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Sliding dovetails by hand, p. 78

Sharpening jigs put to the test

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THE BASICS

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DESIGN

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April 2019 No. 274

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Reviews & Awards

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- Max. airflow: 868CFM
- Max. static pressure: 9.7"
- Approx. shipping weight: 375 lbs.

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- Motor: 2 HP, 220V, 3450 RPM, 9A
- Intake hole size: 7"
- Impeller: 13" welded steel
- Collection drum size: 35 gallons, max. capacity: 20 gallons
- Suction capacity: 1023 CFM @ 2.6" SP
- Max. airflow: 1023 CFM
- Max. static pressure: 10.9"
- Approx. shipping weight: 397 lbs.

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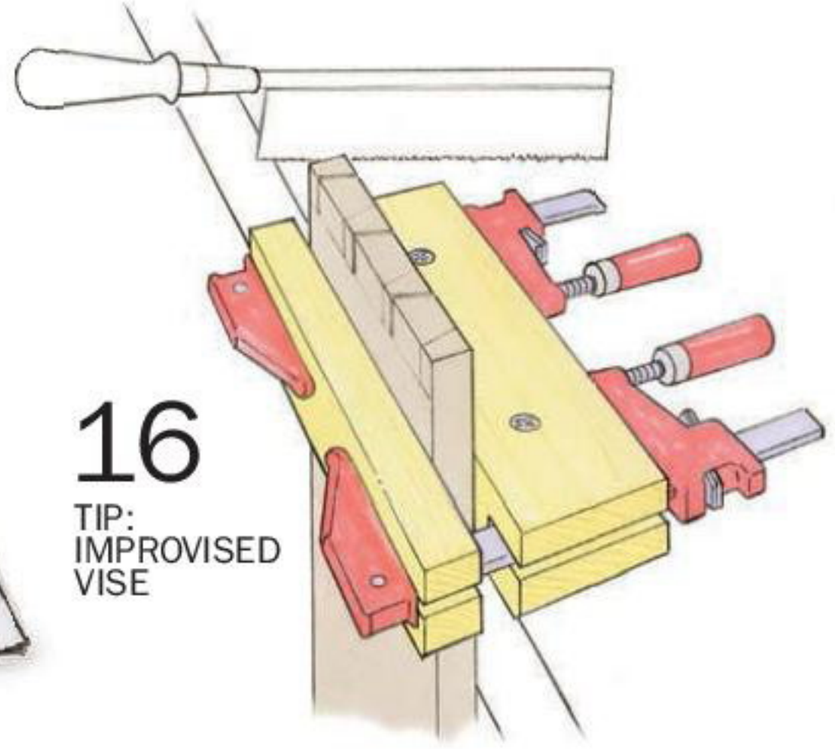

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The Taunton Press
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For members

Limbert deconstructed

At first glance, Charles Limbert's designs might look similar to other Arts and Crafts furniture, but his work has distinct details that make his pieces stand out from other designs of the genre. Deputy editor Jonathan Binzen breaks out what makes Limbert's designs unique.

VIDEO

The Ballad of Peter Galbert

Peter Galbert wowed the audience with his keynote at Fine Woodworking Live 2018. Online members can get in on the action now, too. Peter tells the fascinating story of how he became one of the world's premier chairmakers, and why he still considers woodworking one of his life's greatest passions.

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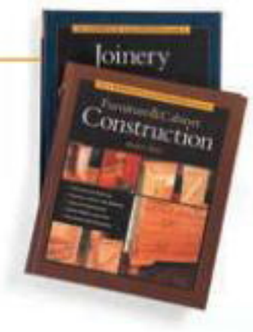

VIDEO WORKSHOP

Enfield cupboard with hand tools

Using only hand tools, Chris Gochnour builds a Shaker classic that is as solidly constructed as it is beautiful. You'll learn how to:

- Use a dovetail plane to cut tapered sliding dovetails
- Use tongue-and-groove planes and beading planes for backboards
- Cut mortise-and-tenon joints by hand
- Use molding planes to create custom profiles

Online extras

Free content at finewoodworking.com/274

VIDEO

From the board room

Mike Farrington (p. 64) has been making videos from his shop, "The Board Room," and has amassed quite a following on YouTube. Here, he gives Fine Woodworking the YouTube treatment and shows off his kumiko skills.

VIDEO

Cutting-edge sharpener

Contributing editor Chris Gochnour (p. 44) is always looking for new ways to be a better sharpener. In this video, you're sure to learn a sharpening trick or two from this hand-tool aficionado.

VIDEO

Lens flair

For Ivy Siosi and Audi Culver (p. 50), expressing their artistic side doesn't end in the workshop. A major part of their story is told through Audi's photos of their lives and work. What started as a graduate school project has turned into one of their greatest business assets.

SHOP TALK LIVE

LISTEN UP, LISTEN IN

Tune in to our biweekly podcast for lively conversations about the craft with our staff and other experts. Listen on iTunes, or watch it on YouTube or at FineWoodworking.com/shop-talk-live.

Honing in on Sharp

In principle, achieving a sharp edge is not difficult, but how you go about it depends on what you need to sharpen and the condition of the tool. Whether you need to reshape the edge or touch up the micro-bevel, Lee Valley offers a variety of sharp solutions so you can master your freehand sharpening skills.

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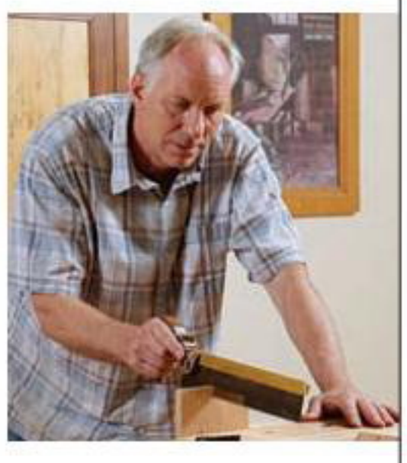
contributors

Audi Culver and **Ivy Siosi** ("Add Strength and Style to Any Slab") are partners in life as well as in the work of designing and building furniture as Siosi Design + Build (siosidesign.com). Both are self-taught woodworkers with backgrounds in art. Why woodworking? For Culver (at right in photo) it's the process. "There's nothing more satisfying than seeing a design through from paper to building, refining, and finish." Siosi is drawn to the material. "Understanding wood feels good. I like the competence woodworking offers. I like going to a creative place every day with the freedom and privilege to work with amazing tools and materials."

Mike Farrington ("Create Kumiko at the Tablesaw") is a professional furniture maker in Aurora, Colo. He was exposed to the craft in high school, when he worked part-time at a cabinetmaking shop. Unhappy in his first office job after college, he turned back to the trades. After a few years as a finish and restoration carpenter, he opened his own woodworking business. Ten years later, he makes both freestanding and built-in furniture in his large shop, as well as small items like Japanese-style andon lamps, turned bowls, and boxes. Farrington also has a popular YouTube channel, with more than 66,000 subscribers.

Willie Sandry ("Arts and Crafts Bookcase") most enjoys building furniture when he collaborates with his wife or twin teenage sons. Over the years, he says, he's learned the value of starting a project with a detailed plan. Recently he's been branching out into other mediums like leather upholstery and leaded glass. "When you can stand back and look at a piece of furniture and say I built that— from kiln drying my own lumber to milling, finishing, and every joint and stitch in between—you get a great sense of satisfaction."



Chris Gochnour ("Tool Test: Honing Guides" and Handwork) started his woodworking career in his grandpa's basement, where he built custom skateboards to sell to local board shops. After getting his degree in English literature, he started building handcrafted furniture, a vocation that has served him for nearly 35 years. Chris teaches woodworking at Salt Lake Community College, the Marc Adams School of Woodworking, guilds around the country, and in his studio in Salt Lake City (chrisgochnour.com). He'll also be at Fine Woodworking Live this April.

We are a reader-written magazine. To learn how to propose an article, go to FineWoodworking.com/submissions.

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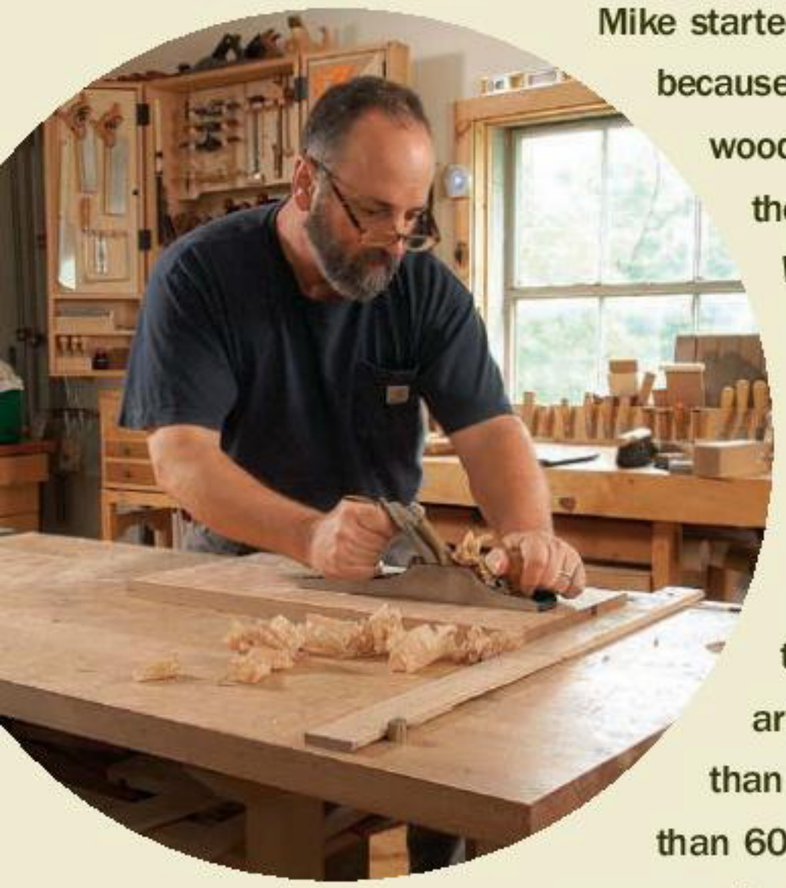
letters

From the Editor

Exceptional excerpt, exceptional person

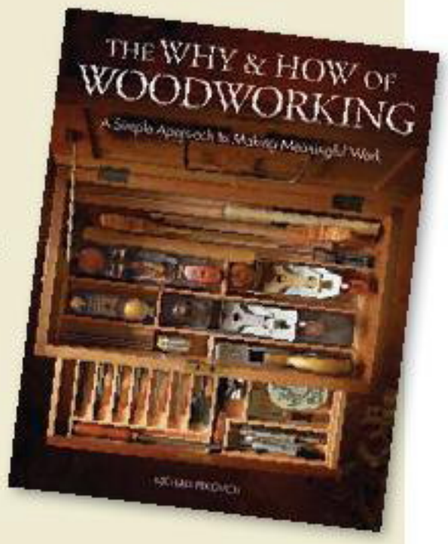
As we've done many times before, we feature a book excerpt (Designer's Notebook, p. 30) in this issue of *Fine Woodworking*. But this one is different—and more special to me—because it comes from our very own Mike Pekovich.



Mike started at *Fine Woodworking* in 1996. He was hired because of his superior magazine design skills and woodworking chops. But Mike did not move from the West Coast to become "the guy" at *Fine Woodworking*; rather, he came here because he was a fan of the magazine that fed his passion for woodworking.

It didn't take long for editors to recognize Mike's quiet talent. With some encouragement and prodding, Mike agreed to step away from the art director's chair and write his first project article in 2004. Since then he has written more than 70 articles and departments, starred in more than 60 videos, and has become the resident expert on our podcast, Shop Talk Live. He also is one of the most in-demand woodworking teachers in the country. Mike has become a woodworking rock star, although I bet such a compliment makes this humble man cringe.

Mike and I have worked together for a long time (I started as copyeditor for *Fine Woodworking* in 1998). When I started I knew the fundamentals of woodworking, but I was a hack, and not of the Garrett variety. I received a lot of in-house guidance at that time from other editors, but Mike had the most influence on my personal woodworking. He didn't just teach me skills—he opened my eyes to the craft. He helped me understand that it's not just about building things. It's about designing and making something that is special and functional and long-lasting no matter how big or small. It's about time well spent in the shop.



Today, as creative director, he's my content partner and sounding board. More important, though, Mike continues to inspire me personally and professionally. A book was his natural next step, and he poured his heart and soul into *The Why & How of Woodworking*. I'm so happy to report that it's one of the fastest-selling books The Taunton Press has ever published and is already in its second printing. Thank you, Mike, for sharing your love of the craft with us all.

—Tom McKenna, editorial director

We're staying together

I retired recently. I was looking for ways to economize. Your subscription came to mind. I logged on to cancel. I noticed an article by Brian Boggs about using templates on a bandsaw. It was the exact answer to a dilemma I was facing in the shop. Your article was clear, concise, and most importantly, it made sense. Thanks for it. So, let's keep seeing each other.

—RICK GILPATRICK, Madison, Wis.

Green is good

Thanks for the addition of green woodworking articles. It's an area that not many magazines or books have tackled. I'm planning to try out the shrink pots soon (Greenwood, *FWW* #273). I'd like to see articles on making the traditional Appalachian green chairs like those of Chester Cornett and Jennie Alexander.

—JASON LESTER, Abingdon, Va.

Hope that this freeform type of woodworking is enjoyed by lots of other readers so you can keep it coming.

—FAY TYLER, Louisa County, Va.

Good afternoon,

I just read "The passage of time" (Designer's Notebook, *FWW* #273) and was blown away. The woodworking is spectacular, but the genius and sentimentality of the piece really take it to the next level. From dividing the drawers into 25-year increments to dating each box along a 300-year span, the whole piece comes alive. A new life from a felled tree.

—NICHOLAS VANARIA, Romeoville, Ill.

Correction

The specification chart in our review of 8-in. jointers (*FWW* #273) incorrectly identified the fence adjustment mechanism for the Rikon 20-108H jointer. The jointer does indeed have a rack-and-pinion fence adjustment. We apologize for any confusion.

Fine WoodWorking®

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workshop tips

Best Tip

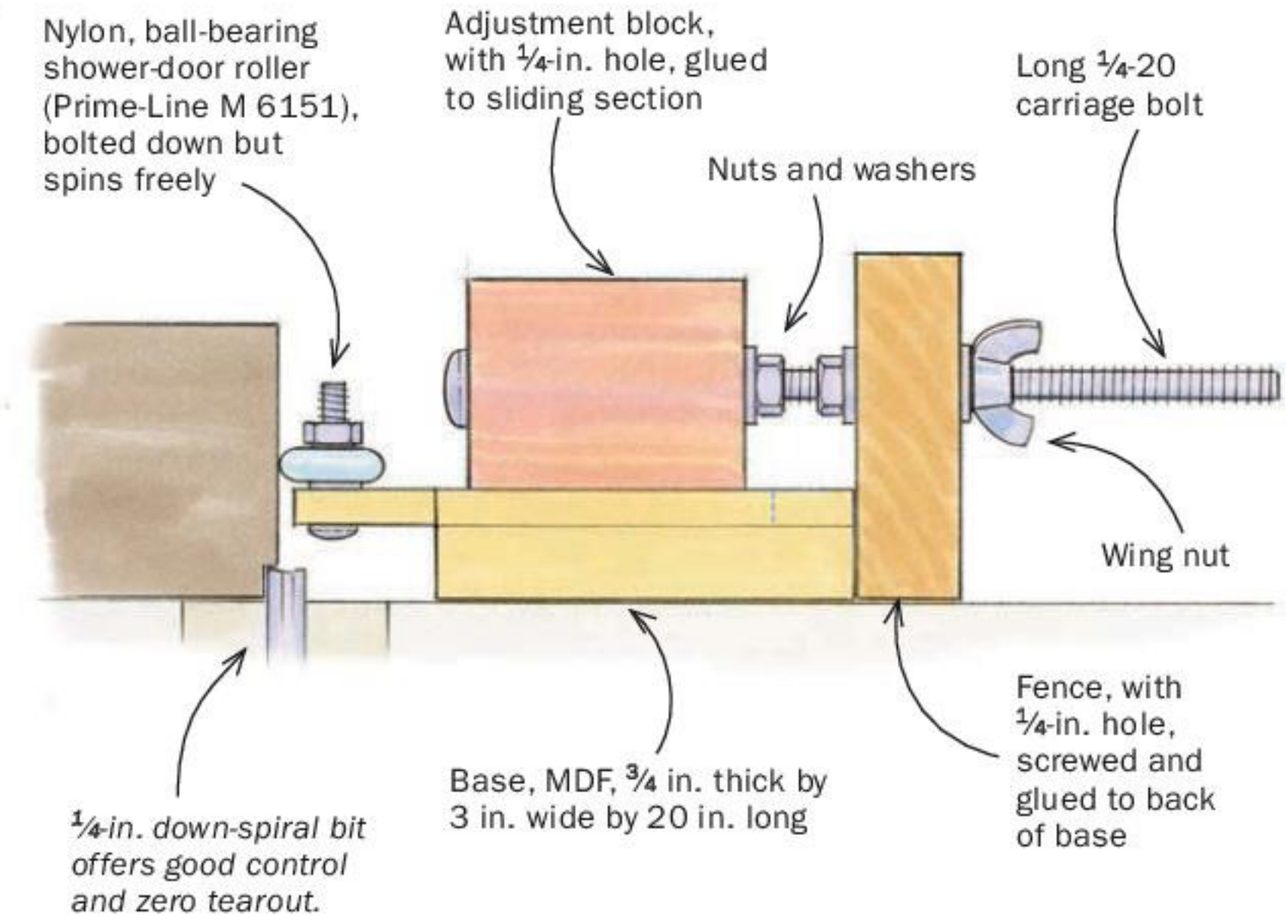
Router-table jig makes perfect rabbets for curved or straight banding

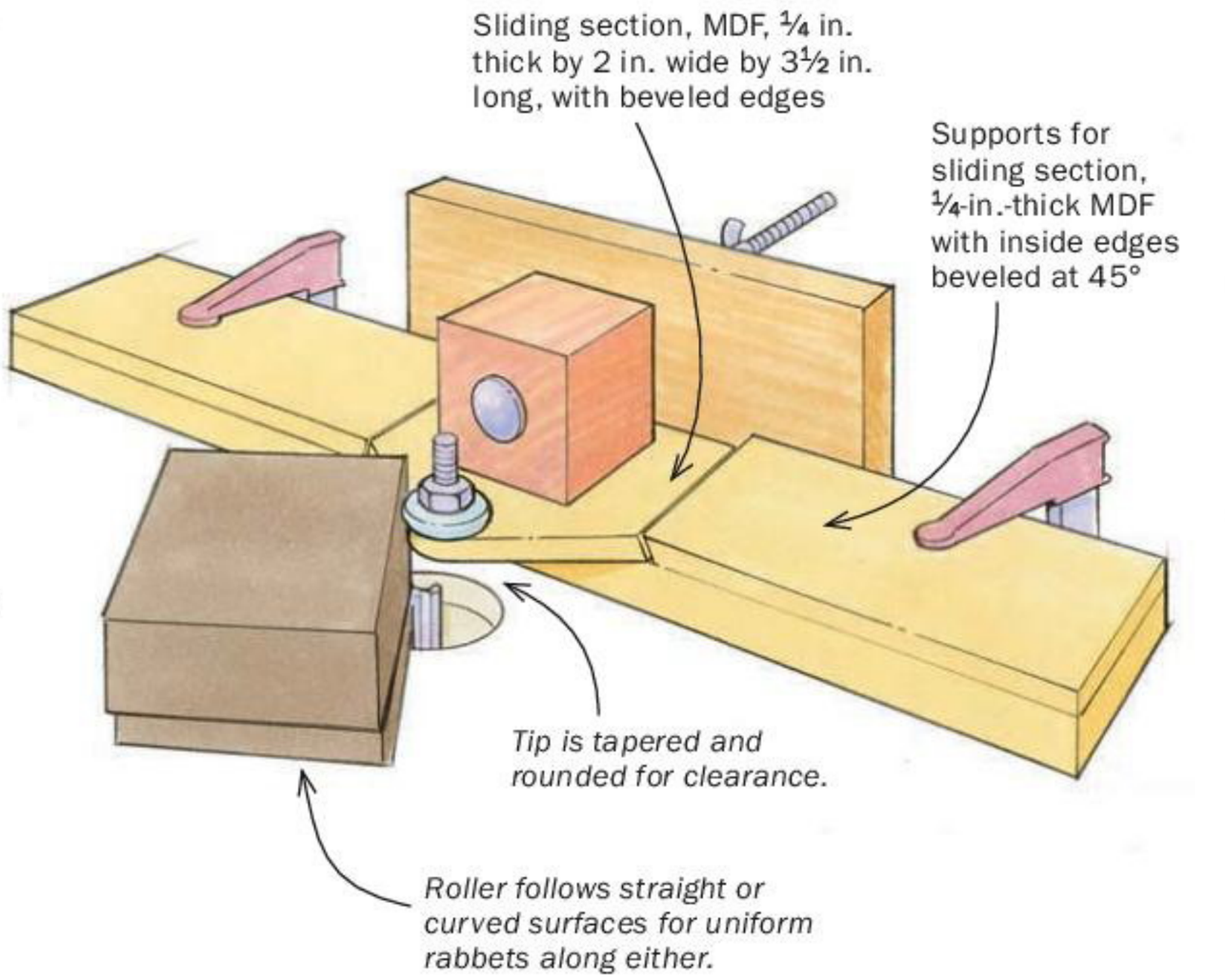
Kirk Hopkins got interested in woodworking in middle school. In the decades since then he has built "just about anything that my wife, family, or friends needed," and also made commissioned pieces for a time. About 10 years ago, Hopkins began making stringed instruments—mountain dulcimers, most often—which prompted him to create this jig.

