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SEAT CONSTRUCTION FOR UPHOLSTERED FURNITURE

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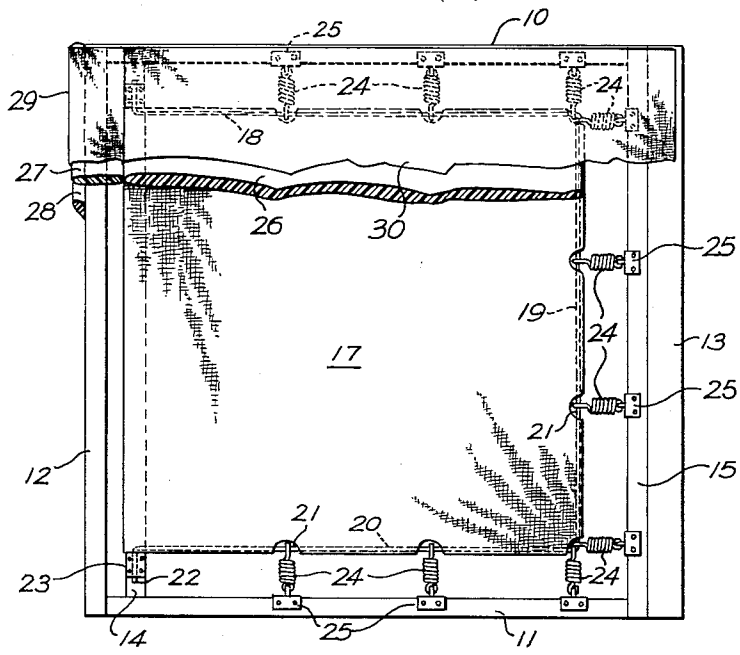


FIG. 1

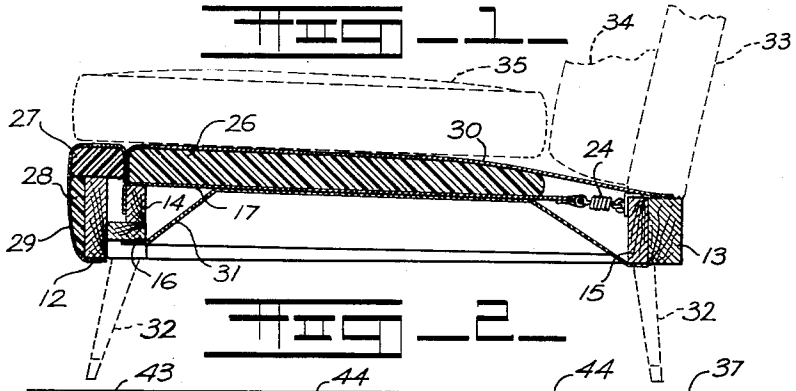


FIG. 2

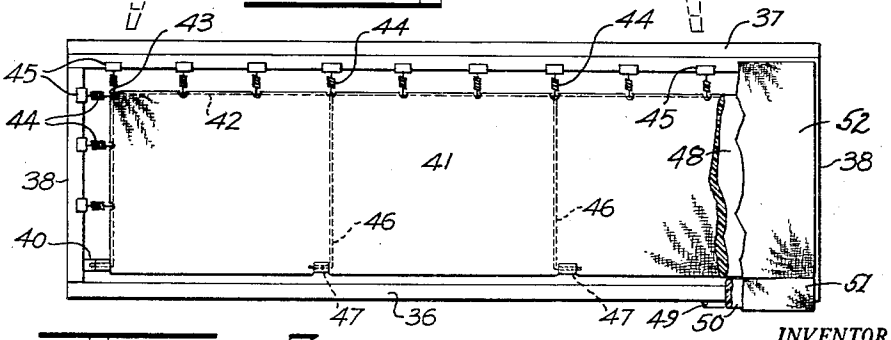


FIG. 3

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SEAT CONSTRUCTION FOR UPHOLSTERED FURNITURE

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This invention relates to upholstered furniture and more particularly to an improved seat construction for such furniture.

The principal object of the invention is the provision of a seat construction for upholstered furniture providing a satisfactory depth of seating in a minimum of vertical space.

A further object of the invention is a provision of a seat construction for upholstered furniture in which a resilient body of urethane foam is positioned on a yieldable support as a base construction for seat cushions in the furniture.

A further object of the invention is the provision of a seat construction for upholstered furniture in which a maximum depth of seating is obtained in a minimum amount of space through the use of urethane foam characterized by its ability to be compressed into an exceedingly small space.

A still further object of the invention is the provision of a seat construction for furniture which provides a sturdy and long lasting construction suitable for supporting the seat cushions in the furniture and capable of retaining its desired height and shape despite repeated distortions.

