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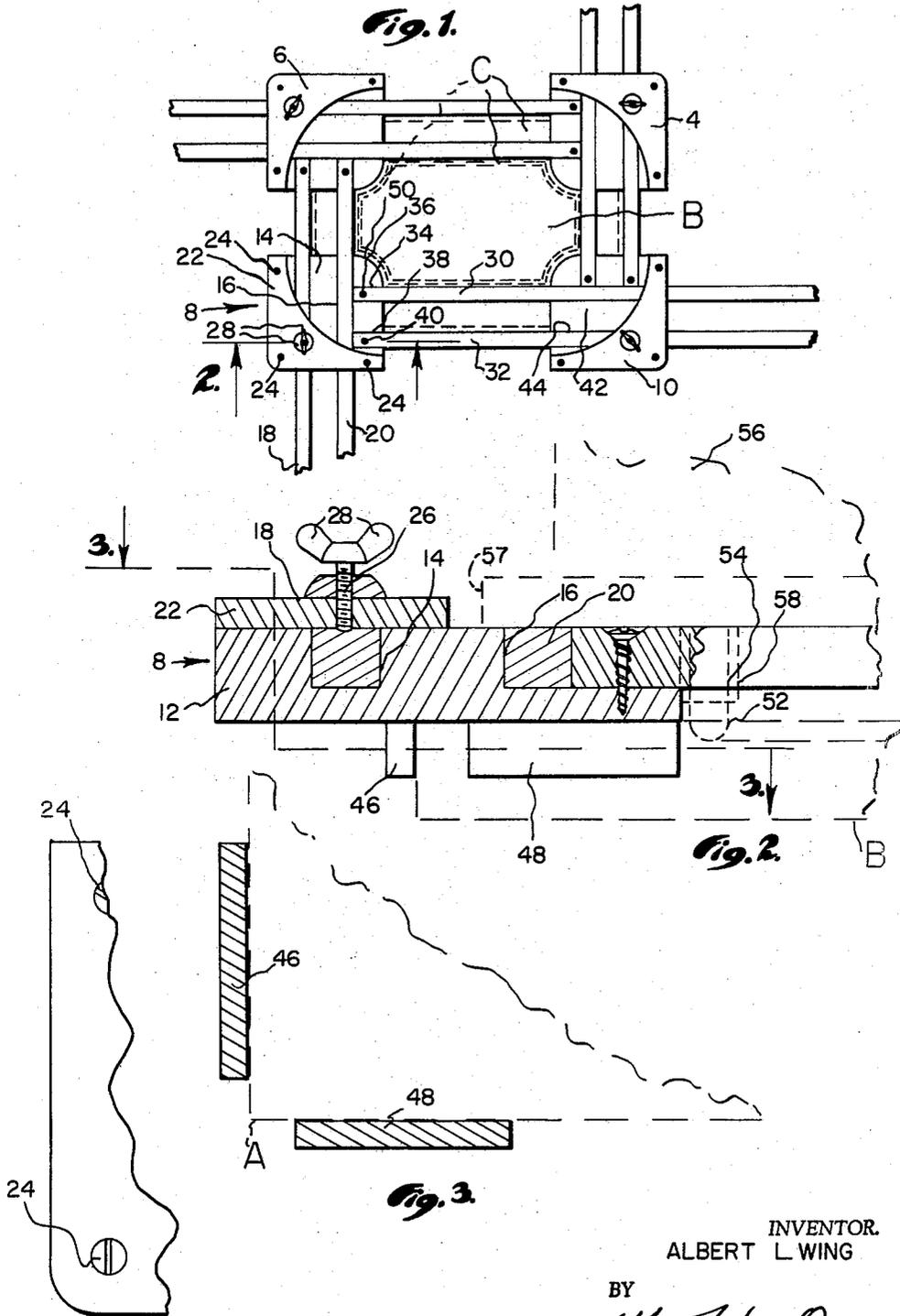
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3,199,556

