

Method of producing a piece of upholstered furniture,
piece of upholstered furniture produced by this method
and basic structure therefor

- 5 The invention relates to a method of producing a piece of upholstered furniture, a piece of upholstered furniture produced by this method and a basic structure for it.
- 10 Pieces of upholstered furniture are usually produced and constructed such that, similarly to a bed, first of all provided is a bottom frame or bottom framework on which the legs are also arranged, which is of, for example, frame-like design and in which a preferably
- 15 metallic spring system is introduced, a frame or a framework for the backrest also being supported on said bottom framework. Upholstery is positioned on top of this bottom framework in the same way as the mattress is finally positioned on a sprung frame of a bed. The
- 20 upholstery and framework are finally enclosed by a cover material which is tacked, for example, on the underside of the framework. In this case, the upholstery is also available, in particular, as material for the design-related shaping, although only
- 25 with limited design freedom.

This conventional construction of a piece of upholstered furniture thus has a number of disadvantages. The piece of upholstered furniture

30 requires a considerable amount of time in order to be constructed on a virtually individual basis from a large number of different materials, as a result of which the production of the piece of upholstered furniture is relatively cost-intensive. Moreover,

35 conversely, it is also the case that such a piece of upholstered furniture cannot be recycled in practice; rather, it ends up as bulky refuse which has to be disposed of thermally since it would be uneconomical, if not impossible, for the corresponding conventional

piece of upholstered furniture to be dismantled into individual constituent parts in order for the latter to be fed, if appropriate, to recycling.

5 The present invention seeks to avoid the problems resulting from the conventional production of pieces of upholstered furniture, in particular the problems indicated above, and to present a fundamentally different construction for pieces of upholstered
10 furniture.

This object is achieved according to the invention in that there is provided a basic element which serves for stabilizing the piece of upholstered furniture, predetermines only roughly the progression of the seat
15 and/or the backrest and is intended for arranging relatively close to the user contact surface of the piece of upholstered furniture, and essentially also design-related shaping of the piece of upholstered furniture beyond the contact surfaces takes place
20 beneath and/or behind the basic element in that a material which is suitable for shaping is arranged on the underside and/or rear side of the basic element.

According to the invention, a piece of upholstered
25 furniture is thus constructed in a fundamentally totally different way from a conventional piece of upholstered furniture. This is because the construction does not begin with a frame or basic element on which the piece of upholstered furniture is constructed in
30 the upward direction by applying upholstery which, in addition to determining the sitting comfort, is also used as the material which is to be shaped. Rather, the piece of upholstered furniture which is to be produced in the manner according to the invention has a basic
35 element which, rather than being arranged in the vicinity of the ground, is arranged in the vicinity of the contact surfaces, that is to say more or less on the top side, in which case the actual shaping, which ultimately also determines the design of the piece of

upholstered furniture, takes place in the downward direction, to be precise with a greater level of freedom because the shaping does not change the sitting comfort. Materials which are suitable for shaping are thus arranged or screw-connected beneath and/or behind a corresponding basic element. Thereafter, the basic element and the shaping material in turn are enclosed by a cover-material sheath, to be precise they are surrounded all the way round or preferably separately for the seat part and backrest part. The cover-material sheath could be closed, for example, with the aid of a zip or the like, sewn or hooked together. In principle, however, it would also be possible, in the case of the production of pieces of upholstered furniture according to the invention, for the cover material to be tacked on the underside without a closed cover-material sheath being formed.

The basic element forms, and itself provides, essentially the seat surface and support-giving surface of the piece of upholstered furniture. For its yielding capacity, it is of preferably frame-like design (in each case) in the seat-surface region and/or in the backrest region, the frame-surrounded central opening, in turn, being preferably largely closed by a lining. The sitting comfort then consequently results essentially from the lining, of which the elasticity and yielding capacity can be predetermined and possibly also adjusted, it likewise being conceivable for certain additional shaping to be introduced into the lining itself by padding, beads, possibly even beads which can be changed in shape or inflated, being worked into the lining. In this case, the lining may be fitted into the frame formation of the basic element all the way round, for example, with the aid of metallic hooks. The frame itself or the basic element itself is as stable as possible and is preferably made of aluminum or else of wood, for example of metal profiles or of a plywood or of a solid-wood material, beechwood, in

