Jan. 3, 1967 M. PEARLSTINE 3,295,590

FURNITURE

Filed Feb. 14, 1964

FIG. 1

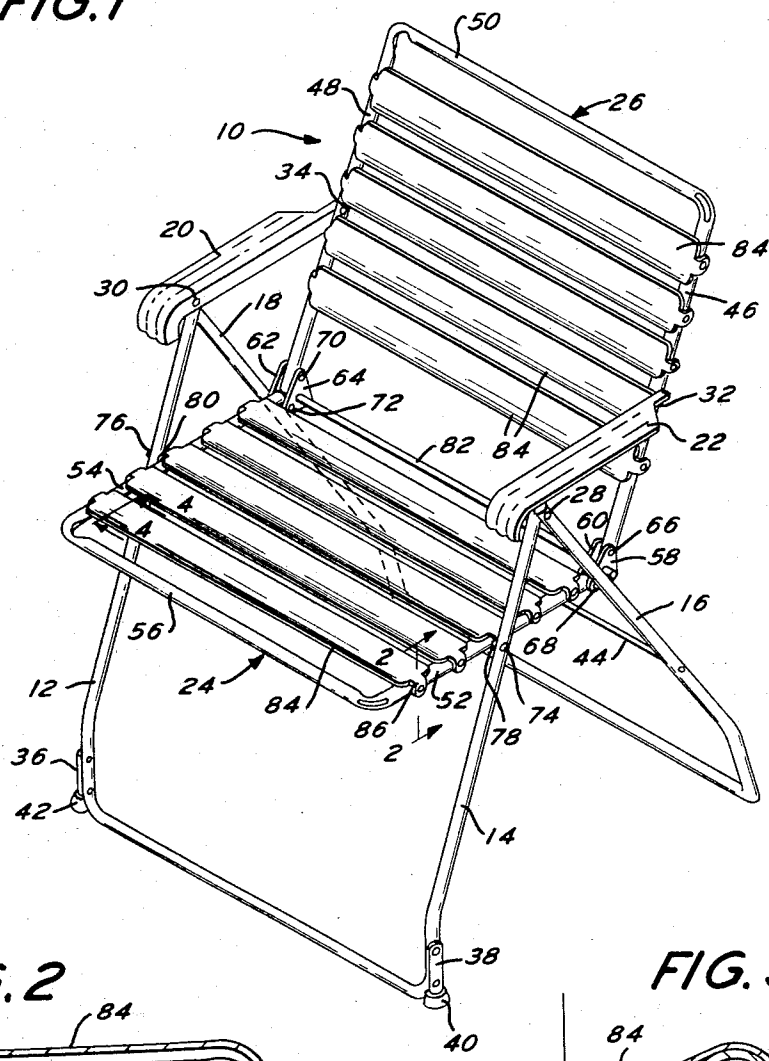


FIG. 2

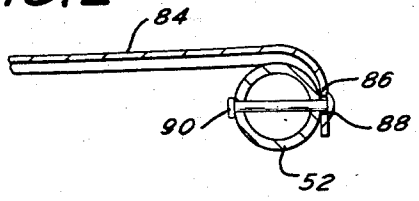


FIG. 3

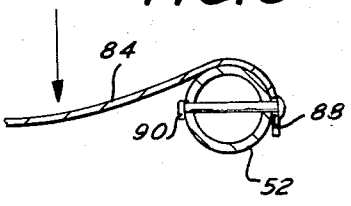
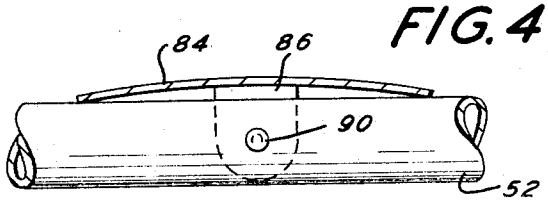


FIG. 4



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FURNITURE

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6 Claims. (Cl. 160—327)

This invention relates to an article of furniture. More particularly it relates to an article of furniture, although made of materials other than fabric, is constructed to give the feel of fabric when in use.