A still further object of the invention is the provision of a seat construction for upholstered furniture that may be quickly and inexpensively formed and which will provide a cushioned structure comparable in all respects with the metal spring constructions heretofore used for such purposes. The seat construction disclosed herein comprises an improvement in the art of seat constructions in upholstered furniture. It has heretofore been customary to utilize metal springs of one form or another in the base portion of the furniture for supporting the seat cushions. Such metal spring constructions require a rather substantial overall height which necessitated the formation of the furniture wtih a rather thick, bulky base portion. Such constructions are not capable of being effectively used in the so-called Danish or Scandinavian furniture designs where the total seat thickness is relatively thin. In producing upholstered furniture such as chairs and sofas, it is highly desirable to provide a depth of seating comparable with that of the known and accepted metal spring constructions heretofore generally used. The present invention relates to a construction which utilizes a section of urethane foam supported on a thin support member and provides a depth of seating heretofore impossible to obtain without metal spring constructions of several times the thickness or height of the present construction.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawings, wherein:

FIGURE 1 is a top plan view of a base portion of an upholstered chair frame with the improved seat construction, parts being broken away.

FIGURE 2 is a vertical section through a base portion of an upholstered chair frame showing the improved seat construction.

FIGURE 3 is a top plan view of a sofa showing the improved seat construction, with parts broken away.

By referring to the drawings and FIGURE 1 in particular, it will be seen that a base of an upholstered chair frame has been disclosed which includes side rails **10** and **11** and front and back rails **12** and **13**; secondary front and back rails **14** and **15** are positioned adjacent the front and back rails **12** and **13** respectively. The secondary front rail **14** is secured to a transversely positioned rail **16** so that the secondary rail **14** is spaced with respect to the front rail **12**. A sheet of material **17** such as woven jute, burlap, or rubber or plastic sheeting is attached to the secondary front rail **14** along the forward side thereof as best seen in FIGURE 2 of the drawing. The sheet of material **17** is hemmed at its other three edges as at **18**, **19** and **20** and a steel rod **21** of general U shape with outturned end portions **22** is positioned in the hems **18**, **19** and **20** with the outturned ends **22** secured to the secondary rail **14** by a pair of brackets **23**. A plurality of springs **24** are engaged on the steel rod at spaced intervals along its three sides and are in turn secured to brackets **25** which are attached to the side rails **10** and **11** and the secondary back rail **15**. The springs **24** engaging the rod **21** tension the material **17** and provide a suitable supporting member in the construction. By referring now to FIGURES 1 and 2, it will be seen that a section **26** of urethane foam is positioned directly on the sheet material **17** and is supported thereby. Two elongated sections **27** and **28** of urethane foam are positioned on the top and front surfaces respectively of the front rail **12** and a section of fabric **29** is secured to the bottom of the front rail **12** and brought upwardly and rearwardly over the sections **27** and **28** of urethane foam and then downwardly and secured to the front of the secondary front rail **14**. Another section of fabric **30** is secured to the front of the secondary front rail **14** and extended rearwardly over the top of section **26** of urethane foam and secured at its rearmost edge to the back rail **13**. The sections of fabric **29** and **30** may be muslin or any other fabric or they may comprise sections of the upholstery material used on the furniture.

By referring to FIGURE 2, it will be seen that an apron **31**, which comprises a section of suitable fabric, is secured to the bottom of the transversely positioned rail **16**, brought upwardly and attached to the flexible material **17** extended rearwardly therebeneath and then brought downwardly and secured to the back rail **15**. The apron **31** provides a finished appearance on the bottom of the construction. Legs **32** are secured to the back rail **13** and to the transversely positioned rail **16** so that the construction is supported thereon.

The seat construction illustrated in FIGURES 1 and 2 is that used in a chair and dotted lines in FIGURE 2 indicate the positioning of the back **33** of the chair frame, the back cushion **34** and the seat cushion **35**. It will be understood by those skilled in the art that the back **33** may be formed in the same manner as the seat construction just described.

The seat construction disclosed herein possesses the unique ability of providing a very desirable depth of seating due to the unique compressibility of the urethane foam section **26** as well as the section used in the seat cushion **35**. Those skilled in the art will observe that the total depth of the construction is very shallow as compared with the constructions heretofore known in the art which utilized metal springs. This shallow depth permits the upholstered furniture to be positioned on long slim legs giving it a light and airy look and conforming with the desired Danish or Scandinavian furniture de-

signs while at the same time providing an extremely comfortable and practical construction. It will occur to those skilled in the art that when the sheet material **17** is formed of rubber or resilient plastic the springs **24** may be dispensed with and the resiliency of the material itself depended upon to suitably support the section **26** of urethane foam. In such event, the four sides of the section **17** are secured directly to the front, side and back rails **14**, **11**, **12** and **15** of the furniture frame in exactly the same manner as the front edge of the sheet material **17** is shown and illustrated herein. In such event, the U-shaped rod **21** is also omitted.

