Photo by Al Parrish

GUSTAV STICKLEY'S NO. 72

Magazine Cabinet

Thanks to Harvey Ellis, this set of Arts & Crafts shelves has subtly tapered legs and arched top rails that transform it from stocky to stylish.

If you had been shopping for a magazine cabinet in 1910 and came across this piece in Gustav Stickley's catalog, chances are you would have turned the page with barely a glance.

The photo of the No. 72 Magazine Cabinet in the 1910 catalog is horrible. Someone in Gustav Stickley's art department mangled the picture, and it bears almost no resemblance to the real thing. The legs look both spindly and lumpy. The shelves don't look sturdy at all.

In real life, this piece of furniture is impressive. It was one of several pieces of furniture designed by Harvey Ellis, an architect, painter and designer. Ellis's short stint with Gustav Stickley's company before Ellis' death in 1904 was remarkably fruitful. Under his talented pen, a fair number of Stickley's massive and overbuilt furniture forms became lighter and a bit more graceful.

by Christopher Schwarz

Comments or questions? Contact Chris at 513-531-2690 ext. 1407 or chris.schwarz@fwpubs.com.

The No. 72 Magazine Cabinet is a good example of this period. The curved top rails and tapered legs all conspire to make this piece look more delicate than it is.

Like most Arts & Crafts projects, this one is straightforward to build. I used about 15 board feet of 4/4 mahogany, four board feet of 5/4, and six board feet of 8/4 – I had a little wood left over, but that always beats a second trip to the lumberyard. The plans for this project were developed by Robert W. Lang for his new book "More Shop Drawings for Craftsman Furniture" (Cambium Press, 800-238-7724). This is Lang's second book of Craftsman furniture plans, and it features measured drawings for 30 pieces of museum-quality classics. If you are an Arts & Crafts fan, this book is required reading.

Start With the Sides

Most of the work on this project is in the two assemblies that make up the sides of the cabinet. And the heart of these side assemblies is the side panels.

These two panels have a tongue on the two long edges that are glued into a groove in the legs. Dados in the panels hold the shelves in place. And the rails are tenoned into mortises in the legs. Finally, the top is screwed down to the cabinet using cleats.

The first task is to prepare the side panels to be glued between the legs. I used a traditional tongue-and-groove joint. It's more elaborate than simply gluing the panel between the legs without joinery. However, it also guarantees you will have no visible gap between the legs and panel.

If you want to do things in this more traditional way, begin by milling a ½"-wide, ⅜"-deep and 31¾"-long stopped groove on the leg in the location shown in the diagram. Square out the groove where it stops using a chisel.

Now cut a matching tongue on the two long edges of your panel. You want the fit to be as near perfect as possible.

To keep things neat, I used a backsaw to cut a small shoulder on the bottom corners of the panel

There are a variety of ways to cut the groove in the legs: A router table and a plow plane come to mind. I prefer to use a straight bit in a router with an edge guide. This allows me to see my cut at all times.

Cut the tongues on the edges of the side panels using a dado stack in your table saw (plus a sacrificial fence). You also could use a rabbeting bit in your router table.

When your grooves and tongues are complete, they should fit snugly as shown. If you're not up to this task, you could simply glue the panel to the legs without any joinery. Just make sure you keep everything lined up so you're certain you'll achieve a tight joint.

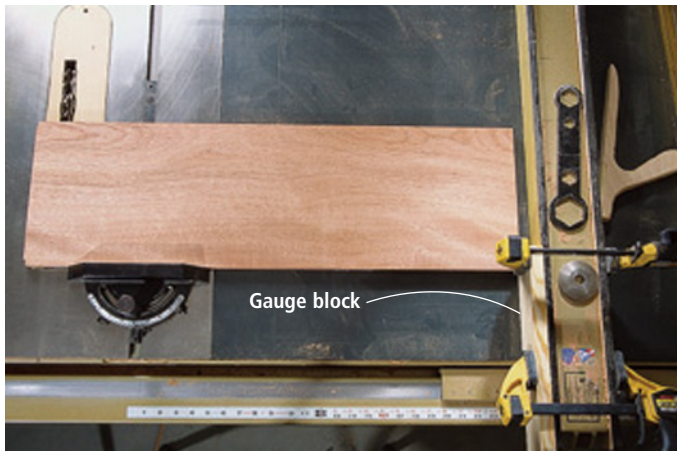
WHO WAS HARVEY ELLIS?

