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(54) **Chair comprising seat, backrest and legs.**

(57) A chair comprising a backrest and seat in one piece manufactured of a preferably anisotropic or laminated material having a generally uniform thickness, which chair can be provided with a chassis with legs, is stackable or can be placed so as to create a row of chairs, has a number a disadvantages connected with it, showing both during manufacture and during use. The disadvantages relating to the manufacture are essentially caused by the fact that the chair is to be assembled with an often heavy chassis, which both enhances the costs of manufacture and increases the weight, whereby the chair becomes heavy and difficult to transport.

The disadvantages relating to the use are essentially caused by the construction of the chair, in that it for example is difficult to fasten wood screws in work pieces with small material thickness, and the use of wood bolts or rivets demands machining of the top surface of the chair, and also that the chair as a consequence of joints and corners often is difficult to clean.

These disadvantages are effectively met in that the legs (3) are constituted by sideways directed extensions of the seat surface (1), said extensions being bent in an opposite direction relative the backrest (2), and in that the seat (1), the backrest (2) and the legs (3) are made from one work piece. With thus designed legs (3) a number of advantages are achieved with respect to the assemblage, the price, material utilization, weight and transport.

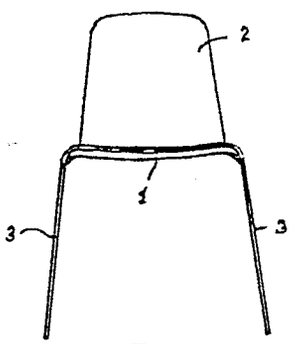

Fig.1

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CHAIR COMPRISING SEAT, BACKREST AND LEGS

The present invention relates to a chair comprsing a seat a backrest and side portions functioning as legs.

Chairs of this type are well known, in particular such chairs where a chassis of metal or wood is fastened to the seat and/or the backrest, which chassis constitutes the legs, and thus a more detailed account of these known chairs may be regarded as unnecessary.

There are however, a number of disadvantages connected with these well known chairs, these disadvantages showing up during manufacture and during use. The disadvantages relating to the manufacture are essentially due to the fact that a chair after partial manufacture, in addition to the necessary treatment, is to be assembled with a heavy chassis, which both enhances the cost of manufacture resulting in an increased price, and also puts on to the weight. At the same time the thickness of the material due to necessary reinforcements, is not always optimal, thereby having a negative influence on among other things material utilization, whereby the chair becomes heavy and difficult to transport.

Disadvantages relating to the use are caused essentially by the construction of the chair, in so far as the stability of the chair due to the anisotropy of the material, and the separately manufactured chassies, frequently is insufficient. It is for example difficult to fasten wood screws in work pieces with small material thickness, and the use of dowels or rivets demands a machining of the top surface of the chair, which both enhances the cost of manufacture and reduces the possibilities for an effective cleaning. Additionally, such a chair as a consequence of utilizing a number of

different materials, and the different rates of ageing of these materials, very often suffers from problems of robustness and stability, and relatively quickly becomes unusable, whereto can be added, as mentioned above, that the chair due to joints and corners often is difficult to clean. Furthermore the ground under a chair comprising legs, is subjected to great wear, in particular when the chair is heavy.

The object for the present invention is thus to provide a chair of the above mentioned type, with which the above mentioned disadvantages effectively are overcome.

This object is achieved according to the invention in that the chair is manufactured through bending of a piece of a flat material, which piece of flat material preferably is anisotropic or laminated and has a generally uniform thickness. With thus shaped legs there is achieved a number of advantages with respect to the assemblage, the strength, the price, the material utilization, the weight and transport. As the chair is produced in one piece it does not have to be assembled, which saves time during manufacture. With the design according to the invention, the chair shall neither be provided with reinforcements, leading to an optimal materials utilization, both because the thickness can be held uniform, and because with a suitable arrangement of the direction of the veining in the veneer, a great static strength can be achieved, at a small consumption of material. Hereto is to be added that the shape of the work piece, i.e. the veneer before glueing and pressing. allows an efficient utilization of material strips or sheets. As a consequence of the small consumption of comparatively light materials, the weight is reduced correspondingly, which also is of importance for transport or keeping in stock. Because of the design of the legs as runners or rockers, together with the small

weight, good using characteristics are achieved as well as an increased users comfort. In a particular design of the chair as a rocking chair, the legs can however be convexly curved to form rockers. A further advantage of the chair according to the invention, comes from the fact that with the use of one single material, is achieved both a uniform wear, a robust chair and a homogenous aftertreatment of the chair, in that for example it is not necessary to use a number of types of varnish for varnishing for example wood and metal respectively. Hereby time is saved, and the costs during manufacture are further reduced, and the final product offers to the consumer a uniform upper surface, which due to the compact design of the chair is easy to keep clean. Consequently the chair is suitable for use within the hospital sector or other places where there are high demands for hygiene, for example in the food industry.

