June 24, 1924. 1,498,698

F. H. SCHWARTZ

MULTIPLE UNIT FURNITURE STRUCTURE

Filed Dec. 10, 1923 2 Sheets-Sheet 1

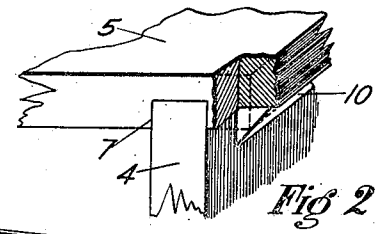


Fig. 2

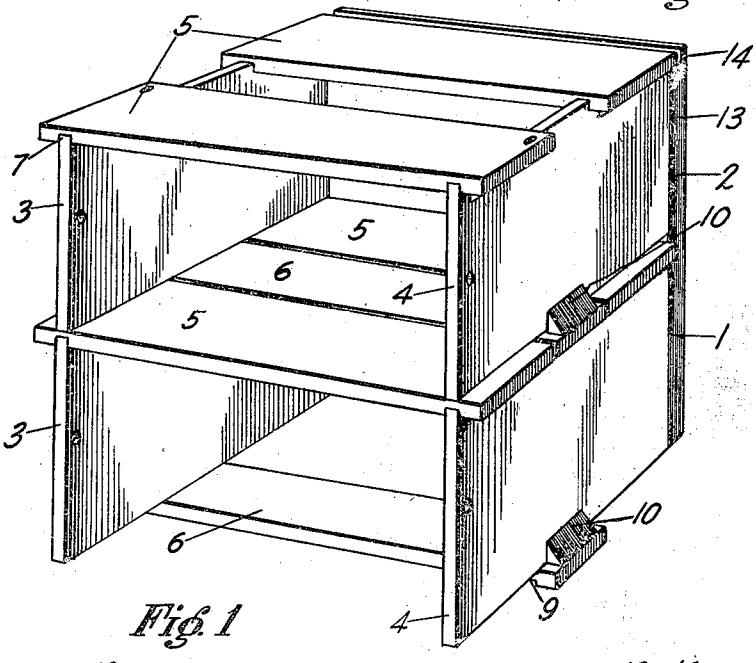


Fig. 1

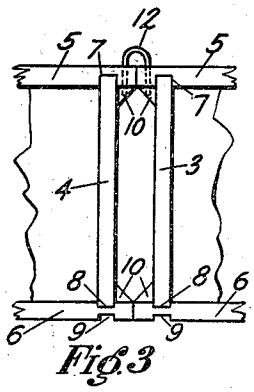


Fig. 3

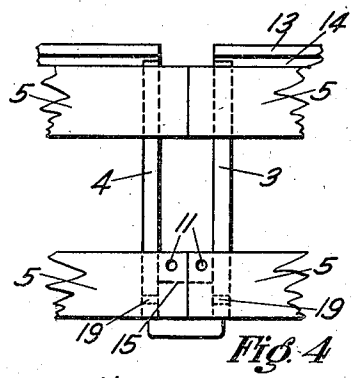


Fig. 4

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MULTIPLE UNIT FURNITURE STRUCTURE