ROUTING TEMPLATE

Filed Oct. 1, 1962

2 Sheets-Sheet 1



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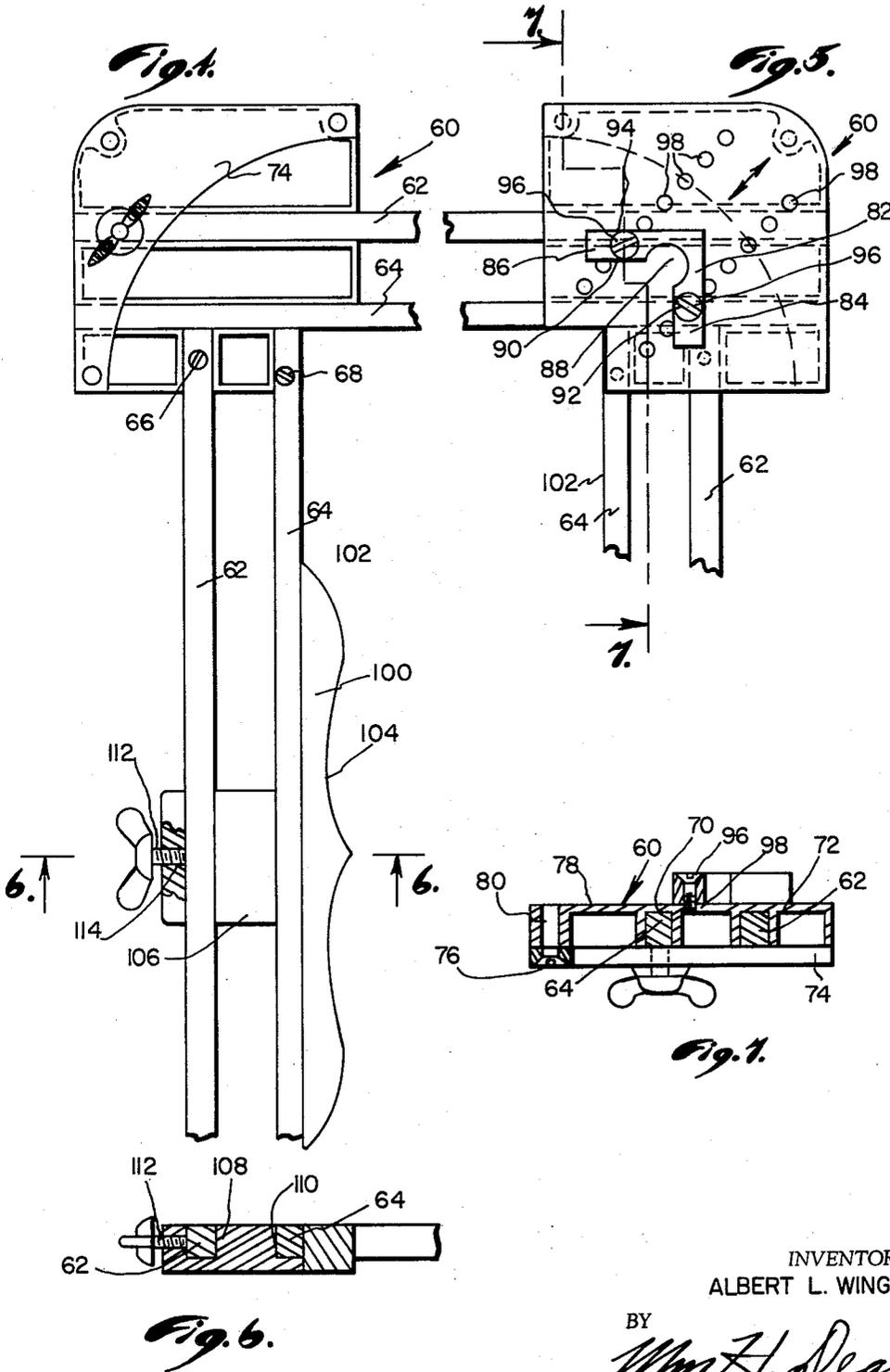
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2 Sheets-Sheet 2



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ROUTING TEMPLATE

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5 Claims. (Cl. 144-144.5)

This application is a continuation in part of my co-pending application, Serial No. 181,905, filed Mar. 13, 1962, now abandoned.

This invention relates to a routing template and more particularly to a routing template for use in routing various design configurations in flat panels such as cabinet doors and drawer fronts, or the like.

In custom cabinet work, it has been a problem to provide a simple routing template which may readily be securely engaged with a flat panel or flat panels of various sizes for the purpose of routing various ornamental designs therein.