One embodiment of the invention will be explained in detail in the following, with reference to the drawings.

In the drawings

Fig. 1 shows a chair according to the invention in a front view,

Fig. 2 show the same chair in side view,

Fig. 3 shows a chair according to the invention in perspective view, and

Fig. 4 shows a work piece, from which a chair can be manufactured, and with a contour of the final chair indicated with a dash and dot line.

A chair manufactured from a work piece 4 of multi layer

veneer, for example cross-veneer, has a seat surface 1 and a backrest 2 and legs 3, formed by bending sideways directed extensions of the seat surface 1. In the shown embodiment the extensions of the seat surface are bent a little less than 90°, for example 80° to 85°, relative an imaginary line between the highest points of the seat surface, but with the stability of the chair in mind it is also possible to bend these extensions less than 80°.

A more detailed discussion of the manufacture of the backrests and their inclination is left out, since this is regarded as common knowledge

In Fig. 4 the contour of the final chair is indicated on the work piece 4 with a dashed and dotted line. It is here evident that the loss of material during the manufacture of the chair is relatively small. and approximately amounts to a few percent.

The material for manufacture of the chair according to the embodiment described, is essentially veneer, namely a flat cut top veneer with a thickness of for example 0.7 mm and an inlay veneer of for example sliced beech veneer with a thickness of for example 1 mm. In a prefered design of the chair according to the invention, two layers of top veneer and six layers of inlay veneer are used, said layers are arranged such that the direction of the veins in the veneer layers I, III, IV and VI essentially lay parallel with the symmetry axis of the work piece, while the veining in the layers II and V lay perpendicular to the symmetry axis. With this arrangement of the veining it has been taken into account that the greatest stresses on a chair, act thereon parallel to the symmetry axis, in that the veneer actually in the veining can carry great traction forces. This implies that the inlay veneer essentially carries those forces acting on the chair

during use, while the top veneer takes on a more decorative roll. The veining in the top veneer is not predetermined to have a certain direction and can thus be chosen with purely decorative aspects in mind.

The weight of the final chair amounts to little less than 6 kg, which constitutes a weight reduction of about 30% compared to previously known chairs, weighging at least 9 kg. As a consequence of this weight reduction the chair according to the invention can be produced without being provided with particular gripping means or cut-in portions, such means being necessary with heavier chairs. This means that the chair at least becomes cheeper to produce since the provision of such gripping means will increase the costs of production.

In the chosen embodiments, the chair according to the invention is manufactured of veneer, but other materials are also possible choices. Where it comes to outdoor use, the chair can be made from for example glass-fibre armoured form materials, of a spot welded wire netting, or of a metal plate, for example aluminium.

CLAIMS

1. Chair comprising seat (1), backrest (2) and as legs functioning side pieces (3), characterized in that the chair is manufactured by bending a piece of flat material, which piece of flat material preferably is anisotropic or laminated, and has a generally uniform thickness.

2. Chair according to claim 1, characterized in that the backrest (2) and legs (3) are bent less than 90°, preferably 80-85° relative the seat (1), and that the chair is adapted to be stackable.

3. Chair according to claim 1 or 2, characterized in that the lower edge of the legs are formed as runners.

4. Chair according to claim 1 or 2, characterized in that the legs are convexly curved to provide rockers.

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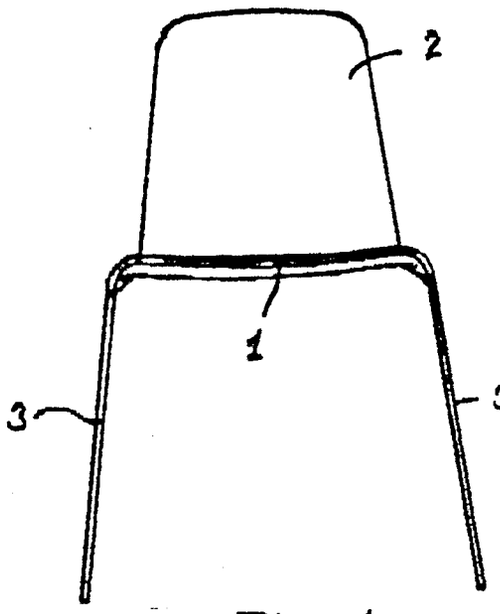