By referring to FIGURE 3 of the drawings, a seat construction for a sofa may be seen wherein a frame comprising a front rail **36** and a back rail **37** and side rails **38** and **39** is provided with a secondary front rail **40** positioned in spaced relation to the front rail **36** in exactly the same manner as the secondary front rail **14** heretofore described. Sheet material **41** is secured at its front edge to the secondary front rail **40** and its back and sides are hemmed as at **42** and a rod **43** is positioned therethrough and supported by a plurality of springs **44** secured to brackets **45**. In the sofa seat construction a pair of additional rods **46** are secured to brackets **47** on the secondary front rail **40** and extend backwardly beneath the sheet material **41** and are secured to a pair of the springs **44**. The rods **46** provide additional support under the center section of the construction so that there will be no tendency of the sheet material **41** to sag.

When rubber or plastic sheet material **41** is used the springs **44** and the rods **42** may be omitted from the construction. The seat construction illustrated in FIGURE 3 is finished by adding a rectangular section **48** of urethane foam in exactly the same manner as the urethane foam section **26** in FIGURE 2 and heretofore described and elongated sections **49** and **50** of urethane foam are positioned on the front and upper surfaces of the front rail **36** in the same manner as the sections **27** and **28** of urethane foam heretofore described in FIGURE 2. Sections of fabric **51** and **52** are applied to hold the several sections **48**, **49** and **50** of urethane foam in desired position in the seat construction as heretofore described in FIGURE 2 of the drawings.

It will thus be seen that a seat construction for upholstered furniture has been disclosed which may be used in chairs and sofas and the like and which seat construction, though the utilization of urethane foam and the means of supporting and positioning it in the construction meets the several objects of the invention.

Having thus described my invention what I claim is:

1. A seat construction for upholstered furniture comprising in combination a frame having front, back and side rails, secondary front and back rails positioned in co-axial relation to said front and back rails, a section of flexible sheet material secured to said secondary front and back rails and stretched therebetween and secured at its side edges to said side rails, and a first section of urethane foam positioned on said section of flexible sheet material, additional sections of urethane foam positioned on said front rail and separate sections of flexible sheet material one of which is secured to said frame and positioned over said additional sections of urethane foam on said front rail so as to hold said foam in position thereon and another one of which is secured to said secondary front rail and to said back rail and positioned over said first section of urethane foam so as to hold the same in position on said first mentioned section of flexible sheet material.

2. The seat construction set forth in claim 1 and wherein the first mentioned section of flexible material comprises resilient rubber-like sheeting.

3. The seat construction set forth in claim 1 and wherein said first mentioned section of flexible material comprises a section of fabric having three edges thereof hemmed and secured at its fourth edge to said secondary front rail, rods disposed one in each of said hemmed edges, brackets positioned on said side and secondary back rails and springs positioned between said rods and said brackets and tensioning said flexible material.

4. A seat construction for upholstered furniture including a frame having front and back and side portions spaced with respect to one another and secured at their ends to one another, said front portion of said frame comprising a first frame member and an L-shaped second frame member secured thereto longitudinally thereof to form a channel open at its top, said second frame member positioned on the inner side of said first frame member, a first section of thin flexible material secured to the front of said second frame member and to the front of said back portion and to said side portions and stretched tightly therebetween, a flat section of urethane foam disposed on said first section of thin flexible material, a second section of urethane foam positioned in front of and over said first frame member of said frame and a second section of thin flexible material secured to said first frame member and said second frame member and covering said second section of urethane foam thereon.

5. The seat construction set forth in claim 4 and wherein said first and second sections of material are resilient.

6. The seat construction set forth in claim 4 and wherein said first section of material is attached to helical springs at its side and back edges and wherein said helical springs are attached to said side and back portions of said frame.

7. The seat construction set forth in claim 4 and wherein at least one rod is attached at one of its ends to said front frame portion and a spring is attached to the other end of said rod and to said back frame portion and wherein said rod is positioned beneath said first section of thin flexible material.

8. A seat construction for upholstered furniture comprising in combination a frame having a front, a back and side rails, a secondary front rail positioned in co-axial relation to said front rail, a section of flexible sheet material secured to said secondary front rail and to said back rail and stretched therebetween and secured at its side edges to said side rails, and a first section of urethane foam positioned on said section of flexible sheet material, additional sections of urethane foam positioned on said front rail and separate sections of flexible sheet material one of which is secured to said frame and positioned over said additional sections of urethane foam on said front rail so as to hold said urethane foam in position thereon and another one of which is secured to said secondary front rail and to said back rail and positioned over said first section of urethane foam so as to hold the same in position on said first mentioned section of flexible sheet material.

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