Though Harvey Ellis worked for Gustav Stickley for only about a year until he died in 1904, Ellis's work left an indelible impression on Stickley's furniture. Chunky forms became lighter. Rails became curved. Legs became tapered on the sides. And – perhaps most significantly – some furniture became inlaid.

Before Ellis's stint with Stickley, Ellis led an itinerant life as an avant-garde painter, graphic designer, draftsman and sometimes architect, according to scholars. Born in Rochester, N.Y., in 1852, Ellis displayed an early knack for art as a child. His father decided he needed more discipline and sent him to West Point in 1871, according to the Harvey Ellis papers at the University of Rochester. Ellis was discharged from the military school for "tardiness, personal untidiness and gross neglect in his French assignments," according to the papers. There also were rumors of an affair with an actress.

Ellis went to New York to study art at the National Academy of Design, but he ended up as an architectural draftsman for Arthur Gilman instead. He returned to Rochester in 1877 and set up an architectural office with his brother, and together they designed many public buildings. After seven years or so Ellis left the firm and designed houses and public structures for cities across the Midwest. He rejoined his brother's firm in 1894 and also started designing interiors and becoming interested in the Arts & Crafts movement.

After separating from his wife, Ellis joined the staff of Stickley's magazine, *The Craftsman*, and began designing furniture and writing stories for the influential publication. He died in January 1904 at the age of 52, in part due to acute alcoholism, according to the university papers.



Cut the dados in the side panels using this setup on your table saw or a straight edge and a hand-held router. The gauge block on the right of the blade keeps the panel from getting caught between the fence and the blade.

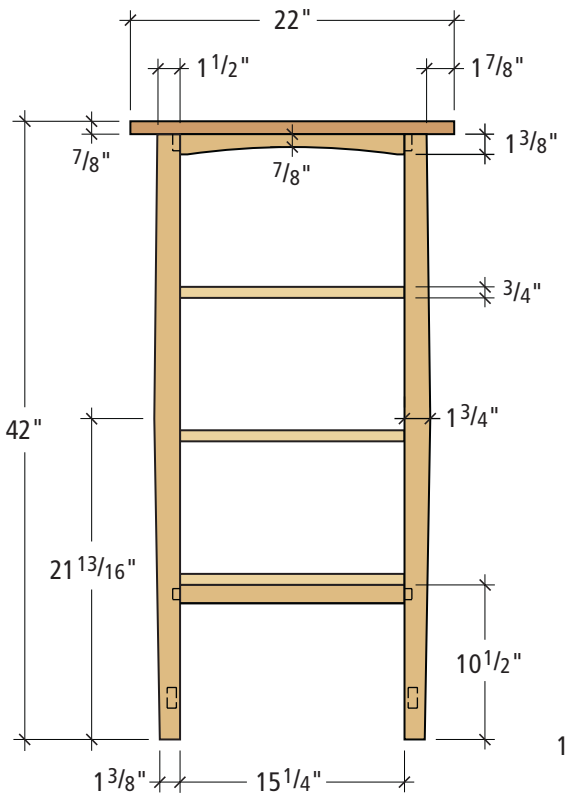
You'll need to notch the bottom of the side panel to fit in the leg groove. A backsaw makes quick work of this simple operation (above). Clean up the cut with a sharp chisel and you're ready to move on (right).

that conceals where the groove ends (see the photo above).

