Feb. 13, 1973 R. KURZ 3,716,271

FOLDING-FURNITURE PIECE

Filed Jan. 27, 1971

Fig. 1

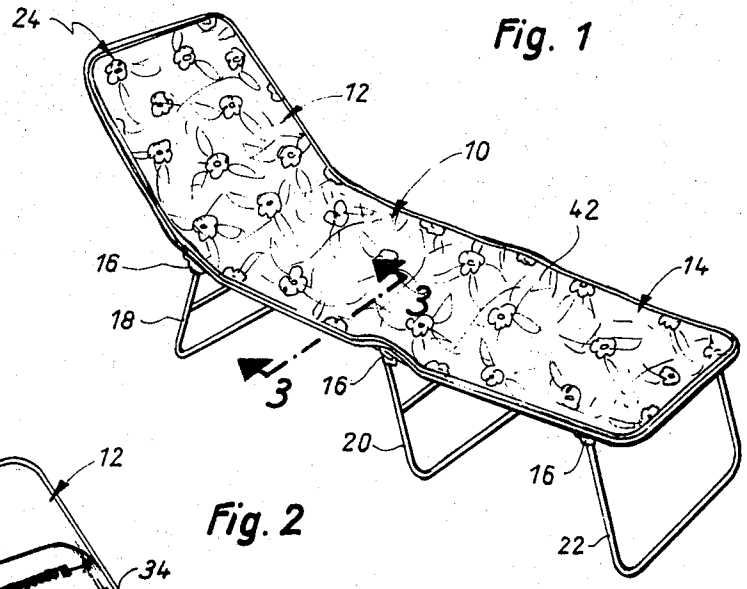


Fig. 2

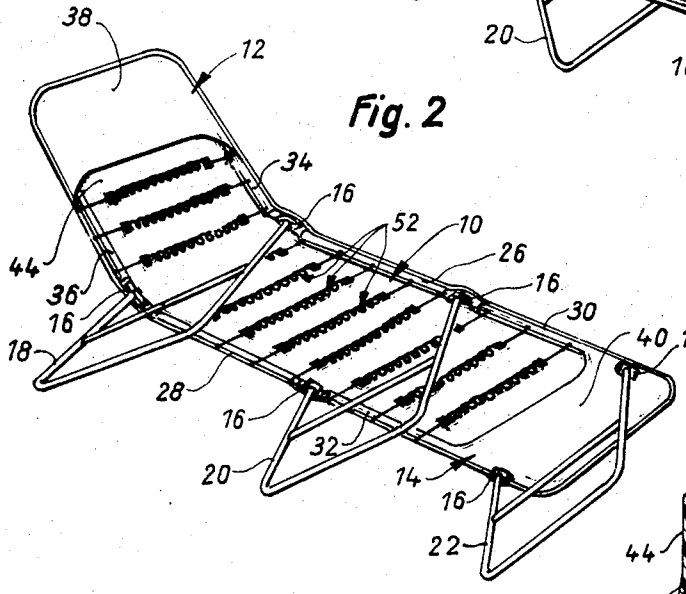


Fig. 4

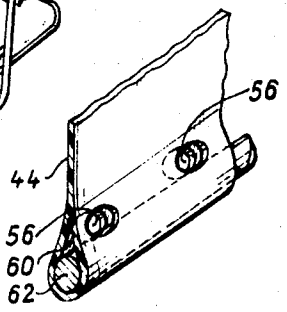
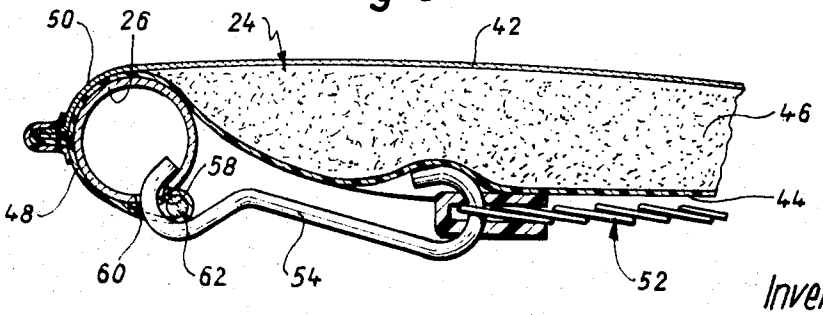


