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FURNITURE CONSTRUCTION AND METHOD

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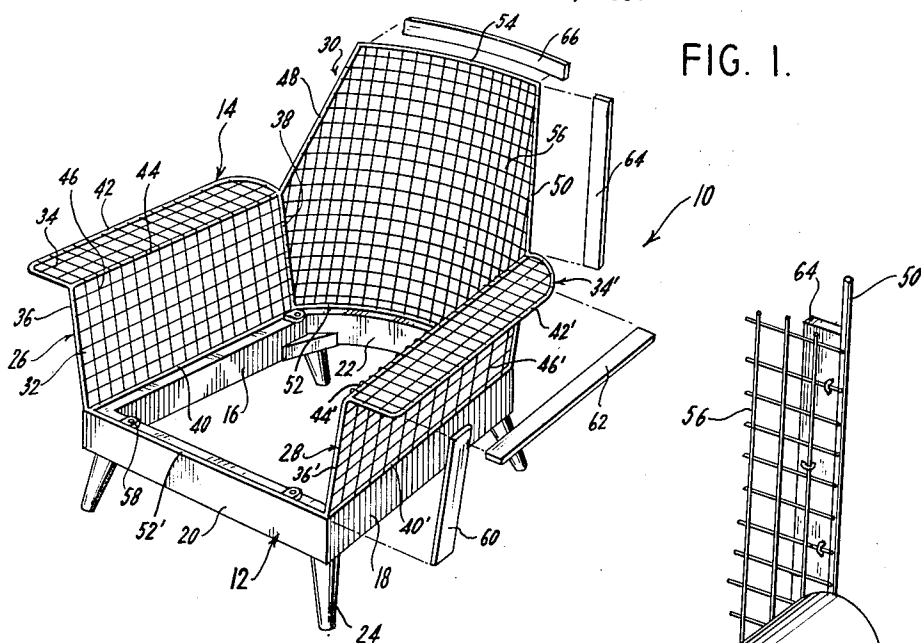


FIG. 1.

FIG. 2.

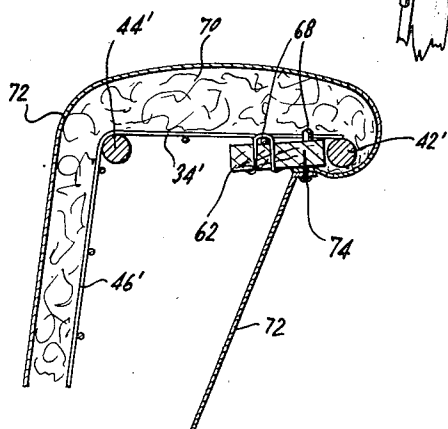
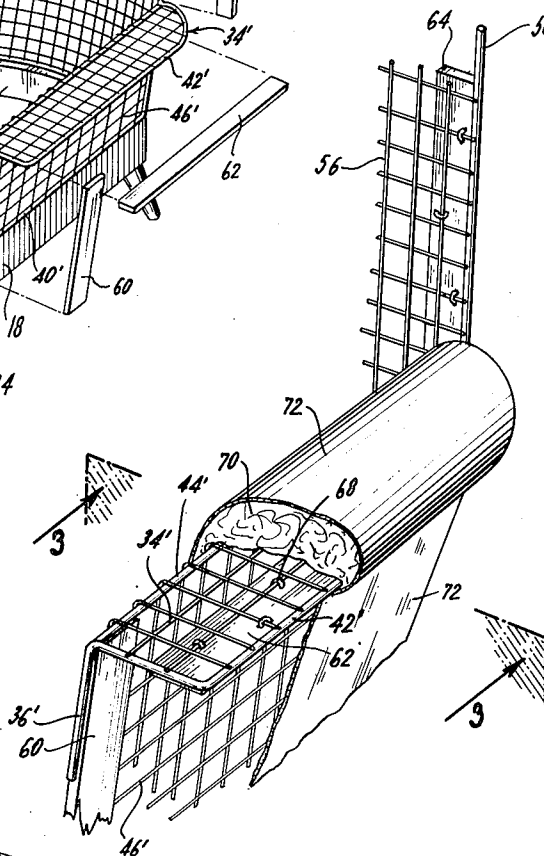


FIG. 3.

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FURNITURE CONSTRUCTION AND METHOD

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6 Claims. (Cl. 155—184)

The present invention relates generally to the manufacture of furniture, and in particular to an improved method of constructing upholstered furniture and to a wide variety of improved upholstered pieces. Advantageously the present method of manufacture makes possible extreme versatility in the construction and styling of upholstered pieces.