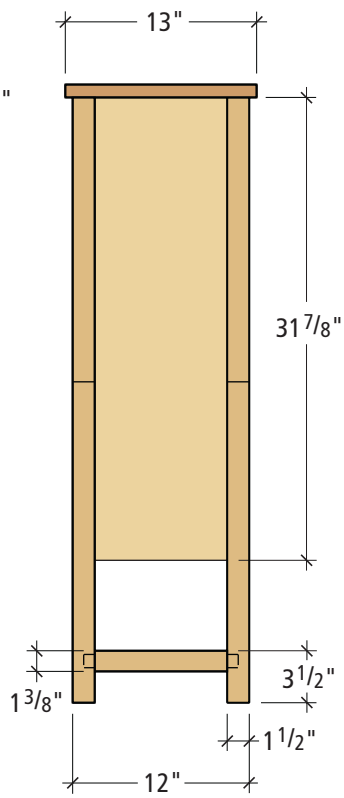
Before you can glue the side panel between the legs, you need to cut the ¼"-deep by ¾"-wide dados that hold the shelves. Use the diagrams at right to lay out the locations of the dados, then cut them using your dado stack as shown in the photo.

If all this seems complicated, the sides can be simplified. Make your side panels 9" wide instead of 9¾" and don't cut the tongues and grooves. Cut the dados for the shelves and then simply glue the panels between the legs.

The long-grain joint between the side panel and legs is stronger than the wood itself – you'll just have to be careful about lining everything up and making sure your stock is milled perfectly to avoid any gaps between the legs and the side panels.



Front elevation



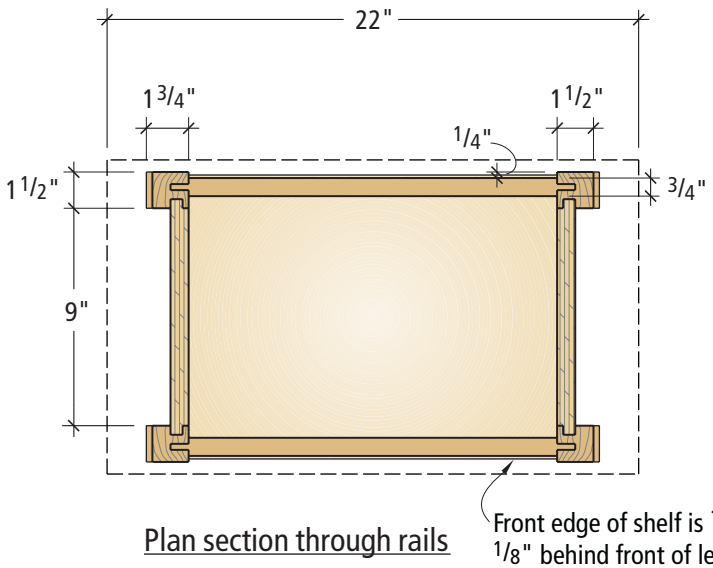
Side elevation

To prevent tearout where the dado stack exits the side panel, put down a couple pieces of masking tape to support the wood fibers. This really works.

