Aug. 18, 1953 R. S. SANFORD ET AL 2,649,146

BARREL CHAIR

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Fig. 1

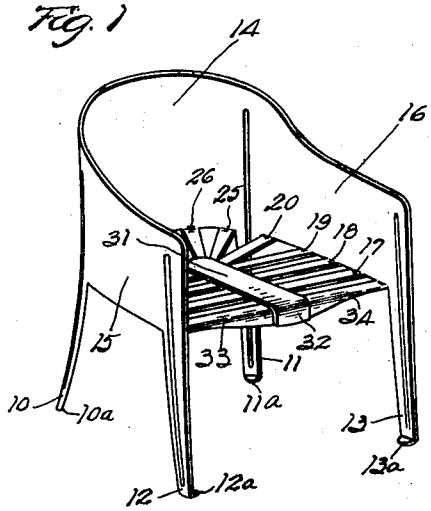


Fig. 3

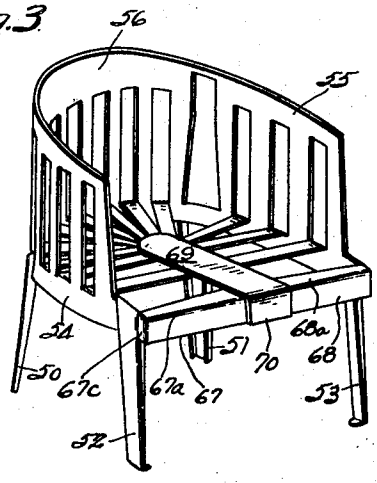


Fig. 2.

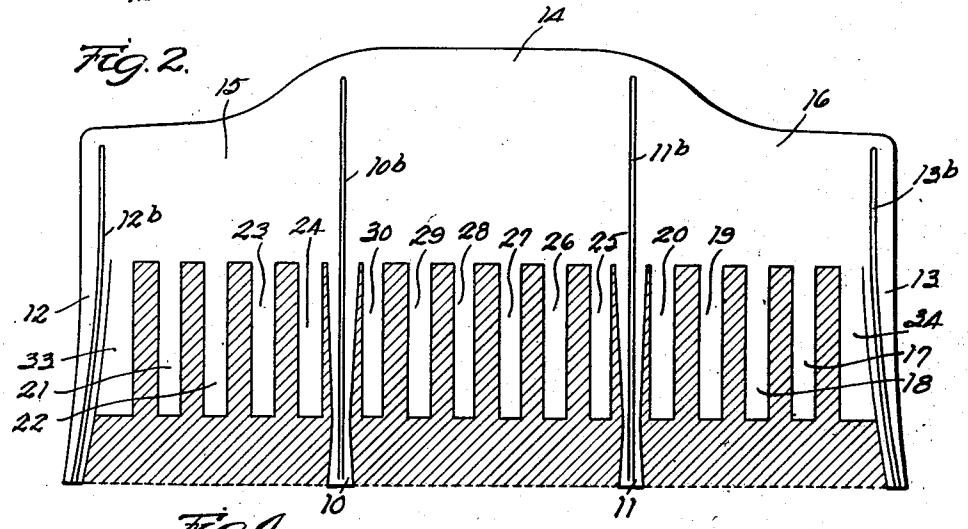
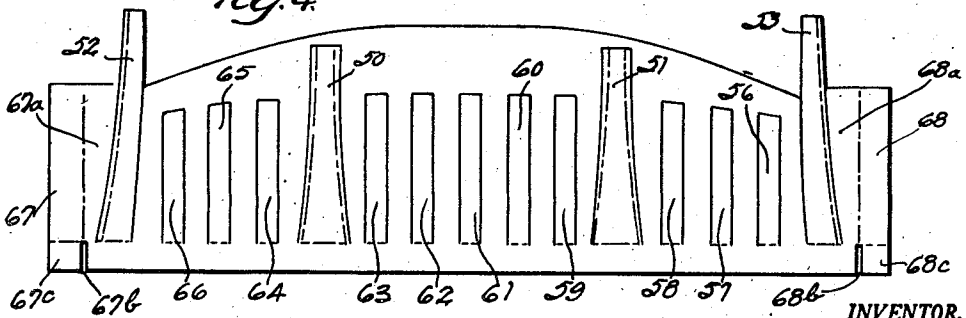


Fig. 4.



