TABLE AND THE LIKE

Gilbert A. Watrous, Chicago, Ill.

Application February 15, 1951, Serial No. 211,073

9 Claims. (Cl. 311—105)

1. This invention relates to an improved construction for furniture, and particularly tables and the like.

One important feature of this invention is that the frame and leg structures of the table may be made of metal or like material and may be interfitted and assembled quickly and readily to form the finished table or other article of furniture. The parts are so made and so interfitted with each other that the table is capable of being readily disassembled or knocked down and reassembled without utilizing any fastening means whatsoever.

The frame parts when made of metal or like material are so shaped that a close and strong interfiting relation is provided, and which is readily maintained against accidental displacement or removal by a binding frictional engagement effected through a spring-pressing action resulting from the construction of the parts themselves.

The table is particularly adapted for use with a glass or other sheet top, which will be held in usable position on the frame by its own weight and by the mere placement of the same on the frame. When the top is made of glass, it not only affords sufficient weight to maintain the top against accidental displacement but it also permits the novel frame construction to be clearly visible through the top of the table, with the result that an extremely pleasing and desirable appearance is produced.

The nature of the invention will be more readily understood by referring to the accompanying drawing, which is given merely by way of illustration.

In the drawing—

Figure 1 is a perspective view of a table embodying the invention;

Figure 2 is an exploded perspective view showing the construction of the parts in enlarged detail;

Figure 3 is an assembled view of the parts shown in Figure 2, omitting the top pad element;

Figure 4 is a cross-sectional elevational view showing a modified pad element; and

Figure 5 is a view corresponding to Figure 3 showing a modified form of the invention.

By referring to the drawing, it will be apparent that the illustrated form of the invention comprises a frame made up of interfitting supports 1, 2, 3 and 4. As illustrated, supports 1 and 3 are disposed in parallel spaced relation extending in one direction, whereas the supports 2 and 4 are likewise in parallel spaced relation and extend in a direction at right angles to that of the supports 1 and 3. The supports may be of any suitable length, and one pair may be longer than the other if an oblong rather than square type of table is desired. If the table is square, however, the supports may be of equal length and may be formed in the manner shown in Figures 1, 2 and 3. An inspection of these figures will disclose that each support is made of a strip of metal or other suitable material, such as plastic or the like, and is provided with mortises or slots 5 and 6 at a point near each end thereof. These slots extend from one longitudinal edge to a point midway the height of the support, so that when those in the proximate ends of contiguous supports are opposed and interfitted, the supports become mortised together with their longitudinal edges in common planes.

Another feature is that the support is preferably formed as having a slight camber or bend, as illustrated in Figure 2. By inspecting the configuration of the end thereof in this figure, it will be seen that the support is curved but that the camber or curve is exaggerated for purposes of illustration. With the supports formed in the manner shown, it is apparent that the slots of one support can be interfitted with the cooperating supports in the manner of forming egg-crate partitions, with the result that a structure as illustrated in Figure 1 is produced. It will be apparent that due to the camber or curve of each of the supports, plus the fact that the width of slots 5 and 6 has been selected to closely conform to the thickness of the supports, respectively, a binding action is effected when the segments are pressed together to form the frame assembly. This is because the slots are straight and a frictional binding action is exerted on the inner surfaces of the slots by the bent portions of the cooperating supports when they are pressed into interfitting engagement therewith. It is to be understood that the curvature of the supports, respectively, and the width of the slots can be adjusted to give any desired frictional binding action, with the result that a firm interlocking relationship is maintained at all times without, however, creating undue resistance to dismantling the parts when it is desired to take the table down.

After the supports of the frame are formed in the manner referred to, the legs of the table may next be applied. The construction of the legs is illustrated in Figure 2, wherein it will be noted that it consists of a bar which may be of any cross-sectional shape but which in this
instance is illustrated as being square. In all events, it is provided with right angularly disposed slots 7 and 8 in the top thereof which are effective to produce at the top of the leg four upstanding projections or fingers 10. The slots 7 and 8 are so dimensioned as to receive the supports in the manner shown in Figure 3, with one of the fingers 10 in each of the four corners around the intersecting joint between adjacent supports. The depth of the slots is such that the tops of the fingers 10 of each leg preferably stop slightly below the upper edge of the supports. This, however, is not essential as the slotted tops of the legs can be brought up to a point flush with the top edges of the supports.

When the tops of the fingers 10 stop slightly below the upper edge of the supports, a cap member 12 of rubber or similar material of the type shown in Figure 2 may be employed to fit over the intersection of the brace members and form a rubber pad for receiving the top plate of the table.

As illustrated here, the table plate is glass and it is therefore transparent, but it may be made of any other material. In the present case, it is shown as assembled by merely resting on the frame in contact with the pads 12. Instead of using pads 12, other forms of supports may be utilized, such as rubber or other soft members 15, which may be placed over or clamped on the upper edges of the supports in the manner illustrated in Figure 4.

It will be noted that the camber or curve of the supports when projected into the slots at the upper end of the legs, respectively, also exerts a binding action therein as well as the same against accidental or unwanted displacement. When the parts are made of metal, such as iron, the slots in the supports, as well as the legs, can be cut with precision to effect a very accurate interfitting relationship between the frame part and the table, and in consequence, a very strong and durable construction results which is entirely free from wobbling or accidental displacement of the parts.

In addition, the interfitting relation between the parts is maintained by the frictional binding action effected by the spring pressure exerted by the slight camber given to the supports, respectively. It is found that when the supports are made of iron and are cut from plate stock, the camber satisfactory for producing the frictional action referred to can be imparted by the shearing action itself. In other instances, however, the camber may be given to the support members by bending or other forming operation.

