SLAT PANEL FURNITURE

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ABSTRACT

Disclosed are articles of furniture of varying configurations producible in knock-down form consisting of wood dowel and slat grid panels supported by notched wood legs. The panels consist of wood slats joined together and maintained in parallel coplanar relationship by wood dowels passing intersectingly therethrough intermediate the panel ends. The notched segments of the legs are dimensioned to interfit slidably with and between adjacent slats for assembly of legs with a grid panel. The adjacent slats interengaging the leg notches orient the legs to the panel, and by abutting the legs to dowels the latter serve most effectively to maintain the slat spacing constant where the legs react against the slats; also as locating elements for the legs in assembly and as anchor elements for leg fasteners applied to complete an aesthetically and structurally integrated assembly.

15 Claims, 7 Drawing Figures
SLAT PANEL FURNITURE

BACKGROUND OF THE INVENTION

In the commercial manufacture of decorator slatted grid paneling relatively low-cost production techniques have been developed which have greatly popularized the usage and thereby decreased the cost of these ornamental panels. Typically they are made with dowel rods which maintain the slats in spaced parallel relationship. Such paneling has been used extensively in sight screens, decking, fencing, and the like.

An object of this invention is to devise novel furniture items and an improved technique for manufacturing furniture items making further beneficial use of such paneling.

A related object is to devise improved furniture of relatively low cost and which is relatively simple to manufacture in any of various forms and for various applications.

Still another object is to devise improved, knock-down furniture items utilizing such slat grid panels to aesthetic and structural advantage in unique combinations advantageously utilizing the rigidly interconnected dowel and slat elements thereof to produce strong and positively interlocked joints with the furniture leg components, with pleasing effect and without structural weakening of the doweled slat grid assembly as a component of such furniture.

A related object is to devise improved furniture items of this nature which can be compactly packaged and stored in disassembled knock-down form, can be easily and quickly assembled with the simplest of tools by the average person, and the components of which for use with the preassembled doweled slat grid panels can be produced with simple woodworking machinery and easily procured metal connector fittings.

SUMMARY OF THE INVENTION

Furniture of this invention comprises at least one grid panel member, such as a horizontal shelf which is comprised of a plurality of spaced-apart, parallel, wood slats secured together in coplanar relationship by a plurality of spaced-apart wood dowels passing perpendicularly therethrough, and a plurality of wood legs. Typically four legs are used so positioned as to maintain an associated panel member horizontal, each leg having a notched segment for each shelf member supported thereby, each notched segment being snugly and slidably inserted between two of the slats and having vertical dimensions substantially equal to said two of said slats, and each leg being secured in abutting relation to one of said dowels. Furniture so constructed is inexpensive to manufacture and yet is both sturdy and attractive. Using appropriate sizes and numbers of slat panels and legs, furniture in the form of coffee tables, wine racks, book shelves, benches, chairs, and the like can be constructed.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an isometric view of an illustrative article of furniture according to this invention.

FIG. 2 is an enlarged isometric view of a portion of the article of FIG. 1 showing a preferred manner in which a slat panel and notched leg are assembled and secured together.

FIG. 3 is a vertical section view taken along line 3—3 of FIG. 2.

FIG. 4 is a plan view of the assembly of FIG. 2.

FIGS. 5, 6 and 7 are partially fragmented views of other ways in which the slat panels and notched legs can be secured together in furniture of this invention.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring to FIG. 1, an article of furniture illustrative of this invention is constructed of two spaced-apart, horizontal, slatted grid panels 1 and four notched wood legs 2. Each panel consists of a plurality of parallel, uniformly spaced-apart, wood slats 3 secured together by two spaced-apart wood dowels 4 passing perpendicularly therethrough. The dowels which are circular in cross section, are displaced from the extreme ends of the slats.