Heretofore, various templates have been made for routing designs in panel of a given size but it has been necessary to tool up templates on a custom basis for each given panel and thus, it has been prohibitive for cabinet makers or other craftsmen to provide routed ornamental designs in various panels of various sizes due to the cost of such custom work.

Accordingly, it is an object of the present invention to provide a routing template which is firmly engageable with panels of various sizes, such as cabinet door panels and/or drawer fronts made of plywood or other similar material, whereby a router may be properly and precisely guided to rout an ornamental design in the sides of such panels.

Another object of the invention is to provide a routing template which may readily be engaged with the corners of a panel or plywood plate and may quickly be fixed in such position to guide a router in the operation of routing a custom design in one side of a panel thereby permitting an ordinary cabinet maker to perform custom work with a minimum labor cost.

Another object of the invention is to provide a routing template for routing ornamental designs in the sides of panels; said template having very simple and novel means for adjusting the same to fit various rectangular or square panels; said template also being provided with very simple means for locking the adjustable components thereof into firm engagement with the corners of such rectangular or square panels.

Another object of the invention is to provide a routing template for guiding a router in the operation of providing an ornamental design in the side of a panel; said template consisting of a plurality of substantially identical adjustable assemblies, each assembly being disposed to engage a corner of the panel and being slidably adjustably secured to a similar assembly, whereby the production of the routing template, according to the invention, may be very economically produced due to the fact that tooling required to produce one corner of the template may be utilized to produce all four corner structures, or assemblies of the template.

Another object of the invention is to provide a routing template which is very simple and economical of construction, efficient in operation and which will not readily deteriorate or get out of order.

Further objects and advantages of the invention may be apparent from the following specification, appended claims, and accompanying drawings, in which:

FIG. 1 is a top or plan view of a routing template, in accordance with the present invention, showing a plurality of panel corner-engaging assemblies of the template all interconnected and interlocked with each other about four corners of a panel in which it is desired to rout a recessed ornamental design;

FIG. 2 is an enlarged fragmentary sectional view taken from the line 2-2 of FIG. 1, showing, by broken lines, a corner of a panel engaged by the template of the invention and further showing by broken lines, a router in relation to the template and to a panel being held by the template and routed by the router;

FIG. 3 is a fragmentary plan sectional view taken from the line 3-3 of FIG. 2, showing, by broken lines, a corner of a panel engaged by the template and means of the template positively locating the template on a corner of the panel;

FIG. 4 is a fragmentary top or plan view of a modified structure of the present invention, showing a corner-engaging assembly having connecting rods secured thereto and having an ornamental routing template connected to the rods between the corner-engaging assemblies;

FIG. 5 is a fragmentary view similar to FIG. 4 but showing the opposite side of the structure as shown in FIG. 4 in order to illustrate adjustable corner location members of the modified structure shown therein;

FIG. 6 is a sectional view taken from the line 6-6 of FIG. 4; and

FIG. 7 is a sectional view taken from the line 7-7 of FIG. 5.

As shown in FIG. 1 of the drawings, the template of the invention comprises a plurality of panel corner-engaging assemblies designated 4, 6, 8, and 10. All of these assemblies 4, 6, 8, and 10 are substantially identical to each other and inasmuch as FIG. 2 is taken from a line 2-2 passing through the assembly 8, details of this assembly will be hereinafter described, with relation to the remaining panel corner-engaging assemblies 4, 6, and 10.

The panel corner-engaging assembly 8 comprises a body member 12 which may be substantially rectangular in form and which is provided with a pair of channel-shaped slots 14 and 16 in which bars 18 and 20 of the panel corner-engaging assembly 6 are slidably mounted, as will be hereinafter described.

These bars 18 and 20 are slidable in the channels 14 and 16 of the body 12 and provide for the basic adjustment feature of the template, in accordance with the invention.

A top plate 22 is fixed on the body 12 by means of screws 24, thus holding the top plate 22 in a position over the channel 14 and the bar 18, hereinbefore described.

A set screw 26 is screwthreadably adjustable in the top plate 22 and is provided with a wing head 28, so that the screw 26 may be manually screwed into firm engagement with the top of the bar 18 in order to fix the assembly 8 on the bar 18 and thus, connect the assemblies 6 and 8 together.