It is often desirable to construct the seat and back portion of furniture from material other than fabric. Materials such as metal and plastic have the advantages of being more durable and easier to maintain. This is particularly important in outdoor furniture which may be exposed to the weather. Heretofore, while such materials have been used to overcome the disadvantages of fabric, they have failed to duplicate the feel and inherent comfort of fabric.

It has been found that furniture can be constructed using materials other than fabric, and yet such furniture will have the feel and inherent comfort of fabric. Thus, the present invention overcomes the major disadvantage of the prior art. The present invention solves the problem of prior art by providing flexible slat members, shaped and attached to the furniture frame in a novel manner. In particular, each flexible slat member is shaped and fastened to its supporting frame in such a manner that, except for its side edges and the point where it is fastened, it stands away from the frame when no load is applied to it. When, however, a load is applied to it, such as a person sitting on the furniture, it gives and bends around the frame. The result is that the person using the furniture is given the feeling that he would have if the material were fabric.

It is an object of this invention to provide a novel article of furniture.

It is another object of this invention to provide a novel article of furniture using materials other than fabric yet giving the feel of fabric to the user.

It is yet another object of this invention to provide an article of furniture constructed in a novel manner of materials other than fabric, yet retaining the feel and inherent comfort of fabric.

Other objects will appear hereinafter.

For the purpose of illustrating the invention, there is shown in the drawings a form which is presently preferred; it being understood, however, that this invention is not limited to the precise arrangements and instrumentalities shown.

FIGURE 1 is a perspective view of a chair constructed in accordance with this invention.

FIGURE 2 is a cross sectional view taken along the line 2—2 of FIGURE 1, showing a slat in its unloaded position.

FIGURE 3 is the same as FIGURE 2, showing the slat in its loaded position.

FIGURE 4 is a view taken along the line 4—4 of FIGURE 1, showing the slat in its unloaded position.

Referring to the drawing in detail, wherein like numerals indicate like elements, there is shown in FIGURE 1 a chair generally designated as **10**. Although chair **10** has been chosen as the embodiment in which to describe the invention, it is obvious that the invention is not limited to this specific embodiment.

The chair shown in FIGURE 1 is collapsible. It comprises legs **12**, **14**, **16** and **18**, arms **20** and **22**, seat frame **24**, and back frame **26**. Legs **12** and **14** are formed from a continuous piece of tubing bent in a U-shape. Legs

16 and **18** are formed in the same manner. Leg **14** is pivotably joined to leg **16** and arm **22** by conventional means **28**, such as threaded fasteners or rivets. Legs **12** and **14** and arm **20** are similarly pivotably joined by conventional means **30**. Each of arms **20** and **22** is pivotably joined to back frame **26** at **32** and **34** by means which may be the same as used for joining the legs to the arms. Curved plates **36** and **38** are riveted or otherwise fastened to the lower portion of legs **12** and **14**. The bottom part of curved plates **36** and **38** is cylindrical, and tips **40** and **42**, made of rubber, plastic or other slide resistant material, are fitted thereon to prevent the chair from sliding. Rod **44** extends horizontally between legs **16** and **18** to provide lateral support therefor.

Back frame **26** is formed from a continuous piece of U-shaped tubing, and as such it comprises parallel frame members **46**, **48** and cross member **50**. Seat frame **24** is constructed in the same manner as back frame **26**, and comprises parallel frame members **52**, **54** and cross member **56**. Parallel frame members **46** and **52** are pivotably joined at **66** and **68** to triangular plates **58** and **60** spaced on either side of said parallel frame members. Parallel frame members **48** and **54** are pivotably joined to spaced triangular plates **62** and **64** at **70** and **72** in the same manner as parallel frame members **46** and **52**. The means used to join said parallel frame members to said triangular plates may be rivets, threaded fasteners or other conventional means.