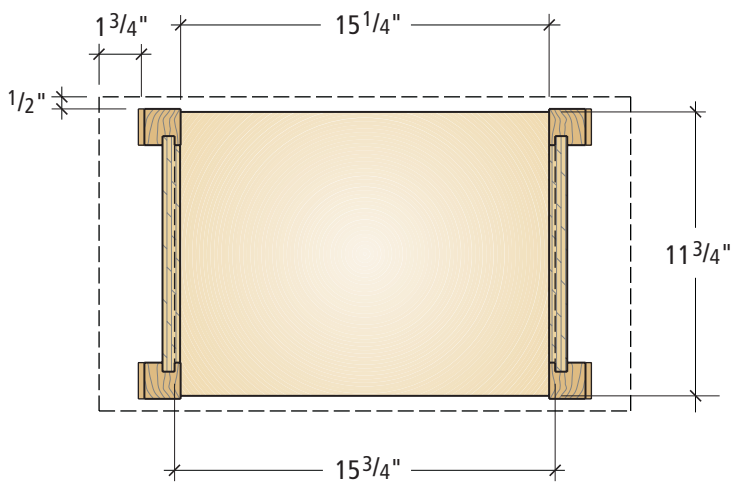
GUSTAV STICKLEY MAGAZINE CABINET

	NO.	ITEM	DIMENSIONS (INCHES) T	W	L	MATERIAL	COMMENTS
❑	4	Legs	1 1/2	1 3/4	41 1/8	Mahogany	
❑	2	Side stretchers	5/8	1 3/8	10 1/2	Mahogany	3/4" TBE
❑	2	Side panels	3/4	9 3/4	31 7/8	Mahogany	3/8" tongue, 2 edges
❑	2	Bottom rails	3/4	1 1/4	16 3/4	Mahogany	3/4" TBE
❑	2	Arched top rails	3/4	1 3/8	16 3/4	Mahogany	3/4" TBE
❑	3	Shelves	3/4	11 3/4	15 3/4	Mahogany	
❑	1	Top	7/8	13	22	Mahogany	
❑	2	Cleats	1/2	1/2	8	Mahogany	Attach top to sides

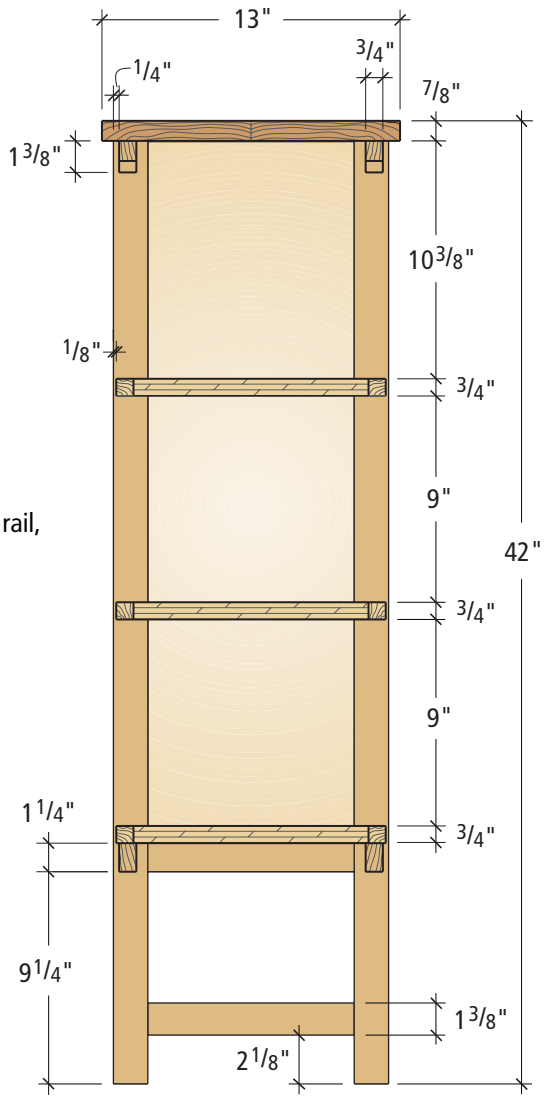
KEY: TBE = tenon on both ends



Plan section through rails



Plan section above shelf



Side section

Illustrations by Robert W. Lang

Sure, you could set up your router table or table saw to cut the notches in the shelves. But a sharp backsaw works just as well.

Before you glue anything up, however, you're going to want to first cut the mortises in the legs. So set your parts aside and fit the shelves in their dados.