Fig.1

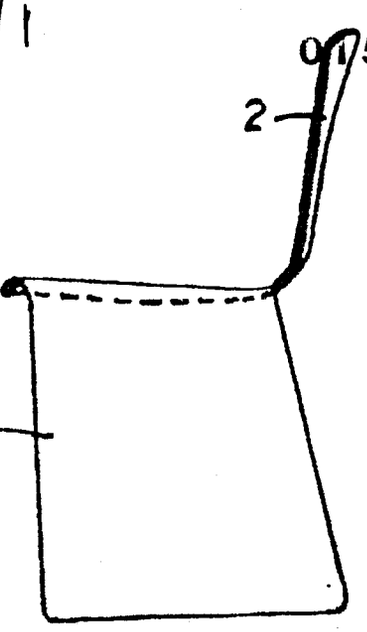

Fig.2

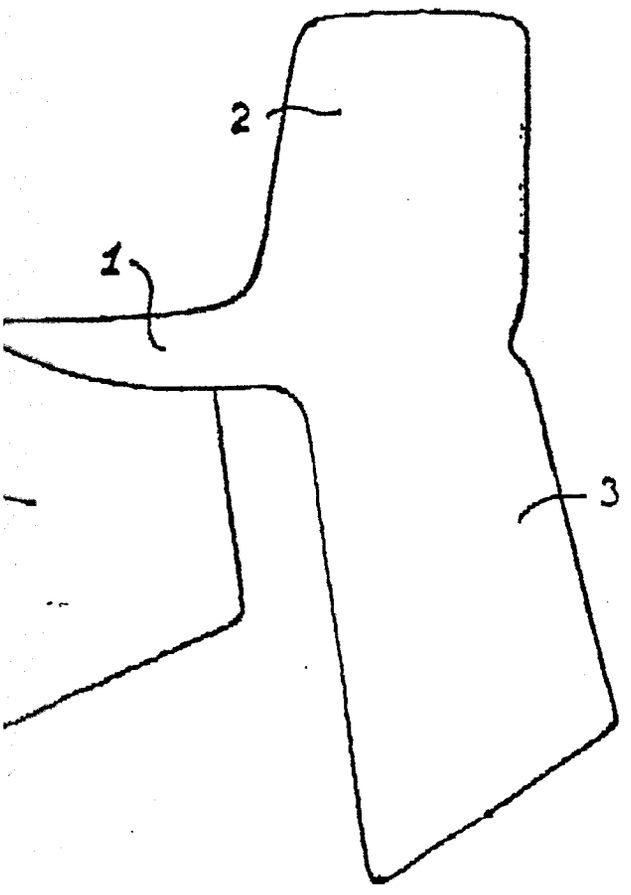

Fig.3

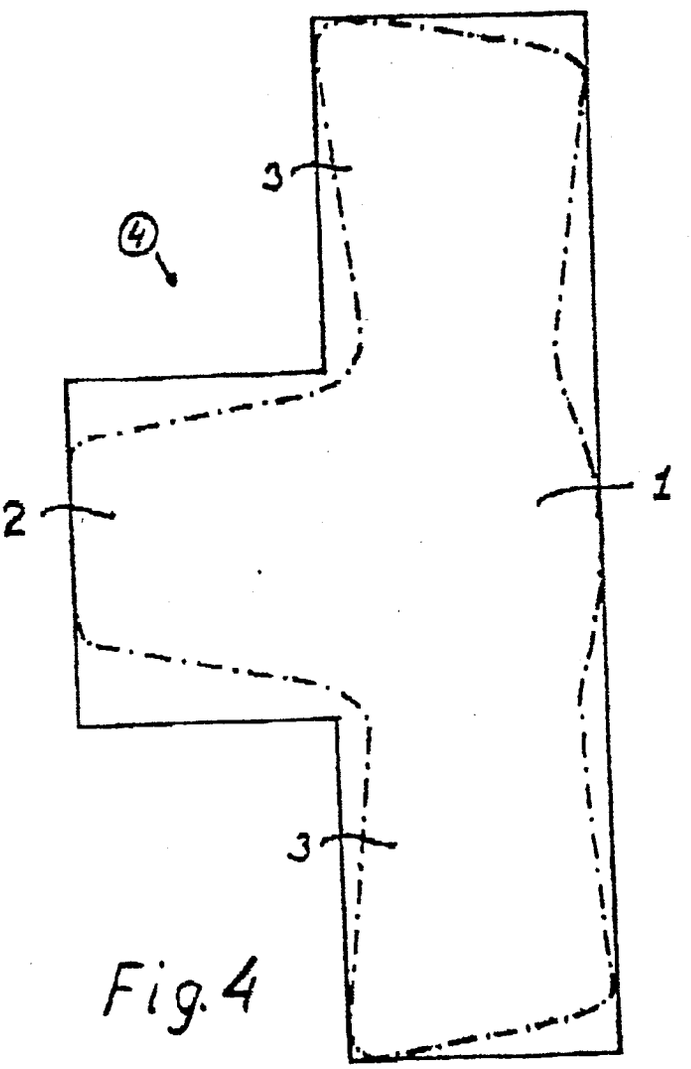

Fig.4