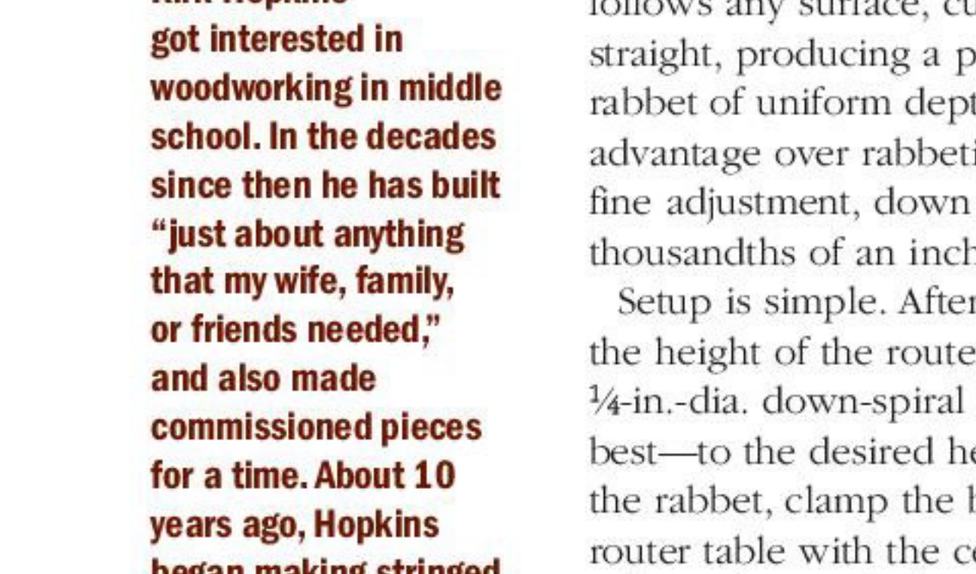
I created this jig to rout ledges for edge-banding (called "binding") on the curved sides of a ukulele, but it will cut perfect rabbets for banding or inlay on all sorts of projects such as boxes, table aprons, and more. The key is the guide roller, which follows any surface, curved or straight, producing a perfect rabbet of uniform depth. Its big advantage over rabbeting bits is fine adjustment, down to a few thousandths of an inch.

Setup is simple. After setting the height of the router bit—a ¼-in.-dia. down-spiral bit works best—to the desired height of the rabbet, clamp the base to the router table with the center of the roller in line with the center of the bit. This doesn't have to be exact. Now adjust the roller so the cutting depth is close to what you want. Try putting a block of wood against the bit, and then adjusting the bearing until your banding or inlay just fits between the block and the bearing. Make a test pass on some scrap, and fine-tune accordingly.

—KIRK HOPKINS, Brashear, Texas







A Reward for the Best Tip

Send your original tips to fwtips@taunton.com. We pay $100 for a published tip with illustration; $50 for one without. The prize for this issue's best tip was a router combo kit from Metabo (formerly Hitachi).

Quick Tip

Use 3x3 gauze for finishing

Three-inch squares of cotton gauze, which are cheap and widely available, are a great option for applying finish to a project, especially oil or shellac. The gauze holds a fair amount of finish and doesn't shed fluff or fibers. To hold even more finish, wrap the gauze around a cotton ball from the same local drug store.

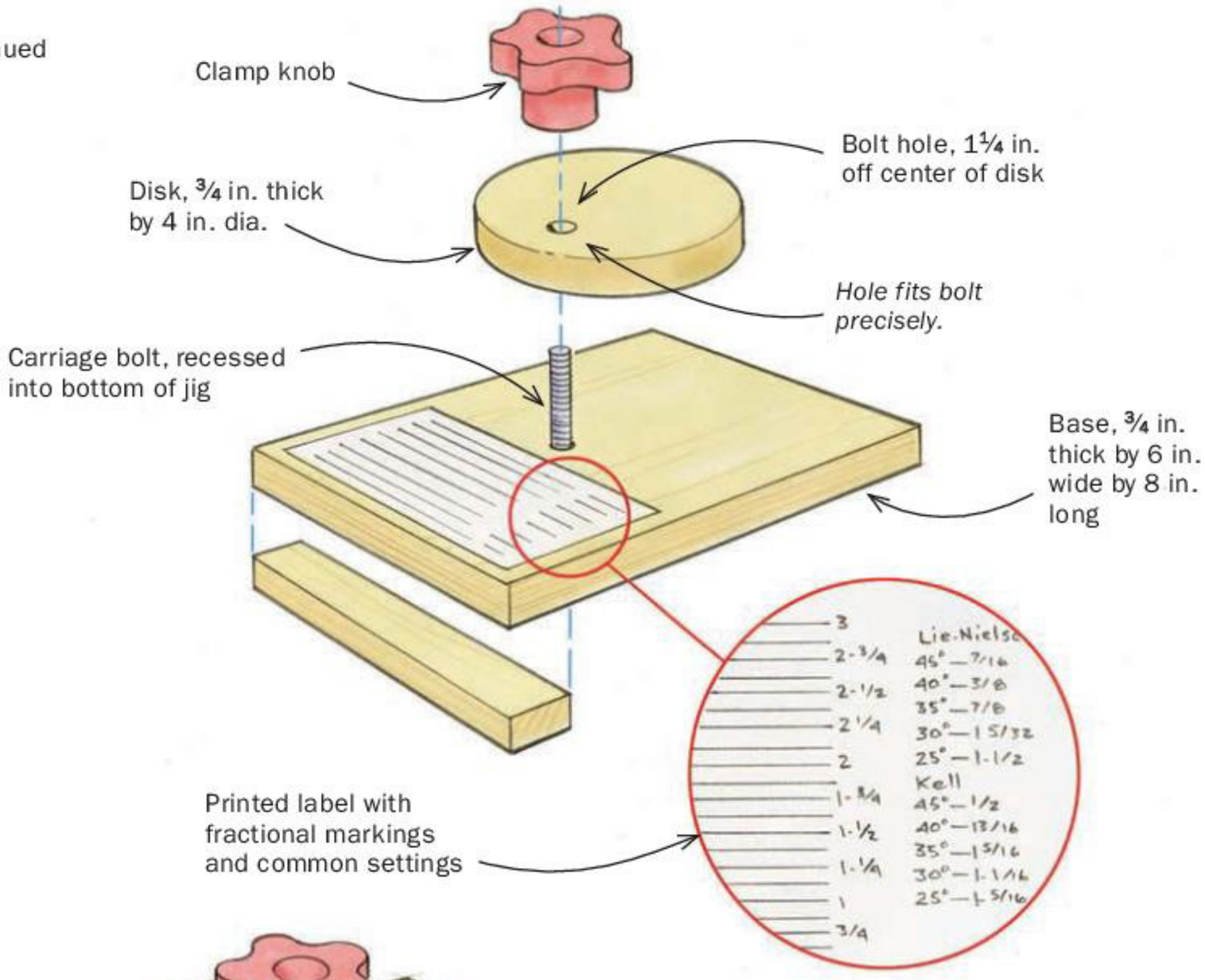
—MENACHEM YONDORF, Bala Cynwyd, Pa.

Drawings: Dan Thornton

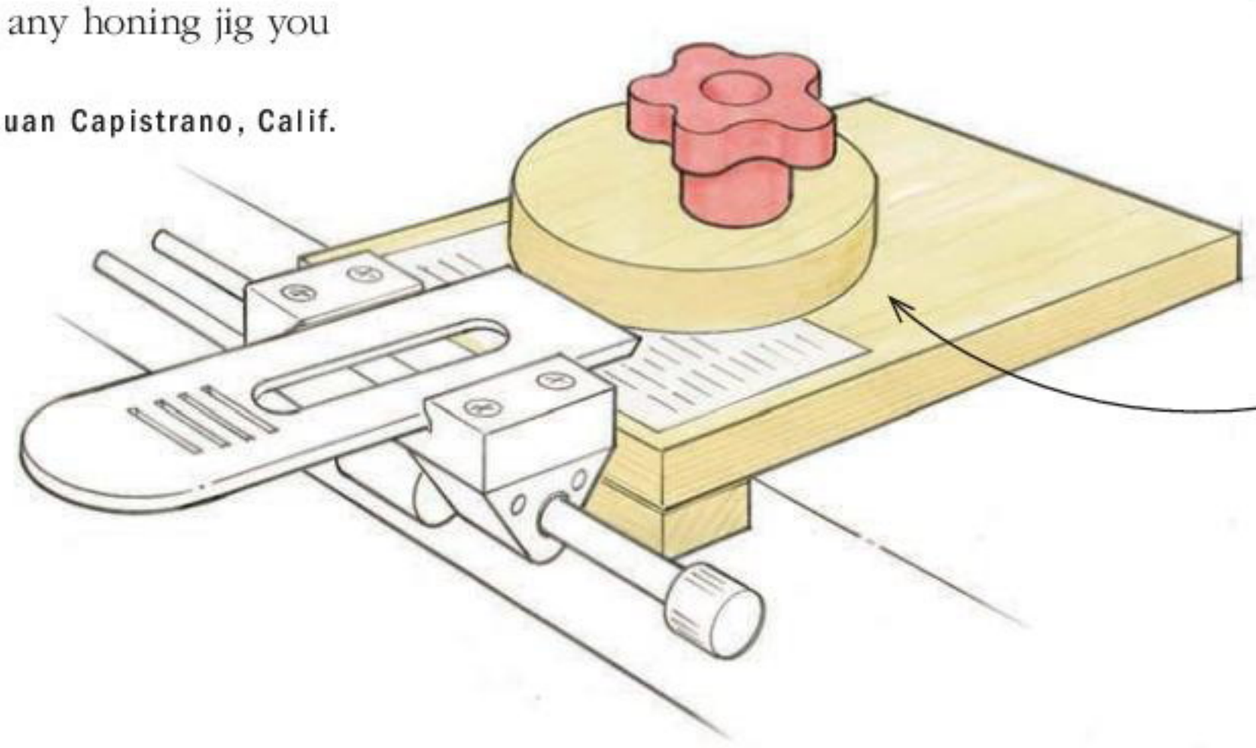
Simple jig sets your honing guide to any angle

I use two different honing guides at a variety of angles. So I designed a continuous-distance jig that will set any guide to any angle. It relies on a simple disk, mounted off-center, along with a printed label I created with graduations and a list of settings for my two jigs. When creating your own label or markings on the jig, you'll find that some honing guides list the distances that blades need to protrude for given angles. On others, you'll need some trial and error (or trigonometry). Also, you'll need a way to produce a perfectly round disk, such as a lathe, hole saw, or circle cutter. After that, you'll be able to produce any angle in seconds, with any honing jig you own.

—STEVEN ROMAN, San Juan Capistrano, Calif.



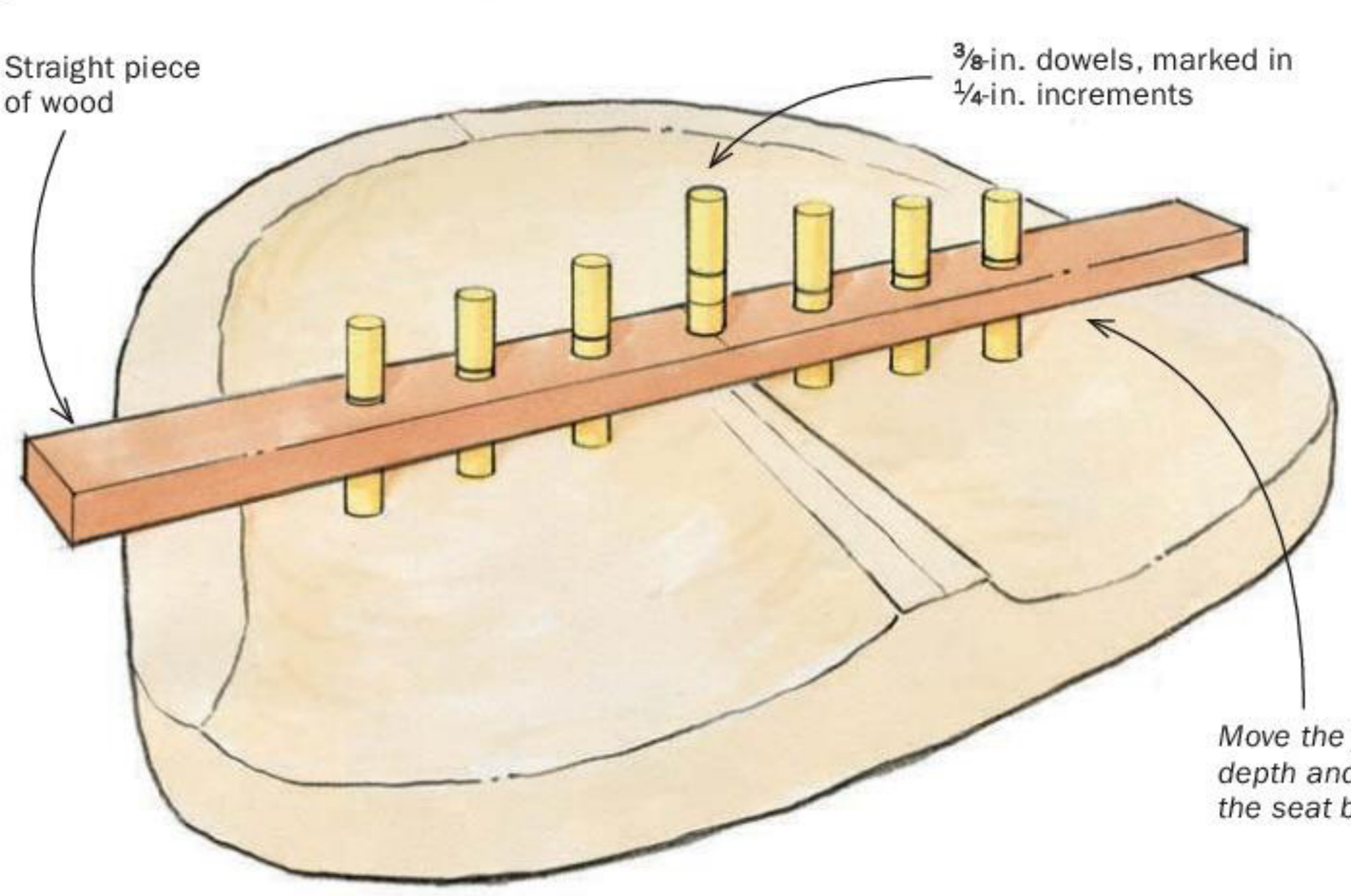
To use the jig, set the disk to the desired angle setting, bump the base of the honing guide against the edge, push the blade against the disk, and lock it there.



Depth gauge for carved chair seats

When sculpting the seat of a rocking chair, I came up with this simple jig for gauging depth and symmetry. It's a piece of scrap, with dowels inserted every 2 in. and marked in ¼-in. increments. As I worked with my grinder to shape the seat, the jig guided me to perfect results.

—MICHAEL BURT, Muncie, Ind.

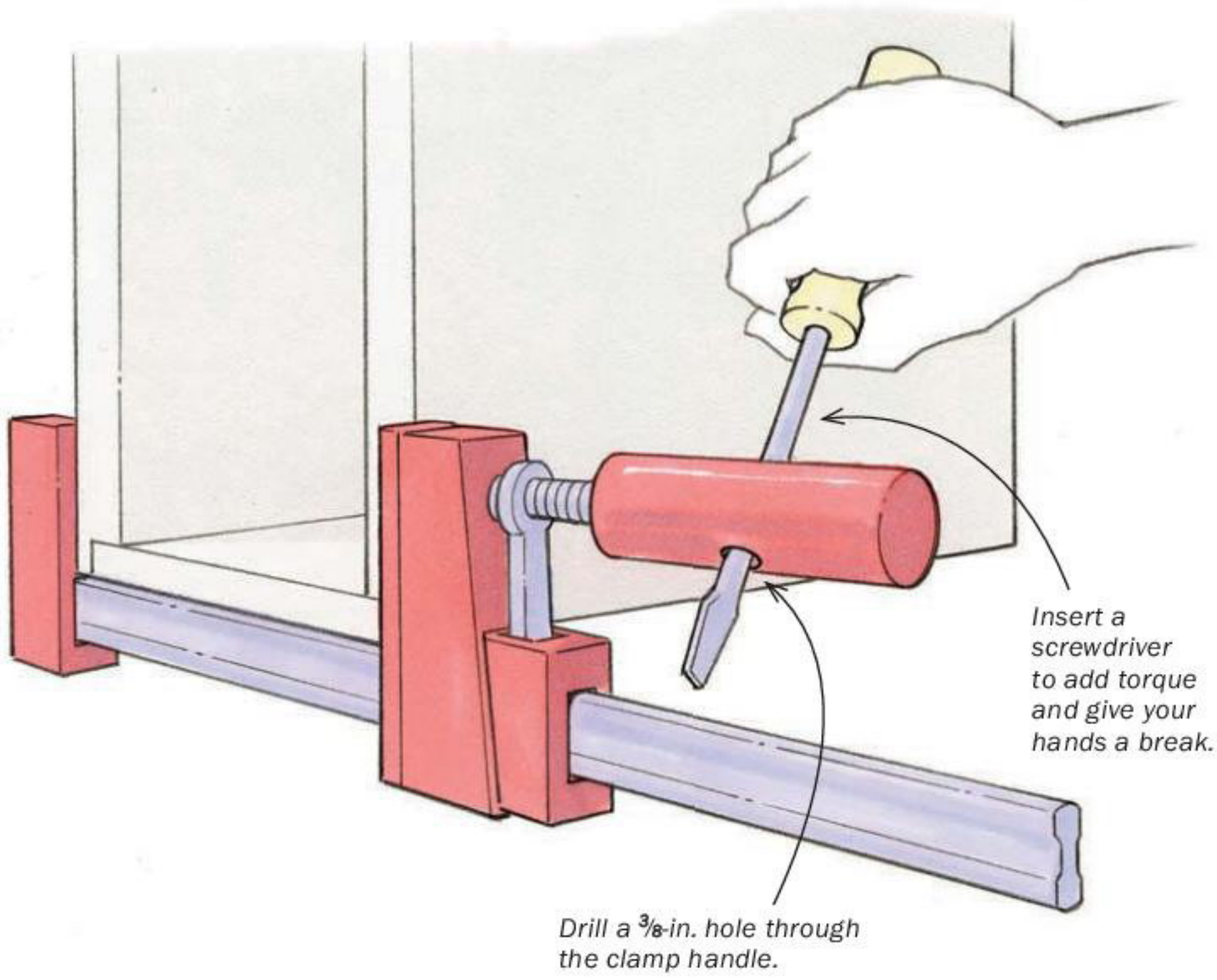


Move the jig as needed to gauge depth and symmetry as you sculpt the seat by power or hand.

Supercharge your clamps with a screwdriver assist

When arthritis started making it harder to tighten and loosen clamps, I bored a ⅜-in.-dia. hole through the wooden handle of every clamp I own. Now I just insert a screwdriver in the hole and tighten away. I should have done this years ago, arthritis or not. Not only does it give my hands a break and make it easy to get optimal pressure on glue-ups, but it also makes it easy to tighten clamps when they are placed close together or in tight quarters.

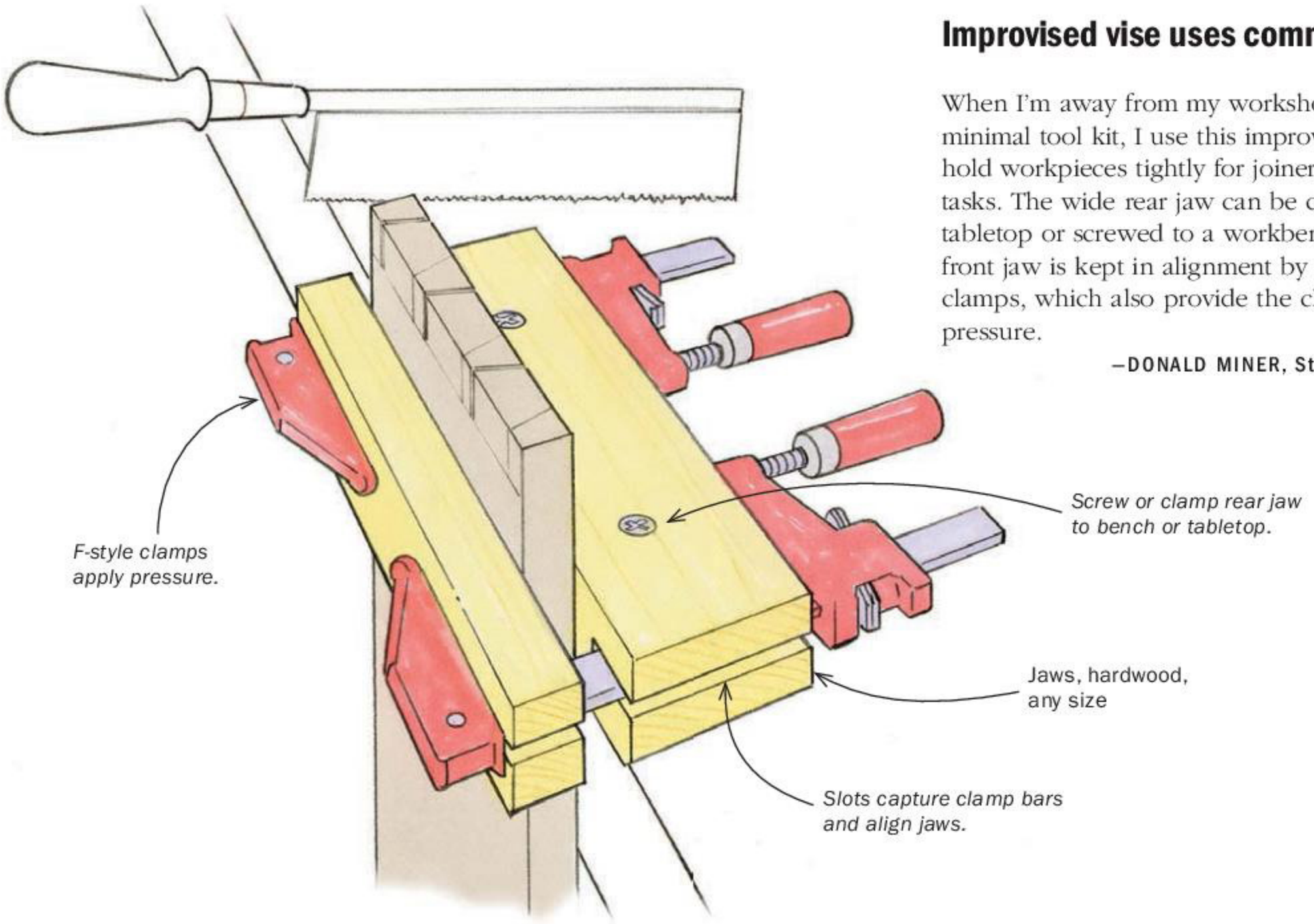
—BOB MOMENT, Vassalboro, Maine



Improvised vise uses common clamps

When I'm away from my workshop with a minimal tool kit, I use this improvised vise to hold workpieces tightly for joinery and other tasks. The wide rear jaw can be clamped to a tabletop or screwed to a workbench, and the front jaw is kept in alignment by two F-style clamps, which also provide the clamping pressure.

—DONALD MINER, Sturgeon Bay, Wis.



MACHINES

Drum sander is a smooth operator

WHEN I NEED TO SAND AND LEVEL veneered plywood, cabinet doors, highly figured wood, or thin panels, a drum sander is my tool of choice. The new 16-32 Drum Sander from SuperMax excelled at all these tasks. In my tests, the finished stock only varied in thickness by 0.010 in., certainly good enough for my purposes, and both faces were parallel.

