

Nov. 15, 1960

G. M. WENDEL
BLOCKED FURNITURE

2,960,152

Filed Dec. 5, 1958

3 Sheets-Sheet 1

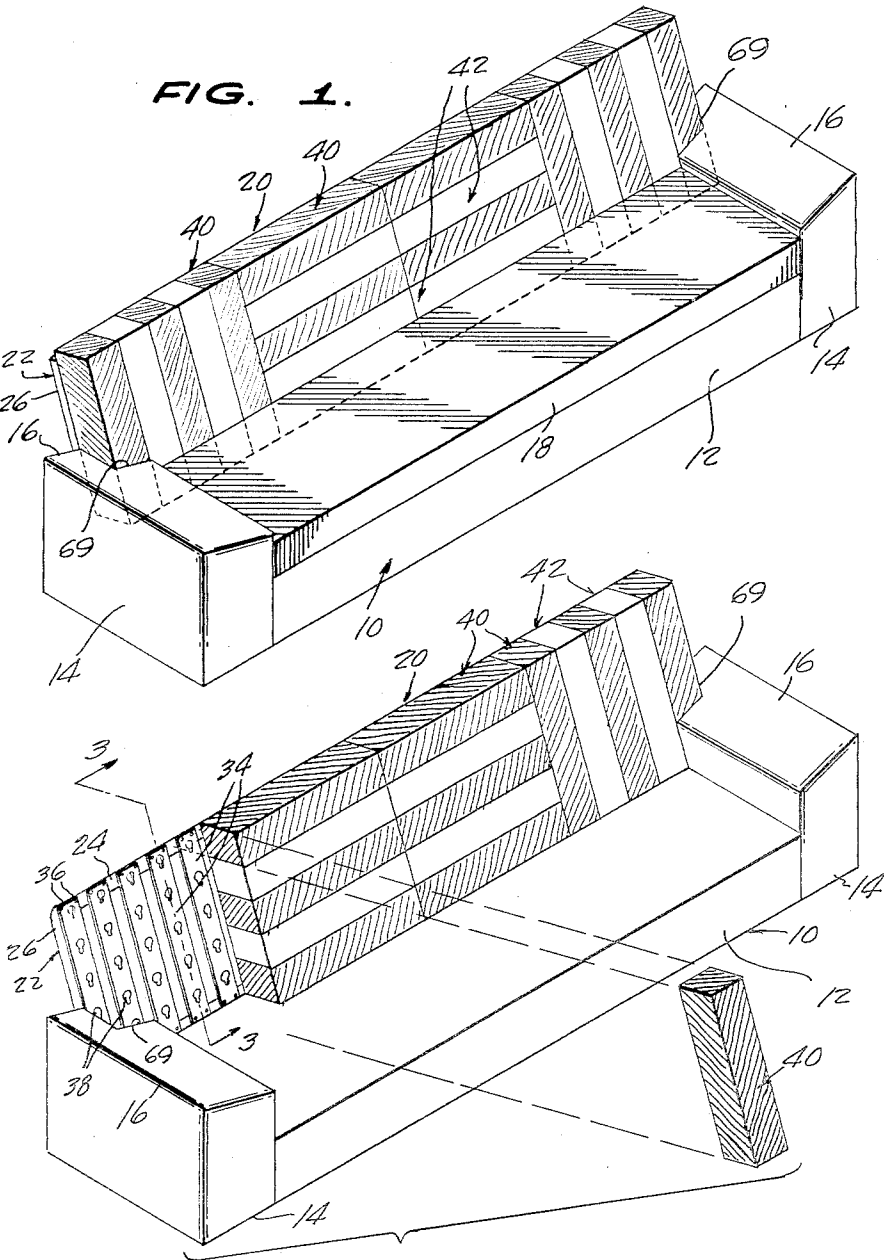


FIG. 2.

