs **50***g* spaced around its perimeter. Alternatively, a continuous rib may be provided around all, or most, of the perimeter. These modifications of the shell use no molded foam rubber. In other words, the foam rubber-fabric combination that was previously used is dispensed with and comfort is provided by the shell itself.

As before, the plastic shell **50** is concave throughout most of its length except for the top section **50***c* of the chair back and the forward section **50***d* of the chair seat. However, the concavity in the chair back and seat is much shallower, as can be seen by reference to FIG. 12 which best illustrates the central region of the shell **50**, i.e. region **50***a*. The shell **50** in this instance is secured to the chair framework **10** by fitting the lugs **50***g* into appropriately spaced holes **62** provided in the framework **10**. The lugs **50***g* are, of course, glued into holes **62** for firm fastening of the shell **50** thereto. Similarly, if ribs are used they would be glued in a slot provided in the framework.

Referring now to FIG. 13, there is shown a completely distinct version of the chair of the present invention which utilizes the same principle heretofore described, i.e. of a minimum wood structure combined with a vacuum-formed plastic shell. But the configuration for the framework is totally different and the vacuum-formed shell likewise has a totally different configuration so as to conform to the configuration of the framework. The basic difference in the chair of FIG. 13 is that the side rails **19** formed by the horizontally-extending portion of the basic part **12***b* are at a higher level so as to constitute, in effect, arm rests. However, the same function as before is served by the side rails **19**, that is, they support the plastic shell **50**. The topmost portion **50***c* and the forwardmost portion **50***d* of the plastic shell have sub-

stantially the same shape as in the first embodiment. However, the plastic shell **50** is generally more in the shape of a bucket whose portion forming the seat for the chair has sides **50***j*. Outwardly extending flanges **50***k* are provided, and in their runs from the top of the chair back to the forwardmost portion of the chair seat they extend over the corresponding portions of the framework **10**. Thus, the flanges slope downwardly corresponding to the downward slope of the edge support **16** and then generally horizontally over the side rails **19**, and then downwardly again at the legs **18**. Thereby the entire perimeter of shell **50** may be secured to the chair framework **10** and the essential advantages of structural rigidity with the "free-standing" appearance for the chair are again realized.

This alternative embodiment of FIG. 13, of course, has the additional advantage that it has ready-made application as an arm chair without the necessity of affixing additional elements to the basic framework, but of course, it does not have the flexibility of the preferred embodiment which can be readily applied in either mode that is, as either a side chair or arm chair.

While there have been shown and described and pointed out the fundamental novel features of the invention as applied to the preferred embodiments, it will be understood that various omissions and substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

What is claimed is:

1. A chair construction comprising a wooden framework having a pair of side sections, each section comprising first and second frame members, the first frame member completely defining a rear leg, the second member completely defining a front leg and a side rail, the first and second members being joined together so as to define a back-supporting edge for said chair; a first bracing member connecting said side sections and joined thereto at the top of the chair back, another bracing member extending between said side sections so as to join the front legs; a unitary molded plastic shell defining the seat and back for the chair, said plastic shell being secured substantially along its entire perimeter to the framework; said first and second frame members being constituted of laminated wood stock, substantially all of whose layers have their grains running the entire length of each frame member.

2. A chair construction as defined in claim **1**, wherein said plastic shell is concave along most of its length and wherein said plastic shell flares outwardly at the top of the chair back, and flares downwardly at the forward portion of the chair seat.

3. A chair construction as defined in claim **1**, wherein said plastic shell includes a flange-like portion for securing said shell along its perimeter to the chair framework.

4. A chair construction as defined in claim **2**, wherein said plastic shell is secured at the top of the chair back to the first bracing member and at the forward portion of the chair seat to the other bracing member.

5. A chair construction as defined in claim **3**, wherein said plastic shell is also secured to the side rails and to the back-supporting edges.

6. A chair construction as defined in claim **2**, wherein the plastic shell is secured at the plurality of spaced points along its perimeter to the chair framework by means of staples located within grooves formed in said flange-like portion of said shell.

7. A chair construction as defined in claim **6**, wherein a foam rubber pad is secured to the inner side of said plastic shell and the plastic shell is covered with a fabric on both its inner and outer sides.