The drum head is cantilevered out above the work and accepts specially shaped sandpaper wound onto it. The conveyor belt, a roll of 100-grit sandpaper that reduces slippage, feeds the stock from below. One of the best features of this sander is that the head and conveyor work in conjunction, meaning the tool monitors the load the drum puts on the motor. SuperMax calls this Intellisand. If you set the sander to take too deep a pass and bog down the motor, the feed rate automatically slows. When I tested this, the sander's feed rate slowed to a crawl to handle the extra load. The sandpaper didn't slip or burn, and though a few times the drum left a slight snipe in the stock, I was able to remove the defect with a couple of normal passes.

Dust collection was solid. If you're using a vacuum, like I did, a 12-oz. plastic coffee can is just the right size to use as an adapter between the dust port and vacuum hose.

I did find some discrepancy between the digital readout and the stock that was sanded, but I fixed the problem by recalibrating the readout using stock of known thickness. Also, changing the sandpaper took a couple of attempts before I got the hang of it.

Drum sander by SuperMax
Model 16-32
$1,200

Last, the sander really would benefit from infeed and outfeed tables to reduce snipe. Short add-on tables are available from the manufacturer ($120). I also highly recommend casters for the included stand, $90 from SuperMax, as the sander and stand together weigh around 150 lb.

—Charles Bickford is a woodworker and former senior editor for Fine Homebuilding.

Fast-acting lever. *Bickford appreciated the lever for quick large-scale adjustments to the drum height. The sander has a micro-adjustment wheel as well.*

Digital readout. *The scale, which displays the space between the drum and the bed, can be set to imperial or metric.*

Speed control. *A dial rheostat controls the conveyor speed up to a maximum of 10 ft. per minute.*

Photos, except where noted: staff; top photo: courtesy of SuperMax

■ HAND TOOLS

High-end coping saw

Ultimate Coping Saw
by Blue Spruce Toolworks
$325

THE NEW BLUE SPRUCE TOOLWORKS coping saw is an impressive tool that does a great job on scrollwork, coping moldings, and removing waste while dovetailing.

The frame is exceptionally rigid and holds a blade in tension for fantastic responsiveness and control. The frame's light weight also aids the saw's balance and maneuverability. Additionally, the handle's shape and flutes facilitate a comfortable and tight grip. The result is a saw that's very easy to control.

The saw has eight positive detents to register the blade's rotation, allowing you to keep the frame from interfering with your sawing. But you're not limited to those eight locations. The frame is loosened via a pair of screws at its ends. Loosen those screws, and the blade can freely rotate 360°, independent of the frame, while maintaining full tension. This makes the saw ideal for scrollwork.

The frame comes in 11 colors, and you can choose either black or silver hardware and a handle made from a number of woods.

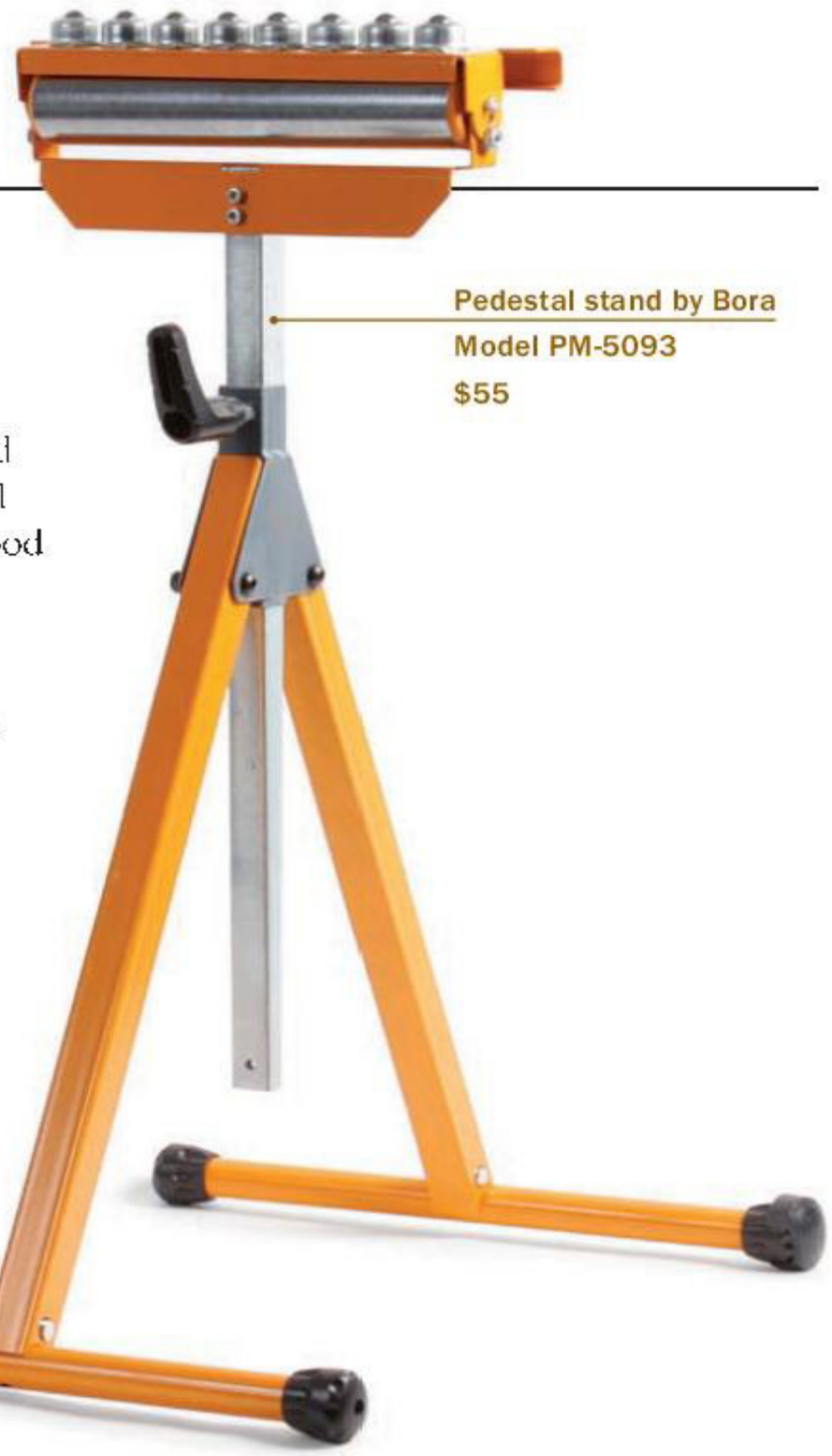
For an extra $50, the saw comes with an adapter kit and blades to fit ultrathin, pinless fretsaw blades.

You can surely get by with a coping saw that costs much less, but if you value finely crafted tools that perform flawlessly and have unique features, take a look at the Blue Spruce.

—Chris Gochnour makes furniture in Salt Lake City.

■ ACCESSORIES

Support stand with multiple heads



Pedestal stand by Bora
Model PM-5093
$55

THERE ARE THREE TABLESAWS in my shop, one of which does not have an outfeed table. There is usually a roller stand behind this saw, but the stand is often moved out of the way to free up floor space. The base of the Bora Pedestal Stand is a good option for a space like this. It's not only sturdy but also folds up easily to move or store flat. It's easy to adjust. The center post is tapered, thick at the top to thin at the bottom, making locking super secure because of the wedging action, and making fine adjustments easy because the head doesn't quickly drop to its lowest setting when you loosen the knob, like on many other roller stands. Once I set the height, the head didn't move at all, which was perfect.

Before setting the height, though, you get to pick which of the three heads to use: the long roller, multidirectional ball bearings, or flat stationary support. Switching between the three was easy. You just lift and rotate the head, clicking it into place around two bolts. The solid roller worked great at the tablesaw for supporting large pieces of stock, and was especially useful when ripping plywood. The ball-bearing roller head was perfect for when I needed additional support at the bandsaw and router table, because the design allowed me to move the workpiece with ease in different directions. The stationary support is an added bonus.

—Ellen Kaspern builds furniture in Boston.

■ BITS AND BLADES

Beefy compression bits

IN THE FIRST PROFESSIONAL SHOP I worked in, the older makers used a large-diameter, flush-trimming pattern bit that had carbide cutters bedded at shearing angles to rout all kinds of difficult woods. When I asked where to buy those, the response was "Oh, we had them custom made." Fast-forward 20-plus years and here on my bench is a set that looks very similar to that bit I wanted all those years ago.

Infinity's Mega Flush Trim router bits are well-made, double-bearing bits with compression shearing cutters made of carbide. This means their blades are a combination of upcut and downcut, leading chips to the middle of the board and leaving a remarkably smooth finish on the top or bottom of the stock.

The cutters' balance is excellent—extremely important with the bigger bits here. The ¾-in.-dia. bits, like the others, performed incredibly well in tough grain situations but with the added benefit of getting into tight radii. Be aware that the largest bit (1½ in. dia. with a 2-in. cutting length) must be run in a heavy-duty router table or a shaper with a router bit adapter.

The double-bearing design offers lots of versatility for pattern shaping, especially when dealing with changing grain orientation, since you can use a template on either the top or bottom of your workpiece for best results.

Now when younger makers come into my shop and ask, "Where can I get a bit like that?" I'll tell them they can simply order one.

—Tim Rousseau is an instructor at the Center for Furniture Craftsmanship in Maine.

Mega Flush Trim router bits by Infinity

$50 to $130

■ ACCESSORIES

Long-lasting mesh sanding pads

WHILE DIABLO'S SANDNET disks perform similarly to conventional paper abrasives in terms of material removal and surface prep (with some exceptions at the lower grits), they make keeping your work surface and work area clean much easier, thanks to the great dust collection possible with them.

As you would expect, SandNet does not clog and has a long cutting life. While you can rinse or vacuum the disks to extend their lives, I didn't need to, even after sanding many boards.

The biggest shortcoming was that at the lower grits, particularly 80 grit, SandNet cut slower than other products. In a side-by-side comparison with a conventional paper disk, it took twice as many passes to remove a pencil mark from a piece of red oak and 50% more passes to remove cross-grain scratches. However, once the workpiece was ready for 180 grit and above, the mesh performed comparably. Also, while the slower action on the 80 grit was a bit disappointing, if I was working inside someone's home and needed to start at that grit, I would gladly trade speed for the improved dust collection.

Each pack comes with a circular black pad so a disk can be easily attached to a sander.

—Adam Godet makes furniture in Washington, D.C.

Random-orbit sander disks by Diablo

SandNet

$15 for pack of 10

Learn your M&Ts

THE TRIED-AND-TRUE MORTISE AND TENON COMES IN MANY FORMS

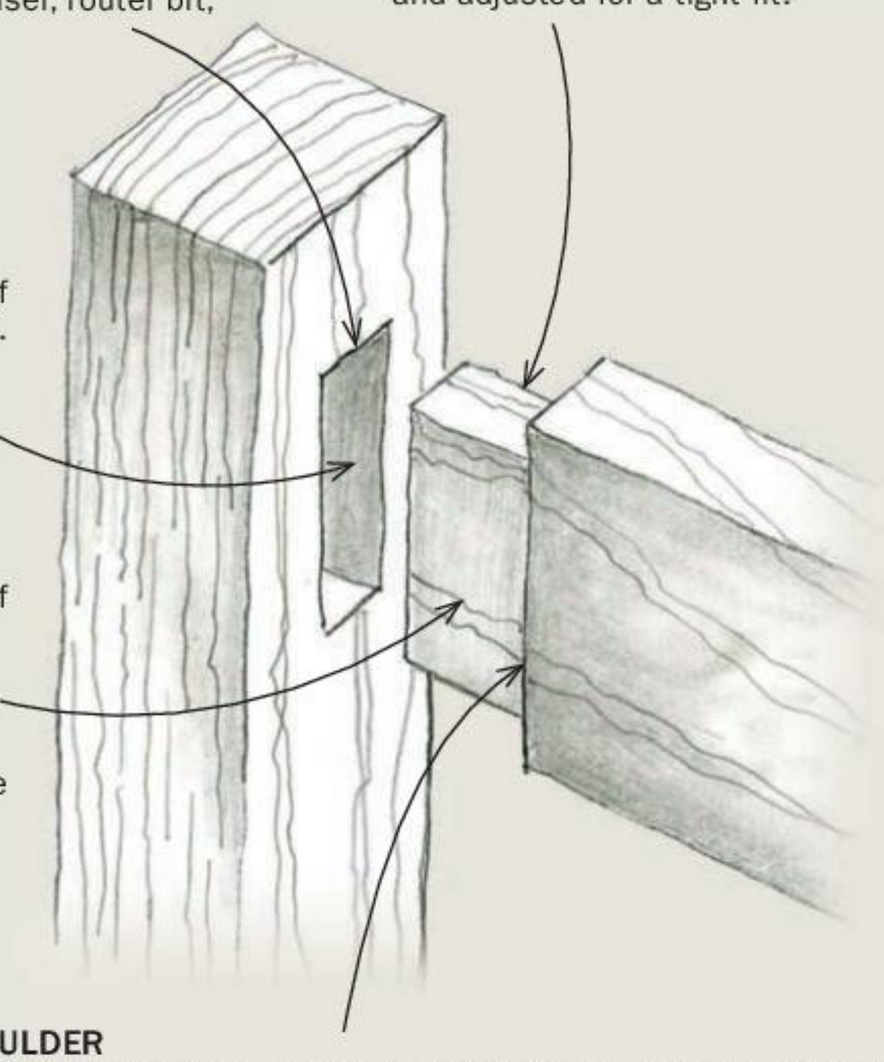
BY MARIO RODRIGUEZ

The mortise-and-tenon joint is one of the most dependable methods for joining wood parts of almost any size, configuration, and angle. The joint has been around for thousands of years and is found in many ancient wooden structures worldwide. I once owned and restored an 18th-century timber-framed farmhouse and was surprised that it stood perfectly plumb and strong after 200 years; it didn't lean or creak one bit, all thanks to the mortise-and-tenon.

If you're making a piece of furniture or other project that requires unfailing strength, durability, integrity, and good looks, the reliable mortise-and-tenon is a great choice—but which to pick? There are many variations of this fundamental joint. You can keep it basic, or you can add flair to suit your design. I'll take you through the basics of the mortise-and-tenon, including its parts and how to size the joint correctly for your projects. I'll also show you a few fun variations—some of them don't even need glue.

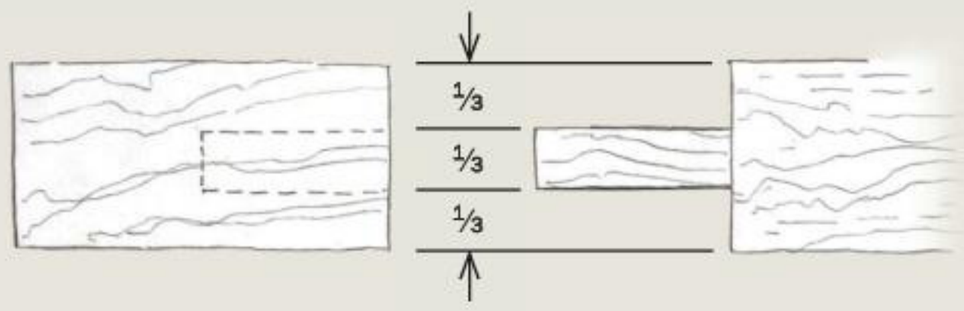
Mario Rodriguez teaches woodworking and makes furniture in Philadelphia.

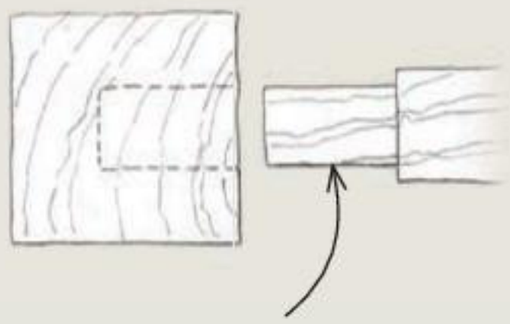
ANATOMY



SIZING

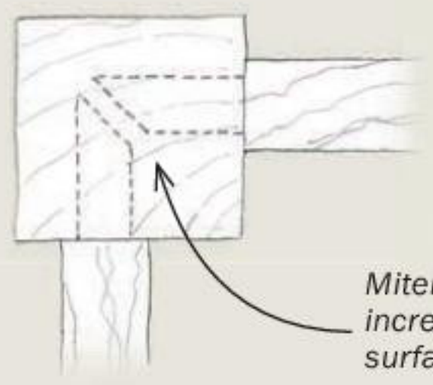
The tenon should be uniformly thick. If it's too thick, it might split the mortise; if it's too thin, the joint will be weak. When sizing the joint, the tenon should be ⅓ as thick as the thinnest material.





When thinner stock is tenoned into a thicker part, make the tenon thicker.

There are times when following the ⅓ tenon rule would create a tenon that is too thin for its job. Take, for instance, a leg-to-apron joint, where the apron is 1 in. thick and the leg is 2 in. thick. Following the ⅓ rule here would make a very weak table joint, so in this case I'd beef up the tenon to ¾ in. thick to make the joint more stout.



Mitering tenons that intersect increases the joint's glue surface.

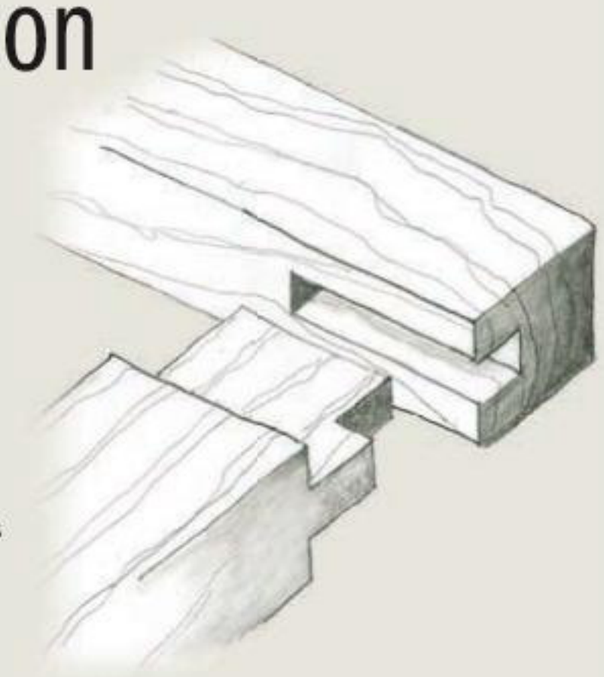
Tenons don't always need to have square ends. Where a pair may intersect, like with aprons entering a table leg, mitering the tenons maximizes their length.

Drawings: Mario Rodriguez; top photo: staff

Single tenon

Haunched

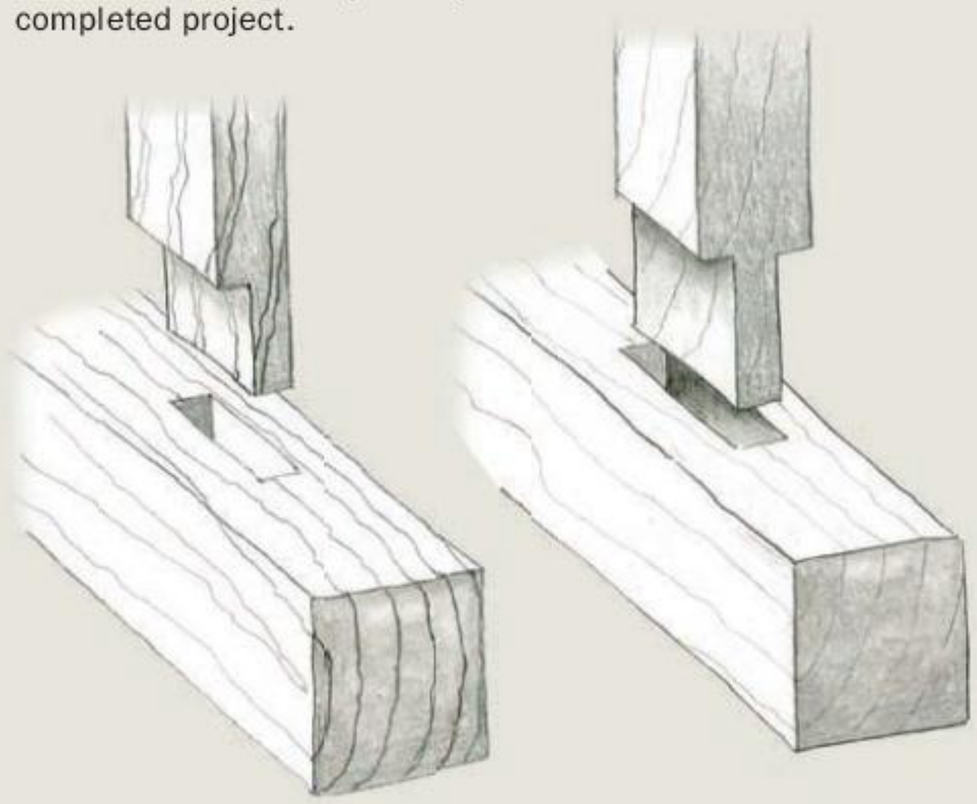
Haunched tenons extend to the exterior corners of the joint. The haunch increases the glue surface area on the cheeks for strength and helps maintain the joint's alignment. It often is used to hide a continuous groove that would otherwise be visible, as on a paneled door.



Fewer shoulders

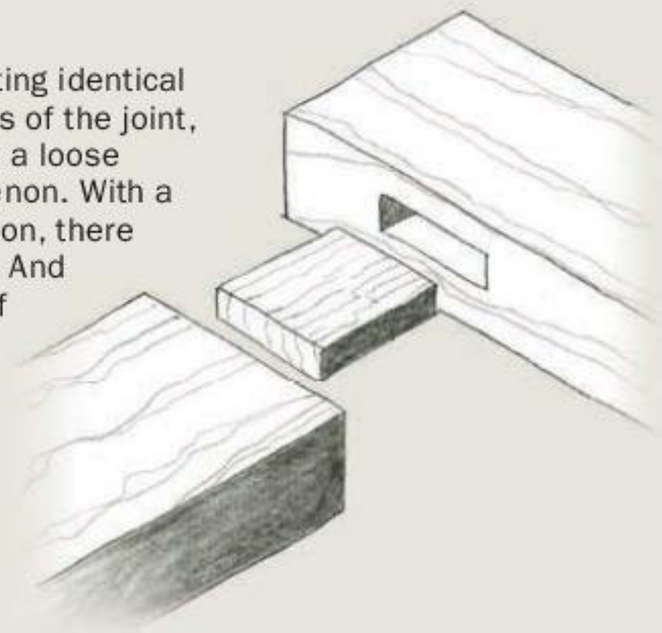
While I prefer mortise-and-tenons with four shoulders, sometimes it's better to go with fewer. Take, for example, the bareface tenon, which is shouldered on only one side. This allows a thicker tenon to be set into large, thick stock, which can benefit load-bearing constructions like work tables or platforms. I've used this joint when connecting rails to legs for a table.