The Shelves are Simple

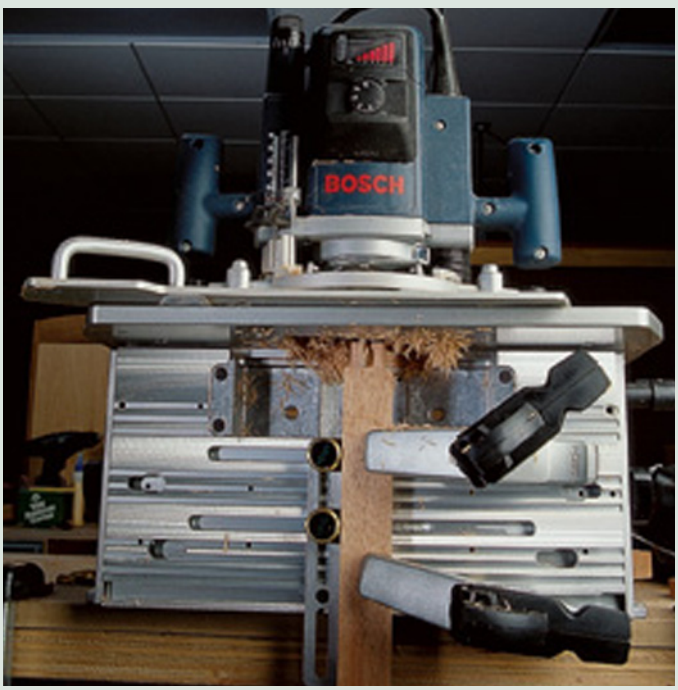
Cut the shelves to finished size and mark out the notch that needs to be cut in the corner of each shelf. This notch allows the shelves to wrap around the legs. You can rig up some fancy setup with your router table to do this, but I prefer using a backsaw for such a simple task (see the photo at left).

Now fit your shelves in the dados and make any adjustments necessary using a block plane or chisel. When everything is fitting nice and snug, it's time to cut the mortise-and-tenon joints that hold everything together.

I usually cut my tenons using a dado stack or a tenon saw. When it comes to mortises, I usually choose to drill them out on the drill press or fire up the hollow-chisel mortising machine.

However, for this project, I put the new Leigh Frame Mortise and Tenon Jig through its paces. It's healthy to be skeptical of any jig that costs as much as a table saw, but this jig is one special animal. See the story titled "The

NEWEST JIG FROM LEIGH MAKES PERFECT MORTISES AND TENONS



With the assistance of your plunge router, you can cut almost any mortise-and-tenon joint with this new jig from Leigh Industries.

Though the Leigh Frame Mortise and Tenon jig looks complex, it will feel instantly familiar if you've ever used your router for pattern cutting.

The jig uses snap-in templates that guide a plunge router as it cuts both tenons and mortises. You merely select the size tenon you want to cut and snap that template in place in the jig.

Position the tenon stock in the jig and set your depth of cut (which will be the length of your tenon). Then plunge your router. A pin on the router's subbase (included with the jig) follows the outside edge of the template. Your tenon is done.

To cut the mortise, position the stock in the jig and place the pin into a slot on the inside of the same template you used for the tenon. Plunge your router and make your mortise. If the joint is too loose or too tight, you merely need to turn a small dial on the subbase to adjust the cut in .001" increments. Simple.

The Frame Mortise and Tenon Jig – like all jigs from Leigh (leighjigs.com) – is an impressive and well-thought-out piece of engineering. As I started using the jig, every single question or objection I had was addressed in the manual and thoughtful design of the jig.

For example, most people would wonder how well this jig clamps long workpieces in place; some face-frame stiles can be 5' long after all. Well let me tell you the clamps on this jig are impressive. They engage with only fingertip pressure, but exert so much force we couldn't deflect long pieces, even when we tried leaning on them harder than we should have.

Setting up the jig for the first time takes a couple hours. The manual (a paragon of clarity) walks you through the process of installing your plunge router (most models will work easily) and getting it locked down to the subbase. Once this is set up, however, you can easily remove your plunge router and return it to the jig in a matter of moments. This is a one-time thing. After your router is in place, you're ready to make test cuts.

The templates snap in and out of place with fingertip pressure. Pick your tenon size and pop it in the jig.