Fixed to the body 12 of the panel corner-engaging assembly 8 are bars 30 and 32. The bar 30 is disposed in a channel 34 and secured therein by a screw 36 while the bar 32 is disposed in a channel 38 in the body 12 and is secured thereby by means of a screw 40. Thus, it will be seen that the bars 30 and 32 are positioned in channels 34 and 38 which are disposed at right angles to the channels 14 and 16; the channels 34 and 38 are disposed at the same level as the channels 14 and 16 and these channels 34 and 38 communicate directly with the channel 16, all as shown best in FIGS. 1 and 2 of the drawings.

The bars 30 and 32 are slidably mounted in channels 42 and 44, respectively, of a body member of the assembly 10 which is similar to the body member 12.

Since all of the panel corner-engaging assemblies 4, 6, 8, and 10 are substantially identical, it will be appreciated that each assembly contains extending bars which are slidably mounted in channels of an adjacent panel corner-engaging assembly.

On the bottom of the body 12 are a pair of corner locating projections 46 and 48, as shown best in FIGS. 2 and 3 of the drawings. These projections 46 and 48 engage a panel having a corner, as illustrated by broken lines A in FIG. 3 of the drawings. Each body member of each assembly 4, 6, 8, and 10 thus is provided with downwardly projecting portions 46 and 48 which engage a respective corner A of a panel B in which it is desired to rout an ornamental design, as indicated by broken lines C, in FIG. 1 of the drawings.

Between the channels 16 and 34 of the body 12, is provided with an arcuate projection 50 which is convex and which thus provides a substantially concave corner design of the routed design, as indicated by broken lines C. This design is formed as a recess by a router tool, as indicated by broken lines 52, in FIG. 2 of the drawings. These broken lines illustrate the general shape of a router spindle 54 of conventional form which is rotatably operated by a router motor 56 having a conventional guide sleeve, as indicated by broken lines 58; said guide sleeve being movable around the projection 50 and along one side of the bar 30 and in engagement with comparable projections and bars of the remaining panel corner-engaging assemblies 4, 6, and 10.

As shown in FIGS. 1 and 2, the plate 22 of each corner-engaging assembly is spaced from intersections of the bars 20 and 30 to permit the router 56 to pass in close proximity to each corner intersection of the bars without interference of a portion 57 of the router frame with the respective plates 22.

As shown in FIG. 2, the depth of the cut in the material at 52 is gauged by the router frame member 57 bearing on the bars 20 and 30.

Due to the fact that the conventional router frames project radially from their cutting spindles, the plates 22 are spaced from the intersections of the bars 20 and 30 to permit the respective router spindle to work closely relative to the corner intersections of the bars 20 and 30 adjacent each blade 22 at the upper side of the routing template of the invention.

It will be apparent that the projections 50 may either be integral with the body 12 or such projections of the various assemblies 4, 6, and 8 may be removable from the body 12 and replaceable to provide for different configurations, as for example, various contoured designs of the projections 50 would provide for varying ornamental designs of the corner routing recess configuration of the design C, as indicated by broken lines in FIG. 1 of the drawings.

It will be seen that the bars 18 and 20 are slidable with respect to the body 12 when the set screw 26 is loosened and that respective bars of the other panel corner-engaging assemblies are slidable with respect to each other so that panels of varying dimensions, either of rectangular configuration or square configuration may readily be engaged and that the projections 46 and 48 engaging the corners A of such panels hold the entire template mechanism or structure, securely on a panel so that the ornamental design C may accurately be routed into a surface of a panel, such as that shown by broken lines B in FIGS. 1 and 2 of the drawings.

In the modified structure shown in FIGS. 4, 5, 6, and 7 of the drawings, corner-engaging assemblies 60 are preferably cast of aluminum, or other equivalent material, and a pair of bars 62 and 64 is secured to each corner-engaging assembly 60. These bars 62 and 64 are similar to the bars 18 and 20, hereinbefore described, and the corner-engaging assemblies 60 are similar to the assemblies 4, 6, 8, and 10, hereinbefore described.

The bars 62 and 64 are secured to each assembly by means of screws 66 and 68, respectively, and disposed at right angles to the bars 62 and 64 are slots 70 and 72, as shown in FIG. 7 of the drawings. These slots 70 and 72 engage respective bars 62 and 64 of adjacent corner-engaging assemblies 60.