Parallel frame members **52** and **54** are pivotably joined to the inside of legs **14** and **12**, respectively, by means of either threaded fasteners or rivets **74** and **76**. Washers **78** and **80** may be provided between said legs and said parallel frame members. Rod **82** is parallel to cross members **50** and **56** and extends through and beyond triangular plates **58** and **62**. Said rod **82** is prevented from moving longitudinally in said triangular plates by crimping or other conventional means. As shown in FIGURE 1, when chair **10** is in its open position, rod **82** rests against legs **16** and **18**, and thereby supports the back of seat frame **24** and the bottom of back frame **26**.

To form the seat and back of chair **10** flexible spaced slats **84** are provided. Said slats are made of a strong flexible material such as steel tempered to provide a spring-like action. Other strong flexible materials, of course, may be used. Bent tabs **86** depend from both sides of slats **84** and are provided with holes **88** through which fasteners **90** extend, such as rivets **90**.

Referring now to FIGURES 2 and 4 where the detailed structure of the connection between slat **84** and parallel frame member **52** is shown, it can be seen that in its unloaded position slat **84** stands away from the frame structure. As shown in FIGURE 4, slat **84** is curved about its longitudinal axis, and makes contact with the top of frame member **52** only at its edges. Bent tab **86** is equidistant from the edges of slat **84** and makes contact with parallel frame member **52** only in the area of hole **88**. As shown, hole **88** is larger than the body portion of fastener **90**. Thus, tab **86** is loosely held in contact with parallel frame member **52**. It should be noted that although tab **86** is free to move in the vertical plane, it has no freedom of movement in the horizontal plane.

FIGURE 3 shows the position assumed by slat **84** and tab **86** after a load, represented by the arrow, has been applied to it. The load would in the usual case be the body of a person sitting in chair **10**. The effect of the load is twofold. First, it forces the slat **84** flat and across its width against parallel frame member **52**. Second, slat **84** bends around parallel frame member **52** such that it makes contact with it over an arcuate angle of 90° or greater.

From the foregoing, it is apparent that slats **84** give or bend in two right angular directions. This give is

exclusive of any small flexure in the parallel frame members. The give simulates the action of fabric under load, and to the person sitting in chair **10** feels as if he is sitting on fabric.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and, accordingly, reference should be made to the appended claims, rather than to the foregoing specification as indicating the scope of the invention.

I claim:

1. An article of manufucture comprising spaced frame members, flexible slat means, said slat means extending partially around said frame members, said slat means including flexible material curved about its longitudinal axis and tab means depending from the ends thereof, the edges of said curved material resting on said frame members to cause said slat means to substantially stand away from said frame members when under no load and to make arcuate contact with said frame members when a load is applied thereto, and connecting means including said tab means for securing said slat means to said frame members.

2. An article of manufacture in accordance with claim **1**, wherein said connecting means includes a fastener member extending through a hole in said tab means, each hole being larger than the cross sectional area of the fastener member extending therethrough.

3. In an article of furniture comprising spaced parallel frame members and slat means extending between said frame members, said slat means including flexible material curved about its longitudinal axis and bent tab means depending from the ends thereof, fastener means to loosely secure said slat means to said frame members, said curved flexible material, said bent tab means, and said fastener means cooperating to make said slat means substantially stand away from said frame members under

no load conditions and to bend around and make arcuate contact with said frame members when a load is applied thereto.

4. In an article of furniture comprising parallel frame members, at least one flexible slat member, said slat member having tab means at its ends, said slat member extending partially around said frame members, said slat member being secured by connecting means including said tab means to said frame members, said slat member having an arcuate cross section, said arcuate cross section and said tab means cooperating to cause said slat member to substantially stand away from said frame members when no load is applied to said slat members.

5. The article of manufacture in accordance with claim **4** wherein said slat member securely engages said portion of said frame members which said slat member extends partially around when a load is applied to said slat member.

6. In an article of furniture in accordance with claim **5** wherein said connecting means includes a rivet which extends through an oversized hole in said tab means into said frame means.

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