particular, being suitable for the latter embodiment. In this case, the basic element could be designed in a single part, and bent, or otherwise shaped, for example possibly with the aid of steam treatment. The basic
5 element could also be designed in a number of parts, and it would be possible for the seat-surface region and the backrest region to be connected to one another, for example, by metallic angle elements or the like. This would also render conceivable, for example,
10 backrest adjustability with the aid of hinges or the like. In addition, for possible armrests, it would be possible for at least core elements or anchorage elements to be arranged on the basic element, it being possible for the armrests to be shaped likewise by the
15 shaping material provided, possibly using a higher density or strength.

The shaping material preferably used is a polypropylene material which may be provided in block form with a
20 granular structure, as is customary for polystyrene, it also being possible for such a polypropylene material, for shaping purposes, to be cut to a certain shape, to be precise preferably by a computer-controlled material-processing machine. In order to achieve
25 greater density and strength, the polypropylene material may be thermally treated and compressed, and it is also quite possible for it to be pressed into shape.

30 Furthermore, it is also possible for (even) more comfortable formation of the contact surfaces, for the basic element to be upholstered with a conventional foam material or some other upholstery material, with the result that, in terms of the overall shape of the
35 piece of upholstered furniture which is to be produced, the basic element, rather than providing the contact surfaces directly, then functions more as a stabilizing core of the piece of upholstered furniture. Use is preferably made of a sheet-like foam material.

The production of a piece of upholstered furniture according to the invention has various advantages over conventional production. First of all, according to the invention, the final assembly of a piece of upholstered furniture can take place more or less using already finished individual parts, and this can be quickly and easily carried out even by workers who are unfamiliar with the trade. It is possible to provide virtually a modular construction system from which a piece of upholstered furniture or a landscaped interior is constructed, although it is only necessary to use approximately five different materials or individual parts for the body of the piece of upholstered furniture, namely a basic element, which may, in principle, always have the same appearance and construction, totally irrespective of the desired design of the piece of upholstered furniture, a lining for the basic element, some shaping blocks for the seat-surface region, the backrest region and, if appropriate, the armrest region of the piece of upholstered furniture, one to two foam layers for the contact-surface upholstery and a cover sheath in order to enclose the body or elements of the piece of upholstered furniture.

Just as straightforwardly as it is to construct such a piece of upholstered furniture, it is also possible to dismantle the same again once its service life has expired, it being possible for the individual parts to be separated from one another again very easily and reused in part and/or fed to straightforward recycling. The individual construction parts, of which there are very few, can be produced at one location and delivered to another in order to be finished off and can be definitively assembled by minimally skilled workers or, if appropriate, even in an automated manner. In this case, the desired design of the piece of upholstered furniture is determined primarily merely by the shaping

material, which can be delivered in order to be finished off with corresponding preforming, while all the rest of the parts may be designed, in principle, for purely technical/functional reasons, in a standard
5 manner and in the same way. It is only the cover material which also determines the appearance of the piece of upholstered furniture, and thus itself is also very easily selectable and even exchangeable.

10 This method of assembling a piece of upholstered furniture makes it possible for production to be controlled, in particular, by the logistics or even demand. The reverse was the case with the conventional method of producing a piece of upholstered furniture.
15 As in the fashion industry, for example, an upholstered-furniture manufacturer produced pieces of upholstered furniture virtually seasonally based on "supposed customer taste" and then presented this furniture to the consumer. With the assembly method
20 according to the invention, it would virtually be possible for a customer to determine the design of his piece of upholstered furniture himself and to order a corresponding piece of upholstered furniture, whereupon such a piece of upholstered furniture could then be
25 produced, and delivered, in a very short time quite specifically to order.

This also applies, in particular, to the legs of the piece of upholstered furniture. For this purpose, the
30 invention provides that these are arranged on fixing regions which are connected in a stable manner to the basic element of the piece of upholstered furniture through the shaping material. Metallic fastening plates, for example, are thus provided, and it is
35 possible for any desired legs with any desired inclination or length or made of any desired material to be fastened, and even exchanged, in dependence on customer requirements, if appropriate to match other pieces of furniture.