A tenon with only two shoulders may appear in utilitarian woodwork, such as fences and gates. This construction speeds the work, but might expose a portion of the mortise on the completed project.



Slip

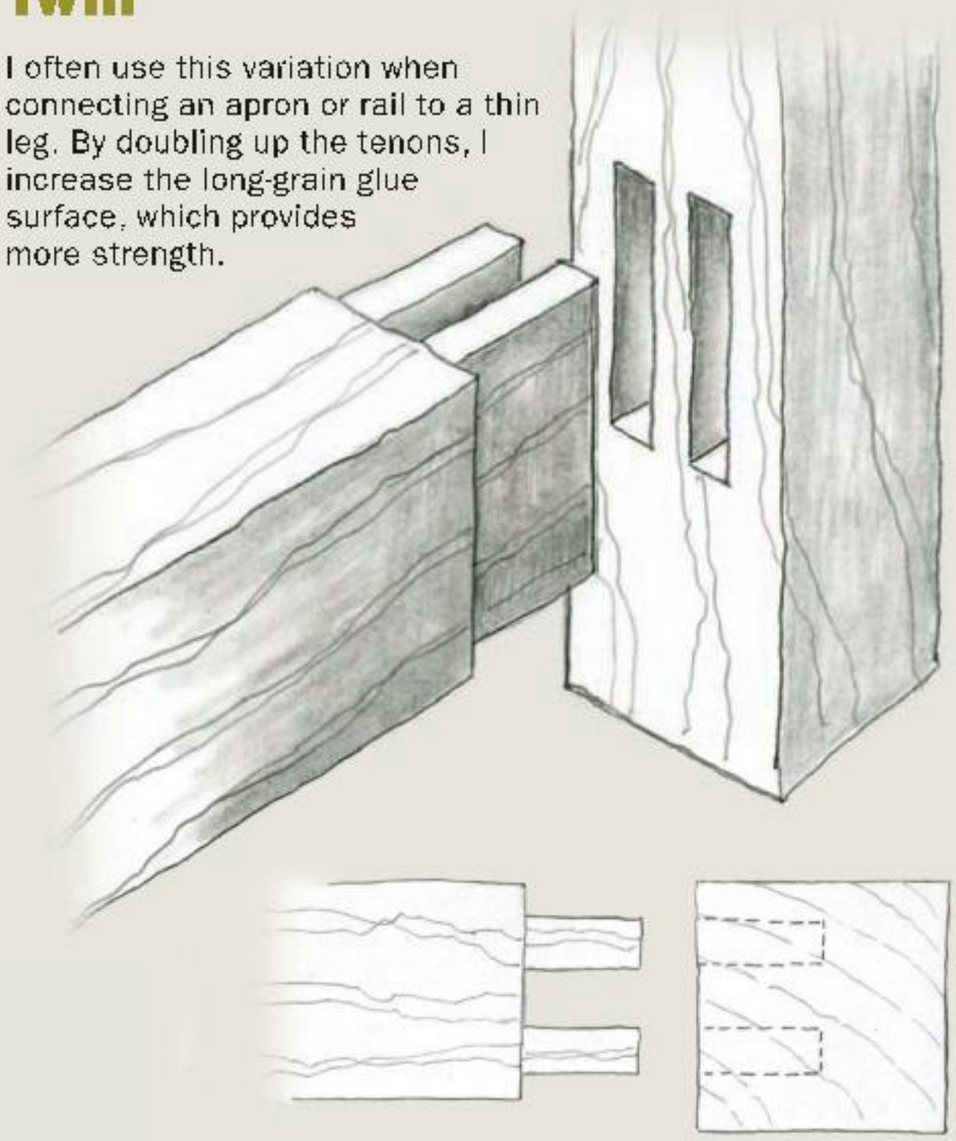
This joint involves cutting identical mortises on both parts of the joint, then joining them with a loose (instead of integral) tenon. With a properly fitted slip tenon, there is no loss of strength. And the ease and speed of construction makes it a great choice. I often choose a slip tenon when there are angles involved, avoiding the need to cut angled tenons.



Multi-tenons

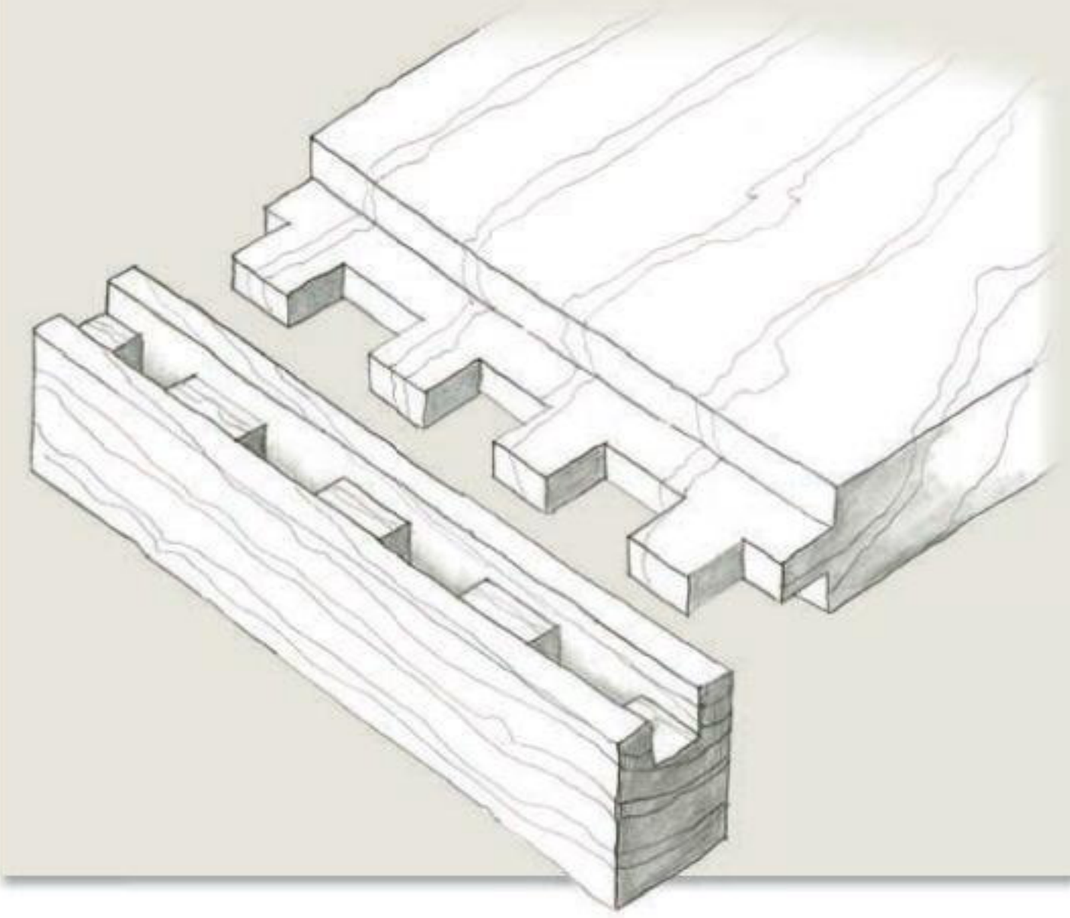
Twin

I often use this variation when connecting an apron or rail to a thin leg. By doubling up the tenons, I increase the long-grain glue surface, which provides more strength.



Crenelated

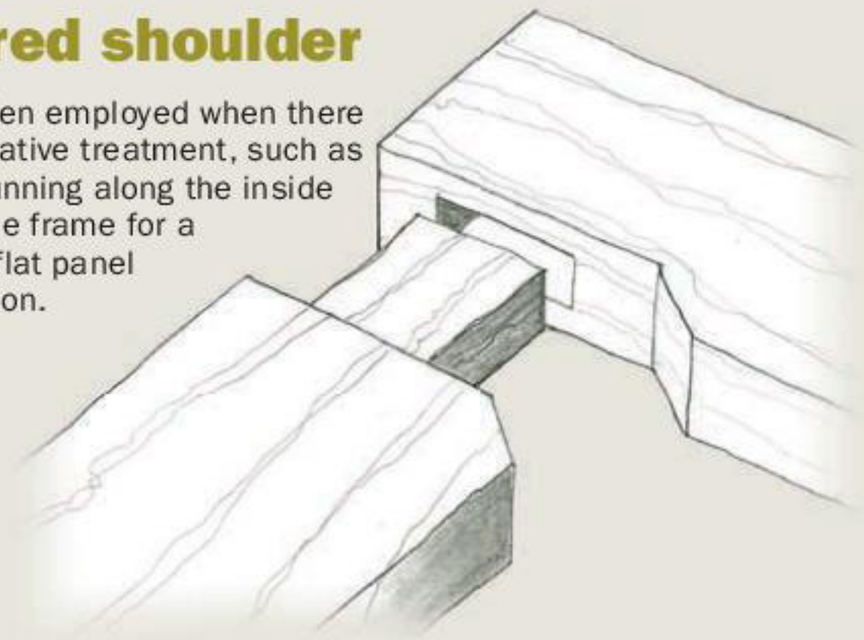
A crenelated tenon doesn't maintain a uniform length. Instead, it goes up and down, like a castle parapet. It's shaped like this because a long, wide tenon might create weak walls in the mortise, causing it to separate from the tenon and encourage wood movement within the joint, possibly leading to joint failure. The intermittent shorter tenons preserve the integrity of the mortise. Crenelated tenons are often used on breadboard ends, which help keep tabletops flat.



Specialty tenons

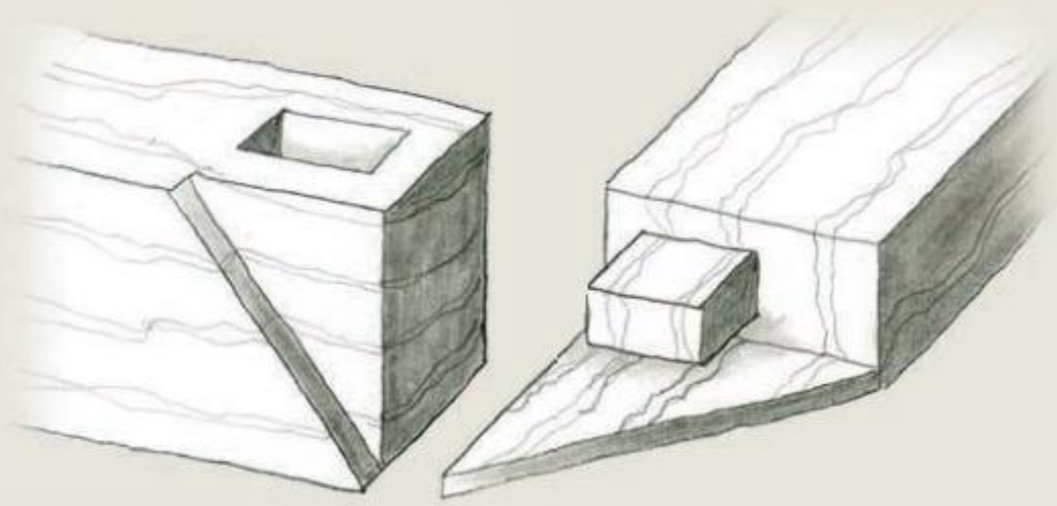
Mitered shoulder

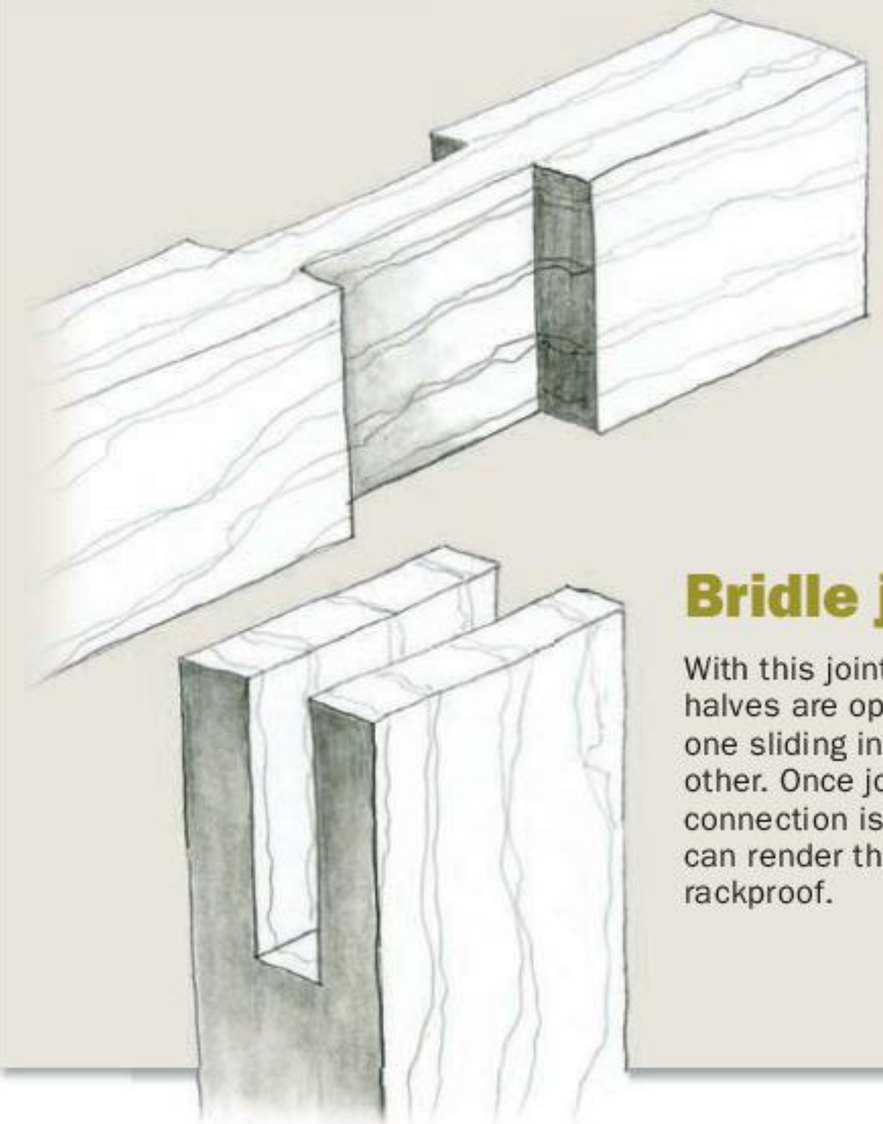
This is often employed when there is a decorative treatment, such as a bead, running along the inside edge of the frame for a raised or flat panel construction.



Mitered face

This variation has a thin portion of the face mitered, combining the strength of a mortise-and-tenon with the visual appeal of a miter.



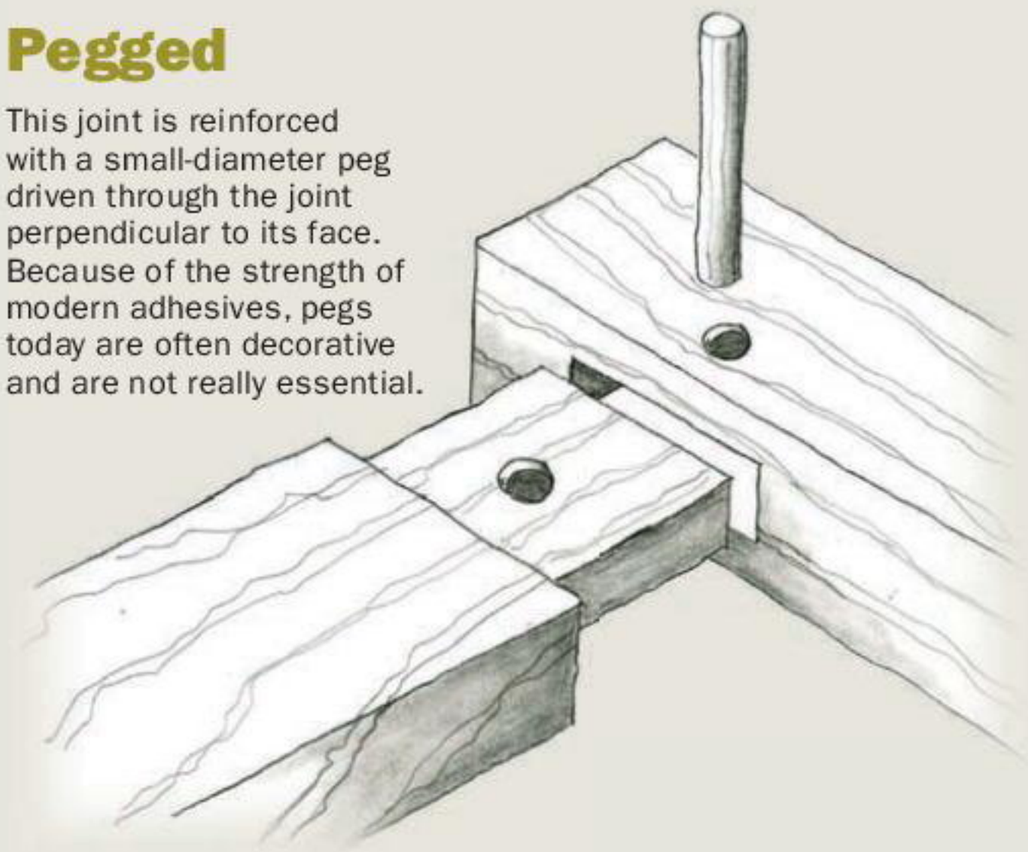


Bridle joint

With this joint, both halves are open, with one sliding into the other. Once joined, the connection is solid, and can render the joint rackproof.

Pegged

This joint is reinforced with a small-diameter peg driven through the joint perpendicular to its face. Because of the strength of modern adhesives, pegs today are often decorative and are not really essential.

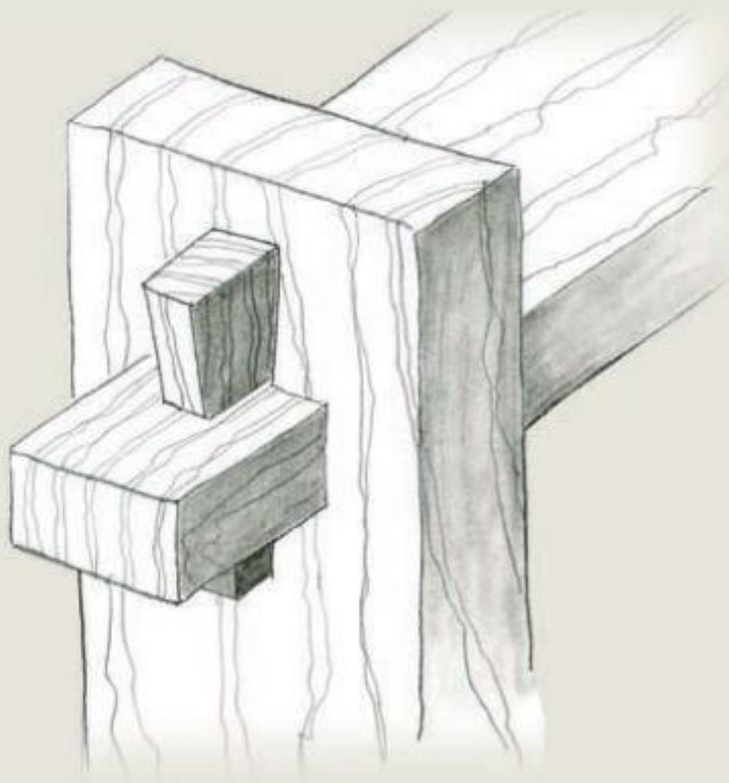


Wedged through-tenon

Wedging the end of a tenon reinforces the joint, closing small gaps and providing a tight fit. With through-tenons, this is also done for decorative purposes.

Tusk

An extended tenon comes through the mortise, and at the point where the tenon clears the mortise, it is pinned in place by a peg or a wedge. You find this joint on assemblies that can be dismantled and put back together.



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Draw, draw, and draw some more

BY MICHAEL PEKOVICH

When studying furniture making in college, I had gotten to the point where I'd make a project per semester. At the start of one semester, my instructor suggested that instead of making one piece, why not spend the semester designing furniture instead of building it. I was a little hesitant because my joy was in building and the school shop was the only access to a woodshop that I had. Still, I decided to give it a go. However, after the first design was complete, I dropped everything and began to build it, and there went the semester. Wisdom is wasted on the young. It's taken a few years, but I'm finally putting that idea into practice.

Today, I have a number of sketchbooks cluttering my house, each one with an ink pen threaded through its spine. In them, I make quick, small sketches, with just a few lines to conjure the idea of a piece. This all started a while ago, when I was in bed with the flu. I occupied my time by filling up a sketchbook with drawings, each maybe an inch square—too small to try and sweat the details, but enough to capture an idea. A rectangle became a cabinet or a bookcase. A vertical line became a divider, horizontal lines became shelves. The combination became doors or drawers, so that in quick, shorthand form, a dozen iterations of a piece could be conjured in just a few minutes. Fast, fast, fast. And fun.

When I recovered from the flu and revisited the sketchbook, my first thought was that I'd just designed more furniture than I could build in a lifetime. It was a depressing thought, but as I looked further, it became apparent that not all of the designs were worth building. A few here and there, however, caught my eye. Maybe it was just an errant squiggle of a line that suggested something more by accident than anything else, so I drew a few more sketches to try and capture that spark of an idea. And once I got hold of it, it was just a matter of fanning it into a flame and carrying that energy through the rest of the building process. Drawing has now become a habit, and instead of

Photos: staff; drawings: Michael Pekovich

To capture a spark, start small

A small sketch has a lot going for it. It's fast, so you can knock out a bunch in one sitting. You can fit a lot of them on a single page, which saves paper and has the added benefit of allowing you to look at a lot of ideas at once. Small doesn't let you get lost in the details. You have room for only the basic structure of a piece, which is a great place to start.

You may not think you can draw, but you can draw well enough to design. Here's how to start: Get a small blank sketchbook with good paper: 6x9 is big enough, but you can go bigger if you'd like. My favorite pen is a Pigma Micron archival ink felt-tip pen.

Start by filling a page with stacks of short horizontal lines, maybe an inch or so long. This is important because you can draw the lines with just a flick of the wrist. Straight and parallel. Now try some vertical lines of the same length. Quick but accurate, and loosen up on that grip a bit—this is sketching, not engraving. Now try diagonal lines in each direction; don't be afraid to rotate your sketchbook to make it easier.