Usually upholstered furniture includes a wood framing structure covered with padding of conventional natural and synthetic materials which is fixed in place by tacking upholstery material to the wooden framing parts. It is known in the art that combined metal and wood framing structures are desirable, the metal providing strength, and the wood providing a convenient means for tacking of the upholstery material. In these composite metal-wood structures, the metal has been used for structural strength and for the purpose of replacing many of the internal mainstay supports.

Generally, it is an object of the present invention to provide an improved method of manufacturing upholstered furniture which advantageously employs combinations of metal and wood. Specifically, it is within the contemplation of the present invention to achieve a high order of flexibility and versatility in the construction and styling of upholstered pieces.

I have found that those marginal portions of the frame to be covered by upholstery material which define the general outline and contour of the furniture may be constructed of bent reinforced metal. Conveniently, the marginal portions of the bent metal frame are of solid stock or tubing of an easily bent, and preferably weldable metal, such as wrought iron or cold roll steel which may be fashioned by conventional metal bending techniques into a wide variety of shapes and configurations. The styling is limited only by the ability to bend the metal and to reinforce the same so that it will exhibit the necessary physical strength and structural stability. In comparison, wood framing imposes very definite limitations in shaping and bending; further structures in which the general outline is defined by wooden parts have a somewhat heavy and gross appearance.

In accordance with an illustrative method demonstrating one aspect of the present invention, a piece of upholstered furniture is manufactured by first constructing a metal frame in the general contour of the body of the piece. Preferably, the metal frame is manufactured by welding together marginal portions bent to configuration and providing appropriate reinforcement. Tacking strips are then attached to the metal frame at locations where the upholstery material is ultimately to be fixed in place to cover the metal frame. Finally, the metal frame is covered by conventional techniques which involve the tacking of an appropriate covering and upholstery material to the strips which are in rigid assembly with the metal frame. I have found that tacking strips of rather thin penetrable material served admirably for the upholstery operation and may be joined to the metal frame by stapling. Thus, the worker merely is required to attach the

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tacking strips at the required location by a simple and comparatively speedy stapling operation.

Upholstered furniture according to the present invention may be constructed with an entirely new look which may be characterized as a "thin-line" or "stream-line," as compared to the general type of upholstered furniture known in the art.

In a typical piece of upholstered furniture constructed according to the present invention there is provided a metal frame which is adapted to be covered by upholstery, said frame having marginal portions defining its general outline and reinforcing cross supports. Penetrable tacking strips are affixed to the frame adjacent the marginal portions by stapling. Upholstery is tacked about the metal frame by the use of tacking or equivalent securing means which fixes the upholstery to the tacking strips.

The above brief descriptions, as well as further objects, features and advantages of the present invention will be best appreciated by reference to the following detailed description of a presently preferred method and typical construction, when taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is a perspective view, partially exploded, showing a typical furniture frame before upholstering demonstrating features of the present invention;

Fig. 2 is an enlarged perspective view of an arm portion of the frame shown in Fig. 1, partially covered by upholstery material in accordance with the present method; and

Fig. 3 is an enlarged fragmentary elevational view taken substantially along the line 3—3 of Fig. 2 and looking in the direction of the arrows.

Before making detailed reference to the drawings, it should be noted that the chair illustrated therein is merely one of the many different pieces of upholstered furniture which may be constructed according to the present invention. Further, in some instances the entire piece will not necessarily embody my improved structure. For example, in the manufacture of couches and chairs the arm sections may be constructed by the present method, while the remaining sections to be upholstered may be constructed in the conventional fashion. Accordingly, it will be appreciated that the present method finds application in the manufacture of numerous other structures and the drawings merely illustrate one typical piece of furniture.

Referring now specifically to Fig. 1 is shown a frame for an upholstered chair which includes a wooden base and a bent-metal, reinforced frame. The base includes a generally rectangular seat body of wood having opposite side members interconnected by front and rear members in accordance with techniques well understood per se. The seat body of the base is supported on a number of legs, one of which has been designated by the reference numeral. Numerous modifications are intended in the conventional structure of the base and accordingly detailed description is dispensed with.