Since the basic element with its lining ensures the sitting comfort and even absorbs the weight of an individual in the sitting position, further shaping, in particular on the underside and the rear side of the piece of upholstered furniture, serves only to produce more voluminous design-related shaping, with the result that it is also possible for such further shaping to be dispensed with in certain cases, that is to say a plainer version of the piece of upholstered furniture according to the invention with a design which thus has a more technical look would indeed be possible. In particular, the lining may be designed as an elastic woven material which may have a pleasing outer appearance, with the result that even a visible rear side of such a piece of upholstered furniture need not be unsightly. Independent protection is claimed for such a simplified form of a piece of upholstered furniture according to the invention.

The lining material provided could, in particular, be a woven material which has, for example, elastic warp threads which are woven with non-elastic woof threads, thus producing a woven material which is elastic, i.e. extensible, in particular in one direction, for example by an extent in the lengthwise direction in the order of magnitude of 130%.

In order to avoid excessive yielding of the lining when an individual sits down, and thus to improve the sitting comfort, a development of the invention provides that the lining material is introduced into the basic element under prestressing. For the yielding distance of the lining material, the shaping material may have a corresponding recess as a seat hollow or the like.

The basic element is formed preferably largely of aluminum, in particular of aluminum profiles which

have, for example, guide channels, e.g. T-shaped guide grooves into which it is possible to introduce border regions of the lining with a positive lock, for example in the manner of a piped border or by hooking. Of
5 course, it would also be conceivable for the basic element to be produced from wood or plastic.

It is also intended for the legs of the piece of upholstered furniture to be supported directly on the
10 basic element rather than on the shaping material, which may be too unstable from the point of view of statics.

The lining material may be prestressed, for example, in
15 that first of all two border regions of the lining are positioned on mutually parallel members of the basic element and the members are moved further apart from one another, as a result of which the lining is prestressed. When, in this respect, the desired frame
20 extent has been reached by the distance between the members, the struts are set as spacers between the braced members and, in all four corner regions, the respective struts and members are connected to one another by corner connectors. This takes place
25 preferably with a positive lock by tenon and mortise joints, which also ensure that the corner connectors are secured against rotation and which thus also cause the frame to have a certain strength in relation to torsional forces.

30 Independent protection is claimed for a piece of upholstered furniture produced by the method.

A piece of upholstered furniture according to the
35 invention is distinguished in that it has a basic structure which comprises two frame-like basic elements which each form the skeleton of the seat and of the backrest of the upholstery and are correspondingly connected to one another at a predetermined angle, the

frame openings within the basic elements being closed, at least largely, by a lining which absorbs the weight of an individual in the sitting position.

- 5 This results in the same advantages for the piece of upholstered furniture as have already been described in relation to the method.

Preferred developments of this piece of upholstered
10 furniture can be gathered from claims 16 to 21.

Independent protection is also claimed for a basic structure for a piece of upholstered furniture, which is designed essentially from two frames which are
15 connected to one another at a predetermined angle and form the supporting elements of the backrest and of the seat of the piece of upholstered furniture, the inner openings of the frames being closed, at least largely, by means of a lining which absorbs the weight of an
20 individual in the sitting position.

Preferred developments of such a basic structure can be gathered from claims 23 to 26.

- 25 Exemplary embodiments for the invention, from which further inventive features are gathered, are illustrated schematically in the drawing, in which:

Figure 1 shows a perspective view of a frame for a
30 backrest of a sofa according to the invention,

Figure 2 shows an exploded illustration, in perspective, of the connecting region between a corner connector and a member for a frame
35 according to Figure 1,

Figures 3a and 3b show perspective views of the corner connector according to Figure 2 with its connecting tenons, said corner connector being shown respectively in an exploded

illustration and in the joined-together state,

Figure 4 shows the cross section of a member according to Figure 2,

5 Figure 5 shows a perspective view of a portion of a member according to Figure 2 or 4,

Figure 6 shows a perspective view of a basic structure for a piece of upholstered furniture according to the invention comprising a
10 backrest frame according to Figure 1 and a seat frame, with a furniture leg indicated thereon,

Figure 7 shows an exploded illustration of that corner region with the furniture leg which is
15 designated by VII in Figure 6, and

Figure 8 shows a perspective view of a portion of the overall skeleton of a sofa according to the invention.