Now you're ready to draw some furniture. Start with a tall rectangle and then subdivide it in as many ways as you can think of. It could be a bookcase or a tall cabinet. It could have drawers, doors, shelves, or a combination of any or all of them.

Draw until you fill up a page or run out of gas. Put it aside, and when you pick it up again, start on a fresh page. Once you have a few pages filled up, take a quick look back and see if anything catches your eye. If something grabs you, try redrawing it a few times. Play with the proportions, the spacing of the elements, and see if the idea picks up a head of steam. Then let it sit a while longer. Before you know it, you'll have a book full of ideas in various stages of evolution, and by the start of your next project, you'll already be well on your way to a great design.

waiting until the start of a project before I figure out what to build, I now have a lot of ideas to choose from. I still have more than I can put to use, but going into a project with a design that I'm excited about is a wonderful thing.

Fanning the spark into a flame

So how exactly do you get from that blip on a page to a finished piece of furniture? The good news is that finding the spark was the toughest part; trust it and it will get you the rest of the way home. While your idea may seem vague, it's actually more concrete than you might suspect. The first step is to focus on the function: What will it do, what will it hold, how will we interact with it? That will begin to determine the scale, proportions, and features of the piece. From there you need to get a sense of how the piece will live in the real world. When I'm working out the scale of a project, I'll look at everything around me—a filing cabinet, a water cooler, a cardboard box (anything I can look at and say, no, that's too tall or too wide or too short or too narrow). By comparing the idea in your head with real-world objects, you can start to dial in exactly what you want. When I arrive at the ideal size of a piece, it's rare that I know the exact dimensions of it. The key is that it fit what I had in mind. With that in hand, you can begin to draw to scale.

When I'm working out a project, I'll look at everything around me—a filing cabinet, a water cooler, a cardboard box (anything I can look at and say, no, that's too tall or too wide or too short or too narrow).

Start with a small rectangle scaled to the finished dimensions of the piece. As an example, for a bookcase 30 in. wide by 42 in. high, start with a rectangle measuring 2½ in. by 3½ in. Now redraw your rough sketch to scale and you're on your way to transforming that idea into something real. You'll quickly know if your original vision translates to the actual proportions of the piece, and you may need to adjust your design to fit or rethink the proportions of the project.

The next step is to go full size. This might be a drawing on plywood or cardboard, or you could break out the glue gun and drywall screws and build a mockup. For shallower work like a wall cabinet, I'll often make a full-size drawing of just the front view. A drywall square and a handful of permanent markers are all you need. If something doesn't look right, turn it over and try again. For a case piece, I'll typically mock up the front and one side—you need to see it from only one angle. Stand it up and add a piece of plywood for the top and you'll have a good view. Now that you have a better view of the piece, you'll know when something's not right. The task now is to trust your eye and fix everything that's wrong with a design until you're left with only good stuff. □

This is an excerpt from creative director Michael Pekovich's book, The Why and How of Woodworking *(The Taunton Press, 2018).*

From squiggle to scale. *To see how a squiggle of an idea holds up to real-world dimensions, make a page-size drawing. A 1:6 or 1:8 scale drawing can accommodate a typical piece of furniture on a single page. Pekovich usually starts with a front view to dial in the basic proportions and then goes to a three-quarter view to get a better idea of the overall size of a piece. After that, he'll start in on a full-size mock-up.*

Online Extra

Go behind this design with Pekovich in a video at **FineWoodworking.com/274.**

See it before you build it

Design demands the courage to look at your work with a critical eye. That's tough to do on a project you've just spent six months building. One way to lower the stress is to work with mock-ups—something made quickly from foamcore, plywood, MDF, or rolls of butcher paper. Hot-melt glue and drywall screws hold everything together, and a permanent marker makes drawer and door layout a breeze. Quick and easy is the key: You are less likely to hesitate when assessing your progress.

Too big, too small, too narrow, too wide? Trust your first response. Don't stare at the mock-up until it looks right, just go with your first impression. Trust it. Make the changes and look again. Then forget about it. Put it in your house, let it catch you by surprise when you come into the room, and listen to those quick first thoughts before they disappear in a puff of smoke.

Even after the building process has begun, mock-ups can help dial in details of a project. This drop-front desk started as a full-size mock-up, and later a piece of plywood helped me to refine the door panel design.

—M.P.

Arts & Crafts Bookcase

This classic Limbert design offers a unique twist on a traditional style

BY WILLIE SANDRY

I like to build in the Arts and Crafts style, and I usually design each piece from the ground up. But once in a great while, I stumble onto a design that cannot be improved. This was the case with Charles P. Limbert's No. 355 Cottage Bookcase. With its glass doors and pierced panels featuring integral corbels, it's a true gem among Arts and Crafts designs.

Start with the sides

The No. 355 is like three small bookcases in one. There is a main case behind the glass door, flanked by two side-facing banks of open shelves. These side assemblies are the place to start. I use a pair of routing templates to make the pierced panels: one for the shelf dadoes and a second for the edge profile and cutouts.

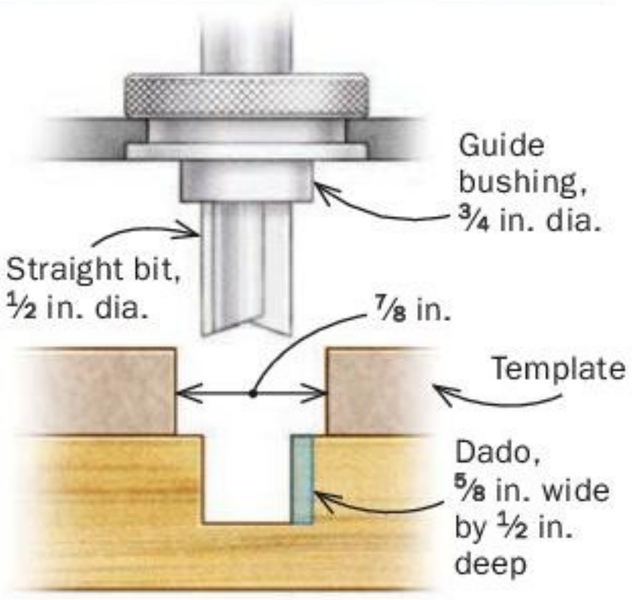
Start with the dadoes for the shelves. I elected to make a full-size template and rout the dadoes using a guide bushing. The finished dadoes are ⅝ in. wide, so I use a ½-in.-dia. straight bit to cut them in two passes. I mount a ¾-in. guide bushing in the router that rides in ⅞-in.-wide slots in the template.

The next task is to rout the profile and the cutouts. I use a full-size template made from ½-in.-thick MDF

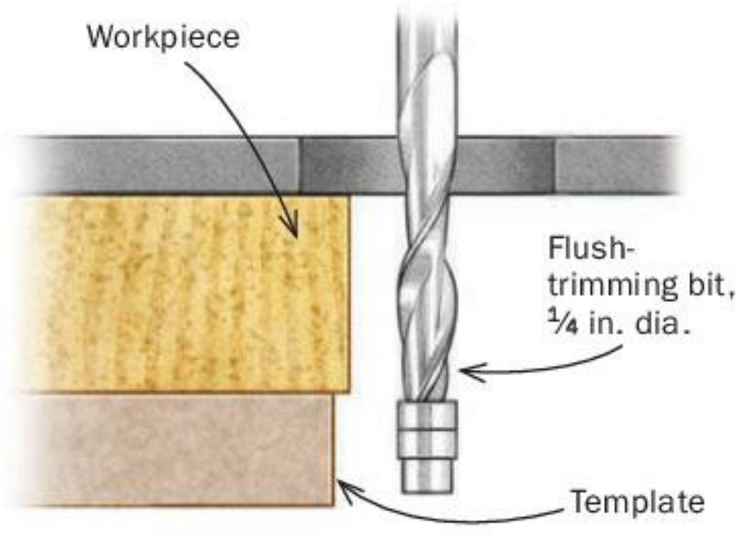
A PAIR OF TEMPLATES FOR THE SIDES

The pierced panels give the bookcase its unique look. Sandry uses one template for routing the shelf mortises and another for routing the profile and piercings.

Rout the shelf dadoes. *Clamp the dado template in place and use a router equipped with a straight bit and guide bushing to rout the dado in two passes.*



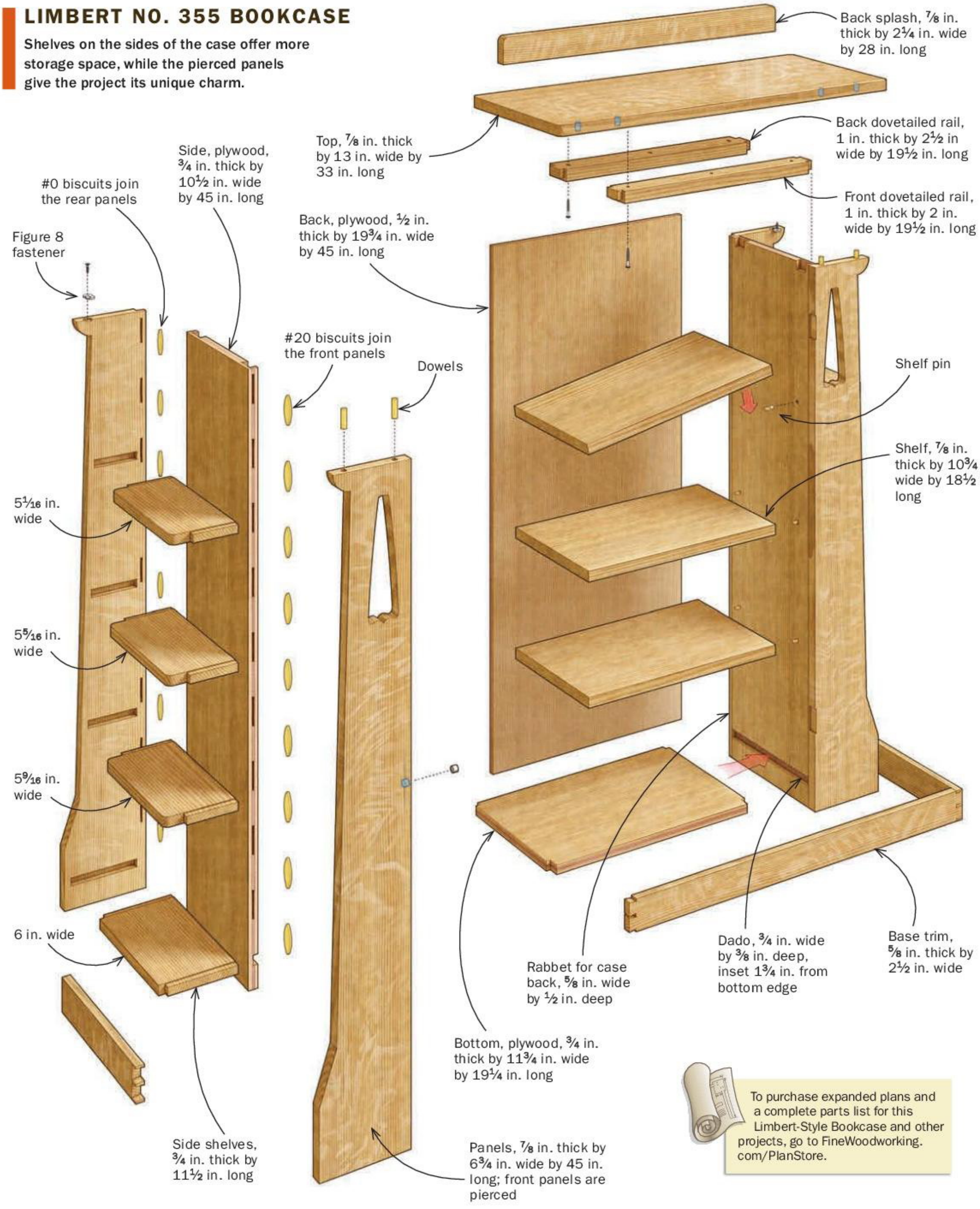
Trace the profile and rough out the shape. *Use the profile template to shape the panels. The front panels have a decorative cutout as well. Cut the profile at the bandsaw, staying just outside the line. Use a drill and jigsaw to remove the waste from the cutouts.*



Rout the profile. *Clamp the profile template to the bottom of the panel. Then use a bearing-guided straight bit to rout the final shape. Work counter-clockwise along the perimeter, and clockwise around the inside of the cutout.*

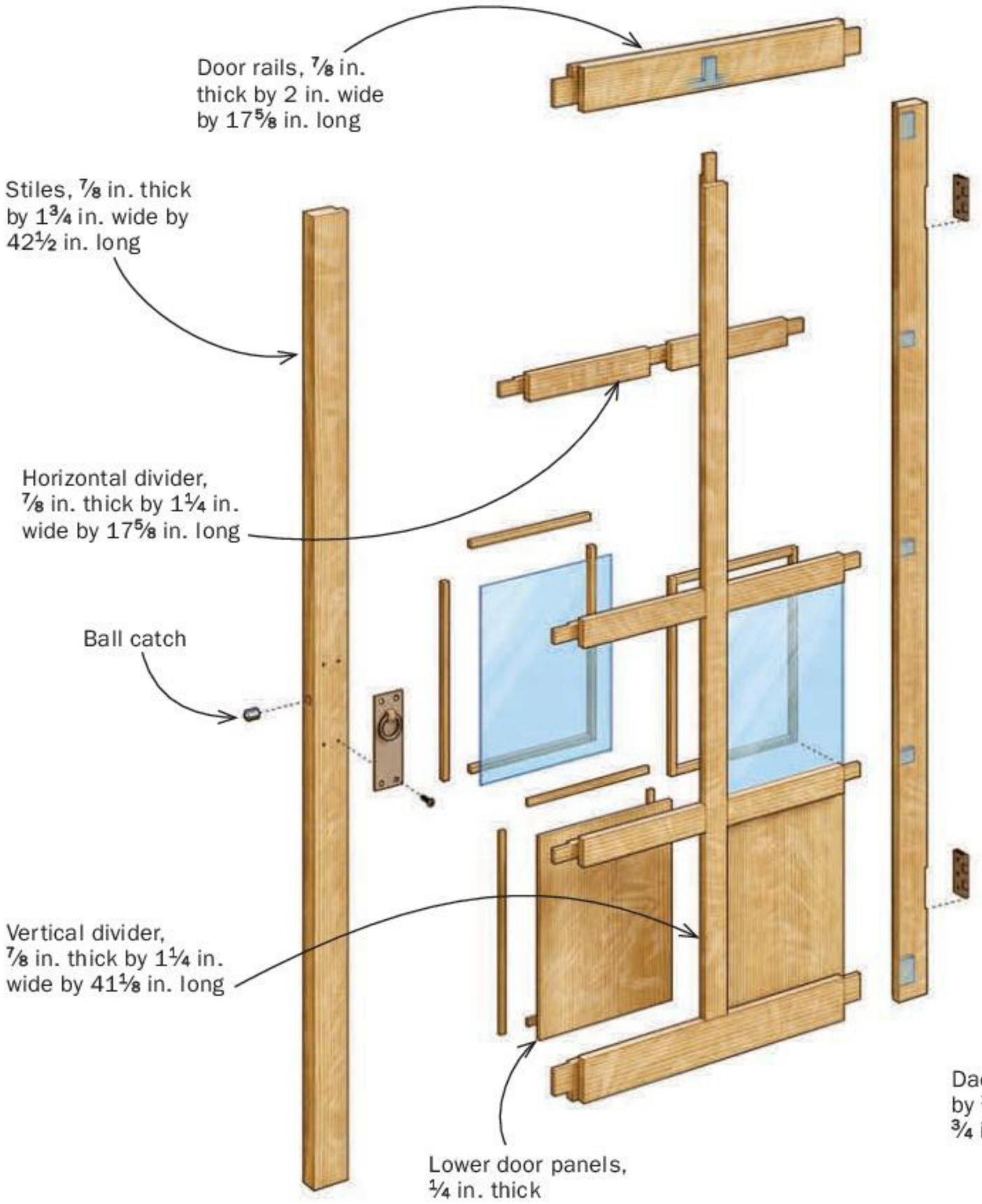
LIMBERT NO. 355 BOOKCASE

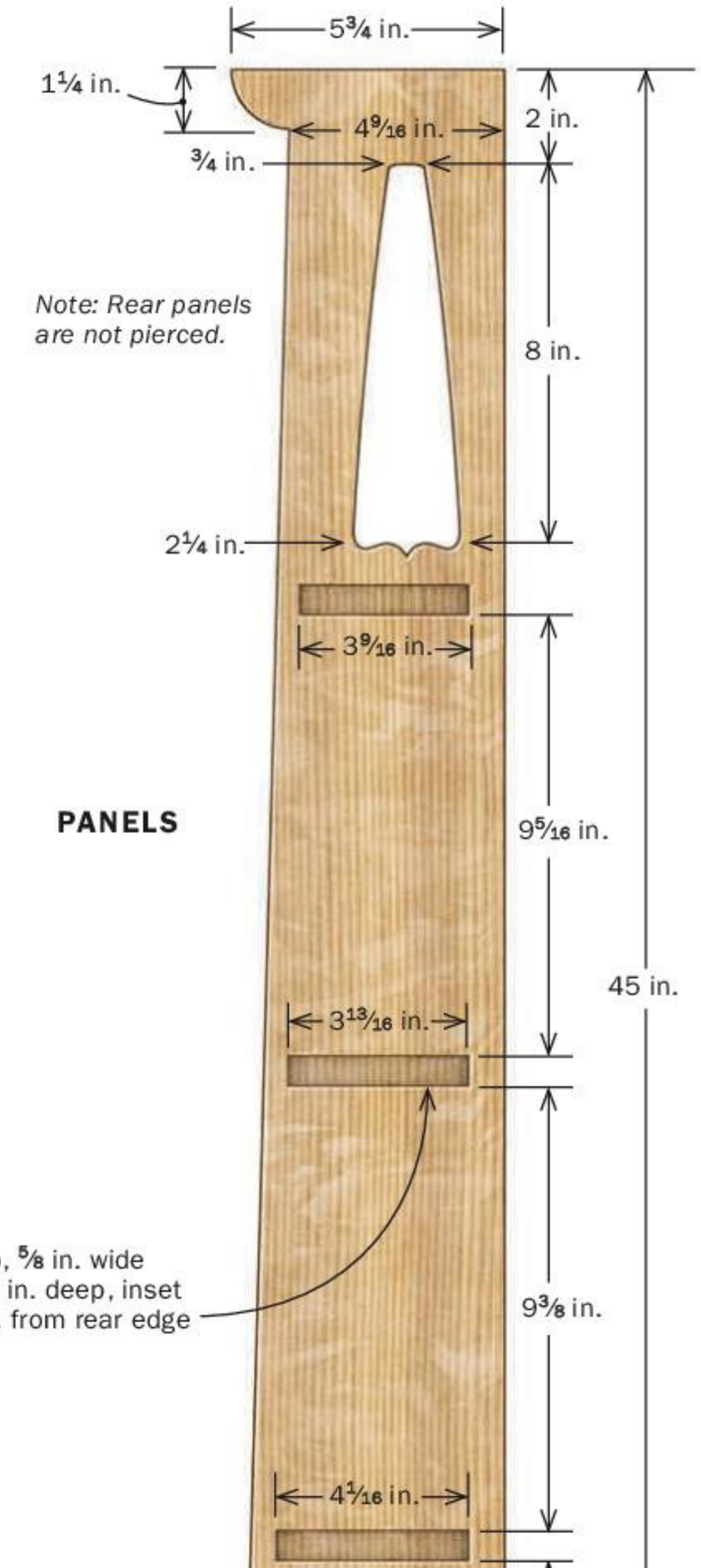
Shelves on the sides of the case offer more storage space, while the pierced panels give the project its unique charm.



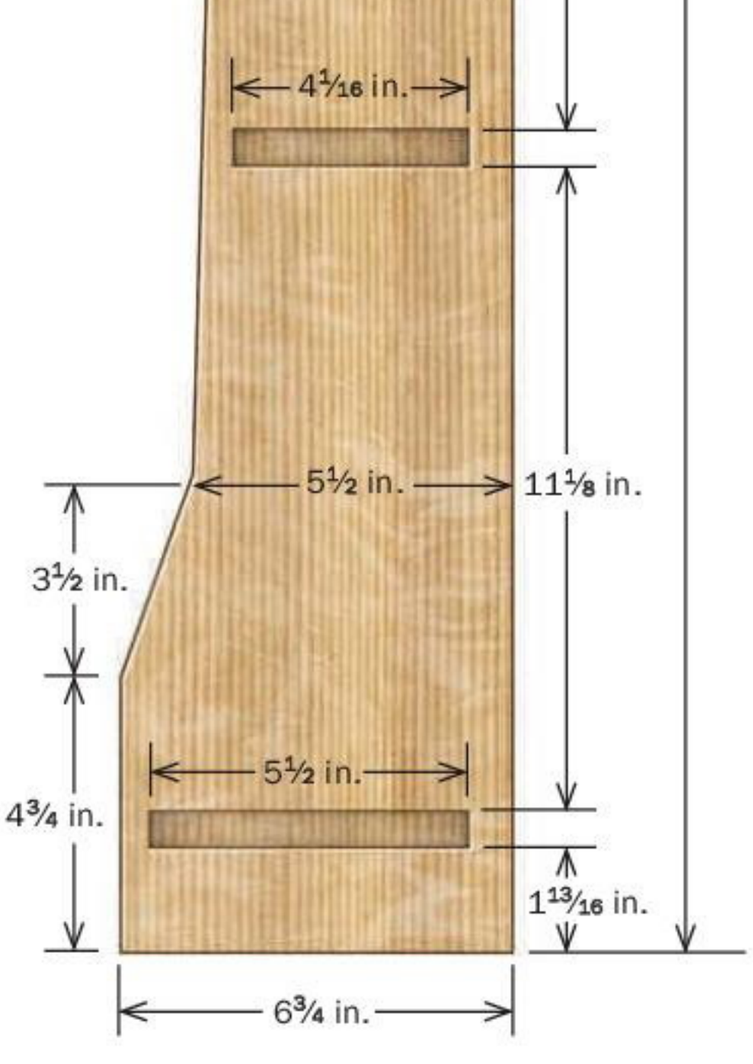
To purchase expanded plans and a complete parts list for this Limbert-Style Bookcase and other projects, go to FineWoodworking.com/PlanStore.