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BARREL CHAIR

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10 Claims. (Cl. 155—191)

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This invention relates to an article of furniture and has particular relation to a barrel type chair which is formed by shaping a stamped and cut planar sheet of material and securing said thus bent and shaped material into chair form.

The advantages and objects of the invention will be apparent from a reading of the ensuing description which is given in connection with the following drawings, in which

Fig. 1 is a perspective view of a chair embodying the invention;

Fig. 2 is a plan view showing the manner of cutting and stamping a material sheet intended to be bent and shaped into the chair of Fig. 1;

Fig. 3 is a perspective view of another chair embodying the hereinafter described invention; and

Fig. 4 is a plan view of the sheet of material which is stamped and cut to be bent and shaped to eventuate the chair of Fig. 3.

The chair of Fig. 1 comprises rear legs 10 and 11 and front legs 12 and 13. The chair has a solid barrel-shaped back 14 and solid side portions 15 and 16. The seat is of lattice formation, the lattice members 17, 18, 19 and 20 on the right-hand side thereof (viewed from the front of the chair) and members 21, 22, 23 and 24 on the left-hand side being bent out respectively from the solid portions 16 and 15, respectively. Additional lattice members, i. e. members 25, 26, 27, 28, 29 and 30 are bent out from the rear solid portion.

The free ends (the ends opposite to the hinged ends) of the lattice members 17 to 30, inclusive, are secured to a central reinforcing member 31 by welding or otherwise; for instance, the free ends of these lattice members may be tucked into a slot formed on the under side of member 31. It is not therefore to be understood that the mention of welding as a desirable means of securing the free ends of these lattice members to the supporting member 31 is restrictive of what can be done in accordance with present invention. The front end of member 31 is bent downwardly at 32 to overlie and secure in the ends of chair front forming members 33 and 34 which latter are bent from the side portions 15 and 16, respectively, just inside of the front leg members.

The blank sheet of material from which the chair of Fig. 1 is formed is illustrated in Fig. 2, this sheet being stamped and cut along the indicated lines. The dotted line at the bottom indicates the original boundary of that portion of the sheet and the shaded area designates the material which is freed from the blank by the

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indicated cutting and which is discarded prior to the bending of the material to form the chair. It will further be noted that double scores 10*b*, 11*b*, 12*b* and 13*b* are formed in the portions which are to constitute the four leg members. These scored portions extend up into the barrel body of the chair for purposes to be hereinafter described.

The chair of Fig. 1 is formed from the stamped and cut sheet blank of Fig. 2 by bowing the sheet about the indicated center line. The seat forming strips 17 to 30 are then hingedly bent into horizontal position as are also members 33 and 34. The free ends of all of the thus bent strips may be secured to the immediately adjacent free end of a similar strip to eventuate an integrally formed chair seat. The joinder of the free ends of 33 and 34 determines the over-all transverse dimension of the front portion of the chair.

However, as shown in Fig. 1 it is at times desirable, not only to add strength to the structure but also to form a more pleasing and artistic design, to use a separate supporting strip 31. The front portion 32 of this strip is bent forwardly and downwardly to embrace the free ends of 33 and 34. Thus the joinder of said free ends 33 and 34 is made on the inside of the tongue portion 32 with resultant advantage both from the artistic and structural standpoints. The free ends of the other seat forming strips are also secured to the under side of the member 31.

The scored portions 10*b*, 11*b*, 12*b*, 13*b* enable the bending of the leg portions if desired or in any event furnish a desirable feature from the standpoint of appearance. Moreover the bottoms of the leg members 10, 11, 12, 13 can be stamped in hemispheric form and then turned into flat leg ends as shown at 10*a*, 11*a*, 12*a*, 13*a* if desired. Such stamping is not shown on Fig. 2 having been carried out in the particular structure shown at a later time. It is to be understood, however, that the blank may be initially stamped to provide for such leg end formations.

Moreover it will be noted that the shape of the frontmost seat forming strips 33 and 34 permits them to be rounded and bent into a substantial 90° cross section in the points where the ends thereof are embraced and secured under the forward tongue 32 of member 31.