Fig. 3



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FOLDING-FURNITURE PIECE

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ABSTRACT OF THE DISCLOSURE

A chair or chaise has two or more frame sections which are articulated to each other and which each have transversely spaced lateral frame portions. A sheet material cover spans each frame section and has marginal portions which at least in part embrace the respective lateral frame portions, with springs spanning the frame sections at a side opposite that where the respective cover is located and engaging the marginal portions of the cover to pull the cover taut.

BACKGROUND OF THE INVENTION

The present invention relates generally to furniture pieces, and more particularly to pieces of folding furniture such as chairs, chaises and the like.

Furniture of this type is conventionally made of frame sections which are hinged or otherwise articulated to one another and which have transversely spaced frame portions between which there is located a sheet material cover constituting the seat and/or back rest of the respective furniture piece. The cover is somewhat smaller in its outline than the inner free space surrounded by the respective frame section and its marginal portions are connected by a plurality of adjacent springs with the frame portions of the respective frame section, with such springs being usually helical springs one end of which is hooked into the marginal portions and the other end of which is hooked to or into the associated frame portion. This means that in these prior-art constructions the edges of the respective covers are located with slight spacing from the frame portions of the associated frame section. The frame portions are thus visible which is not usually particularly pleasing in an aesthetic sense, especially because the springs are also visible. In addition, when such a furniture piece is used there is always the danger that the fingers or hand of a user might become caught and squeezed between convolutions of the springs when the latter are relaxed, that is when weight is relieved off the cover. A further disadvantage in this construction is the fact that the relatively short coil springs utilized might be excessively stretched, especially if the body weight of a user becomes concentrated on only a portion of the cover and thus only on some of the coil springs.

SUMMARY OF THE INVENTION

It is, accordingly, an object of the present invention to avoid the aforementioned disadvantages.

More particularly it is an object of the present invention to provide an improved folding-furniture piece of the general type under construction, which is not possessed of these disadvantages.

A concomitant object of the present invention is to provide such a folding-furniture piece which is not only aesthetically more pleasing than what is known from the art, but which also avoids the difficulties and problems enumerated above.

In pursuance of the above objects, and of others which will become apparent hereafter, one feature of the invention resides in a folding-furniture piece which, briefly stated, comprises at least two frame sections articulated to each other and each having a pair of transversely spaced lateral frame portions, a sheet-material cover spans each of the frame sections at one major side thereof and has marginal portions at least partially embracing the respective frame portions. A plurality of springs span the respective frame sections at the opposite major side and are connected at least with the marginal portions so as to maintain the cover taut.

In this manner the disadvantages outlined above are avoided. Firstly, the marginal portions of the sheet-material cover at least partially embracing the respective frame portions, of course conceal the frame portions from view and thus improve the aesthetic appearance of the furniture piece. In addition, the springs are no longer so located that they can come in contact with the fingers or hands of a user, thereby avoiding the danger of possible injury. Moreover, because the sheet-material cover is actually supported by the frame section and because the springs are only used to hold it taut but not to actually support it, excessive stretching of the springs is avoided.

According to a further embodiment of the invention it is also advantageous if the covers are each provided with two pockets which can be slipped over and accommodate those transverse frame portions which extend between and connect the lateral frame portions embraced by the marginal portions of the respective covers. This makes the installation of the covers particularly simple and assures that the covers cannot intentionally or accidentally be lifted off the lateral frame portions in the regions of the transverse frame portions.