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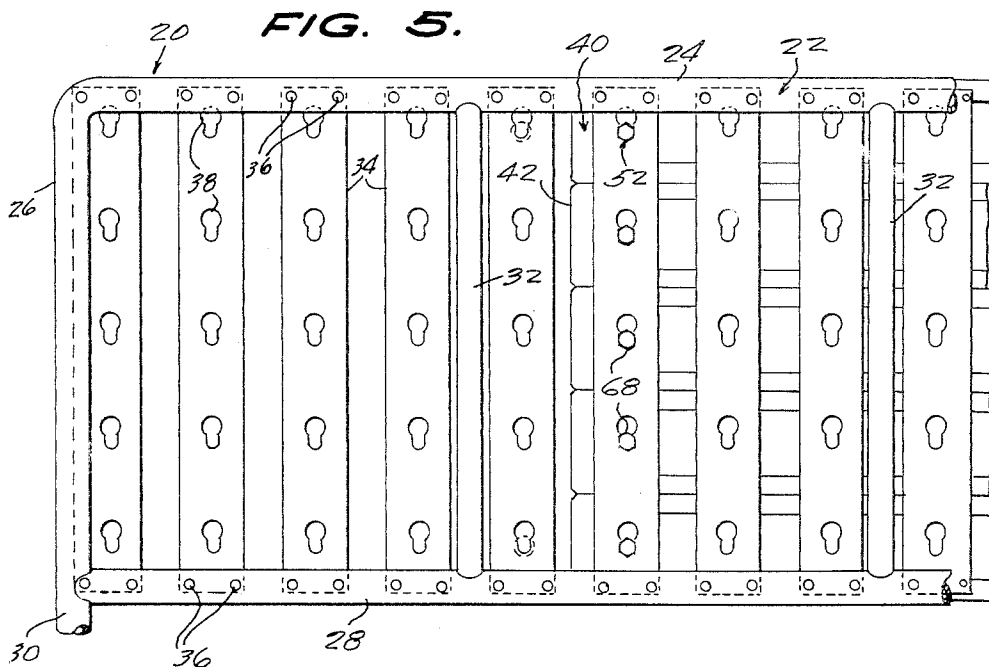
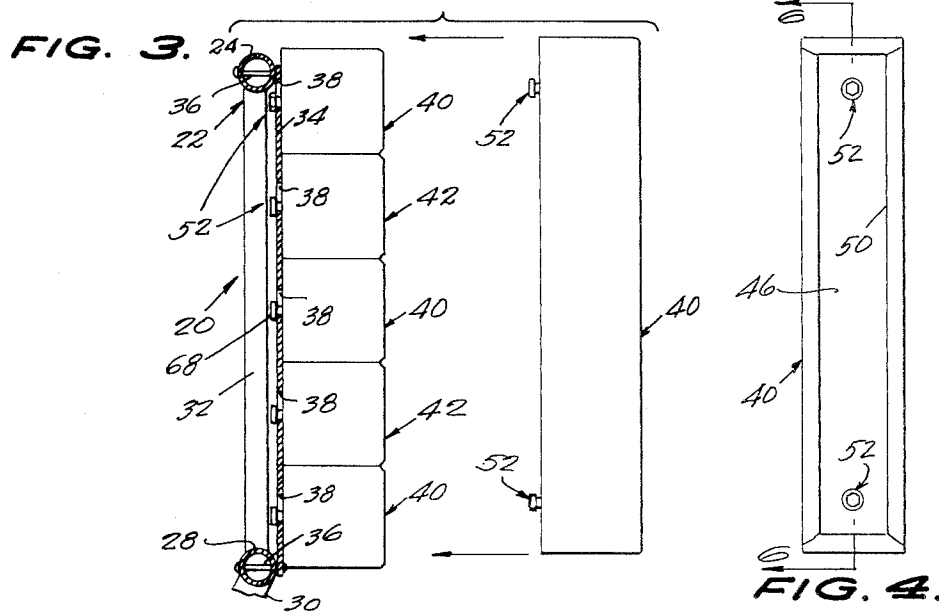
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3 Sheets-Sheet 2