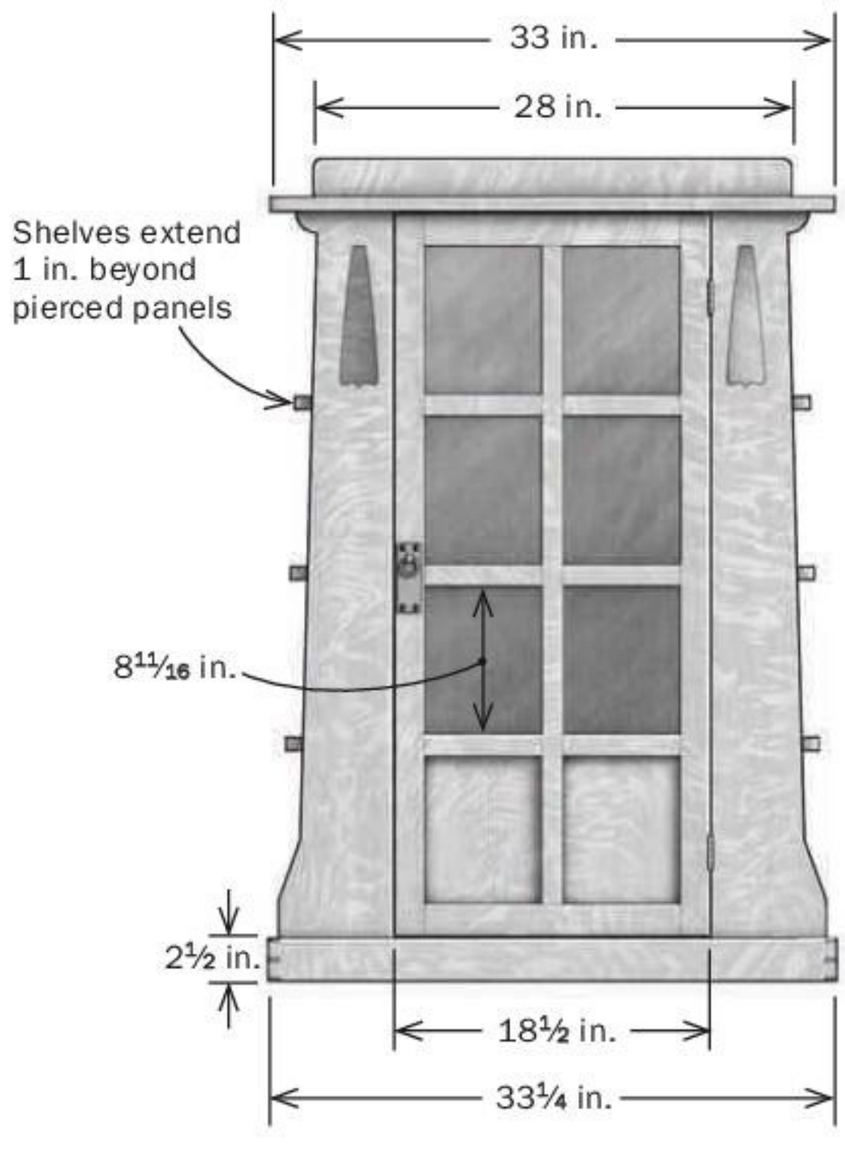
Photos: staff; drawings: John Hartman

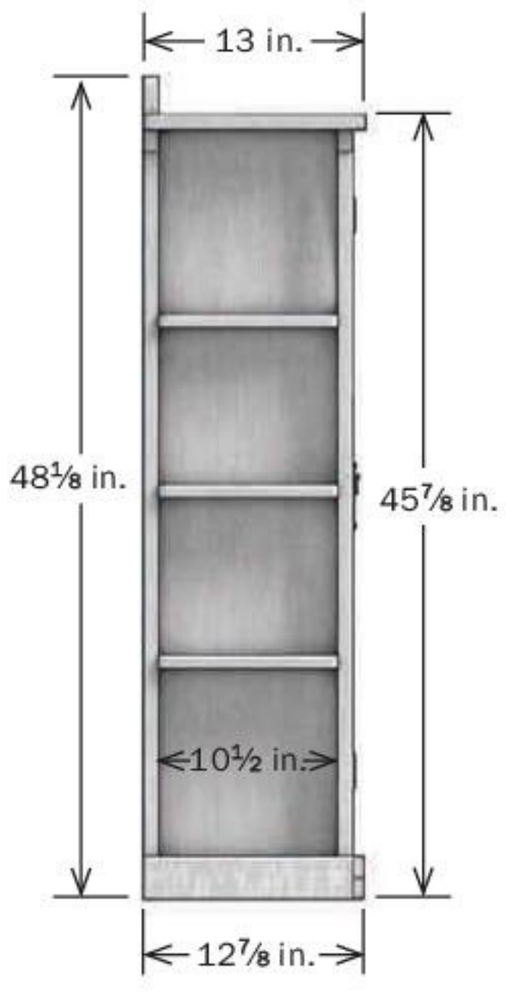

Door rails, ⅞ in. thick by 2 in. wide by 17⅝ in. long
Stiles, ⅞ in. thick by 1¾ in. wide by 42½ in. long
Horizontal divider, ⅞ in. thick by 1¼ in. wide by 17⅝ in. long
Ball catch
Vertical divider, ⅞ in. thick by 1¼ in. wide by 41⅛ in. long
Lower door panels, ¼ in. thick


5¾ in.
1¼ in.
4⁹⁄₁₆ in.
2 in.
¾ in.
Note: Rear panels are not pierced.
8 in.
2¼ in.
3⁹⁄₁₆ in.
9⁵⁄₁₆ in.
45 in.
3¹³⁄₁₆ in.
Dado, ⅝ in. wide by ½ in. deep, inset ¾ in. from rear edge
9⅜ in.
4¹⁄₁₆ in.

PANELS


5½ in.
11⅛ in.
3½ in.
4¾ in.
5½ in.
1¹³⁄₁₆ in.
6¾ in.


33 in.
28 in.
Shelves extend 1 in. beyond pierced panels
8¹¹⁄₁₆ in.
2½ in.
18½ in.
33¼ in.


13 in.
48⅛ in.
45⅞ in.
10½ in.
12⅞ in.

FINISH THE PANEL JOINERY

A rabbet for the case back. *Cut a rabbet in the rear face of just the rear panels. Use a dado blade buried in a sacrificial fence to make the cut in a single pass. Feed the stock with push pads to apply pressure along the cut for a rabbet of consistent depth.*

Biscuits for the case side. *Mark centerlines for the biscuits on both the panels and the case side. Register the base of the biscuit joiner on the tabletop to make the cuts in each part (above). FInally, dado the inside face of the case sides (right) to accept the case bottom.*

that is longer than the workpiece. This extra length helps me to safely enter and exit the profile cut.

Use the template to mark the profile on the side panels. Then head over to the bandsaw and cut just outside the layout line. The two front panels receive the cutout, so you'll need to drill a hole and rough out the shape with a jigsaw.

Next, clamp the template to the panel, and then clamp both to the workbench. Make sure the panel is accurately positioned on your layout marks, and trim it to shape with a router and flush-trimming bit. Because the grain direction changes along the profile, I use a ¼-in.-dia. down-cut spiral bit, which is ideal for handling the details and inside curves. Move the router in a counterclockwise direction along the edge of the panel, and in a clockwise direction inside the cutout. Consider an oversize router baseplate for improved stability.

Now is a good time to circle back to the rabbets in the rear panels. These ½-in.-deep by ⅝-in.-wide rabbets receive the back of the center bookcase. Since the rabbets extend the entire length of the rear panel, they are easily handled with a dado blade at the tablesaw.

Then adjust the width of the dado stack to fit the ¾-in. plywood bottom of the center case and cut the dadoes for it on the inside face of the sides. It's important to position these dadoes accurately, so the case bottom aligns with the bottom side shelves.

Finally, tenon the side shelves to fit the dadoes in the front and rear panels. The upper three shelves extend beyond the panels and need rounded corners as well.

Glue the side units

When dry-fitting one of the side assemblies, I realized it was rather difficult to align the case side with the rear edge of the panels, while at the same time positioning the shelves correctly. The solution was a row of biscuits connecting the panels to the case side. I used #20 biscuits on the front pierced panel, and smaller #0 biscuits on the rear panel because of the rabbet along the edge.

Before assembly, do a complete dry-fitting and make sure all the components fit as they should. Once you're satisfied with all the joinery, you're ready for glue.

Apply glue to the dadoes and biscuit slots and assemble the side units. Make sure the case sides are flush with the top of

ASSEMBLE THE CASE

Glue up the side assemblies, then connect them with the case bottom. *Fit the case side and shelves into one panel and drop the second into place (above). Tap the shelves tight to the case side and clamp the assembly together. When dry, glue the side assemblies to the case bottom (right).*

the panels. While no glue is required behind the shelves, double check that there's no gap between the case side and shelves. Apply a small army of clamps and set the assemblies aside to dry for 24 hours.

Connect the side assemblies

Once the clamps are removed from the side assemblies, you can add the case bottom. You'll need to notch the corners of the bottom to fit the dadoes, which is an easy matter at the bandsaw. Give the bottom a good sanding and glue it between the two side assemblies. At this point the bookcase is starting to take shape.

Now move on to making the dovetailed rails that hold the bookshelf together at the top. Not only do they prevent splay at the top of the case, but they also function as a stop for the glass door, and firmly support the back of the case.

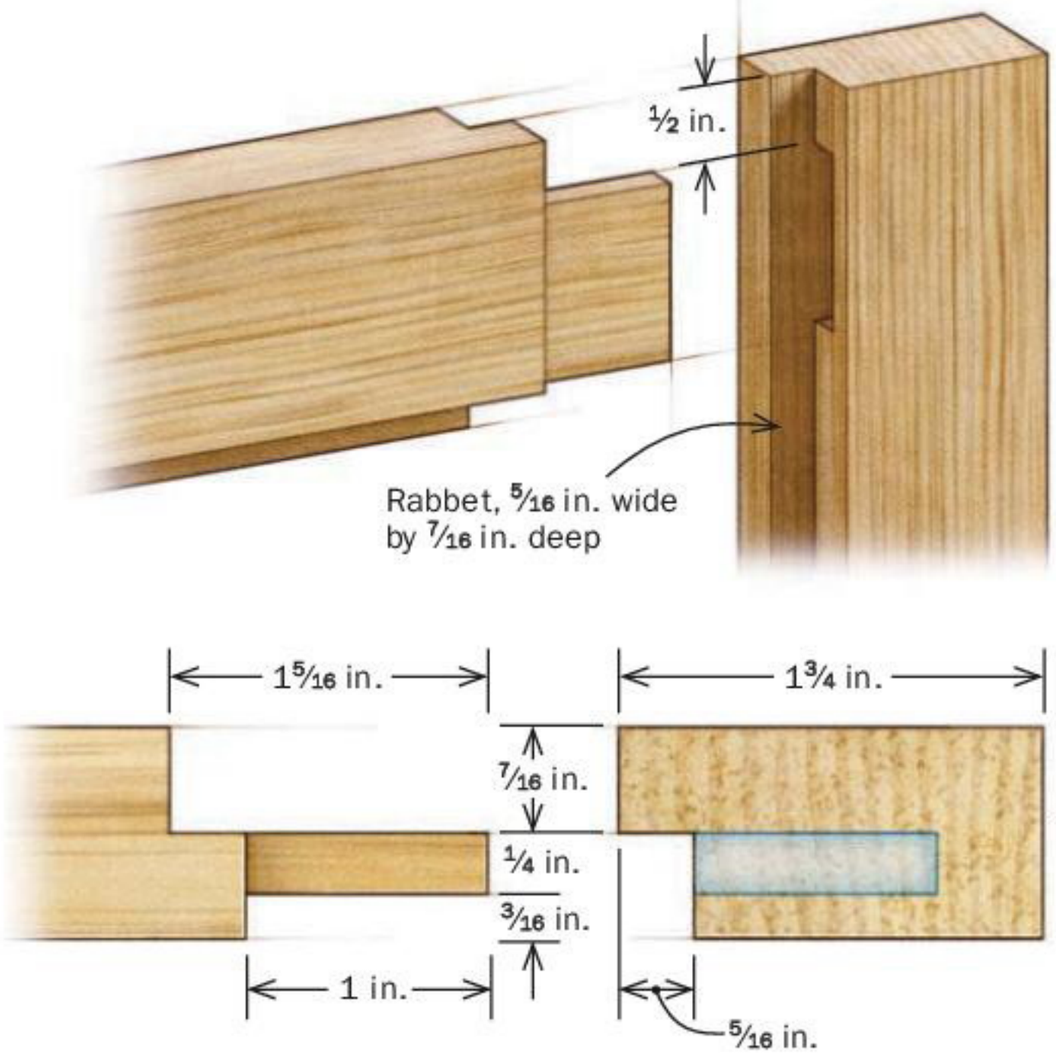
Determine the exact shoulder-to-shoulder length of the rails by measuring directly from the case sides. Cut a shoulder on the bottom of the rails to aid in alignment when scribing and dovetail the ends with a handsaw or at the bandsaw.

When scribing the case sides for the dovetails, set the front rail ⅛ in. back from

Add the dovetailed rails. *A shallow rabbet on the bottom of the dovetail makes it easier to align the rail for scribing. After scribing, rout out the waste with a spiral bit and chisel into the corners. Then glue in the rails.*

Finally, install the top. *Glue the back splash to the top, then screw the top to the case. Dowels align the top at the front edge. Glue the top only at the front and use figure-8 clips to secure it at the back to allow for wood movement.*

A FRAME WITH A BUILT-IN RABBET



Now move on to installing the top of the bookcase. Start by gluing the backsplash to the top, and then attach them as a unit. Dowels are used to align the top at the front of the case. Add glue and screw the top along the front rail. At the back, skip the glue and screw the top to the rear rail through elongated holes to allow for seasonal movement. Use figure-8 fasteners to secure the corners of the top to the rear panels.

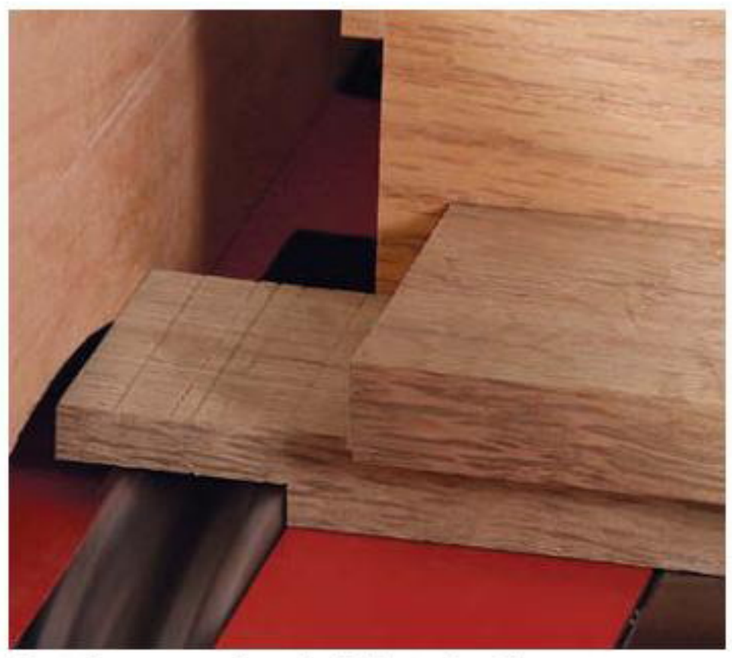
Build the door

While you could assemble the door first and then rout a rabbet for the glass afterward, I like to make a door with a built-in rabbet. The key is to rabbet the parts first, and then offset the tenon shoulders to match. This technique may seem daunting, but if taken one step at a time, it's not that difficult. And it saves you from squaring 32 inside corners.

Begin by rabbeting all the door parts. The horizontal and vertical dividers receive rabbets along both rear edges. Next, cut the mortises so they are aligned with the inside face of the rabbet. I cut them with a mortising machine, but any method would work. Then move on to the tenons, cutting them using a dado blade at the rear of the front panels to allow for a cork door bumper. Use a ¼-in.-dia. spiral bit and plunge router to excavate most of the waste, then use a sharp chisel to clean up the inside corners. Before gluing the rails in place, drill the countersunk holes in them that will be used to attach the top.

Start with the rabbet. *Use a dado blade partially buried in a sacrificial fence to make the cut.*

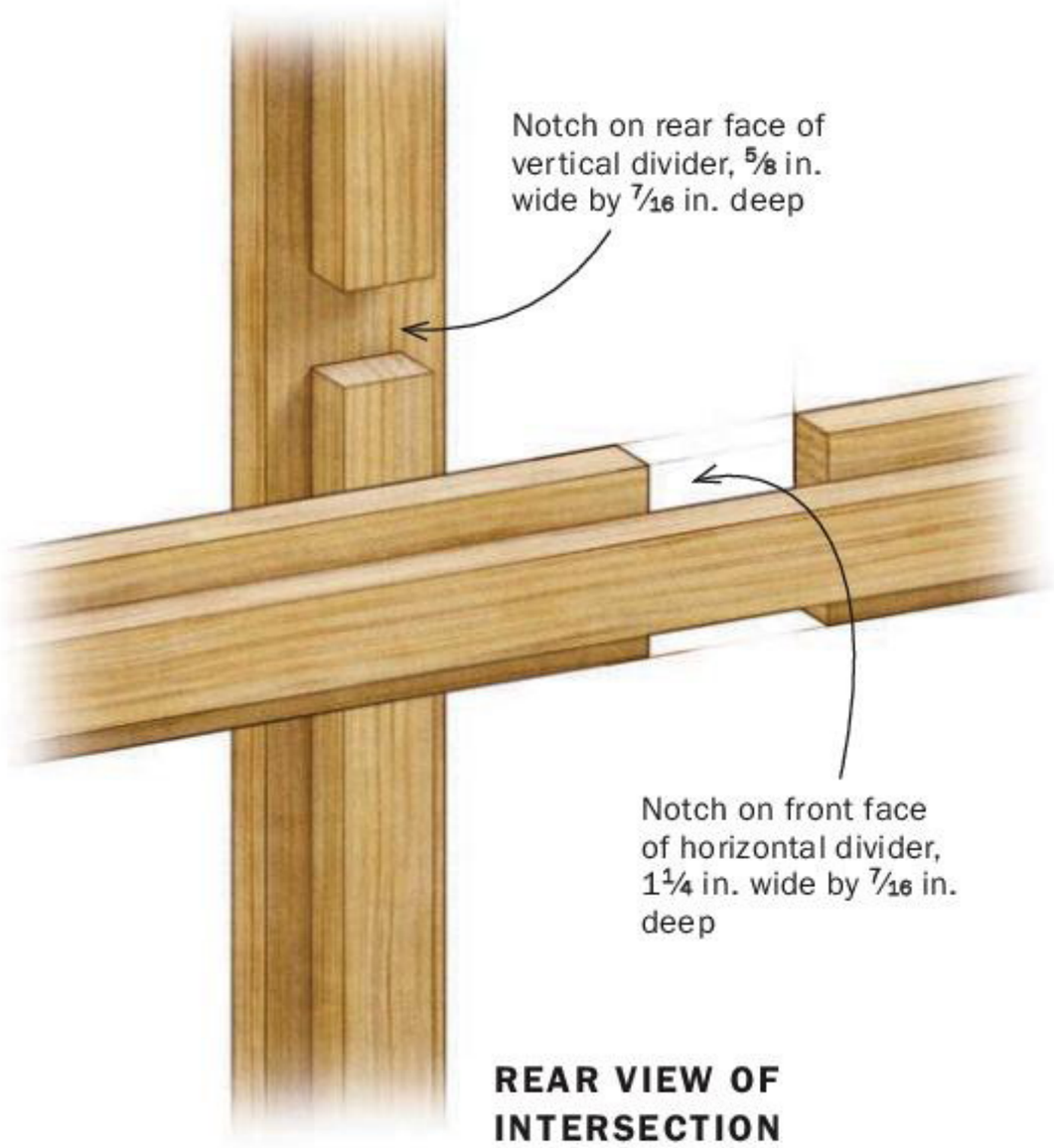
Cut the front tenon cheek. *Adjust the fence to the final width of the tenon and use a miter gauge to cut the cheek in two passes.*



Cut the rear cheek. *Adjust the fence to account for the width of the rabbet when cutting the second cheek.*

Final assembly

There are a few loose ends to wrap up before this bookcase is finished. Install base trim along the front and sides of the case to tie everything together. The original piece featured a mitered molding, but I used dovetails at the corners instead. The shoulder-to-shoulder length on the face trim needs to be spot-on. The side trim pieces can be left long while dry-fitting the dovetail joints, and then marked and cut to length before final assembly.



Notch the rear face of the vertical divider. *Adjust the dado set to the width of the narrow portion of the divider and set the blade height equal to the rabbet. Register the divider end against the rip fence.*

Notch the front face of the horizontal dividers. *The wider notch will require two or more passes. Register the end of the divider against the rip fence for the first cut, then rotate it for the second cut. Using this technique will keep the notch centered.*

Bring it all together. *To assemble the door, first connect the horizontal and vertical dividers (above). Then insert the assembly into the rails and finally add the stiles (right).*

A SIMPLY BEAUTIFUL FINISH

Dye and stain combine for an authentic Arts and Crafts look.

Dye and seal. *Sandry adds an overall tone to the wood by wiping on TransTint golden brown dye (above). Then he seals the finish with SealCoat, a blond dewaxed shellac (right).*

Add a glaze. *Sandry uses General Finishes walnut gel stain as a glaze to darken the pores and highlight the medullary rays of the oak. He works the stain into the wood, then wipes it off to achieve the desired color. Sandry sealed it with a sprayed lacquer, but any satin finish would be appropriate.*

the tablesaw. Start with the front cheek of the tenons, then adjust the fence to account for the width of the rabbet and cut the rear cheeks. The result is a tenon with offset shoulders. Sneak up on the blade height until the tenon fits the mortise. Then incrementally adjust the rip fence until the offset shoulders seat fully in the rabbeted stiles.

The last bits of joinery for the door are half-laps on the dividers. Start with a ⅝-in.-wide dado stack and cut three half-laps in the back side of the vertical divider. Before you cut them, make a test cut in some scrap to confirm that a full ⅝-in. dado stack will make the cut in one pass (I had to add a 0.020-in. shim for the parts to fit), and set the blade height to match the rabbet.

With those cut, turn your attention to the horizontal dividers, which are notched on the front face. Don't bother adjusting the width of the dado stack, as multiple passes with the ⅝-in. width will work just fine. With the workpiece against the miter gauge, use the rip fence on your tablesaw to register the end of the stock and cut passes from both ends to ensure a centered cut. Sneak up on the rip fence position until the intersecting parts fit like a glove.