Filed Dec. 10, 1923 2 Sheets-Sheet 2

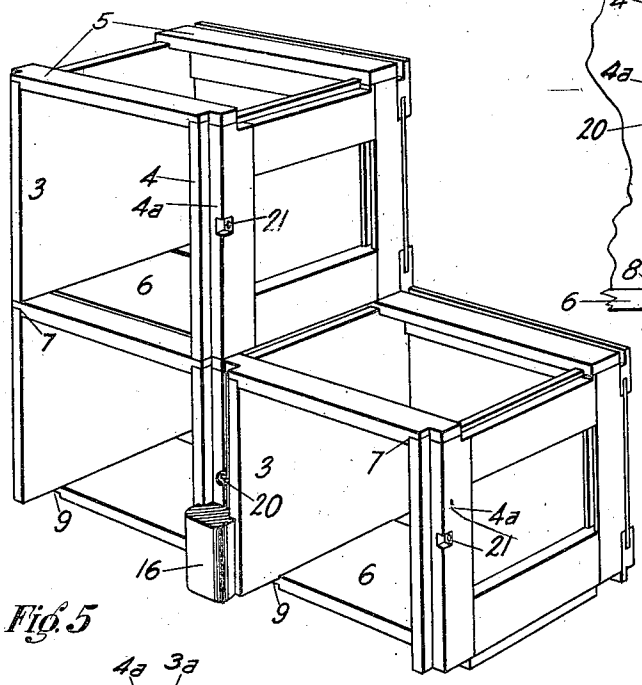


Fig. 5

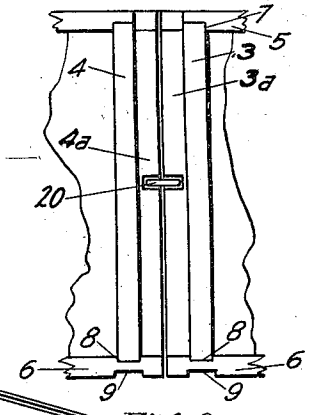


Fig. 9

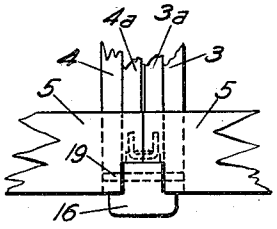


Fig. 6

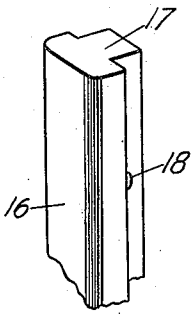


Fig. 7

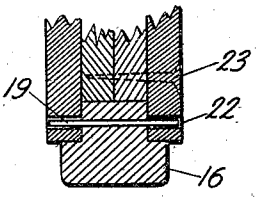


Fig. 8

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Patented June 24, 1924. 1,498,698

UNITED STATES PATENT OFFICE.

FREDRICK H. SCHWARTZ, OF COLUMBUS, OHIO.

MULTIPLE-UNIT FURNITURE STRUCTURE.

Application filed December 10, 1923. Serial No. 679,580.

To all whom it may concern:

Be it known that I, FREDRICK H. SCHWARTZ, a citizen of the United States of America, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Multiple-Unit Furniture Structures, of which the following is a specification.

My invention relates to multiple unit furniture structure and has to do particularly with the provision of a novel type of unit structure of the class wherein the individual sections are placed one above the other to form a vertical unit and these vertical units are joined together to form a row of vertical units.

In the past, in constructing sectional furniture units, it has been the practice to form the corners of the individual sections by means of a dove-tail joint or by means of another type of joint generally known as the dado joint. In the dove-tail construction the ends of the section members which are to form the joint are subjected to and fabricated by intricate and expensive woodworking machinery. The member is held in place by the formation of a joint in one direction only, and as both the end members and the top and body members are of considerable width, there is always a tendency for the warping to pull the glue joint apart unless the same has been kept under pressure for a considerable length of time and until the glue is thoroughly dried. In the use of the dado joint one of the joint members is provided with a shoulder and the two interfitting members form a flush or square joint. In this construction the top and bottom members of the section are dadoed into the sides or vice versa and it is necessary to nail the members together, with the result that the nailing surface is so close to the end of the shoulder member that such member is usually split by the insertion of the nails, thus forming a weak joint, as the shouldered dado holds the members together inwardly while the nails tend to hold the members together from moving outwardly.

Furthermore, in the formation of all sections the joint construction has always been formed to result in a square or flush joint with no projecting members. In all such constructions a space is left between the vertical units wherein fillers or other means have been supplied at the back and front to hold the units in a straight alignment.

My invention has to do primarily with the provision of sectional unit joint structure of extremely simple formation, capable of being produced in any wood-working shop; a joint which is of such structure as to form a solid construction that will check any warping and will eliminate all danger of splitting of any part of the joint; and a joint which forms such a part of the unit that the ends of the horizontal adjacent sections may be placed in abutting relation to each other.

One of the objects of my invention is the provision of a novel joint for sectional furniture structure, of such construction that one of the members of the joint extends upon opposite sides of the other member. Another object of my invention is the provision of a novel dado joint for the two connecting members of the section, of such form that a shoulder is provided on each side of one of the joint forming members. The result is that any warping of the members of the joint is positively checked by the solid shoulder formed on each side of the member. Furthermore, as one of the joint members extends beyond the plane of the other member, the nailing surface is such a sufficient distance from the end that all danger of splitting is eliminated.