20 Figure 1 shows a perspective illustration of a frame element or a basic element of a basic structure for a piece of upholstered furniture according to the invention. In this case, Figure 1 illustrates the frame for the backrest of a sofa.

25 Said frame essentially comprises four bars, namely two horizontally running members 1 and two vertically running struts 2, the struts 2 and the members 1 being connected to one another in the corner regions via
30 corner connectors 3, that is to say they are connected to one another by tenon and mortise joints. A corresponding frame is also provided for the seat of the sofa, the frame for the backrest and the frame for the seat being connected directly to one another, to be
35 precise either at a predetermined angle of, for example, 105° or in a variable manner, for example, via (piano) hinges.

Unlike the frame for the seat of the sofa, the frame which is illustrated in Figure 1, and is intended for a backrest, also has an additional, intermediate member 4 which has its end sides either connected rigidly to the struts 2, for example by screw-connection, or latched or braced on the struts 2 with a positive lock by virtue of corresponding shaped elements.

This is because the members 1 and 4 as well as the struts 2 have an essentially square cross section with grooves which run in each longitudinal narrow side and are merely indicated in Figure 1, but will be illustrated in more detail in a further figure. These grooves are possible fastening means, in particular for linings, which absorb the weight of an individual in the sitting position, and also for cover materials, which ultimately cover over the structure of the piece of upholstered furniture. This is because it is precisely the large number of available grooves which makes it possible to provide positively locking or hook connections by means of which such lining materials or cover materials can easily be hooked in, or otherwise fastened, at virtually any desired location, with the result that, at a later stage, very straightforward dismantling of the piece of upholstered furniture for disposal and, in particular, recycling purposes is also possible. With the innovative piece of upholstered furniture, the conventional adhesive bonding and tacking can be dispensed with completely. It is also possible for shaping materials, which are to be arranged on the frame-comprising basic structure, likewise to be arranged with a positive lock in the grooves of the frame bars provided. The same also applies to the legs of the piece of upholstered furniture, which are likewise connected directly to frame bars, and to armrests or the like, it also being possible, once again, for armrests to be constructed in a frame-like manner from profiles which may possibly also extend from the seat to the ground.

The frames of the basic structure each surround frame openings which are closed to the greatest possible extent by elastic linings, for example elastically woven materials, which ultimately provide the actual sitting comfort and absorb the weight of the individual in the sitting position. This lining is preferably arranged on the respective frame under prestressing, it being possible, in the case of the concept described, for the backrest part and the seat part of the piece of upholstered furniture to be produced, and constructed, completely separately from one another right up to the last step, namely the arrangement of the cover material, which also need not be selected until the end.

Prestressing and fitting of the lining material thus likewise take place separately, for the frames of the seat and of the backrest, by way of corresponding lining strips or, in the broadest sense, sections of cloth of essentially rectangular form. Two mutually parallel border regions of the lining strip are provided with hook bars which have hook elements which can be hooked into grooves of two mutually parallel members 1 or 1 and 4. By virtue of these two members 1, 1 or 1, 4 being drawn apart from one another, the lining is prestressed until the ultimately desired frame extent has been reached, this then being fixed, and kept at a distance, in that it is only then that the struts 2 are connected rigidly to the last of the two members, whereas they could already be connected to the first of the two members.

For this lining, use is made of different members for the backrest and the seat. This is because, in the case of the backrest, as is shown in Figure 1, the top member 1 and the intermediate member 4, which is only provided in the case of the backrest, are used in order to brace the lining between these two members. In the

case of the seat, whose frame only has two members 1, but no intermediate member 4, the two members 1 are used directly for this lining. As has already been described, the frame for the backrest and the frame for the seat are connected to one another at an angle, to be precise essentially the bottom member 1 of the backrest is connected to the rear member 1 of the horizontally located frame of the seat. A specific connecting element may be constituted by a bent pin which first of all runs with a positive lock in a groove of a strut of the backrest, follows the bend of the corner connector and then passes into the groove of a strut of the seat.