Make glass stops to secure the individual panes in the door. This 5/16-in.-square trim can be left extralong and cut to length after finishing. You will also need 5/16-in. by 3/16-in. trim to secure the wooden panels in the door. After the finish is applied, attach the glass stops with a 23-gauge pin nailer and ⅝-in.-long pins, or

Online Extra

For a members-only look at the career and influence of Arts and Crafts designer Charles Limbert, go to **FineWoodworking.com/274.**

dabs of silicone. I selected "hand blown" glass, which has slight wavy imperfections and occasional seedy texture.

Apply the finish

I used a stain-over-dye technique to highlight the medullary rays of the white oak. After finish-sanding, raise the grain with a spray bottle of distilled water. Once the surface is dry, scuff-sand it with 220-grit sandpaper to knock down the raised grain. A final cleaning with cheesecloth and compressed air prepares the project for the first layer of color.

Next apply a water-based dye. In this case, I used TransTint golden brown mixed in a ratio of 1 oz. of dye to 1 qt. of distilled water. Apply the dye with a rag or staining sponge, moving quickly for consistent color. Follow that with a seal coat of shellac, and finally a walnut gel stain used as a glaze. Sealing with a coat of shellac first makes it easier to get uniform color with the glaze coat. Wipe off the excess gel stain until you are satisfied with the color. I sprayed two coats of pre-catalyzed lacquer as a topcoat. Any finish would work, but pick one with a "satin" sheen for an authentic Arts and Crafts look. Extruded brass hardware is the final "tip of the cap" to Limbert's creation. □

Willie Sandry is a woodworker and small-scale lumber kiln operator in Camas, Wash.

TOOL TEST

Honing Guides

The best guides help get a keen edge on a variety of blades

BY CHRIS GOCHNOUR

A real-world test

To see how the guides handled a variety of tools, Gochnour tried them on ¼-in. to ¾-in. bench chisels, a ¼-in. mortise chisel, a spokeshave blade, straight and slightly cambered plane blades, and a skew plane blade. The more commonly used blades were weighted more heavily in the tests than others.

Guide styles

Honing guides can be divided based on how they clamp the blade and what surface they roll on.

To be successful, a sharpening routine for woodworkers must be easy, quick, and versatile, and it must produce accurate and consistent results.

While some may prefer to sharpen freehand, I'm a big proponent of honing guides, and I recommend one for anyone looking to get sharp edges. Intended to hold blades at a consistent angle while you sharpen, these guides are essential to getting keen, repeatable results.

With all the guides on the market, it's hard to know which one to pick. Should it clamp from the sides or the top? It depends. Should it ride on the stone or off? I prefer on.

To determine the best models, I tested each with a variety of different blades and focused on four areas: ease of setup, accuracy of setup, versatility, and consistency. No single guide did everything perfectly, but two were easily my top picks: the Lie-Nielsen honing guide and the Veritas Mk.II Deluxe Honing Guide Set. Used mindfully, either will be a great addition to your sharpening arsenal, getting you back to your bench with razor-sharp blades in little time.

Chris Gochnour makes furniture and teaches woodworking in Salt Lake City.

SIDE OR TOP CLAMPING

Side clamping is straightforward. *These guides are great at holding blades square, because their jaws secure blades between a pair of rigid side walls. But this side-pinching action also limits what the guides can hold.*

Top clamping is more versatile. *Guides that hold blades from the top and bottom can secure them at a variety of angles in addition to holding them square—although positively and consistently registering these angles can be tricky. Gochnour has found that there's also a greater chance blades will slip out of their setting with these guides.*

ON OR OFF THE STONE

On the stone is Gochnour's go-to. *While guides that ride on the stone typically restrict the amount of usable stone, they keep the honing angle constant from stone to stone regardless of differences in the stones' heights.*

Off the stone is less than stellar. *While they prevent the sharpening medium's grit from contaminating the wheels and let you use more of the stone, these guides have a catch: All stones must be the same height for the honing angle to remain constant. For that reason, Gochnour does not recommend this style of guide.*

Online Extra

To see test results for off-the-stone guides, go to **FineWoodworking.com/274.**

Photos, except where noted: Barry NM Dima; opposite: Michael Pekovich

LIE-NIELSEN HONING GUIDE

$125; accessory jaws, $25–$35 per pair
Rating: Excellent

Projection of blade determines honing angle. *Like other side-clamping guides, the Lie-Nielsen works best when paired with a shopmade projection guide for repeatable results.*

Accessory jaws expand capability. *These include jaws for short blades, like spokeshaves, chisels down to ⅛ in. wide, mortise chisels, and skew blades of 18° and 30°.*

Although it may look like many a generic side-clamping guide, the Lie-Nielsen guide is head and shoulders above them while still being straightforward and easy to use. Machined to tight tolerances, the tool performed solidly and simply. Pair it with a projection jig (see p. 48 to learn how to make and use one), and it's hard to imagine a more efficient setup.

The guide did an excellent job on just about every blade I tried, holding them tight and square. Narrow chisels did pose some problems with squareness, but thanks to the guide's narrow wheel, it was nothing a little deliberate, concentrated pressure couldn't fix.

The standard jaws work with most plane blades and bench chisels. Accessory jaws, priced at $25 to $35 per pair, help overcome the common drawback of side-clamping guides: the limited range of blades the tool can hold. The jaws for skew blades work only for 18° and 30°, the angles Lie-Nielsen uses on its skews.

Narrower chisels cant slightly. *Even in the jaws meant for chisels, narrower chisels would cock slightly out of square. As long as you're aware of it, however, this is easily compensated for because the guide's narrow wheel helps direct pressure.*

VERITAS MK.II DELUXE HONING GUIDE SET

$125; skew registration jig, $34
Rating: Excellent

AUTHOR'S BEST OVERALL CHOICE

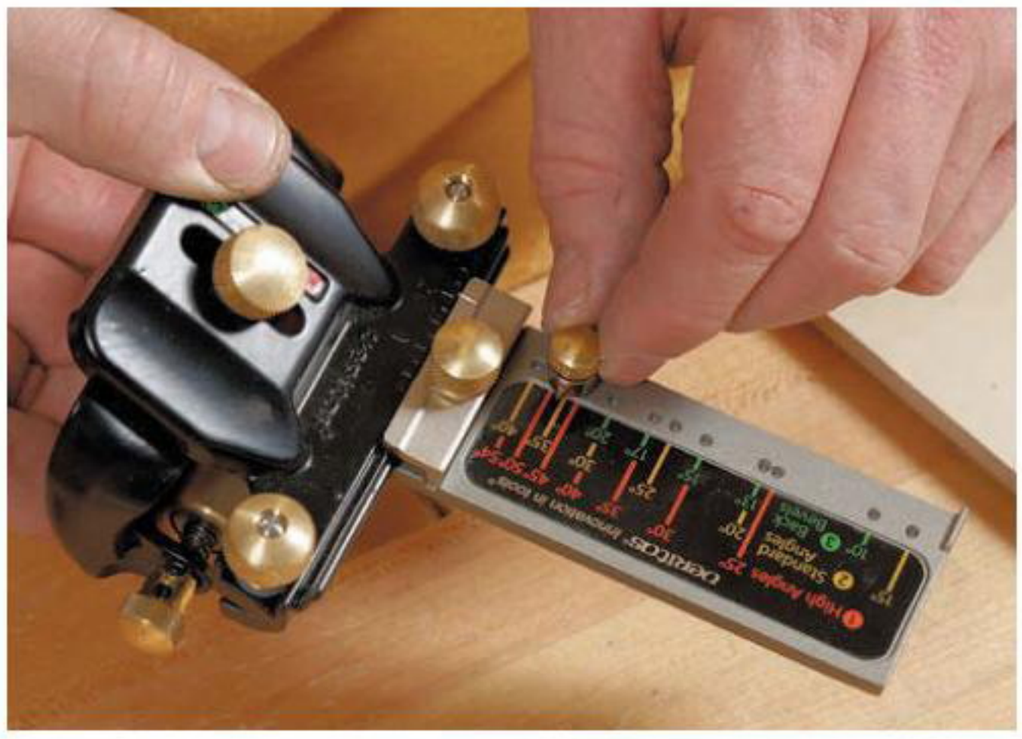
The Veritas Mk.II Deluxe Honing Guide Set is a versatile jig that, thanks to its accessories, was the only model that did an excellent job sharpening every type of blade. The kit is truly the Swiss Army Knife of honing guides. Plus, it was comfortable to use and easy to set up regardless of the accessories.

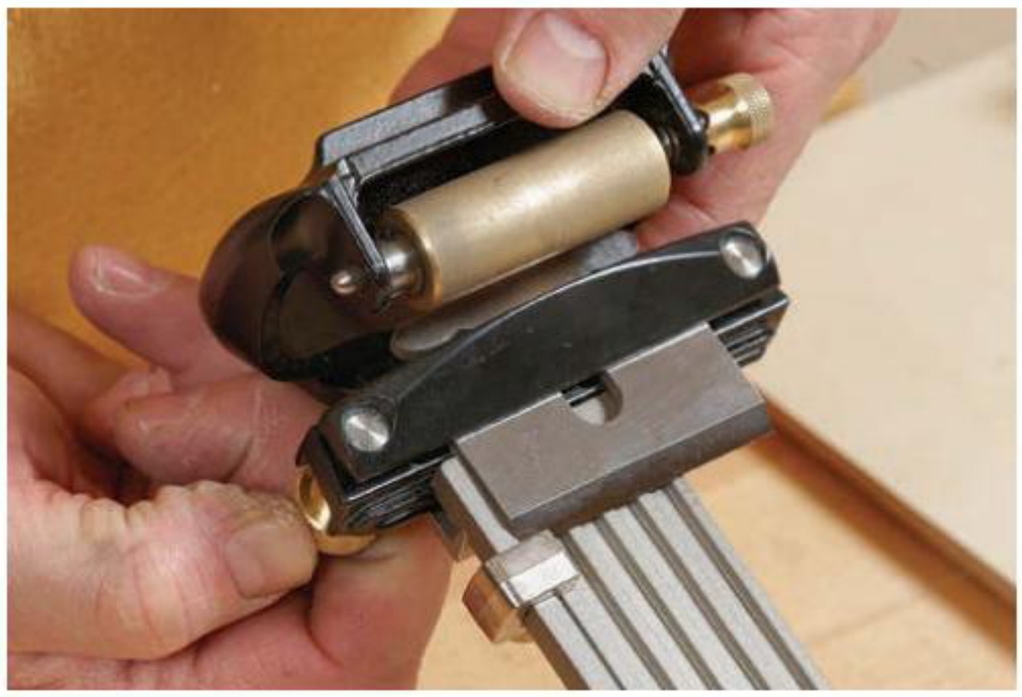
The Mk.II comes with a top-clamping head, a side-clamping head, a long cylindrical roller, a barrel-shaped roller for cambers, and a gauge for setting bevel angles on square blades. While you can get the Mk.II base model—the straight roller and registration jig with either the top- or side-clamping jaws—for just under $70, the deluxe kit's extraordinary versatility paired with its price makes it the clear choice for me. Buying the skew registration jig only adds to its appeal.

The guide's roller is on a spring-loaded adjustable cam, which can be rotated to change the angle of the blade by 1° or 2°—a convenient way to add a microbevel without taking the tool out of the jig.

One caveat about this guide: Clamping blades square takes some care. You have to be very careful when tightening the two knobs on the clamping bar or it will press on one side of the blade, causing the blade to skew. Also, blades sometimes shifted in use with the top-clamping jaws. Additionally, when using the side-clamping attachment, it took some effort to get the blades held square.

EASY ANGLE SETTING





Guide for square blades included. *The guide comes with a gauge for setting bevel angles from 15° to 54° and back bevels from 10° to 20°. Using it also helps set blades square.*

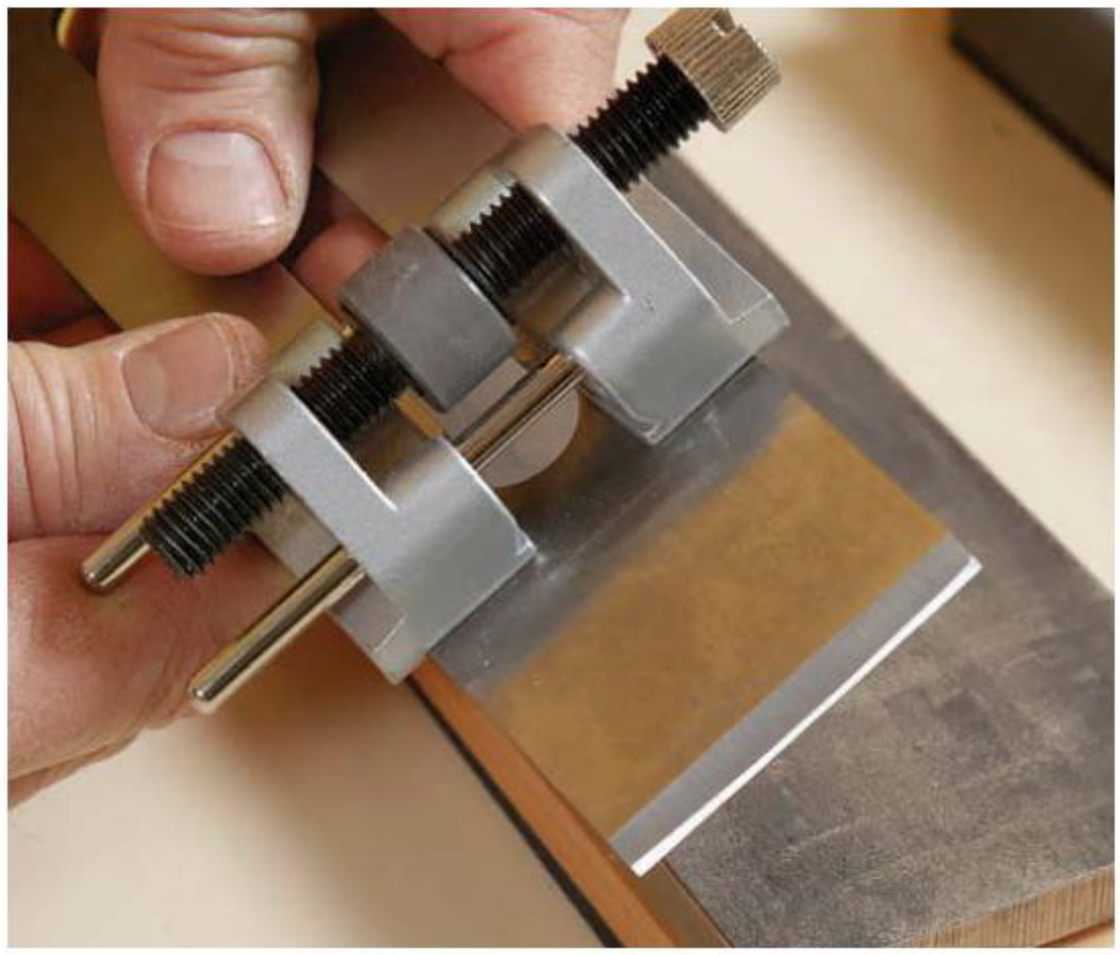
Optional registration jig for skews. *This one has radiating lines to guide the skew angle, and a stop that lets you set the honing angle from 10° to 45° in 5° increments.*

Do a barrel roll. *The barrel-shaped roller lets you easily hone a camber, a slightly radiused edge, which is helpful for avoiding plane tracks.*

Switch to the side-clamping jaws for narrow blades and chisels. *These jaws hold blades ⅛ in. to 1½ in. wide and work with the square projection jig.*

GENERIC SIDE-CLAMPING GUIDE

$10–$15
Rating: Good



Narrow wheel allows for camber. *Steady, alternating pressure at the corners of the iron produce a slightly radiused edge.*

You can find this guide from a number of manufacturers. Mine happened to come from WoodRiver, but they all function the same: a pair of jaws clamp a blade's sides to hold it in place. Wider blades, like plane blades, fit up top, and there's a lower recess to secure narrower blades, like chisels.

The guide is comfortable to hold, easy to set up, and performed basic tasks well. It did a nice job honing straight and cambered plane irons. It also handled a spokeshave blade just fine. However, the guide cannot hold a skew blade or a mortise chisel.

The big drawback is that its lower jaws struggled holding chisels. Some woodworkers square and shape these guides' jaws with a file to help the tool better hold chisels and even other blades. Being mindful about where you apply pressure can help, too.

Despite these concerns, I used one for years, and many of my students gravitate toward these while the school's more expensive top-clamping guides collect sawdust.

Make a projection jig

Having a way to quickly and consistently repeat certain angles is crucial to getting the most out of a honing guide. Luckily, for guides that ride on the stone, where your honing angle is determined by how much a blade projects from the guide, this just means making a series of fixed stops set to your most common sharpening angles.

Find the angle. *A digital angle finder is a simple way to find honing angles. Once the blade is at the angle, lock down the jaws.*

Set your stops. *With the blade set at the desired angle, push the front of the guide flush with the edge of the jig base. Set the stop so it just touches the blade's edge, then nail it down.*

Repeatable results. *With the stops clearly labeled with the angles, you'll remove any guesswork when setting up your honing guide.*

KELL NO. 2

$85
Rating: Fair

Hard to hold. *Whether he put his fingers between the wheels or beyond them, Gochnour found the Kell guide awkward to hold and often struggled to find a stable, comfortable grip.*

The Kell functions much like other side-clamping guides, except that its wheels run alongside the blade instead of under it. As a result, it can hold blades up to 2⅝ in. wide; there is no minimum. It worked well on wider chisels, but I found it a little challenging to register narrower blades accurately so the bevel could be honed square. It was hard to set the bevel angle, and I did not like its ergonomics. It can't hone a skew or mortise chisel, and it can't camber. Plus, when honing wide irons, the guide's wheels may extend too far to roll on the stone.

NANO HONE SHARP SKATE 4

$300
Rating: Very good

This guide has a row of small wheels and is used side-to-side. Once set, it was quick and easy to use. The clamp is positive and kept almost every blade I tested from moving. It struggled with the ¼-in. chisel, but did a better job on the wider ones, holding its setting and honing them squarely. I could not hone a camber with it. Setting the guide to hone skews—a matter of twisting the internal base of the guide—was tricky. The pivoting action of the top clamp is well-suited to hand-forged Japanese blades that might have irregularities.

Use the whole stone. *Unlike other guides, the Sharp Skate runs side to side, letting you use 100% of the stone, facilitating uniform wear.*

TREND HONING GUIDE

$55
Rating: Very good

Projection guide included. *The base lets you set honing angles of 25°, 30°, 35°, and 40° and ensures blades are clamped square.*

The Trend guide is similar to the generic side-clamping guide, but its tolerances are tighter. The Trend did a great job sharpening a straight plane blade, chisel, mortise chisel, and spokeshave. It comes with a jig for setting blade projection and sharpening angle, but it was fussy to use. The side-clamping jaws prevent sharpening skew blades, and the wide roller makes cambering difficult.

VERITAS SHARPENING SYSTEM

$50
Rating: Very good

This Veritas guide is well made and sturdy. It clamps blades securely from above, allowing it to handle straight and skew blades easily. The jaws also open wide enough to hold mortise chisels. The guide itself performed well on both plane irons and chisels. Honing a slight camber was not a problem with this guide.

Angle guidance. *The system includes an angle jig for setting bevel angles from 15° to 35°. It also has a cam for conveniently adjusting a microbevel.*

Add Strength and Style to Any Slab

One of the many things we do at Siosi Design + Build is work with large slabs, which we use for tables, counters, beds, and benches. Although we look for slabs that have as little checking as possible and overall good grain flow, it is rare to find one that is structurally perfect. Often imperfections lie in crucial areas that we can't or don't want to cut off.

We solve this problem using a technique we first tried on a large walnut slab that had a soft spot right beside a flame crotch. We were unwilling to cut out the bad and lose the good. Our designs lean toward modern and minimalist, so rather than using a more traditional butterfly key to shore up the structural and visual imperfections, we developed a method that reflects our overall vision without sacrificing strength. This technique is both aesthetic and practical, reinforcing flawed areas and adding a sculptural quality.