Newest Jig from Leigh" for more information on this precise joint-cutting system.

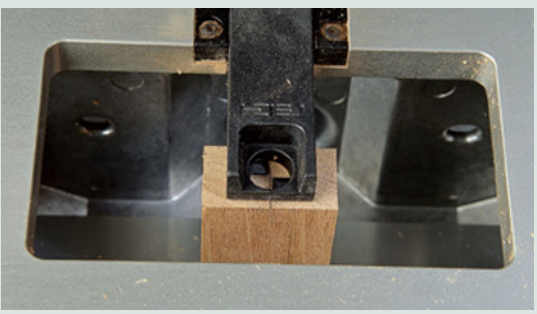
Details Lighten the Load

With the tenons and mortises milled, it's time to make a few cuts that visually will slim this chunky box a bit.

The first order of business is cutting the curve on the top rails. Mark the curve using the diagrams and a flexible piece of scrap wood. Cut the curve using a coping saw and clean up the saw marks using a spokeshave or sandpaper.

Now cut the tapers on the legs using the diagrams as a guide. I

Now fit your parts together and tune up the notches in the shelves with a sharp chisel so you get a tight fit between the sides and the shelves.



Center the table over your tenon using the slide-out window. Lock the table in place and put the router up on the jig.

You can connect dust collection to the back of the jig, which I recommend. It doesn't get all the chips, but it cuts down significantly on the mess.

Select the size tenon you want based on your project's design. By changing which diameter cutter you use, tenons of almost any thickness are possible (a chart in the manual guides you through this). Snap the template into the jig.

Now mark the center of your tenon on the end of your workpiece. Then you center the table over the tenon using a little slide-out window. It works kind of like a bomb sight. (One side note: Though you think that someday you'll forget to retract this plastic sight and rout it to pieces, that's actually impossible. The jig is designed to push it out of the way if you forget to.) The manual shows you how to set up a stop (included with the jig) that positions your tenons in the same place every time, without using the sight. That said, after a week of using the jig, I found I got better results by marking the center of each tenon and adjusting the table slightly (usually less than $\frac{1}{64}$") each time I made a cut. It takes about three seconds to do. The variability, I suspect, comes from the fact that wood can warp a bit as it's ripped to width.

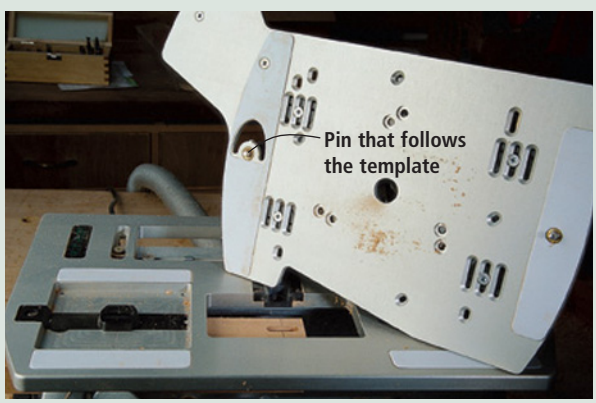
Set your plunge router for the depth of cut you want ($\frac{3}{4}$" in this case). Plunge and then circle the jig's pin around the template. Cut all the tenons for your project this way.

Mortising uses almost the same procedure. Mark the center of your mortise, clamp the piece in your jig and center the table over the cut.

Turn the turret depth stop on your router so it makes a slightly deeper cut (this keeps your tenons from bottoming out in the mortise). Lift the router subbase and place the pin on the inside track of the template. Plunge and make a few holes first. Then move the jig back and forth to clean out the walls of the mortise.

The jig is capable of cutting just about any mortise-and-tenon joint you can think of, including double, triple and angled tenons. Slip-joints are also a breeze. To be sure, there are less expensive ways to cut this traditional joint. The jig costs about $700 and comes with one template set and a $\frac{5}{16}$" cutter. However I know of no better or faster way to cut mortises and tenons, and it's worth a close look for your shop.