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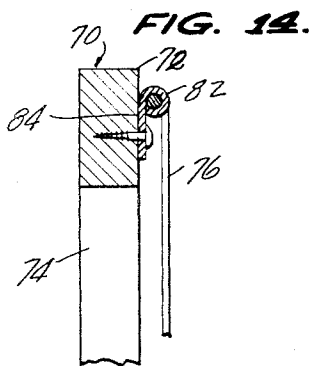
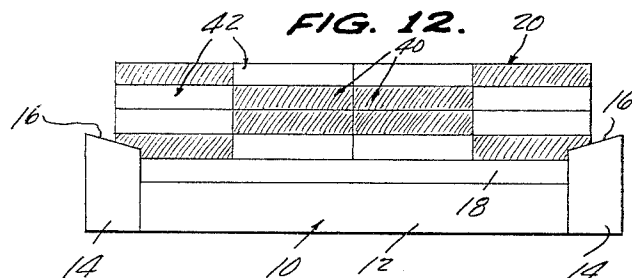
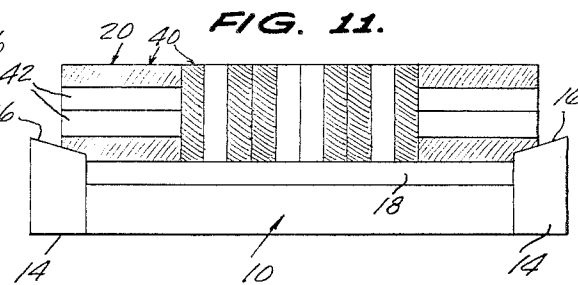
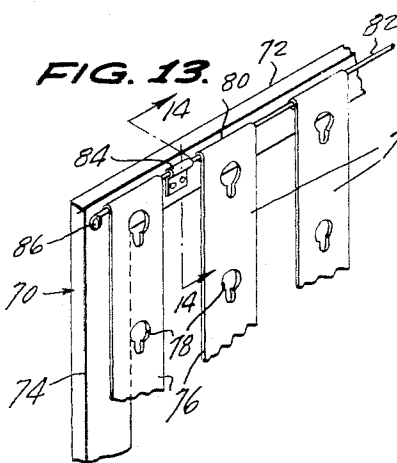
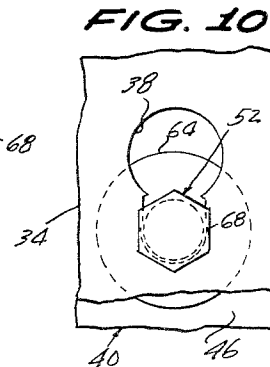
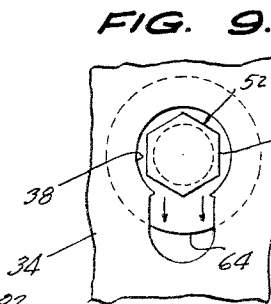
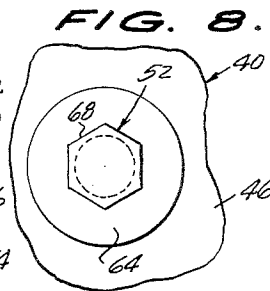
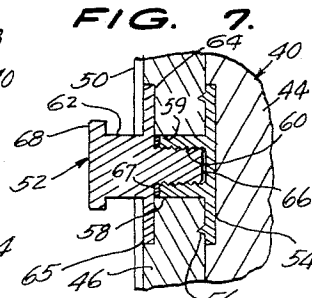
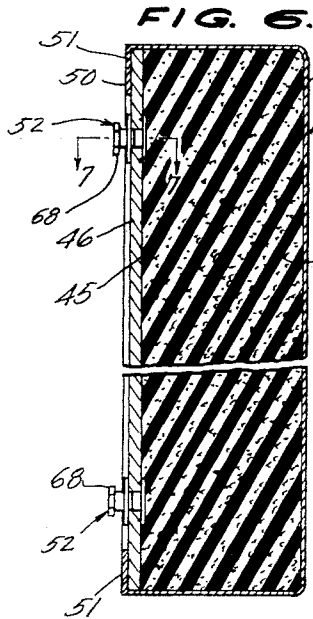
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3 Sheets-Sheet 3



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2,960,152

BLOCKED FURNITURE

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3 Claims. (Cl. 155—191)

This invention relates generally to furniture construction. More particularly, the invention has reference to furniture units which might comprise chairs, divans, sofas, etc., so designed as to permit a wide variation in back designs, seat designs, or both, through the use of interchangeable cushion or upholstery sections.

Most usually, the upholstery of furniture units of the general categories set forth above, is so designed as to not be interchangeable, except perhaps to a very minor degree, as for example, by inversion of the seat cushions. By reason of this characteristic of conventional furniture, the owner may be put to considerable expense, by reason of the fact that the upholstery tends to wear at certain locations, or become soiled at said locations. In this event, it is necessary that the owner be put to considerable expense, with respect to cleaning of the upholstery. This generally requires the services of skilled workers. In the event the upholstery should become excessively soiled, cleaning thereof proves to be an unsatisfactory solution.