The different frame bars are provided with shaping material in order to produce and construct the desired design-related final-volume form of the piece of upholstered furniture, the construction taking place according to the invention, in particular, in the downward and rearward directions, and the frames thus remaining relatively close to the contact surfaces for the individual in the sitting position and, if need be, also being damped by relatively thin upholstery. The actual elasticity and the actual sitting comfort are produced, as has already been mentioned, by the lining of the frames itself. The presence of two bottom members 1 and 4 in the backrest is manifested by the type of looping of the cover material, which is guided over the seat region and the backrest at the end. This is because the seat cushion, which possibly may also be positioned on the lining of the seat, projects beyond the bottom member 1 of the backrest and projects up more or less to the level of the intermediate member 4. The cover material for the seat is guided over the seat surface of the seat and is then threaded through between the bottom member 1 and the intermediate member 4 of the backrest, guided downward and, finally, either sewn to give full looping in the bottom region of the piece of upholstered furniture, any materials possibly

guided over the rests also terminating on the underside of the seat, or the borders of the cover material are hooked in a suitable manner on the bars of the frame of the seat, as has been described.

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The procedure is similar for the cover material for the backrest, this cover material being guided over the contact surface of the backrest and then guided downward over the top member 1 of the backrest and
10 likewise through between the bottom member 1 and the intermediate member 4, obviously above the corresponding cover material of the seat. This produces, essentially topologically, two independent, more or less self-contained cover-material sheaths with
15 the customary and known joint between the backrest cushion and the seat cushion. At the same time, it is also possible, in the customary manner, for the cover material also to cover over the rear sides, and even, if need be, the undersides, of the pieces of
20 upholstered furniture in a seamless manner, with the result that such a piece of upholstered furniture can, for example, stand on its own in the room, to good esthetic effect.

25 Figure 2 shows an exploded illustration of a member 1 or of a strut 2, which is illustrated in non-continuous and shortened form. A corner connector 3 is shown as a round corner in the region of an end side of said member 1, the connector bearing connecting tenons 5
30 which serve for connection between the corner connector 3 and member 1.

It is not just this tenon and mortise joint with, for example, five connecting tenons 5, which can be
35 introduced into corresponding bores both in the member 1 and in the corner connector 3, which can be seen from Figure 2; it is also possible to see from this figure the profiling of the cross section of the member and the same profiling of the corner connector 3. This is

because the members 1 and also the struts 2 have an essentially square cross section, essentially T-shaped grooves being introduced in the sides of the square. All of the profiles may be extruded, for example, from
5 aluminum and then cut or bent. Very straightforward and cost-effective production of such profiles, even with the somewhat complicated geometry, is thus readily possible. The grooves 6, which in the finished frame continue in each case endlessly even in the regions of
10 the corner connectors 3, provide excellent possible fastening means for the woven lining material and for the cover materials of the piece of upholstered furniture. It is precisely for the cover materials that it is important for these materials also to be passed
15 around the corner regions in a fixed manner, the cover materials in these regions, if necessary, being somewhat gathered but it also being possible for them to be fixed along the entire line. A hook bar provided on a cover material which is sewn, for example, to a
20 border of the cover material, receives on the border which is positioned on the cover material, and is directed away from the freely projecting hook border, in the regions for corners of the piece of furniture, preferably a type of zigzag toothing arrangement which
25 makes it possible for the endless bar also to be guided readily, in order to also realize the hook connection in the grooves 6, about the bent corners of the corner connectors 3 and to butt against these round corners because the gaps between the teeth in the toothing
30 arrangement make it possible, in order to realize the corresponding bending, for the teeth to be guided more closely to one another, while at the same time the material as such is somewhat gathered automatically. A projection of the flat-cut cover material to a more
35 spherical geometry in the corner regions is thus possible in a particularly straightforward manner without darts or the like in the cover material, to be precise using a closely abutting connection over the entire length of the frame. Of course, it is also

possible to produce bends in which the gaps between the teeth are increased and the teeth of the connecting bar move apart from one another and the material is somewhat expanded or stretched in corresponding bend regions.