In FIGS. 2, 3 and 4, a notched segment 5 displaced from the ends of a leg 2 is snugly inserted between two slats 3 and is in an abutting relation to the dowel 4. The notched segment has a dimension parallel to the dowel which is substantially equal to the distance between two slats, and a vertical dimension substantially equal to the vertical dimension of the slats. The notched segment of the leg is notched at each of opposite sides so as to distribute load stresses equally to both adjacent slats and to apply load forces symmetrically over a substantial cross section of the leg. Thus positioned and held in fixed orientation to the panels each leg is secured in abutting relation to the dowel by means of a single threaded J-shaped member 6, the curved segment of which passes substantially around the dowel and the straight segment of which passes partially through the notched segment and into engagement with an oppositely threaded head member 7. It will therefore be seen that the procedure of installing a leg simply involves sliding its notched portion into and along the open slot between the free ends of two slats until the first dowel stops the leg, whereupon the single fastener 6 is applied. The fastener is substantially hidden from view and the leg itself becomes essentially a rigidly supported structural part of the assembly contributing to the aesthetic functionally decorative appearance of the assembly.

In FIG. 5 there is shown another type of securing member consisting of a threaded U-shaped member 6a, the curved segment of which passes completely around the dowel and the straight segments of which pass partially through the notched segment of the leg and into engagement with oppositely threaded head members 7. Referring to FIG. 6, the securing member consists of an L-shaped member 6b, one leg of which is in threaded engagement with a head member 7 and the other leg of which is inserted into a hole 8 provided in one of the slats.

FIG. 7 shows yet another type of securing member useful in this invention. It consists of a T-shaped member 6c having each of two ends inserted into holes 8 in the opposing slats and the third end in threaded engagement with a head member 7.

It is preferred that the panels used in this invention have slats which are uniformly spaced-apart and which have vertical dimensions at least twice as great as the dimensions parallel to the dowels. It is also preferred that the dowels be of circular cross section and be displaced from the ends of the slats.
With respect to the legs, it is preferred that, except for the notched segments, the horizontal dimensions of the legs both be substantially greater than the distance between two of the slats and that the notched segments be displaced from the ends of the legs. Legs of this design and the slat panels cooperate when assembled as described previously to yield simple and easily assembled structures which are not only aesthetically useful but surprising rigid and stable even before the leg fasteners are applied securing the panels and legs against disassembly.

What is claimed is:

1. An article of manufacture comprising a planar, horizontally disposed shelf member having spaced, parallel slots in the plane thereof, which open at opposite end edges of the member, and a plurality of spaced, parallel dowels extending crosswise of the slots, in the plane of the member, at points spaced inwardly from the aforesaid opposite end edges thereof, a plurality of leg members upstanding below the shelf member and slidably engaged in the slots at points between the dowels and the opposite end edges of the shelf member, said leg members having oppositely disposed notches therein, within which the edges of the slots are slidably engaged to secure the leg members against disengagement from the shelf member, crosswise the plane thereof, and fastener means interengaged between the leg members and the shelf member, adjacent the dowels in the slots, to secure the leg members against disengagement from the shelf member in the plane thereof.

2. The article of manufacture according to claim 1 wherein the respective leg members and dowels are in abutment with one another in the slots and clamped together by the fastener means.

3. The article of manufacture according to claim 2 wherein the fastener means include a pair of releasably engaged fastener members in association with each leg member, which are interengaged with the leg member and the shelf member so as to clamp the leg member to the adjacent dowel.

4. The article of manufacture according to claim 2 wherein the leg members have bores extending therethrough in the slots, and the fastener means include a pair of fastener members in association with each abutting dowel and leg member, one of which fastener members is interengaged with the shelf member on the dowel-adjacent side of the leg member, and extends into the bore of the leg member, and the other of which fastener members is interengaged between the leg member and the one fastener member, on the opposite side of the leg member, to clamp the leg member to the dowel and vice versa.

5. The article of manufacture according to claim 4 wherein the one fastener member has a flange thereon which is interengaged with the shelf member on the dowel-adjacent side of the leg member.

6. The article of manufacture according to claim 5 wherein the flange is interengaged with the dowel.

7. The article of manufacture according to claim 5 wherein the flange is interengaged with at least one edge of the slot.

8. The article of manufacture according to claim 1 wherein the shelf member comprises a series of spaced, parallel, horizontally disposed slats having sets of transversely aligned holes therethrough, and the dowels are inserted crosswise of the slats in the sets of holes.