Still further, should the upholstery become worn, then one must resort to the use of seat covers, or alternatively, there is involved the re-upholstering of the furniture. Again, considerable expense is involved, and even so, the final results are not always satisfactory.

Apart from the above, there is the fact that it is not possible for the owner to change the furniture designs, in view of the relative immovability of the portions of the piece of furniture.

The broad object of the present invention is to provide a furniture unit that will have none of the deficiencies noted above. To this end, I have provided a furniture unit which, in the present example, is a sofa, although as will be obvious, the invention can be embodied in any of various other types of furniture items. The furniture unit according to the present invention includes detachable cushion sections, which can be of contrasting or harmonizing colors or designs. Said sections are readily removable, and can be arranged in any of various geometrical patterns, color combinations, etc., to produce a very substantial range of different designs.

A more specific object is to permit the rearrangement of the cushion sections to be accomplished by the ordinary householder, without the requirement of special tools, and without the necessity of calling upon skilled workers.

Another object is to so design the furniture unit as to permit periodic rearrangement of the cushion sections, in such a manner as to prevent any section from becoming soiled or worn to an undue degree. In this way, the effective life of the furniture is considerably prolonged, all without the necessity of reupholstering, cleaning, etc.

Another object is to provide, in a furniture unit of the character described, a plurality of individual cushion sections, so designed that should a particular section become damaged or soiled to an excessive degree, it can be discarded, and another section purchased as a replacement, thus permitting still further prolongation of the useful life of the furniture.

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Still another object is to provide a novel construction in furniture of the kind described, such as to permit the cushion sections to be arranged either horizontally or vertically, whichever is desired.

Another object is to provide support means for the cushion sections, so designed as to combine the functions of a support and spring means.

Still another object is to so design the cushion-section-support means as to cause the same to be completely concealed from the casual viewer.

Yet another object is to achieve the several desirable purposes set forth above, without undue increase in the over-all cost of the piece of furniture.

Other objects will appear from the following description, the claims appended thereto, and from the annexed drawings, in which like reference characters designate like parts throughout the several views, and wherein:

Figure 1 is a perspective view of a sofa constructed according to the present invention, with the cushion sections in one pattern that can be used;

Figure 2 is a perspective view of the sofa, partially exploded, some of the cushion sections being removed;

Figure 3 is an enlarged vertical sectional view, partially exploded, taken on line 3—3 of Figure 2;

Figure 4 is an elevational view on the same scale as Figure 3, showing one of the cushion sections as seen from the back;

Figure 5 is a fragmentary rear elevational view of the back structure of the sofa;

Figure 6 is a still further enlarged longitudinal sectional view through one of the cushion sections, taken on line 6—6 of Figure 4;

Figure 7 is a still further enlarged detail sectional view substantially on line 7—7 of Figure 6, showing one of the fastening elements of a cushion section;

Figure 8 is a fragmentary rear elevational view of the cushion section and its fastening element, on the same scale as Figure 7, as seen from the left of Figure 7;

Figure 9 is a fragmentary, enlarged elevational view of one of the support strips or plates and an associated cushion section, the cushion section being illustrated as it appears immediately prior to movement to its final position supported upon the strip;

Figure 10 is a view like Figure 9 in which the cushion section has been moved to its final position in which it is lockingly engaged by the strip;

Figure 11 is a front elevational view, on a reduced scale, of the sofa showing a different design;

Figure 12 is a view like Figure 11 showing still another design;

Figure 13 is a fragmentary perspective view, on the approximate scale of Figure 3, showing a modified construction; and

Figure 14 is an enlarged, detail sectional view substantially on line 14—14 of Figure 13.

Referring to the drawings in detail, generally designated at 10 is a furniture piece according to the present invention. In the illustrated example, a sofa is shown. However, as will be apparent, the invention can be embodied in various other types of upholstered furniture, as for example, chairs, divans, etc.