Figures 3a and 3b show further illustrations of a corner connector 3, to be precise Figure 3a shows an exploded illustration with connecting tenons 5 which have not yet been introduced and Figure 3b shows an illustration in which connecting tenons 5 have been introduced.

Figure 4 shows, on a further-enlarged scale, the cross section of a profile of a member 1 or of a strut 2.

It is possible to see, in particular, the cross-sectional shapes of the grooves 6 and continuous tubular channels 7 for the introduction of the connecting tenons 5.

Figure 5 shows, once again in a perspective view, a portion of an extruded element for a member 1 or of a strut 2 with the cross section already known from Figure 4.

Figure 6 shows a basic structure for a sofa according to the invention which comprises a frame for the backrest, as is illustrated in Figure 1, and a similar, horizontally oriented frame for the seat, which is positioned on said backrest frame. For the sake of clarity, the frame members and struts have not been depicted to scale in said Figure 6, but their thicknesses have been exaggerated.

The same structural elements are given the same designations as in the preceding figures, as is also the case in the following figures.

The two frames are connected to one another at a predetermined angle of, for example, 105° to give the basic structure. For such a connection, it would be possible to use, theoretically, screw-connection angle
5 plates or the like and also hinges to change the angle, but a preferred solution consists in that bent connecting pins, following the progression of the grooves in the end regions of the basic structure, are positioned or introduced with a positive lock into said
10 grooves. Such a rigid pin would follow, for example, first of all the progression of a groove 6 of a strut 2 of the back frame, to be precise in the downward direction, and then also the following progression of the extension of this groove 6 in the corner connector,
15 and would then be angled forward in the direction of the seat and pass into the nearest groove 6 of a strut 2 of the seat frame and then follow the progression of this new groove 6. This also produces a type of plug-in connection or mortise tenon joint, the only difference
20 being that this tenon would have to have a somewhat more bizarre, unconventional progression. Once again, advantageous use is made of the grooves 6 in the case of this positively locking plug-in connection. Theoretically, it would of course also be possible, for
25 connecting the backrest and seat, to use angle plates or the like on the end sides or, for example, prismatic hollowed sheet-metal elements into which the corner regions of the basic structure are introduced and screw-connected. However, the preferred plug-in
30 connection continues the elegant plug-in concept of the entire piece of upholstered furniture. It is also the case here, then, that there is no need to fall back on conventional connecting methods.

35 Figure 6 indicates, by way of example, a leg of the sofa in a front corner region of the seat. This leg is illustrated more clearly in an exploded illustration in Figure 7.

First of all, the leg structure comprises a triangular plate 8 which is pushed into a corner region of the seat frame and fixed there. This plate 8 has screw holes 9 through which connecting screws may be guided
5 in order to connect an intermediate element 10 to the plate 8. The intermediate element 10, in turn, has the actual leg 11 connected, for example screw-connected, to it. This leg 11 is shaped in coordination with the design of the piece of upholstered furniture and may
10 also be oriented obliquely, for example, as is illustrated. The connection between the intermediate element 10 and the leg 11 may also be produced, for example, via a different screw-connection in that, for example, the entire intermediate element 10 has an
15 internal thread and the leg 11 has an external thread. It would thus also easily be possible to provide, for example, height adjustability and/or length adjustability for the leg structure.

20 The intermediate element 10 serves essentially merely as a bridging element in order to provide a fixed connection between the leg 11 and the seat frame. The intermediate element 10 is enclosed by the shaping material, which is positioned beneath the seat frame in
25 order to form the volume-enhancing shape of the piece of upholstered furniture, to be precise said material is also preferably latched with a positive lock into grooves of the frame structure. The intermediate element 10 thus guides the connection of the leg
30 through said shaping material to the seat frame, with the result that the shaping material itself does not have to absorb any forces. Obviously, depending on the thickness of the shaping material, it would also be possible for the intermediate element 10 to be of any
35 desired length, and it would be possible to connect, for example, a longer intermediate element 10 to a shorter leg 11 in order not to increase the overall seat height.