— Christopher Schwarz



Mortises are just as easy as tenons. Here you can see the pin on the subbase that rides the outside of the template for tenons and the inside for mortises.

A spokeshave cleans up your saw cuts on the top rails quickly. After working with the fancy Leigh jig, it's a relief to pick up a tool that's simpler than I am.

cut the tapers using my band saw and cleaned up the cuts with a smoothing plane. Keep the off-cuts because they are useful when gluing the case together at the end of the project.

Now sand or plane down all your parts and glue up the side assemblies. In order to attach the top, screw the cleats to the top edge of your side assemblies and bore a couple holes through the cleats. Break all the edges of your parts with 120-grit sandpaper.

Now comes an important decision. You can go ahead and assemble the case and then finish it. Or you can tape off the joints, finish the individual parts and then assemble the case. I took the latter course.

I kept the finish simple on this piece. I wiped on Minwax's "red mahogany 225" stain on all the parts. This stain is available at most home-center stores; 8 ounces will cost you less than $3. Allow the stain to dry overnight.

The next day, apply a few coats of your film finish of choice. I sprayed M.L. Campbell's Magnalac precatalyzed lacquer (satin sheen) using a HVLP spray system. Sand between the second and third coats with 320-grit stearated sandpaper. Remove the tape from the tenons and then glue up the individual parts of the cabinet. Use the falloff pieces from cutting the leg tapers to clamp the lower part of the case squarely.

If you haven't figured it out yet, magazine cabinets aren't much good for storing modern magazines (unless you stacked them flat). But they do make handy bookshelves – especially for antique volumes.

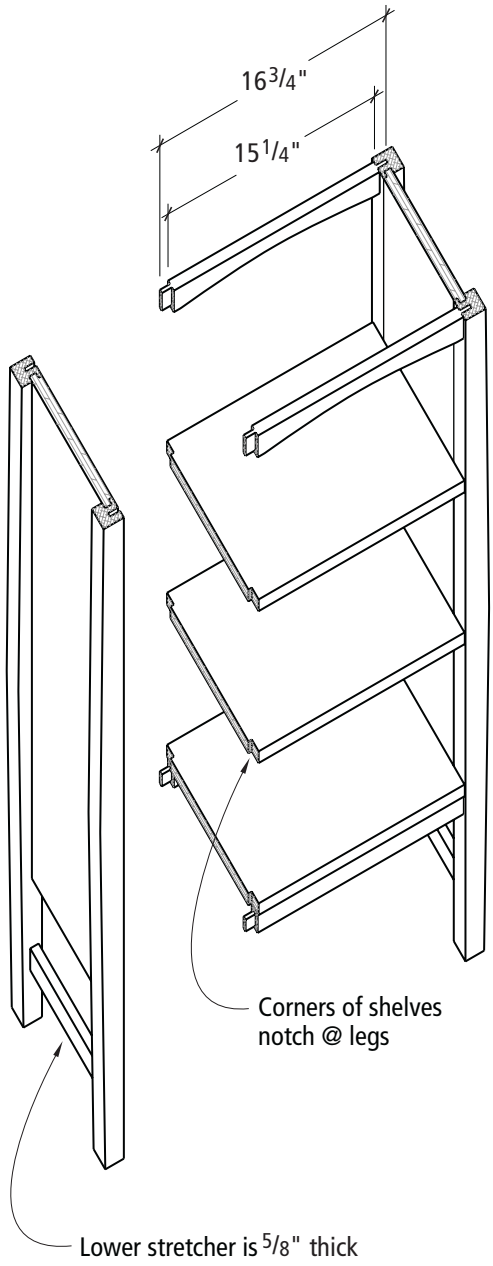
Once I set the cabinet in place next to my fireplace and loaded it up with books, I took a second look at the picture of the original in the 1910 Gustav Stickley catalog. Someone in his art department should have been fired for butchering that photo. This is a nice piece. **PW**