The springs are advantageously and according to a currently preferred embodiment, configurated as flat springs which are already known and which are provided at their opposite ends with hook-like anchoring elements which pass through the marginal portions of the associated cover. In fact, these anchoring portions may be hooked into the marginal portions of the cover, but in that case the cover is of course subjected to the substantial tensile forces in the marginal portions. For this reason it may be advantageous to provide metal, plastic or other eyelets in the marginal portions, into which eyelets the engaging portions or anchoring portions are hooked. It is still simpler and more advantageous, however, if the marginal portions are configurated as closed loops each accommodating an elongated reinforcing and stiffening member, preferably of circular cross-section. This can then be embraced or engaged by the respective hook-shaped anchoring portions and a single member then serves to reinforce an entire marginal portion at all points where the latter is to be engaged by the hook-shaped anchoring portions of the respective springs.

It is also advantageous if the hook-shaped anchoring portions simply pass through the marginal portions and engage any apertures or openings provided for this purpose in the lateral frame portions of the respective frame sections. In this case all forces acting upon the springs

are predominantly absorbed by the frame portions rather than by the marginal portions of the respective covers.

The novel features which are considered as characteristic for the invention are set forth in particular in the appended claims. The invention itself, however, both as to its construction and its method of operation, together with additional objects and advantages thereof, will be best understood from the following description of specific embodiments when read in connection with the accompanying drawing.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of a furniture piece according to the present invention, seen from above;

FIG. 2 is a view similar to FIG. 1, but seen from below;

FIG. 3 is a section taken on line 3—3 of FIG. 1, on an enlarged scale; and

FIG. 4 is a fragmentary detail view, partly sectioned and on an enlarged scale, of the embodiment illustrated in the drawing.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Discussing now the drawing in detail it will be seen that I have chosen to illustrate my invention on hand of a folding-furniture piece in form of a chaise. It is of course, also applicable to chairs and the like. The illustrated chaise has a center frame section **10**, a head frame section **12** and a foot frame section **14**, all of which are articulately connected by means of joints **16**. The purpose is to permit angular displacement of the sections **12** and **14** with reference to the section **10** to desired positions. Supporting legs **18** and **20** are also tiltably connected at the joints **16**, and an additional supporting leg **22** is provided on the foot frame section **14**. Reference numeral **24** identifies in toto a cover which in the illustrated embodiment is of one piece and associated with all three frame portions **10**, **12** and **14**, but which could be of individual cover sections each associated with one of the frame sections.

The frame section **10** has two transversely spaced lateral frame portions **26** and **28** which in the illustrated embodiment extend in parallelism with one another and of course which are rigid. Similar frame portions **30**, **32** are provided on the frame section **14**, and frame portions **34**, **36** are provided on the frame section **12**. The frame portions **26**, **28** are maintained rigid with one another by the legs **18**, **20** and the frame portions **30**, **32** and **34**, **36** are respectively maintained rigid with one another by transverse frame portions and also by their connection with the frame portions **26** and **28**.

In the illustrated embodiment the sheet-material cover **24** is provided at its opposite longitudinal ends with two pockets **38**, **40** which are slipped over the free ends of the frame portions **12** and **14**, respectively, and which thus retain the cover connected with these frame portions at these free ends.

As FIG. 3 shows in particular, the cover **24** is composed in the illustrated embodiment of an upper sheet material layer **42** and a lower sheet material layer **44** which are superimposed and which are connected along their respective margins with one another, preferably but not necessarily by stitched seams. Padding material **46**, particularly in form a cellular synthetic plastic, is accommodated between the two layers **42** and **44** for comfort. The layers **42** and **44** may, as FIG. 3 shows particularly clearly, be of different materials; preferably, at least the lower layer **44** will be of synthetic plastic material but of course the upper layer can similarly be of synthetic plastic although it can be replaced with a layer of textile material or in fact it can be plastic with a layer of textile material superimposed upon it for appearance and for added comfort. The lateral margins **48** of the lower layer **44** are wider than the lateral margins **50** of the upper layer **42**, as shown in FIG. 3.