In any event, in the typical embodiment shown, the furniture piece includes a seat or base portion 12, which in and of itself may be of basically conventional construction, including end or arm assemblies 14 terminating in arm rests 16. A seat cushion 18 is provided, although in some types of furniture this might be omitted. Further, as will be apparent from the description to be provided hereinafter, the seat cushion might itself comprise a plurality of individual cushion sections, of contrasting or harmonizing colors or designs, capable of being removed and arranged in any of various selected de-

signs. To simplify the illustration and description, however, the seat cushion is shown as a single unit of conventional design, with the invention being illustrated merely in the back structure of the furniture.

In any event, the back structure illustrated has been generally described by the reference numeral 20, and includes a support frame generally designated at 22. The support frame in the illustrated example is formed, in Figures 1-12, as a tubular assembly, including an elongated horizontal top rail 24 merging at its opposite ends into side rails 26. A horizontal bottom rail 28 is fixedly connected between the side rails, and the side rails in the illustrated example are integral with depending side rail extensions 30 which would be connected in any suitable manner to the main frame, not shown, of the furniture piece.

To provide a suitable bracing of the support frame 22, there are provided brace bars 32, fixedly connected between the top and bottom rails at selected locations along the length thereof.

In accordance with the present invention, the support frame carries a plurality of identical, flat, wide, elongated support plates or strips 34. These are of a slightly springable material, so that they not only provide the support for the several cushion sections to be described hereinafter, but also constitute a spring assembly for the cushion sections.

In the form of the invention shown in Figures 1-12, the support strip is fixedly mounted in relatively closely spaced, parallel relation, the strips extending between the top and bottom rails, to which they are connected by means of rivets or equivalent fastening elements 36.

Each strip, at locations uniformly spaced along the longitudinal median line thereof, is formed with keyhole slots 38. In the illustrated example, the smaller ends of the keyhole slots are at the bottoms of the slots. As shown in Figure 5, the several slots or openings 38 are arranged in crossing horizontal and vertical rows in each of which the openings are uniformly spaced apart, the spacing of the openings being the same for both the horizontal and the vertical rows.

The several cushion sections have been generally designated at 40, 42. In actuality, the sections 40 and 42 are identical to each other, except for their exterior coloring. In the illustrated example, the sections are of contrasting dark and light colors, to show the manner in which the invention can be used. However, in a commercial embodiment, one type of section may have a particular design, with the other sections being characterized by a different design or by a solid color. Any of various arrangements will suggest themselves, of course, to those working in the art.

For the purposes of the present application, it is mainly important to note that the cushion sections are all identical to one another in respect to their shape and size, so as to be mountable upon any selected strip or strips 34, in either horizontal or vertical positions, and in any of a very substantial number of different designs or patterns. Three of said designs or patterns are shown by way of example, one being shown in Figure 1, another being shown in Figure 11, and the third being shown in Figure 12. However, it will be immediately apparent that the examples are merely representative of many that can be employed. Through the use of cushion sections of different colors or designs, shaped and mountable as shown, the owner is permitted wide latitude in his choice of back designs.

Since all the sections 40, 42 are identical in respect to their individual construction, the description of one will suffice for all the rest. Referring now to Figures 6-8, in which one of the sections 40 is shown, it will be observed that said section comprises an elongated, generally rectangular, body 44 of a width equal to the distance between adjacent openings 38 of any row thereof. Body 44 would be of a relatively soft, resiliently compressible

material. Foam rubber, now widely used as cushion material in furniture, might, for example, be used. A number of different body materials, any of which can be advantageously employed, is obtainable on the open market at the present time, and one might, for example, use a material commercially available under the designation "Urethane."

The body 44 has a flat back surface, permanently secured by a suitable adhesive 45, or by any other fastening or securing means that can be employed to advantage, to a flat backing plate 46. Plate 46 is preferably of rubber, of a medium hardness. In this way, normally the backing plate 46 will be of a flat, straight form. However, at the same time, the backing plate 46 is capable of flexure to at least a slight degree, thus to impart suitable resilient, yielding characteristics to the cushion sections when one exerts pressure with his back thereagainst when seated upon the sofa. Further, the arrangement permits a slight flexure of the plate 46, as necessary to conform the same to a correspondingly slightly curved shape of the spring strips 34. In other words, the spring strips 34 are normally flat, that is, the tension thereof is such as to cause them to assume a flat, straight shape. Nevertheless, in normal use of the furniture, when one exerts pressure backwardly against the back structure 20 while seated upon the sofa, the strips 34 are capable of being longitudinally bowed to a slight degree, against the inherent spring tension thereof, in a rearward direction. Then, when the pressure is released, said strips again assume their normally straight shape. The cushions are capable of flexing with the strips in these circumstances, so that taken with the compressibility and softness of the bodies 44 of the cushion sections, maximum comfort is provided for the seated person or persons.