A plate 74 similar to the plate 22, hereinbefore described, is secured by means of screws 76 to each frame 78 of each assembly 60. The screws 76 being screw-threaded into internally screwthreaded openings 80 to hold the respective plate 74 in position over the slots 70 and 72 and to hold the respective bars 64 and 62 therein.

On the normally lower side of each corner-engaging assembly 60 is an adjustable corner locating member 82. This member 82 is substantially L-shaped and is provided with a pair of leg portions 84 and 86 disposed substantially at right angles to each other. An arcuate relief portion 88 is provided to provide relief for corners of frames engaged by straight edges 90 and 92 of each member 82. These edges 90 and 92 being disposed at right angles to each other and disposed to engage adjacent edges of panels at corners A, as shown in FIG. 3 of the drawings. The arcuate relief portion 88, shown in FIG. 5 of the drawings, is equivalent to the spacing of the adjacent ends of the corner-engaging portions 46 and 48, shown in FIG. 3.

Screws 94 and 96 extend through the adjustable corner locator members 82 and are screwthreaded into the respective frame 78, all as shown best in FIG. 4 of the drawings. These screws 96 engage screwthreaded openings 98 in each frame 78 and these screwthreaded openings 98 are arranged in parallel rows, as shown in FIG. 5 of the drawings, said rows being at substantially 45 degrees to the directions of the slots 70 and 72 and the respective bars 62 and 64 engaged therein. Thus, the screws 96 may be engaged in any one of the internally screwthreaded openings 98 in order to move the corner A of the panel, as shown in FIG. 3, away from the inside routing guide provided by the bars 64 so that the ornamental routing, as hereinbefore described, such as the recess routing 52, shown in FIG. 2 of the drawings, may be located in various spaced relations to the outside edge of the panel when engaged by the edges 90 and 92 of the adjustable corner locator members 82, as hereinbefore described.

Additionally, a template 100 is engaged with the inner router guiding edge 102 of each of the bars 64 and this template 100 is provided with a router engaging surface 104, which may be of any particular ornamental design which is desired, and this template 104 may be located intermediate the corners of the template structure provided by the bars 64. Thus, an additional ornamental recess 52 may be routed between the corners of the bars 64 at the corner-engaging assemblies 60. The template 100 is provided with a clamp portion 106 having a pair of slots 108 and 110 which receive the bars 62 and 64 in order to hold the template 100 in position to guide the router, in accordance with the ornamental surface or pattern 104.

A thumb screw 112 is screwthreaded in a screwthreaded bore portion 114 of the clamp portion 106 and this screw 112 bears upon the bar 62 in order to fix the template 100 on the bars 62 and 64.

It will be apparent to those skilled in the art that the ornamental template surface 104 provides for ornamental guiding of a router in addition to the corner templates 36, as shown in FIG. 1 of the drawings, and that the adjustable corner location members 82 provide means for adjusting the corner-engaging structures of the template so that the edges of a panel being routed and engaged by the edges 90 and 92 of these members 82 permits the operator to vary the distance from the edges of a panel at which the router may be disposed to rout the ornamental recess 52, shown in FIG. 2 of the drawings.

It will be obvious to those skilled in the art that various modifications of the present invention may be resorted to in a manner limited only by a just interpretation of the following claims.

I claim:

1. In a routing template the combination of: a plurality of panel corner-engaging assemblies interconnected to form the template; means on each assembly for en-

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gaging a corner of a panel; bar means projecting from each of said assemblies; means on each of said assemblies slidably receiving the bar means from an adjacent assembly; and means for fixing the bar means of one assembly securely in engagement with another of said assemblies; the line of the inner edge of the bar means of each of said assemblies intersecting the line of the inner edge of the bar means of an adjacent one of said assemblies; each of said assemblies having holding means disposed above said bar means; the inner edges of the several bar means and means of said assemblies disposed inwardly of said corner-engaging means and serving as a guide for a router for the purpose of routing a recessed ornamental design in the side of a panel engaged by said corner assemblies; said holding means being spaced outwardly away from said intersections of said lines of said corner engaging assemblies, thereby providing clearance for portions of a router frame when the roller spindle is disposed near said intersections and engaging the upper surfaces of said bar means.