To connect the cover **24** with the lateral frame portions of the respective frame sections, I utilize springs **52** which are so-called flat springs already known to those skilled in the art. They are located at major sides of the respective frame sections **10**, **12** and **14** which are opposite the major sides at which the cover itself is located. They extend thus beneath the frame sections and the cover between the transversely spaced frame portions of the respective frame sections, as shown in FIG. 2. The lateral marginal portions **48**, **50** of the layers **44**, **42** are placed about the respectively associated frame portions, at least partially embracing them as shown in FIG. 3, and the hook-shaped anchoring portions **54** provided for this purpose at the opposite longitudinal ends of the respective springs **52** engage the marginal portions **44** to maintain the cover **24** taut. The marginal portions **48** are provided for this purpose with openings **56** through which the hooks **54** extend. In addition the illustrated embodiment shows the lateral frame portions **26**, **28**, **30**, **32**, **34** and **36** to be provided with openings **58** in which the hooks **54** also engage. Thus, the cover **24** is maintained taut and the marginal portions thereof tightly and tautly engage the respective lateral frame portions, and on the other hand any load acting upon the cover is transmitted to and absorbed by the lateral frame portions rather than by the cover itself, thereby eliminating or at least substantially reducing the possibility that the material of the marginal portions of the cover might tear.

As shown in FIG. 4 the marginal portions **48** are configurated as closed loops over the entire length, forming an internal channel or space **16** in which there is accommodated an elongated reinforcing and stiffening member **62**, preferably of circular or substantially circular cross-section. The purpose of course is to reinforce the marginal portions so that even when the weight of the wearer rests upon the cover **24**, the possibility of excessive stretching and final tearing of the marginal portions in the region of the engagement with the respective hooks **54** is avoided.

It will be understood that each of the elements described above, or two or more together, may also find a useful application in other types of constructions differing from the types described above.

While the invention has been illustrated and described as embodied in a folding-furniture piece, it is not intended to be limited to the details shown, since various modifications and structural changes may be made without departing in any way from the spirit of the present invention.

Without further analysis, the foregoing will so fully reveal the gist of the present invention that others can by applying current knowledge readily adapt it for various applications without omitting features that, from the standpoint or prior art, fairly constitute essential characteristics of the generic or specific aspects of this invention and, therefore, such adaptations should and are intended to be comprehended within the meaning and range of equivalence of the following claims.

What is claimed as new and desired to be protected by Letters Patent is set forth in the appended claims:

1. A folding-furniture piece, comprising at least two frame sections articulated to each other and each having a pair of transversely spaced lateral frame portions having a plurality of apertures; a sheet-material cover spanning each of said frame sections at one major side thereof and having marginal portions at least partially embracing the respective frame portions and provided with a plurality of holes, said sheet-material cover having two superimposed layers of sheet-material and a layer of padding material sandwiched between said layers of sheet-material; and a plurality of elongated springs spanning the respective frame sections at the opposite major side and each having spaced ends provided with hooks extending through said holes and apertures so as to maintain said cover taut while connecting said springs and cover with said frame sections, said springs being located closely

adjacent said cover so as to support the same when weight is placed on it at said one major side.

2. A folding-furniture piece as defined in claim 1, said frame sections each also having a pair of spaced transverse frame portions extending between and connecting the respective lateral frame portions; and wherein said cover has at least a pair of pockets each embracing and receiving one of said transverse frame portions.

3. A folding-furniture piece as defined in claim 2, wherein said springs are flat springs and elongated in at least substantial parallelism with the respective transverse frame portions.

4. A folding-furniture piece as defined in claim 1, wherein said marginal portions have the cross-sectional configuration of a closed loop and each accommodate interiorly an elongated stiffening and reinforcing element.

5. A folding-furniture piece as defined in claim 5, wherein the respective stiffening and reinforcing elements are of substantially circular cross-section.

6. A folding-furniture piece as defined in claim 1, wherein the marginal portions of all of said layers are united and jointly embrace the respective frame portions.

7. A folding-furniture piece as defined in claim 6; further comprising stitched seams uniting said marginal portions of said layers.

8. A folding-furniture piece as defined in claim 6, wherein said padding material is a synthetic plastic foam material.

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