Another object of my invention contemplates the provision of interfitting sections of such form that they may be positioned so that the ends of the horizontally adjacent sections may be directly secured and tied together in abutting relation. The result is that the ends of the horizontal adjacent sections and units may be directly secured together in abutting relation and without the use of any separating or interposed part.

Another object of my invention is the provision of novel joint and sectional unit structure of such form that the sections may be initially secured together as compact units of any number and size, and means for holding ornamental covering units in position before or after securing the section and units together.

A further object of my invention has to do with the provision of joint structure at the top and bottom of each individual section of the multiple section unit, of such

form that glue blocks and braces may be attached or connected to the outside of the joints and without interfering with the abutting relation of the horizontal sections.

Another object of my invention is the provision of sectional units having interfitting members, all of such interfitting members having a double shouldered construction relative to their own immediate section, to the adjacent vertical section, or both. In this case the double shouldered joint combined with the interfitting structure of the sections of the vertical unit produce not only an extremely solid and simple joint structure but also a solid, complete vertical unit structure.

Another object of my invention contemplates the provision of unit sections of such form that the horizontally adjacent sections of the vertical units come together in such a way that the abutting ends of the sections themselves hold the units in such a position as to perfectly align the fronts of the units. Another object of my invention has to do with the provision of novel means for connecting together the adjacent ends of the units so as to securely tie them together and thus secure the units as one solid structure.

Various other features of my invention will be apparent as this description progresses, and will be brought out in the claims appended hereto. The various objects of my invention are preferably obtained by the structure illustrated in the drawings wherein similar characters of reference designate corresponding parts and wherein:

Figure 1 is a perspective view of two of the novel sections of my vertical unit in assembled relation.

Figure 2 is an enlarged fragmentary perspective view of my novel joint structure, showing the overlapping of one of the joint members and the formation of the double shouldered joint and also showing a glue block secured to the external surfaces of the joint.

Figure 3 is a fragmentary front elevation, showing the manner of arranging and connecting together adjacent sections of two adjacent vertical units.

Figure 4 is a top plan view of the structure shown in Figure 3.

Figure 5 is a perspective view of a modified form of my sectional unit structure and showing three sections secured together in vertical and horizontal relation.

Figure 6 is a fragmentary plan view similar to Figure 4 and showing the manner of connecting the horizontally adjacent modified sections together and also showing the manner of holding the pilaster in position to cover the joint made by the two abutting sections.

Figure 7 is a fragmentary perspective view of one form of pilaster which may be held in place to cover the joint formed by either form of sectional unit structure as shown in Figures 1 and 5.

Figure 8 is a cross-section taken just below the top members of the two adjacent sections of Figure 6 and showing one method of rigidly securing two adjacent sections together and the manner of holding the pilaster in place to cover the joint so formed between the two sections.

Figure 9 is a fragmentary front elevation of the abutting ends of the two horizontally adjacent sections shown in Figure 5 and showing the manner of positioning and connecting two adjacent sections.

My multiple unit structure is shown as comprising a series of individual sections, which as shown in Figure 1 may be designated 1 and 2. These sections are preferably of substantially the same form and may be placed in vertical relation to each other or in horizontal relation to each other.

Each section preferably comprises end members 3 and 4, top members 5 and a single bottom member 6.

The two top members 5 are as shown, each one-third of the depth of the section, although it will be understood that they may be of any width in accordance with the particular unit structure used. The top members 5 extend horizontally past the end members 3 and 4 so as to form a determinable projecting extension beyond the outside of the section. Each top member 5 is channeled at a certain distance from its end to form a dado joint 7 for the reception of the upper edge of the end members 3 and 4. Thus in constructing the section, the top members may be forced upon the end members so that the channel or dado joint 7 receives the end members and provides a positive retaining shoulder for each side of the end member. The projection of the top members 5 beyond the end members 3 and 4 may be any distance but it should be of such a distance that the nailing surface directly above the end members is of a sufficient distance from the end that all danger of splitting is eliminated.

The bottom member 6 is preferably provided with a channel or dado joint 8 at each end thereof. Each channel is designed to receive the bottom edges of the end members 3 and 4. This bottom member 6 is also preferably provided with channels 9 on the under side thereof and in vertical alignment with the channels 7 and 8.