SUPPLIES

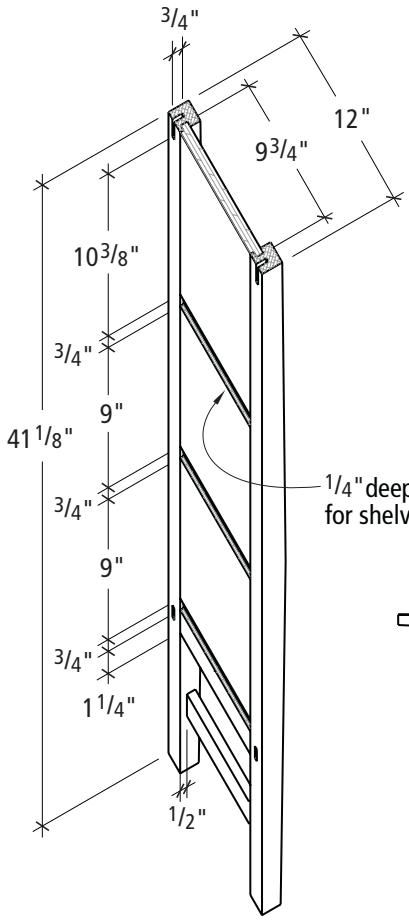
Frame Mortise and Tenon Jig
Leigh Industries Ltd.
P.O. Box 357
104-1585 Broadway St.
Port Coquitlam, BC, Canada
V3C 4K6
800-663-8932
leighjigs.com

Lie-Nielsen Small Bronze Spokeshave
Lie-Nielsen Toolworks
P.O. Box 9
Warren, ME 04864-0009
800-327-2520
lie-nielsen.com

Most people don't notice the tapers on the legs. (My wife didn't, and she has a sharp enough eye to always find my car keys.) The tapers are critical, however. You definitely would notice their absence.

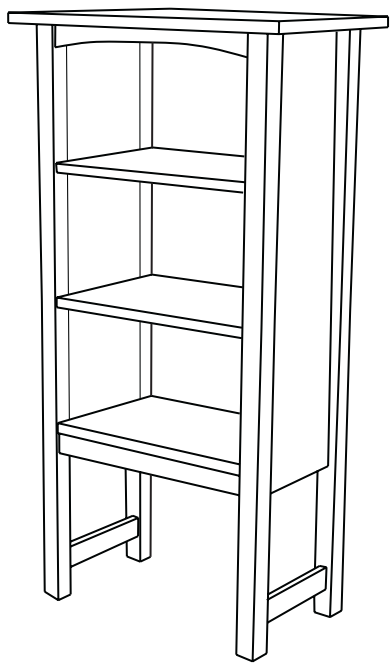


Detail of shelf notches



Shelf locations

The illustrations in "More Shop Drawings for Craftsman Furniture" are black and white, like the drawings shown here.



Finished stand

"MORE SHOP DRAWINGS FOR CRAFTSMAN FURNITURE"

I've been collecting and building Arts & Crafts furniture for more than a decade now, and I've been waiting for this book (and its predecessor "Shop Drawings for Craftsman Furniture") for about that long. In fact, it's a wonder that no one has written these books until now.

Author Robert W. Lang essentially presents you with the keys to the castle: 30 shop drawings of some of the most well-designed Craftsman furniture from this important artistic and cultural movement. You get measured drawings of the plan, profile and elevation (usually called a three-view in design circles) and at least a couple exploded 3D drawings (called isometrics). Plus there's a cut list. Intermediate woodworkers will be able to go straight to work. For the beginners, there's a section in the front of each book that explains basic construction techniques. However, first-timers would do well to get a couple simpler projects under their belts first.

For more details on these books, visit the publisher's web site: cambiumbooks.com. You can order these books direct from the publisher by calling 800-238-7724. Each book costs $22.95 plus shipping.

— Christopher Schwarz