Whereas the chair in Fig. 1 is formed from a blank as shown in Fig. 2, it is possible because of the conception herein disclosed to form a barrel type chair from a sheet of appreciably less square footage. Such a chair and the sheet comprising the basis thereof are shown in Figs.

3 and 4. It will be noted that the back and sides of the chair are not solid inasmuch as both the leg portions and the seat portions are stamped out of and bent from a sheet of material which is comparatively markedly narrower than the sheet used to form the Fig. 1 chair (see relative areas of material sheets in Figs. 2 and 4).

The chair of Fig. 3 comprises rear leg members **50** and **51** and front leg members **52** and **53**, apertured side portions **54** and **55**, an apertured back portion **56** and a lattice type seat portion, all of the foregoing structure being supported by said leg members **50** to **53**. The seat portion of the chair comprises a plurality of seat forming strips **56, 57, 58, 59, 60, 61, 62, 63, 64, 65** and **66** and the front of the chair comprises combined seat and front members **67** and **68**. The free ends of all of the seat members are secured to the underside of a central support and securing member **69** which has a forwardly and downwardly extending tongue portion **70**. As will hereinafter be further explained the seat forming strips **56—66** and the leg members **50** and **51** are bent hingedly out of the back and side portions of the chair to eventuate a series of vertical relatively narrow openings in said sides and back.

Fig. 4 illustrates the manner of stamping and cutting a sheet which is to be shaped into the Fig. 3 chair. It will be observed that no shaded to-be-discarded portions are indicated wherefrom it follows that very little material is wasted in forming a Fig. 3 chair. The numerals designate the same portions in the Fig. 4 sheet illustration as they do in the completed chair of Fig. 3. The dotted lines on Fig. 4 indicate the lines along which certain members are hinged and/or folded to form the Fig. 3 structure.

Here again the sheet is originally bowed about the vertically extending centerline and the various cut-out strips are then turned hingedly out of their originally formed position. The seat forming strips **56—66** are turned into a horizontal position. The leg members **50—53** inclusive are bent 180° from their original cut-out position. It will be observed that the rear legs **50** and **51** are provided with folding scores close to the vertically extending edges thereof. This permits the formation of the rear legs as may best be observed in connection with leg **51** in Fig. 3.

The front legs **52** and **53** are scored near that vertical edge thereof which will be at the front of the completed chair thereby to permit the 90° folding of a narrow portion as shown in Fig. 3. Incidentally it will be noted that the front leg members **52—53** are cut somewhat longer than the rear leg members **50—51** thereby to provide additional material from which to form a hemispherical foot and which will also make the front legs sufficiently longer than the rear legs so as to cause a slight backward tilt of the seat portion of the chair.

As the seat members **56** to **66** are folded downwardly into the horizontal position so also are the front members **67** and **68**. Those portions of **67** and **68** which are closest to the leg members **52** and **53** (indicated as **67*a*** and **68*a***) are wider at their free ends than they are at the points about which they are hingedly swung into horizontal position. Score lines are formed between **67** and **67*a***, and between **68** and **68*a***. Moreover at the bottoms of each of these portions **67** and **68** cut-outs **67*b*** and **68*b*** produce lower tabs **67*c*** and **68*c*** which are foldable about the illustrated score lines, in the hereafter explained manner. Reference to Fig. 3 will illustrate the manner in which the entire portions **67** and **68** are first folded unitarily into horizontal position, thereafter the portions **67*a*** and **68*a*** with the accompanying tabs **67*c*** and **68*c*** are folded about the score line into such position that the plane of **67** and **68** is vertical. Finally the tabs **67*c*** and **68*c*** are bent backwardly and if desired tucked under the downwardly extending legs **52** and **53**. The supporting member **67—68** is then placed over and secured to the free ends of the thus hingedly disposed members.

While we have shown particular embodiments of our invention, it will be understood, of course, that we do not wish to be limited thereto since many modifications may be made, and we, therefore, contemplate by the appended claims to cover any such modifications as fall within the true spirit and scope of our invention.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. A chair having side, back, leg and seat portions formed from an integral piece of sheet material, said side and said back portions comprising the main body of said sheet material, said leg portions comprising integral members depending from said main body, and said seat portion comprising a plurality of spaced members extending inwardly and toward each other from the surfaces of said side portions and said body portion, said spaced members being secured together adjacent their inner ends.