The reinforced metal frame generally includes side sections interconnected by a curved back section. Both sides sections are the same in construction and accordingly only the side section will be described in detail. The side section is seen to include an upstanding wall and an arm rest which extends substantially at right angles to the upstanding wall. The marginal portions of the wall and rest are constructed of rod or tube stock of appropriate cross section to impart the necessary structural strength and stability to the side section. In the illustrative embodiment, the marginal portions are solid rods of wrought iron, often referred to in the trade as cold roll steel. These marginal portions, generally include upstanding rods which define the front and rear ends of the wall,

horizontally extending rods 40, 42 which define the lowermost end of the wall 32 and the outermost end of the arm rest 34, and a corner bar 44 at the junction between the wall 32 and the arm rest 34. A meshwork of reinforcement, generally designated by the reference numeral 46, is secured within the parts 32, 34 framed by the marginal rods of bent metal. In the illustrative form of the invention, the reinforcing meshwork is made up of a number of individual wires welded in a crisscross pattern, the welds occurring at the ends of the respective wires and at the locations where they are joined to the outer margins of the sections 32, 34. In lieu of individual wires, other types of reinforcement may be used, such as screening of one type or another.

The curved back section 30, which is joined to the side sections 26, 28 for approximately one half of their height, includes converging side bars 48, 50 and upper and lower bars 52, 54, which together define the outer marginal portions of the back section 32. Appropriate meshwork 56 welded is within the region defined by the rods 48, 50, 52 and 54. If necessary one or more reinforcing members of a cross section comparable to the rods 48, 50 may be welded either horizontally or vertically of the back section 30 to add structural strength.

It will be of course appreciated that the bent metal frame 14, which includes sections 26, 28 and 30, are joined together as an integral sub-assembly during the manufacturing. In this illustrative embodiment, the bars 40, 40' and 52, 52' define a substantially rectangular footing for the frame 14, which footing conforms generally to the outline of the outer edges of the base 12 composed of members 16, 18, 20 and 22. Integral with the footing are a number of inwardly-projecting ears 58, each of which is provided with a hole through which a screw, bolt or the like (not shown) passes for securing the bent metal frame 14 in rigid assembly with the base 12.

Tacking strips are secured to the meshwork reinforcement of the metal frame 14 along the margins thereof at all locations where it is necessary to tack the upholstery material to the supporting structure in completing the piece of furniture. In the exploded showing of Fig. 1, the tacking strip 60 is adapted to be affixed longitudinally of side section 28 contiguous to and inwardly of the upstanding marginal rod 36'; the tacking strip 62 is adapted to be secured underneath the arm rest 34' inwardly of the rod 42'; the tacking strip 64 is adapted to be secured to the back section 30 inwardly of the rod 50; and the tacking strip 66 is adapted to be secured to the top section 30 below the rod 54. It will be of course appreciated that still further tacking strips are applied to the meshwork part of the frame at the remaining locations where it is necessary to secure the upholstery material. In the interests of simplicity and clarity these have been eliminated from the illustrative showing of Fig. 1. Further in the several figures, the tacking strips 60, 62, 64 and 66 have been illustrated as being of a somewhat substantial cross section. Their dimensions have been somewhat exaggerated for the purposes of illustration; however, in practice these tacking strips are of thin, bendable, penetrable material and are of a thickness selected to provide adequate support for the tacks, yet not to appreciably increase the section of the bent-metal framework. Usually, the tacking strips are somewhat thinner than the diameter of the bent-metal rod (i. e., 42', 44', Fig. 3) so that the cross section of the rods ultimately determine the cross section of the metal frame. As seen in Figs. 2 and 3, the tacking strips are fixed in position on the meshwork adjacent at the requisite locations by the use of staples, one of which has been designated by the reference numeral 68. These staples are applied with a stapling gun and have been found to provide adequate support for the tacking strips. Due to the bendable and flexible characteristics of the tacking strips, it is possible to conform these strips to the curvature of the metal framework. For example, the tacking strip

66 may be bent to accommodate the slight curvature of the back section 30. In practice, the worker merely bends the strip into contact with the meshwork in the required locations and fixes the strip in position by stapling. Materials suitable for the penetrable tacking strip include thin slabs of wood, plywood, press board and like materials which can receive upholstery tacks or other securing means heretofore used in the upholstery trade in conjunction with conventional wood framing structures.

As illustrated in Figs. 2 and 3 the metal framework may be upholstered in the conventional fashion by using padding, generally designated by the reference numeral 70 and one or more layers of covering material 72, which are tacked in place with spaced tacks, one of which is designated in Fig. 3 by the reference character 74. The padding may be combinations of the natural and synthetic material used in the manufacture of upholstered furniture; further the covering 72 may consist of several layers of material if required.