The bottom part of the top members 5 extending beyond the end members 3 and 4, and the top part of the bottom member 6 extending beyond the end members, may be additionally secured to the end members by glue blocks 10, as best shown in Figures 1 and 3.

When the individual sections are placed

one above the other to form a vertical unit, the bottom member 6 of each unit preferably fits loosely in between the top members 5 and the channels 9 of the bottom member 6 embrace the top edges of the end members 3 and 4. When the individual sections of the vertical units are positioned in horizontal relation to similar units of an adjacent vertical section the ends of the top members and bottom member of each section preferably contact with the ends of the top members and bottom member of the horizontally adjacent section so that the front of the units are maintained in alignment, as clearly illustrated in Figures 3 and 4. The ends of the top members may be provided with apertures 11 for the reception of a U-shaped and tapered fastening bolt 12. The insertion of this bolt 12 in the apertures 11 of adjacent sections will serve to securely tie the horizontal adjacent sections and units securely together.

In assembling a section unit the end members 3 and 4 of each section are placed in the channels 7 and 8 and preferably secured thereto by means of nails or other fastening means. The shoulders on each side of the end members hold such members from warping and thus it is only necessary to nail this novel joint to assemble the unit, which eliminates the necessity of providing clamps to hold the joints in place. The sections may also be further strengthened by the addition of glue blocks 10 positioned at the exterior angles of the joints, as clearly illustrated in Figures 1 and 3.

The channels 9 of the bottom member 6 are preferably slightly wider than the end members 3 and 4 to provide for a slight adjustment, when the sections are placed together to form a vertical unit or a series of connected vertical units. Each section is provided with a back member 13, which member is so formed that at the top of the section it forms a groove 14 between such member and one of the top members 5. The bottom of the back member 13 is preferably so formed that the small projection or shoulder extends downwardly to fit into the groove formed in the next adjacent section positioned below.

When the individual sections have been thus assembled, they may be assembled relative to the other sections by placing one section above the other so that the bottom member 6 is positioned between the top member 5 and the channels 9 of such bottom member embrace the top edges of the end members 3 and 4, as clearly illustrated in Figure 1. It will also be obvious that the bottom projecting ledge of the back member of one section will enter into and be positioned by the groove 14 in the next adjacent section. When it is desired to assemble a second vertical unit to be positioned adjacent another vertical unit, the ends of the top members 5 and bottom member 6 of one unit are placed in alignment and contact with the top and bottom members of a horizontally adjacent unit, as best shown in Figures 3 and 4.

The adjacent ends of any two horizontally adjacent sections may then be connected together, as shown in Figures 3 and 4, by means of the U-bolt 12. The front and top member 5 of each section may be left in normal form, as shown in solid lines in Figure 4, or they may be cut away as indicated by the dotted line 15 in such figure. In order to properly cover the joint formed by the contacting ends of the two adjacent sections, I preferably provide a pilaster 16 of the general standard form shown in Figure 7. It will be obvious that the shank portion 17 of this pilaster may be cut away at certain points so as to register with the top members 5 or such top members 5 may be cut away, as shown by the dotted line 15, and the solid pilaster inserted into position, as indicated in dotted lines in Figure 4.

The pilaster 16 is preferably provided with apertures 18 extending through the shank thereof and which apertures are designed to register with suitable apertures 19 provided adjacent the front of the end members 3 and 4 of one or more of the sections in each vertical unit. As this pilaster is merely held in place to cover up the joint between two abutting sections, it may be placed between such sections after the vertical units are assembled and secured in place. The apertures 18 of the pilaster are positioned to register, when assembled, with the apertures 19 in the one or more sections of each vertical unit, and when in such registering position such pilaster may be held in place by means of suitable pins of any form which may be passed through the registering apertures.

A modified form of multiple unit structure is shown in Figure 5. This structure is modified in the sense that it is preferably to be used in constructing the sections and units which are larger than the type of sections constructed in the form shown in Figure 1, although it will be obvious that either type of structure may be constructed in any size desired. The end members 3 and 4 are reinforced by means of additional end members 3^a and 4^a. These end members 3^a and 4^a may be of solid construction but preferably are constructed in the form shown in Figure 5, wherein such end members form broad reinforcing strips for the solid end members 3 and 4, thus positively preventing any warping when such end members are of a relatively large size.