It is to be understood that the spring binding action between the parts may be effected through other means such as, for instance, a slight distortion of the upstanding fingers 10 on the legs may be employed in a manner to cause the fingers 10 to press inwardly on the supporting plates and bind the same to each other and to the leg. When the latter type of binding is employed, the supports being made from metal may be cambered. As previously stated, the spring action and the consequent frictional resistance can be adjusted to any desired degree according to preference in each particular case.

A somewhat modified form of the invention is illustrated in Figure 5, which differs from the foregoing disclosure in that the top plate 25 fits wholly within the area defined by the supports 21 and 22, respectively. In this case, the upstanding fingers 20 on the upper portion of each leg are flush with the upper edge of the supports, with the exception, however, that one finger 30 falling inside of the area defined by the supports is shorter and terminates below the upper edge by an amount equal to the thickness of the supports or other top plates to be accommodated. In this way the fingers 30 constitute several spaced points of bearing for the table top to dispose the surface of the table, such as the surface of the glass, in flush relation with the upper edges of the surrounding supports, and at the same time the three fingers of the leg which lie outside of the area defined by the supports are flush with the top edge of the supports. In addition, the slots 5 and 6 in the supports, which are employed for effecting an interfitting of the supports in crossed relation, are located adjacent the ends thereof so that the ends do not project appreciably beyond the point of intersection as they do in the other form. In fact, the degree of projection is limited to the width of the fingers 26, so that the butt end of the support is flush with the side of the leg to give a pleasing finished appearance, as illustrated in the drawing.

I claim:

1. Furniture construction comprising a plurality of structural elements assembled to support a top section including a pair of essentially flat elongated lateral components mortised together edgewise in crossed relation so as to present their longitudinal edges, respectively, in common parallel planes, a vertical component having mortises extending longitudinally from one end in crossed relation to each other interfitting with said lateral components at their conjunctive intersection, at least one of said lateral components being cambered in right-section throughout its extent so as frictionally to bind all of said components together.

3. The invention of claim 1 in which the crossed-mortises of the vertical component are less in depth than the lateral components are wide, so that, as assembled, the plane of the mortised end of the vertical component and the plane of the outer intersecting edges of the lateral components are in space relation, and a cross piece cross-mortised binding the vertical component mortised as above to the lateral components then registering with the latter so as to enclose said lateral components at their conjunctive intersection.

7. A table or the like embodying the con-
2,657,964

Construction of claim 4 having at least three mutually intersecting lateral components and at least three vertical components associated with the intersections thereof, respectively, in inter-fitted mutually supporting relationship to define a polygonal support within which the short finger of each of the vertical components is presented, and a planar top piece shaped to conform to said polygonal support resting upon the ends of said short fingers.

6. The construction of claim 5 in which said lateral members are slightly cambered throughout their length as regarded in right-section.

7. In a metal table construction, four side pieces comprising strips of relatively long, narrow, thin gauge stock, each piece being slotted at both ends essentially half-way across its width and completely through its thickness for frictional connection, respectively, with other side pieces to constitute a rectangular frame, legs frictionally engaging said frame at the points of connection of said side pieces, said side pieces being preformed with a slight camber as regarded in cross-section throughout their extent to augment the modulus of friction binding the side pieces and legs together, and a top member frictionally resting upon said frame.

8. The invention of claim 7, in which said top member is an essentially transparent body completely overlying all portions of the said frame.

9. In a metal table construction, four side pieces comprising strips of relatively long, narrow, thin gauge stock, each piece being slotted at both ends essentially half-way across its width and completely through its thickness for frictional connection, respectively, with other side pieces to constitute a rectangular frame, legs frictionally engaging said frame at the points of connection of said side pieces, the frictional engagement between said legs and frame being provided by longitudinally extending slots formed in the end of each leg in crossed relation to define four upstanding fingers, said fingers being resiliently disposed in closer relation to each other at their free outer extremities than at their inner portions attached to the leg proper positively to grip the frame elements disposed therebetween, and a top member frictionally resting upon said frame.

GILBERT A. WATROUS.

References Cited in the file of this patent

UNITED STATES PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>501,935</td>
<td>Harsha</td>
<td>July 25, 1993</td>
</tr>
<tr>
<td>889,600</td>
<td>Graumiller et al.</td>
<td>June 2, 1908</td>
</tr>
<tr>
<td>1,320,011</td>
<td>Forster</td>
<td>Nov. 4, 1919</td>
</tr>
<tr>
<td>1,588,339</td>
<td>Fowler</td>
<td>May 18, 1925</td>
</tr>
<tr>
<td>1,645,333</td>
<td>McGlothorn</td>
<td>Oct. 11, 1927</td>
</tr>
<tr>
<td>1,903,631</td>
<td>Morrison</td>
<td>Apr. 11, 1933</td>
</tr>
<tr>
<td>1,964,242</td>
<td>Heppenstall</td>
<td>Apr. 10, 1934</td>
</tr>
<tr>
<td>2,097,172</td>
<td>Vurkovich</td>
<td>Oct. 26, 1937</td>
</tr>
<tr>
<td>2,203,780</td>
<td>Gatz</td>
<td>June 11, 1940</td>
</tr>
<tr>
<td>2,497,832</td>
<td>Berger</td>
<td>Sept. 23, 1947</td>
</tr>
<tr>
<td>2,522,774</td>
<td>Bower</td>
<td>Sept. 18, 1950</td>
</tr>
</tbody>
</table>

FOREIGN PATENTS

<table>
<thead>
<tr>
<th>Number</th>
<th>Country</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>365,882</td>
<td>Great Britain</td>
<td>Jan. 28, 1932</td>
</tr>
</tbody>
</table>