Figure 8 shows a perspective view of a portion of the overall skeleton of a sofa according to the invention.

5 Illustrated once again are the interconnected frames of the backrest and of the seat, and this time they already have the linings 12, which close the openings of the frames and absorb the weight of individuals in the sitting position.

10 Moreover, it is also possible to see the arrangement of the leg structures with the legs 11, the intermediate elements 10 predetermining the space, for the shaping material, which is arranged beneath the seat surface, with the result that, at a later stage, it is only
15 possible to see the actual legs 11.

Figure 8 also shows the structure of an armrest 13 which is fastened and constructed on a side strut 2 of the seat frame. This armrest structure too comprises a
20 smaller frame made of members and struts, which for the sake of simplicity are not indicated specifically, on which it is likewise possible to arrange shaping material for the armrest.

25 In summary, then, it may be said that the invention relates to a piece of upholstered furniture according to the invention, to the basic structure thereof and to a method of producing the same, the invention being based on the object of providing an entirely novel
30 design concept for a piece of upholstered furniture and thus of achieving possible designs which are more varied and, at the same time, of bringing about a simplified, recyclable element-assembly method which can be marketed better from the logistics point of
35 view. This is achieved in that the piece of upholstered furniture is constructed from a basic structure and is covered in order to produce the desired shape, the sitting comfort of the piece of upholstered furniture being predetermined by a lining of the basic structure,

irrespective of the covering. In the case of the novel construction of the piece of upholstered furniture, therefore, armrest shapes and legs of the piece of upholstered furniture only constitute accessories, 5 whereas, in the case of a conventional construction of a piece of upholstered furniture, the legs had to be regarded as it were, as a basic part of the piece of upholstered furniture, in which case they first of all had to be connected to a basic frame and supported on 10 said basic frame. Everything else was constructed in the upward direction, by filling, stuffing, sewing, tacking, etc., using a wide range of different materials. The danger here was either that of producing a fantastic design which possibly provides sitting 15 comfort of lesser quality or that of producing good sitting comfort but only a very bland design, and all of this despite various costly operations and a possibly high dead weight.

20 The core of the piece of upholstered furniture according to the invention is formed by the basic structure which comprises a small number of parts and is preferably in the form of a plug-in system which may be equipped as desired, and in all directions, with 25 shaping materials or design-related accessories, to be precise in a relatively late phase of the construction, and possibly in accordance with individual customer requirements. The basic elements can thus always be provided in the same, standard form, while it is 30 possible to dispense with wide-ranging and costly storage for the actual design elements. The combination of individual sitting or lying elements to form any desired interior layout is also possible in a straightforward manner, ultimately by virtue of the 35 straightforward connection of the basic elements or basic structures in the individual elements.



Claims:

1. A method of producing a piece of upholstered furniture, wherein there is provided a basic
5 element which serves for stabilizing the piece of upholstered furniture, predetermines only roughly, or in principle, the progression of the seat and/or the backrest and is intended for arranging relatively close to the user contact surface of
10 the piece of upholstered furniture, and essentially also design-related shaping of the piece of upholstered furniture beyond the contact surfaces takes place beneath and/or behind the basic element in that a material which is suitable
15 for shaping is arranged on the underside and/or rear side of the basic element.
2. The method as claimed in claim 1, wherein the
20 shaping material is preformed and then arranged on the basic element.
3. The method as claimed in claim 1 or 2, wherein the
25 basic structure is upholstered with an upholstery material on its top side and/or underside.
4. The method for producing a piece of upholstered
30 furniture, preferably as claimed in one or more of the preceding claims, wherein the basic element, in the seat region and/or in the backrest region, is designed (in each case) in a frame-like manner as a surround of a central opening.
5. The method as claimed in claim 4, wherein the
35 central opening is at least largely closed (in each case) with a netting-like or woven lining.
6. The method as claimed in claim 5, wherein an
elastic lining material is selected.