8. A chair construction as defined in claim **1**, including arm rests secured to the chair framework.

9. A chair construction as defined in claim **8**, wherein said arm rests are generally rectangular in shape and are secured at their lower horizontal run to the side rails.

10. A chair construction as defined in claim **1**, wherein said side rails define the arm rests of said chair.

11. A chair construction as defined in claim **1**, wherein said plastic shell is bucket-shaped and has side portions.

12. A chair construction as defined in claim **1**, wherein said side rails extend horizontally at a height corresponding to an arm rest position.

13. A chair construction as defined in claim **1**, wherein said plastic shell is injection-molded and includes a series of integral lugs spaced about the perimeter of said shell.

14. A chair construction as defined in claim **13**, wherein said chair framework includes holes into which said lugs are fitted.

15. A chair construction comprising a pair of wooden side sections, each side section being constituted by two frame members, the first frame member completely defining a rear leg, the other member completely defining a front leg and a side rail, the two members being joined together to define a back-supporting edge for said chair; a unitary molded plastic shell defining a seat and back for the chair, said shell being generally dish-shaped and having a marginal flange-like portion extending around the entire perimeter of said shell, said marginal portion including a groove for receiving means for securing said shell to the chair framework.

16. A chair construction as defined in claim **15**, wherein said plastic shell is concave along most of its length and wherein said plastic shell flares outwardly at the top of the chair back, and flares downwardly at the forward portion of the chair seat.

17. A chair construction as defined in claim **15**, wherein said plastic shell includes a flange-like portion for securing said shell along its perimeter to the chair framework.

18. A chair construction as defined in claim **16**, wherein said plastic shell is secured at the top of the chair back to the first bracing member and at the forward portion of the chair seat to the other bracing member.

19. A chair construction as defined in claim **17**, wherein said plastic shell is also secured to the side rails and to the back-supporting edges.

20. A chair construction as defined in claim **6**, wherein the plastic shell is secured at a plurality of spaced points along its perimeter to the chair framework by means of staples located within grooves formed in said flange-like portion of said shell.

21. A chair construction as defined in claim **20**, wherein a foam rubber pad is secured to the inner side of said plastic shell and the plastic shell is covered with a fabric on both its inner and outer sides.

22. A chair construction as defined in claim **15**, including arm rests secured to the chair framework.

23. A chair construction as defined in claim **22**, wherein said arm rests are generally rectangular in shape and are secured at their lower horizontal run to the side rails.

24. A chair construction as defined in claim **15**, wherein said side rails define the arm rests of said chair.

25. A chair construction as defined in claim **15**, wherein said plastic shell is bucket-shaped and has side portions.

26. A chair construction as defined in claim **15**, wherein said side rails extend horizontally at a height corresponding to an arm rest position.

27. A chair construction as defined in claim **15**, wherein said plastic shell is injection-molded and includes a series of integral lugs spaced about the perimeter of said shell.

28. A chair construction as defined in claim **27**, wherein said chair framework includes holes into which said lugs are fitted.

29. A method of attaching upholstery to a chair, said chair comprising a wooden framework and a unitary

molded plastic shell defining the seat and back for the chair, comprising the steps of securing an upholstery pad to the inner side of said shell, said upholstery pad having a marginal portion extending around the perimeter of said shell and being adapted to cover a flange-like member, having a groove, defining the edge of said shell; bringing said plastic shell into contact at its flange-like member with the chair framework; affixing securing means at spaced points along said groove into the chair framework; and covering the flange-like member with the marginal portion of said pad.

30. A method of attaching upholstery as defined in claim **29**, wherein said upholstery pad is initially secured to the inner side of said shell with a marginal portion left unsecured, said plastic shell is thereafter brought into contact at its flange-like member with the framework and the marginal portion of the upholstery pad is lifted so as to expose said groove, and, thereafter, said marginal portion of said pad is secured so as to cover said flange-like member.

31. A method of attaching upholstery as defined in claim **29**, including the further steps of covering the pad with a fabric and tucking in the edges of the fabric under the flange-like member.

32. A method of attaching upholstery as defined in claim **29**, comprising the further step of securing a layer of fabric to the outer side of said shell.

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