2. In a routing template the combination of: four panel corner-engaging assemblies interconnected to form the template; each of said assemblies having means engageable with a corner portion of a panel adjacent two intersection edges of such a panel; bar means of each assembly; means on each of said assemblies slidably receiving the bar means from an adjacent assembly; each of said assemblies having holding means disposed above said bar means; means for fixing the bar means of one assembly relative to said other assembly; the line of the inner edge of the bar means of said assemblies intersecting the line of the inner edge of the bar means of an adjacent one of said assemblies; the inner edges of the several bar means and means inwardly of the corner-engaging portions of each of said assemblies disposed for guiding a router to rout a recessed ornamental design in the side of a panel, said holding means being spaced outwardly away from said intersections of said lines of said corner-engaging assemblies, thereby providing clearance for portions of a router frame when the router spindle is disposed near said intersections and engaging upper surfaces of said bar means.

3. In a routing template the combination of: four panel corner-engaging assemblies interconnected to form the template; each of said assemblies having means engageable with a corner portion of a panel adjacent two intersecting edges of such a panel; bar means for each assembly means on each said assemblies slidably receiving the bar means from an adjacent assembly; each of said assemblies having holding means disposed above said bar means; means for fixing the bar means of one assembly relative to said other assembly; the line of the inner edge of the bar means of each of said assemblies intersecting the line of the inner edges of the bar means of an adjacent one of said assemblies; the inner edges of the several bar means and means inwardly of the corner-engaging portions of each of said assemblies disposed for guiding a router to rout a recessed ornamental design in the side of a panel, said holding means being spaced outwardly away from said intersections of said lines of said corner-engaging assemblies, thereby providing clearance for portions of a router frame when the router spindle is disposed near said intersections and engaging upper surfaces of said bar means; each of said panel corner-engaging assemblies substantially identical to the other of said assemblies; each of said assemblies having a body in which the bar means of an adjacent as-

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sembly is slidably mounted; a thumb screw in each body frictionally engageable with the bar means of another assembly for locking the assemblies together about the corners of a panel.

4. In routing a template the combination of: a plurality of panel corner-engaging assemblies interconnected to form the template; means on each assembly for engaging a corner of a panel; bar means projecting from each of said assemblies; means on each of said assemblies slidably receiving the bar means from an adjacent assembly; and means for fixing the bar means of one assembly securely in engagement with another of said assemblies; the line of the inner edge of the bar means of each of said assemblies intersecting the line of the inner edge of the bar means of an adjacent one of said assemblies; each of said assemblies having holding means disposed above said bar means; the inner edges of the several bar means and means of said assemblies disposed inwardly of said corner-engaging means and serving as a guide for a router for the purpose of routing a recessed ornamental design in the side of a panel engaged by said corner assemblies; said holding means being spaced outwardly away from said intersections of said lines of said corner-engaging assemblies, thereby providing clearance for portions of a router frame when the router spindle is disposed near said intersections and engaging the upper surfaces of said bar means; said first mentioned means adjustably mounted on said corner engaging assemblies and movably at substantially 45 degrees relative to said bar means in order to hold the corner of a panel and its adjacent edges at varying spaced relation with said bar means which are engaged by a router.

5. In a routing template the combination of: a plurality of panel corner-engaging assemblies interconnected to form the template; means on each assembly for engaging a corner of a panel; bar means projecting from each of said assemblies; means on each of said assemblies slidably receiving the bar means from an adjacent assembly; and means for fixing the bar means of one assembly securely in engagement with another of said assemblies; the line of the inner edge of the bar means of each of said assemblies intersecting the line of the inner edge of the bar means of an adjacent one of said assemblies; each of said assemblies having holding means disposed above said bar means; the inner edges of the several bar means and means of said assemblies disposed inwardly of said corner-engaging means and serving as a guide for a router for the purpose of routing a recessed ornamental design in the side of a panel engaged by said corner assemblies; said holding means being spaced outwardly away from said intersections of said lines of said corner-engaging assemblies, thereby providing clearance for portions of a router frame when the router spindle is disposed near said intersections and engaging the upper surfaces of said bar means; secondary template means removably secured to said bar means between said corner-engaging assemblies.

References Cited by the Examiner

UNITED STATES PATENTS

150,039	4/74	Hills	144—144.5
260,264	6/82	Wenche	144—144.5
1,672,273	6/28	Morris.	
2,652,866	9/53	Drain	144—144

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