The body 44 of each section is covered as at 48, by any suitable fabric material or other covering material used on furniture. The covering 48, of course, would have any suitable weave, color, and design. The cover is tensioned over the front, top, sides, and bottom of each cushion section, and at its edge is brought over into overlying relation to the marginal portion of the backing plate 46, as shown at 50 in Figures 4 and 6. Adhesive means 51 might be employed to connect the marginal portion to the back surface of plate 46. Then, again, any other suitable means can be employed to make the necessary connection of the covering to the backing plate.

Adjacent its ends the section 40 or 42, as the case may be, is provided with fastening elements 52, disposed upon the longitudinal median line of the section as shown in Figure 4, at locations spaced from the adjacent, respective extremities of the section a distance equal to half the width of the section. Each fastening element 52 is of lug-like characteristics, and in the illustrated arrangement, includes a flat, circular retaining plate 54 interposed between body 44 and backing plate 46, and having small points or tips 56 adapted to bite into the material of backing plate 46 to prevent rotational movement of the retaining plate.

Integral with plate 54 is a cylindrical boss 58 having a threaded recess 60. Thus, the retaining plate 54 and the boss 58 comprise a female fastening element, extending into an opening 59 formed in the plate 46.

A male element 62 includes a circular flange 64, which can be engaged in a shallow, complementary recess 65 formed in the back surface of the plate 46. The recess 65 might be omitted in some commercial embodiments. A threaded, reduced, axial extension 66 is engageable in the threaded recess 60, and a lock washer 67 may be used to hold the male and female elements of the fastener 52 assembled with one another.

The male element projects rearwardly from the plate 46, and at its projecting extremity has a head 68 which is of non-circular form, as shown in Figure 8, being in the present instance of hexagonal configuration so as to

facilitate turning of the element 62 by means of a wrench, not shown, or similar tool when the male and female elements of the fastener are being assembled with each other.

Referring to Figure 9, the head 68 has a maximum diameter slightly less than the diameter of the larger end portion of the keyhole slot 38 of strip or support plate 34. Therefore, when head 68 is registered with the larger end of a keyhole slot, it is readily movable there-through.

However, the head 68, as shown in Figure 10, even at its point of smallest diameter is greater in size than the width of the smaller end portion of slot 38. Therefore, when head 68 moves from its Figure 9 to its Figure 10 position, it is lockingly engaged in the smaller end of the keyhole slot.

Referring to Figures 1 and 2, in the illustrated example, the end assemblies 14 have recesses 69, adapted to accommodate cushion sections at the ends of the back structure. This arrangement is used only because of the particular over-all design of the sofa shown by way of example. Other sofas may be so designed as to not require the recesses 69, as for example, where the arm assemblies are at or beyond the extremities of the back structure even along the inner sides of the arm assemblies.

In Figures 13 and 14, there is shown a modification of the back structure. The back structure in this case includes a support frame generally designated 70. The general configuration of frame 70 is similar to that of support frame 22. However, frame 70, instead of being of tubular material, is formed of flat bar material, and includes a top rail 72, and side rails 74. The bottom rail is not shown, but would be arranged like the bottom rail 28.

The support strips or plates 76 in this form have keyhole slots 78, exactly as in the first form. However, the connecting means of the support strips to the top and bottom rails is different, and as shown, the support strips have rolled ends or sleeves 80. These would be at both ends of each strip 76, and the sleeves would receive elongated connecting rods 82 extending longitudinally of the top and bottom rails, and spaced slightly outwardly from the top and bottom rails through the medium of brackets 84 secured to said rails and having sleeves through which the rods 82 extend. At their ends, the rods 82 are secured fixedly to the corner portions of the support frame through the medium of fasteners 86 extending through eyes provided upon the ends of the rods 82.

This arrangement may facilitate pre-assembly of the strips 76 with their rods 82, after which the rods are readily attached to the support frame. Further, a slight adjustment of the strips toward and away from one another might be permitted, if desired.