9. The article of manufacture according to claim 8 wherein the leg members are vertically upstanding in the slots between the slats.

10. The article of manufacture according to claim 1 wherein the slots are continuously open between the leg members and the adjacent end edges of the shelf member.

11. An article of furniture comprising:

a. at least one horizontal shelf member comprising a plurality of spaced-apart, parallel, wood slats secured together by a plurality of spaced-apart wood dowels passing perpendicularly therethrough, and

b. a plurality of wood legs in number and so positioned as to maintain each shelf member horizontally, each leg having a notched segment for each shelf member supported thereby, each notched segment being snugly inserted between two of said slats, each notched segment having vertical dimensions substantially equal to said two of said slats, and each notched segment being secured in abutting relation to one of said dowels, each notched segment having oppositely disposed notches therein within which the two slats are snugly engaged, and being secured in said abutting relation by a rigid securing member passing through the leg having said notched segment.

12. An article of furniture comprising:

a. at least one horizontal shelf member comprising a plurality of spaced-apart, parallel, wood slats secured together by a plurality of spaced-apart wood dowels passing perpendicularly therethrough, and

b. a plurality of wood legs in number and so positioned as to maintain each shelf member horizontally, each leg having a notched segment for each shelf member supported thereby, each notched segment being snugly inserted between two of said slats, each notched segment having vertical dimensions substantially equal to said two of said slats, and each notched segment being secured in abutting relation to one of said dowels, said dowels being circular in cross section and displaced from the ends of said slats, and each notched segment being secured in said abutting relation by a rigid securing member passing through the leg having said notched segment and at least substantially around the dowel against which said notched segment abuts, and said securing member comprising in combination a threaded, J-shaped member and an oppositely threaded head member, the curved segment of said J-shaped member passing substantially around the dowel against which said notched segment abuts and the straight segment of said J-shaped member passing at least partially through said notched segment into threaded engagement with said head member.

13. An article of furniture comprising:

a. at least one horizontal shelf member comprising a plurality of spaced-apart, parallel, wood slats secured together by a plurality of spaced-apart wood dowels passing perpendicularly therethrough, and

b. a plurality of wood legs in number and so positioned as to maintain each shelf member horizontally, each leg having a notched segment for each
shelf member supported thereby, each notched segment being snugly inserted between two of said slats, each notched segment having vertical dimensions substantially equal to said two of said slats, and each notched segment being secured in abutting relation to one of said dowels, said dowels being circular in cross section and displaced from the ends of said slats, and each notched segment being secured in said abutting relation by a rigid securing member passing through the leg having said notched segment and at least substantially around the dowel against which said notched segment abuts, and said securing member comprising in combination a threaded, J-shaped member and an oppositely threaded, head member, the curved segment of said J-shaped member passing substantially round the dowel against which said notched segment abuts and the straight segment of said J-shaped member passing at least partially through said notched segment into threaded engagement with said head member.

15. An article of furniture comprising:
a. at least one horizontal shelf member comprising a plurality of spaced-apart, parallel, wood slats secured together by a plurality of spaced-apart wood dowels passing perpendicularly therethrough, and
b. a plurality of wood legs in number and so positioned as to maintain each shelf member horizontal, each leg having a notched segment for each shelf member supported thereby, each notched segment being snugly inserted between two of said slats, each notched segment having vertical dimensions substantially equal to said two of said slats, and each notched segment being secured in abutting relation to one of said dowels, the vertical dimension of each slot being at least twice the dimension thereof parallel to said dowels, and said dowels being circular in cross section and displaced substantially from the ends of said slats, and said notches being displaced from the ends of said legs, said notched segment being secured in said abutting relation by a rigid securing member passing through the leg having said notched segment and at least substantially around the dowel against which said notched segment abuts, and said securing member comprising in combination a threaded U-shaped member and two oppositely threaded head members, the curved segment of said U-shaped member passing substantially round the dowel against which said notched segment abuts and the straight segment of said U-shaped member passing at least partially through said notched segment into threaded engagement with said head members.

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