2. A chair having side and back portions integrally formed from a single piece of sheet material having a cylindrical surface about a substantially vertical axis and having a lower edge, leg portions integral with said sheet material and depending from said edge, and a seat portion comprising a plurality of members also integral with said sheet material and extending inwardly and toward each other from the surfaces of said side portions and back portion, said members being secured together adjacent their inner ends.

3 A chair having side and back portions integrally formed from a single piece of sheet material having a cylindrical surface about a substantially vertical axis and having a lower edge, leg portions integral with said sheet material and depending from said edge, and a seat portion comprising a plurality of spaced members also integral with said sheet material and extending out of the surface thereof inwardly and toward each other from said side and said back portions, said strips being secured together adjacent their inner ends.

4. The chair recited in claim 3 wherein a pair of said spaced members forming the front edge of said seat portion include a downwardly extending flange.

5. A chair having side and back portions integrally formed from a single piece of sheet material into a substantially U-shaped cross-sectional configuration about a substantially vertical axis and having a lower edge, leg portions integral with said sheet material and depending from said edge, and a seat portion comprising a central reinforcing member and a plurality of flat spaced members also integral with said sheet material and extending out of the plane thereof but in a substantially common plane inwardly and generally radially toward each other from said side and said back portions, the inner ends of said spaced members being secured to the under surface of said reinforcing member.

6. A chair having side and back portions integrally formed from a single piece of sheet ma-

terial about a substantially vertical axis and having a lower edge, leg portions integral with said sheet material and depending from and forming a continuation of said edge, and a seat portion comprising a plurality of spaced strips also integral with said sheet material and each forming a continuation of said edge extending upwardly and inwardly toward each other from said lower edge, the inner ends of said strips being secured together.

7. A chair having side and back portions integrally formed from a single piece of sheet material of substantially U-shaped configuration about a substantially vertical axis and having continuous upper and lower edge portions, leg members struck out from a central area of said sheet material and extending downwardly in a substantially vertical direction from said lower edge portion, a plurality of spaced strips also struck out from a central area of said sheet material forming a plurality of spaced apertures in said side and back portions terminating adjacent said continuous upper and lower edge portions, said strips being integral with said sheet adjacent said lower edge portion and extending inwardly therefrom toward each other, said strips being secured together at their free inner ends to form a seat for said chair.

8. The method of forming a chair from a single sheet of material which comprises cutting said sheet to eventuate side portions, a back portion, leg portions and a plurality of spaced seat members cooperating to form a seat portion, bending the cut sheet about an axis substantially parallel to the sheet and substantially vertical to the resulting seat portion, thereafter bending said seat members inwardly toward each other and generally toward said axis, and then securing the inner ends of said seat members to a centrally located reinforcing strip intersecting said axis to form said seat portion.

9. The method of forming a chair from a single sheet of material which comprises cutting said sheet to eventuate a back portion and side portions having a lower peripheral edge and having a plurality of spaced leg portions and a plurality of spaced seat members depending from said edge and constituting a continuation of said sheet, bending the cut sheet about an axis spaced from and substantially perpendicular to the plane of said edge portion whereby said edge portion assumes a generally U-shaped configuration, thereafter bending said spaced seat members upwardly and inwardly toward each other, and then securing the inner ends of said seat members to a centrally located reinforcing strip intersecting said axis to form a seat portion for said chair.

10. The method of forming a chair from a single sheet of material which comprises cutting said sheet to eventuate a back portion and side portions having a lower peripheral edge and to eventuate leg portions and seat members within the area of said sheet constituting said back and side portions, said leg portions and seat members being severed from said sheet except at adjacent said lower peripheral edge, bending the cut sheet about an axis spaced from and perpendicular to said edge portion whereby said edge portion assumes a generally U-shaped configuration with said leg portions and said seat members remaining within the area of the bent sheet, thereafter bending said leg portions about 180° out of the plane of said area to form legs extending downwardly from said edge and bending said seat members inwardly toward each other, and then securing the inner ends of said seat members to a centrally located reinforcing strip intersecting said axis to form a seat portion for said chair.

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