The top and bottom members 5 and 6, respectively, are provided with channels 7, 8 and 9 similar to the top and bottom mem-

bers 5 and 6 as illustrated in Figures 1 to 4 inclusive. Each top and bottom member extend a definite distance between the end members 3 and 4, but the additional end members 3^a and 4^a are preferably of a depth as will make them flush with the ends of such end members, as is best shown in Figures 5, 6 and 9. As best shown in Figure 6, the end members 3^a and 4^a and the top members 5 are cut away adjacent the front of the section so as to provide a recess for the insertion of a pilaster 16. The horizontally adjacent sections of two adjacent vertical units may be secured together by means of tapered U-bolts 20, the legs of which may be inserted in the registering slots and holes 21 formed in the end member 3^a and 4^a of each unit. These slots are preferably large enough to provide for a slight relative adjustment between the two adjacent sections. Suitable apertures 19 may be provided adjacent the front of the end members in each section, and suitable apertures 18 may be provided in the pilaster 16 so that a suitable pin 22, as shown in Figure 8, may be inserted through the registering apertures to hold the pilaster in place. The adjacent sections may be fastened together by suitable screws 23, as shown in Figure 8, and it will be obvious that the pilaster 16 may be inserted in position either before or after such screws 23 are inserted, although it will also be obvious and in some cases it may be preferable to align the vertical sections by means of such pilaster befor such sections are positively secured by such screw members.

It will be understood that the pilaster 16 may be of any shape and may be held in position to cover up the joint formed by the abutting end members by any suitable means, and it will also be understood that in the specific construction, as shown in Figure 8, that any shape and size of pin may be used in conjunction with various shaped apertures for holding such pilaster in position.

It will be seen that I have provided a novel form of sectional furniture wherein the individual sections are constructed in such a manner that the nailing surfaces, for assembling the top and bottom units to the end members, are so positioned that all danger of splitting is eliminated. It will also be apparent that by extending the top and bottom members beyond the end members of the individual sections and by forming simple channels or dado joints in such top and bottom members I have provided a construction that is extremely simple and inexpensive to manufacture and which will produce a much stronger and more lasting structure than when the corners of the sections are formed by means of square or flush joints.

It will further be obvious that I have provided a structure that may be immediately assembled and when thus assembled will prevent the members of the individual sections from warping without the necessity of providing clamps to hold the joints in place.

It will also be obvious that in the commercial use of my invention any number of sections may be placed one above the other to form a sectional unit of any desired height. Any number of multiple sectional units may also be placed end to end to form a complete connected construction of any length. It will also be obvious that any form of base and top structure may be used to give the sectional units a complete ornamental appearance. The fronts of the individual sections comprising the vertical units may, of course, be left open or may be closed by hinged or sliding doors of any kind desired. It will also be understood that any kind of panel structure may be utilized for covering up the free ends of the interchangeable units, regardless of the number of units in the installation.

Having thus described my invention, what I claim is:

1. Sectional furniture structure comprising a series of vertical sectional units, said units abutting and having their forward corners shaped to complementally form channels, a strip for covering adjacent ends of said units, an inner portion extending into the channels so formed a cross pin for holding said covering strip in position, and a relatively independent means for holding said units against relative displacement without exerting any strain on said covering strip.

2. Sectional furniture structure comprising a series of vertical sectional units, said units abutting and having their forward corners shaped to complementally form channels, a strip for covering adjacent ends of said units, an inner portion extending into the channels so formed, a cross pin for holding said covering strip in position, and a relatively independent means in the form of yoke members for holding said units against relative displacement.

3. Sectional furniture structure comprising a series of vertical sectional units, said units abutting and having their forward corners shaped to complementally form channels, a strip for covering adjacent ends of said units, an inner portion extending into the channels so formed, a means for holding said covering strip in position, and a wedge-like yoke member relatively independent of said last means for holding said units against relative displacement.

4. Sectional furniture structure comprising a series of vertical sectional units, said units comprising interfitting individual sections each having top, bottom and end

members, channels in said top and bottom members for securing the end members of each section and receiving the end members of an adjacent section, a continuous channel formed by the contacting forward corners of said sections, a covering strip insertible in said channel, apertures in the sides of said channel registering with apertures in said strip and a cross pin passing through said apertures for holding said strip in place.

In testimony whereof I hereby affix my signature.

FREDRICK H. SCHWARTZ.