This Sheet Has Been Replaced





7. The method as claimed in claim 6, wherein the lining material is introduced into the basic element under prestressing.
- 5 8. The method as claimed in one of claims 5 to 7, wherein, in order to provide a yielding distance for the lining in the shaping material, a corresponding recess is provided in the vicinity of the basic element.
- 10 9. The method as claimed in one of the preceding claims, wherein the basic element is formed at least largely of aluminum.
- 15 10. The method as claimed in one of the preceding claims 5 to 9, wherein the basic element is produced from profiles into which border regions of the lining are introduced with a positive lock in the manner of a piped border.
- 20 11. The method as claimed in one of the preceding claims, wherein the shaping material used is polypropylene.
- 25 12. The method as claimed in one of the preceding claims, wherein, for fastening purposes, the legs of the piece of upholstered furniture are connected to the basic element, if appropriate, through fixing regions provided on the underside of the shaping material.
- 30 13. The method as claimed in claims 7 and 10, wherein border regions of the lining are introduced with a positive lock into mutually parallel members of the basic element, wherein the distance between the members is then increased in order to prestress the lining material, and wherein, in order to form a frame, the frame struts are then set as spacers between the members.
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14. The method as claimed in one of claims 4 to 13,
wherein the frame bars of the basic element are
connected to one another by positive locks in the
corner regions of the frame, via corner
connectors, in a torsionally and rotationally
fixed manner.
15. A piece of upholstered furniture produced by the
method according to one or more of the preceding
claims 1 to 14, wherein it has a basic structure
which comprises two frame-like basic elements
which each form the skeleton of the seat and of
the backrest of the upholstery and are
correspondingly connected to one another at an
angle, the frame openings within the basic
elements being closed, at least largely, by a
lining (12) which absorbs the weight of an
individual in the sitting position.
16. The piece of upholstered furniture as claimed in
claim 15, wherein the skeleton provided by the
basic structure is equipped with a shaping
material, which largely predetermines the plastic
shape of the piece of upholstered furniture,
essentially on the rear side of the backrest and
the underside of the seat.
17. The piece of upholstered furniture as claimed in
claim 15 or 16, wherein the skeleton provided by
the basic structure is provided with an upholstery
material on the seat-surface side of the seat and
on the support-giving side of the backrest.
18. The piece of upholstered furniture as claimed in
one of the preceding claims 15 to 17, wherein the
legs (10, 11) of the piece of upholstered
furniture are connected directly to the basic





structure, to be precise, if appropriate, through the shaping material.

- 5 19. The piece of upholstered furniture as claimed in claim 17, wherein the shaping material is preformed to give plastic parts.
- 10 20. The piece of upholstered furniture as claimed in one of claims 15 to 19, wherein a cover material for the piece of upholstered furniture is fitted over the interior of the latter essentially in the manner of a sheath and fastened on the basic structure.
- 15 21. The piece of upholstered furniture as claimed in claim 20, wherein frame elements of the basic structure (1, 2, 3), for a positively locking connection of border regions of the lining (12), are profiled with corresponding recesses (6), and
20 wherein the border regions of the cover material, in a similar manner to the lining (12), are introduced into corresponding positively locking recesses (6) of the frame elements (1 to 3) of the basic structure and fastened in this way.
- 25 22. A basic structure for a piece of upholstered furniture, wherein it is designed essentially from two frames which are connected to one another at an angle and form the supporting elements of the
30 backrest and of the seat of the piece of upholstered furniture, the inner openings of the frames being closed, at least largely, by means of a lining (12) which absorbs the weight of an individual in the sitting position.
- 35 23. The basic structure as claimed in claim 22, wherein the lining material provided is an elastic woven material.

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24. The basic structure as claimed in claim 23, wherein the lining material is fastened on the respective frame under prestressing.



- 5 25. The basic structure as claimed in claim 24, wherein members (1) of the respective frame, which are connected with a positive lock to the lining material, are forced apart from one another, and kept at a distance apart, by the struts (2) of the
- 10 frame in order to produce the prestressing of the lining material.
26. The basic structure as claimed in claim 25, wherein the members (1) and struts (2) of the
- 15 frame are connected to one another in a torsionally fixed manner via corner connectors (3) inserted into the corner regions, for which purpose the corner connectors (3) have corresponding positively locking elements (5).

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