A typical operation in accordance with the present invention involves the initial fabrication of a metal framing structure of a particular contour and configuration by the welding together of wire stock and/or tubing, much in the same way that uncovered wrought iron furniture is presently constructed. The framing structure is assembled with the base and penetrable tacking strips are affixed to the frame adjacent to its margins and at other required locations by the simple expedient of stapling said strips to the lattice-work reinforcement. An infinite variety of upholstered pieces may be attained with ease and simplicity, and at a comparatively low cost. The ease of welding together metal frameworks in virtually any desired outline makes it possible to style upholstered furniture with a radically new and different approach. Such styling is generally characterized by the ability to attain graceful lines without the necessity of resorting to bulky and frequently cumbersome looking structures. Despite the lightweight appearance of articles embodying the present invention, the pieces exhibit excellent structural strength, and in most instances are far more durable than the heavier looking wood structures.

A latitude of modification and substitution is intended in the foregoing method and in the furniture pieces attainable thereby. In some instances some features of the invention will be used without a corresponding use of other features. Accordingly it is appropriate that the appended claims be construed broadly and in a manner consistent with the disclosure herein.

What I claim is:

1. A frame for a piece of upholstered furniture comprising marginal members of bent metal defining the general outline of said piece of furniture, a plurality of spaced apart reinforcing members arranged in criss-cross relation and joined at their cross over points and to said marginal members to provide a body for said frame, said marginal and reinforcing members being shaped and contoured to attain the prescribed line for said piece of furniture, relatively flat tacking strips arranged inwardly of and adjacent said marginal members, and means extending through said tacking strips and engaging said body for fixing said tacking strips in position against said body, said tacking strips following the line of said piece of furniture as prescribed by the shape and contour of said members and affording a support to receive tacking for upholstering said frame.

2. A frame for a piece of upholstered furniture comprising marginal members of bent metal defining the general outline of said piece of furniture, a plurality of spaced apart reinforcing members arranged in criss-cross relation and joined at their cross over points and to said marginal members to provide a body for said frame, said marginal and reinforcing members being shaped and contoured to attain the prescribed line for said piece of furniture, relatively flat tacking strips arranged inwardly of and adjacent said marginal members, and stapling extend-

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ing through said tacking strips and engaging said reinforcing members for fixing said tacking strips in position against said body, said tacking strips following the line of said piece of furniture as prescribed by the shape and contour of said members and affording a support to receive tacking for upholstering said frame.

3. A frame for a piece of upholstered furniture comprising a pair of side sections and a back section each including marginal members of wrought iron defining the general outline of said piece of furniture, a plurality of spaced apart wrought iron reinforcing members arranged in criss-cross relation and joined at their cross over points and to said marginal members to provide a body for said frame, said marginal and reinforcing members being shaped and contoured to attain the prescribed line for the sides and back of said piece of furniture, relatively flat tacking strips of penetrable and bendable material arranged inwardly of and adjacent said marginal members, and means extending through said tacking strips and engaging said body for fixing said tacking strips to said body in position against and following the contour of said body.

4. In the manufacture of a piece of upholstered furniture, the step including constructing a bent metal frame in the general contour of the body of said piece, attaching penetrable and bendable flat tacking strips to said metal frame along marginal locations where upholstery material is to be affixed in covering said metal frame, said tacking strip being bent to conform to said metal frame at said marginal locations during attachment and following the contour of said metal frame at said marginal locations

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whereby a support is afforded for receiving tacking without appreciably affecting the contour of said body as determined by the construction of said metal frame, and covering said frame with upholstery material by tacking said upholstery material to said tacking strips.

5. A frame for a piece of upholstered furniture comprising marginal members of bent metal defining the general outline of said frame of said piece of furniture, reinforcing members joined to said marginal members to provide a body for said frame, relatively flat tacking strips arranged inwardly of and adjacent said marginal members, and means extending through said tacking strips and engaging said body for fixing said tacking strips in position against said body, said tacking strips affording a support to receive tacking for upholstering said frame.

6. A frame for a piece of upholstering furniture comprising marginal members of bent metal defining the general outline of said frame of said piece of furniture, reinforcing members joined to said marginal members to provide a body for said frame, relatively flat tacking strips arranged inwardly of and adjacent said marginal members, and stapling extending through said tacking strips and engaging said body for fixing said tacking strips in position against said body, said tacking strips affording a support to receive tacking for upholstering said frame.

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