In both forms of the invention, the cushion sections can be arranged either horizontally or vertically, in any of a large number of patterns shown by way of example in Figures 1, 11, and 12. Many others can be employed as previously noted.

One simply registers the heads 68 of fasteners 52 of a cushion section with selected keyhole slots 38. If the cushion section is to be arranged vertically, its fasteners would be engaged with the keyhole slots at opposite ends of the strip 34. If a cushion section is to be arranged horizontally, its fasteners would be registrable with corresponding keyhole slots of different strips 34 spaced apart from one another by intervening strips. In any event, the cushion section is lockingly engaged with the selected strip or strips in the manner shown in Figures 9 and 10.

The arrangement, as will be appreciated, permits a wide variety of patterns to be selected by the home owner, and from time-to-time, these patterns or designs can be changed to add variety to the furniture, while at the same time, preventing undue soilage or wear of any particular area of the furniture.

All this is achieved, of course, without sacrificing the over-all attractiveness of the appearance of the furniture. At the same time, the manufacturing cost is kept low, particularly since the cushion sections lend themselves to a modular design especially adapted to lower costs in quantity production operations. Still further, the support means for the cushion sections is effectively concealed.

The illustrated arrangement is merely exemplary, of course. It is possible that instead of all the cushion sections being of equal length, some might be of half lengths, while others might be of a double length. These, it is believed, are modifications well within the skill of those working in the art, requiring no special illustration herein.

It is believed apparent that the invention is not necessarily confined to the specific use or uses thereof described above, since it may be utilized for any purpose to which it may be suited. Nor is the invention to be necessarily limited to the specific construction illustrated and described, since such construction is only intended to be illustrative of the principles of operation and the means presently devised to carry out said principles, it being considered that the invention comprehends any changes in construction that may be permitted within the scope of the appended claims.

What is claimed is:

1. An upholstered furniture piece comprising a base portion, a support frame mounted thereon including a series of rails joined end-to-end about an open center area of the frame, cushion support means carried by the frame and extending across said open center area thereof, said cushion support means having a plurality of openings uniformly spaced apart in crossing straight horizontal and vertical rows, the several horizontal rows perpendicularly intersecting the vertical rows, the openings of each row being uniformly spaced apart, the spacing of the openings being the same for both the horizontal and the vertical rows, a plurality of elongated cushion sections each of which includes at least two rearwardly projecting spaced fasteners the distance between which is equal to the distance between selected openings of any one of the horizontal and vertical rows, said fasteners being engageable in said selected openings for attaching each section to the frame in a position to which the section is in longitudinal alignment with the row in which the selected openings are located, the cushion section being of rectangular shape and being of a width equal to the distance between adjacent openings of any of said rows, the respective fasteners of each section being disposed upon the longitudinal median line of the section at locations spaced from the adjacent respective extremities of the section a distance equal to half said width.

2. In a furniture piece, a seat, a back structure rising from said seat, said structure including a pair of rails arranged in parallel spaced relation, a plurality of support plates arranged in side-by-side spaced relation positioned so as to bridge the space defined by said rails and extend from one of said rails to the other of said rails and fixedly secured to said rails, a plurality of elongated cushion sections arranged in abutting relation positioned so as to extend over and completely conceal said rails and support plates, and spaced fasteners on the under face of each of said sections engageable with means provided on each of the adjacent support plates for securing the sections to said support plates.

3. In a furniture piece, a seat, an arm assembly at opposite ends of said seat, a back structure rising from said seat between said arm assemblies, said back structure including a pair of rails arranged in parallel spaced relation, a plurality of support plates arranged in side-by-side spaced relation positioned so as to bridge the space defined by said rails and extend from one of said rails to the other of said rails and fixedly secured to said rails, a plurality of elongated cushion sections arranged in abutting relation positioned so as to extend over and completely conceal said rails and support plates, and spaced

fasteners on the under face of each of said sections and engageable with means provided on each of the adjacent support plates for securing the sections to said support plates.

1,295,770
1,416,969
2,621,429
2,793,685

References Cited in the file of this patent

5

UNITED STATES PATENTS

252,973 Schenk ----- Jan. 31, 1882

Lamont ----- Feb. 25, 1919
O'Connor ----- May 23, 1922
Teich ----- Dec. 16, 1952
Spitz ----- May 28, 1957

FOREIGN PATENTS

Netherlands ----- Jan. 16, 1952