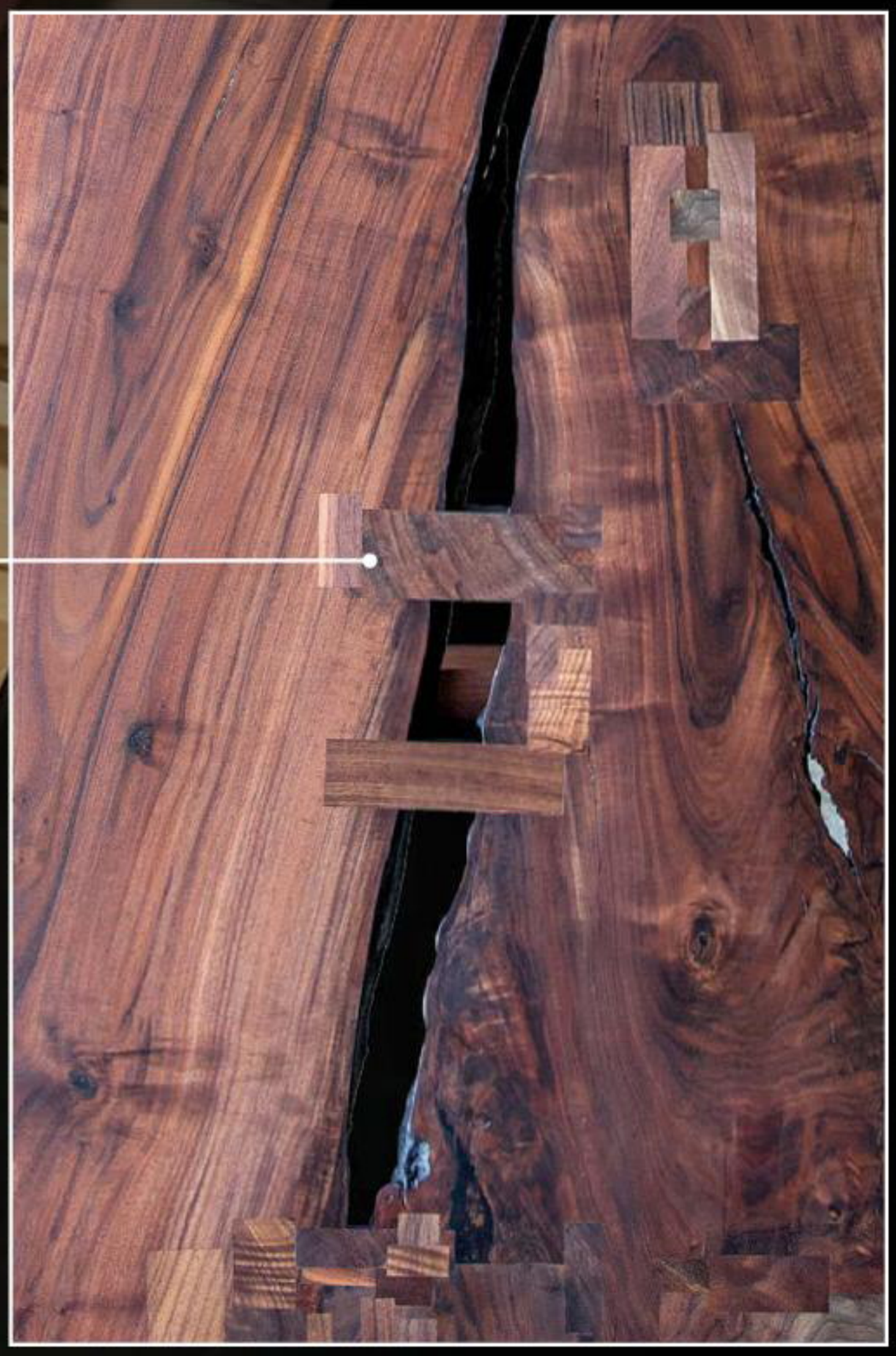
Take inspiration from the flaws

Using the inherent flaws in each slab as inspiration, we add inlays to mend knots,

Photos, except where noted: Anissa Kapsales

Inlays transform a flawed slab into a sturdy work of art

BY AUDI CULVER AND IVY SIOSI



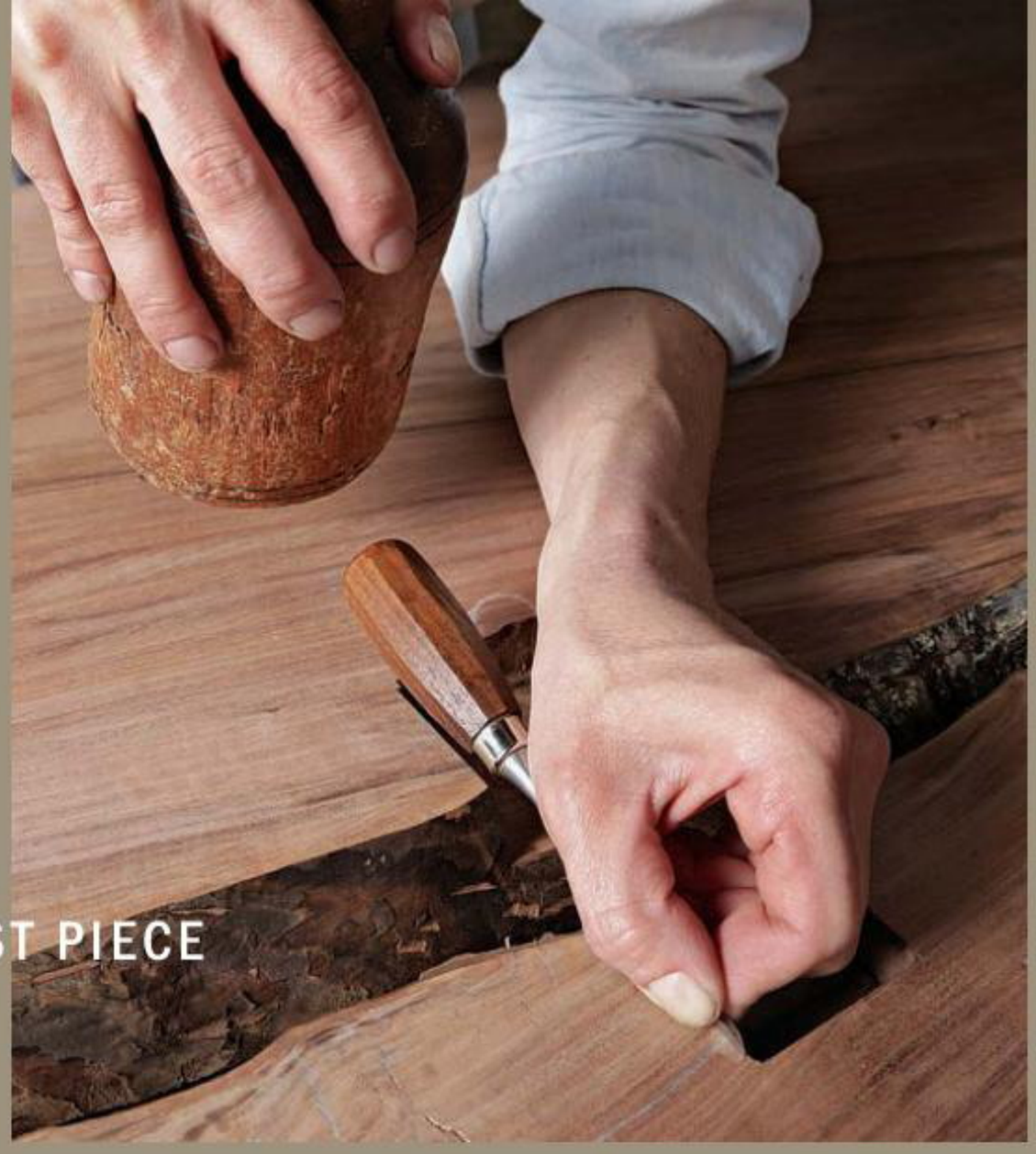
increase thickness, and reinforce cracks. We consider which flaws to embrace, and which ones are unsightly or need to be reinforced for the longevity of the piece. The goal is to strike a balance between the raw, natural beauty of the wood itself and a refined, sculptural finished piece.

We consider which imperfections add to the aesthetic of the overall piece, and which knots and cracks detract—some elements are inlaid over, others are embraced. Cracks that are left open are sanded, debris is removed, and any rough spots where dust and crumbs may nestle are smoothed.

Enhance the outline. *After tracing the outline of the inlay with a razor (opposite page), highlight the score line with pencil or chalk to make it more visible when routing.*

Set the depth of cut. *Use the actual inlay to set the depth of cut on the router. Set the bit to cut a recess that will leave the inlay about ⅛ in. proud of the slab. After being glued in place, the inlay will be trimmed flush.*

Rout the recess. *Freehand-rout the recess with multiple passes of a plunge router, increasing the depth as you go. Rout close to the line, but leave about 1/16 in. to clean up by hand.*



CHISEL THE RECESS AND INLAY THE FIRST PIECE

Chisel to the lines. *Use a wider chisel to clean the walls of the recess, making sure to keep the walls straight. After, switch to a narrower chisel and clean out the corners. Work carefully, as the corners are where mistakes will show the most.*

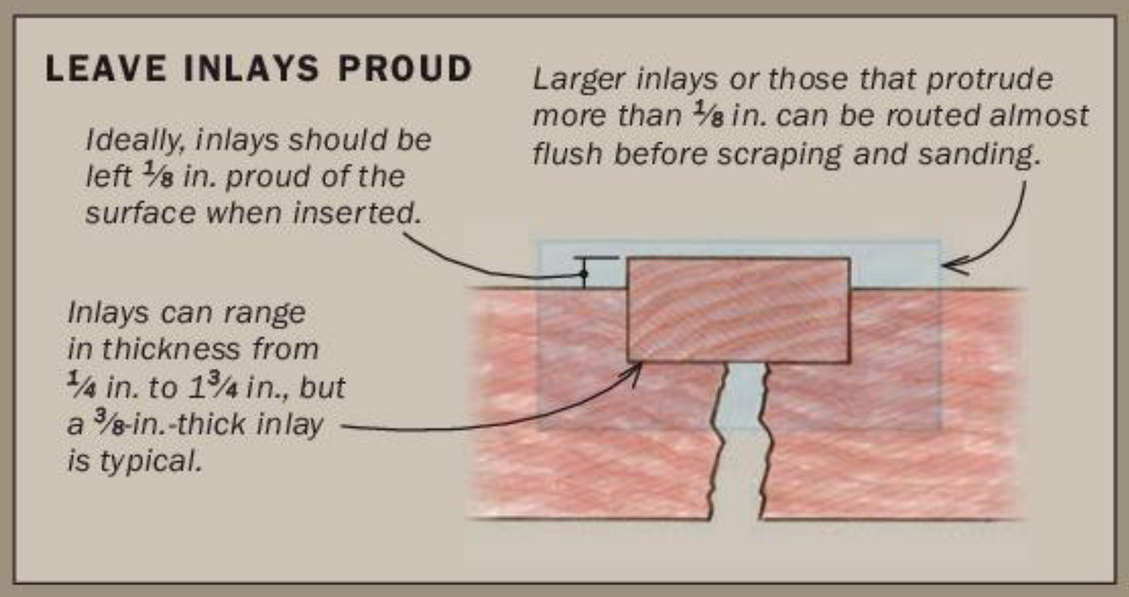
Chamfer the edges. *Use a chisel or a block plane to chamfer the bottom edges of the inlay. This will make it easier to tap the inlay into the recess and makes room for excess glue.*

Tap the inlay in place. *Coat the recess with glue, and then tap the inlay evenly in place. If the inlay doesn't go in straight the lines won't be crisp and there could be gaps.*

There is potential for cracks to continue to expand; those areas are mended with inlays to prevent further movement. When there is a hole or crack that we decide to keep, but there's potential for it to be a crumb catcher, we fill small knots and holes with epoxy. We use this technique sparingly, since wood movement and epoxy can sometimes be an issue down the road. The goal is to retain the look of the flaw while reducing some of the inevitable maintenance required if we retain the flaw (such as dusting with canned air). By nature, each slab is unique, and each client is unique. We try to match and honor the two.

Start by selecting and milling inlay

The key to this process is patience, a few sharp tools, and a vision. We address the biggest issues first. We start with large, structural inlays and add smaller pieces as we go. The size and depth depends on the specific project, but we have used inlays as large as 12 in. by 16 in. by 1¾ in. deep and as



Drawings: Dan Thornton

CLEAN UP THE SURFACE

Level the inlay to the slab. *The technique you use depends on the size of the inlay and the amount it protrudes. For large, very proud inlays you can use a router on a sliding bridge to bring the surfaces flush.*

small as ½ in. square by ¼ in. deep. We cut small inlays with a bandsaw, while we tackle larger pieces primarily on a tablesaw with a crosscut sled.

Start by cutting a few pieces of inlay stock to size. For us this means going through scrap piles to find pieces with some character—ideally we find a piece with a bit of curl so it stands out against the grain of the slab. We tend to use the same species for the inlay as the slab we're working on because we like the subtle look in the finished piece. Obviously, you can opt for the contrast of a different species, but consider that different species have different rates of expansion and contraction.

Mark out the recesses

Once we have several inlays cut to the size of the flawed areas, we organize our tools. After the chisels are sharp, the razor blade is fresh, a router with straight bit is close by, the mallet is ready, and a pencil or chalk are handy, we lay out the pattern and label the tops of the pieces with pencil or chalk.

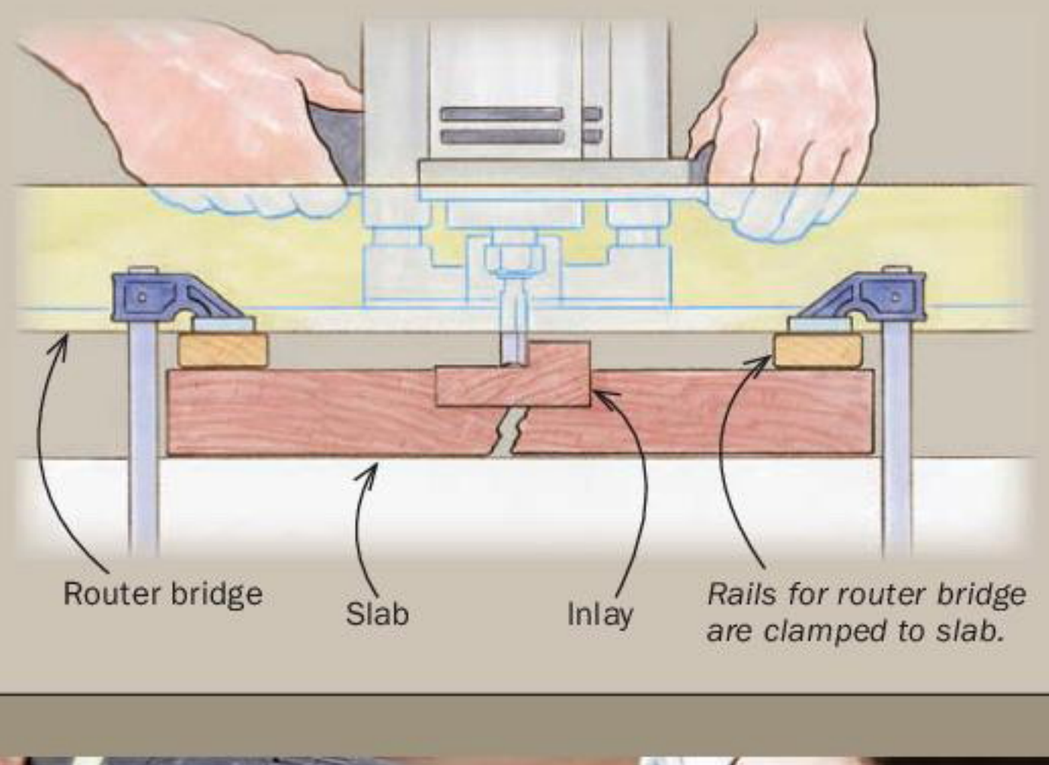
As tightly as possible, trace around the inlay with the razor blade. This is the most crucial of first steps. Keep the razor perpendicular to the slab and score carefully. Keep in mind that if the router bit touches the score line, the inlay will be imperfect. But don't worry. The beauty of this method is that if you make small mistakes you can add more inlays to cover them up; this adds more time to the piece, but the more inlays, the more wild and interesting the outcome. This isn't an invitation to work in a deliberately sloppy manner, but a perk of the technique if a mistake happens.

Rout and chisel the recess

The inlay can be as thick or thin as you need it to be, but ¼ in. deep is a good place to start for areas that do not need significant reinforcement. Set the depth of your plunge router at about ⅛ in. shy of the thickness of your inlay. As you follow your lines with the router, we recommend leaving about 1/16 in. of material inside of the score line; this leaves the perfect amount of material to get a good crisp grip with

ROUTER BRIDGE FOR PROUD INLAY

When working with thicker inlay, aim for 1/32 in. proud after routing.



Follow up with a sander. *If the inlay is only slightly proud of the slab or has been routed nearly flush, you can scrape or sand the surfaces level.*

ADD MORE INLAYS FOR A PIXILATED EFFECT

Adding layers. *Once the first inlay is glued in and trimmed flush, you can begin adding more. You can work on more than one inlay at a time if they don't overlap each other.*

Sand, scrape, or plane as you go. *Use whatever makes sense to you to flush inlays between layers. Keep in mind, though, that oversanding can cause a dip in the tabletop and using a tool that's too aggressive for the job, like a wide-mouthed plane, can cause chipout, especially on highly figured inlay.*

your chisel without denting the sides of the cutout.

Now that most of the material has been removed, grab your favorite chisel and mallet (Audi prefers a 1-in. butt chisel, Ivy the ¾-in. version.) Beginning about ⅛ in. from the corners, keeping the chisel exactly perpendicular to the surface with the flat side facing away from the inlay, carefully insert your chisel into the score line and gently tap out all four sides.

The corners are very important. Once all four sides are chiseled out, we use a ¼-in. Pfeil butt chisel at a low angle to carefully follow the score line into each corner. This is the most important part of the process, so take it slow; a clean corner makes for a perfect inlay. It's important to use a small chisel in the corners because it will give you plenty of control to get that 90° just right. A large chisel flares the corner and makes for an ill-fitting inlay.

Cleaning up the walls of the recess is important for a good fit. Make sure all walls are square—if a small square fits in your routed-out rectangle, use it to double check that everything is at 90° and will fit the inlay nicely. Coat the recess with glue, and gently pound the inlay in with a mallet until it fully seats. Make sure it goes down evenly—one side going in first can ruin your line and make an imperfect inlay. You hope for a bit of squeeze-out and an inlay that sits about ⅛ in. proud of the slab surface.

Clean up the surface

To make the inlay flush, we use the combination of a sander and scraper. If the inlay is large and sits more than ⅛ in. proud, you can even use a router. The patchwork style of inlays can be used sparingly or extensively; the more inlays, the more pixilated the effect. The basic order of operations is to work in layers, flushing the inlays to the slab before you inlay an overlapping one and then repeating the same process. We spend a lot of time with each slab, thinking about each tabletop as a sculpture and making sure that the inlays add, rather than take away from, the natural flow of the figure. □

Audi Culver and Ivy Siosi are designers and furniture makers in Bloomington, Ind.

MODERN SLABS AT WORK

Kitchen island

The authors used inlays to attract attention to an otherwise simple miter joint. It was a purely aesthetic decision to draw viewers in and get them thinking about the puzzle in front of them.

Slab bench

Culver and Siosi wanted to get the most from this slab without trimming any length, so they used a lot of inlays to mend checking and knots, overlapping them to add strength, complexity, and character to an ordinary butt joint.

Online Extra

Photography plays an integral role at Siosi Design + Build. Watch the video at **FineWoodworking.com/274.**

Floating desk

This design has only one inlay on the end grain—a small square to cover a small flaw. The understated inlay works with the colorful grain as well as the overall feel of the piece. It either goes unnoticed or creates a nice design quirk.

Contrast

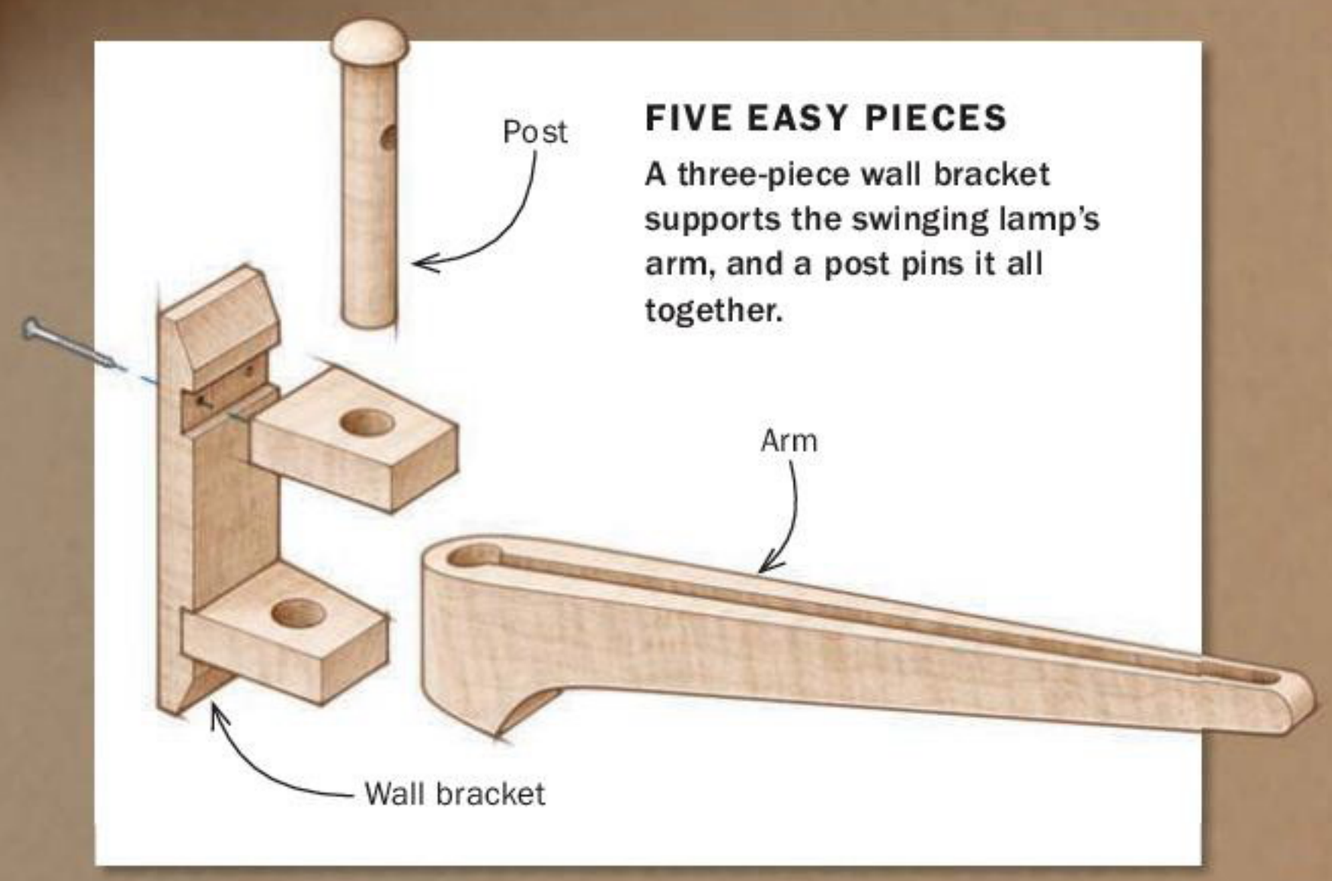
In a wood like this ambrosia maple slab, not only are same-species inlays used to reinforce the crotch on the top and underneath, but the color difference inherent in the species allows for contrast without using a different species of wood.

Photos, this page: Lisa J. Goode (top right); Audi Culver (all others)

Swing-Arm Lamp

A contemporary swiveling lamp with a few cool tricks

BY CHRISTIAN BECKSVOORT



FIVE EASY PIECES

A three-piece wall bracket supports the swinging lamp's arm, and a post pins it all together.

Photos: Anissa Kapsales; drawings: Christopher Mills

When I was growing up, my parents had a Scandinavian swinging-arm lamp over the couch. It hung right in the middle, so when I was reading on either end of the couch, I could swing the lamp left or right as needed. I forgot about it for a few years, but it had more influence over me than I realized. In 1974 I bought the book *Woodenware* by Åke R. Nilsson (Drake Publishers, 1973) and discovered his simpler version of the swinging-arm lamp.

I've since made a variety of wall lamps, most in cherry, and most with wooden shades, and I've changed shapes and dimensions along the way. The most recent versions I've made are in tiger maple and have glass shades custom made by Tandem Glass of Dresden, Maine. But you don't need a custom glass shade to make this lamp shine. There are a ton of websites as well as hardware stores big and small that carry beautiful glass shades. Playing with different wood species, arm shapes, and shades is fun and can really change the look and feel of the lamp. The design is simple, so select a species and grain to suit.

Begin with the arm

To make the arm, start with a piece of 8/4 stock, 2½ in. wide by 17 in. to 18 in. long. The arm will be tapered in thickness, from 1¾ in. at the post to ¾ in. at the tip, but I do all the other machining before cutting the taper. First, use a template and trace the pattern onto the side of the arm blank. Then bandsaw the underside of the arm and the curved nose on the front end.

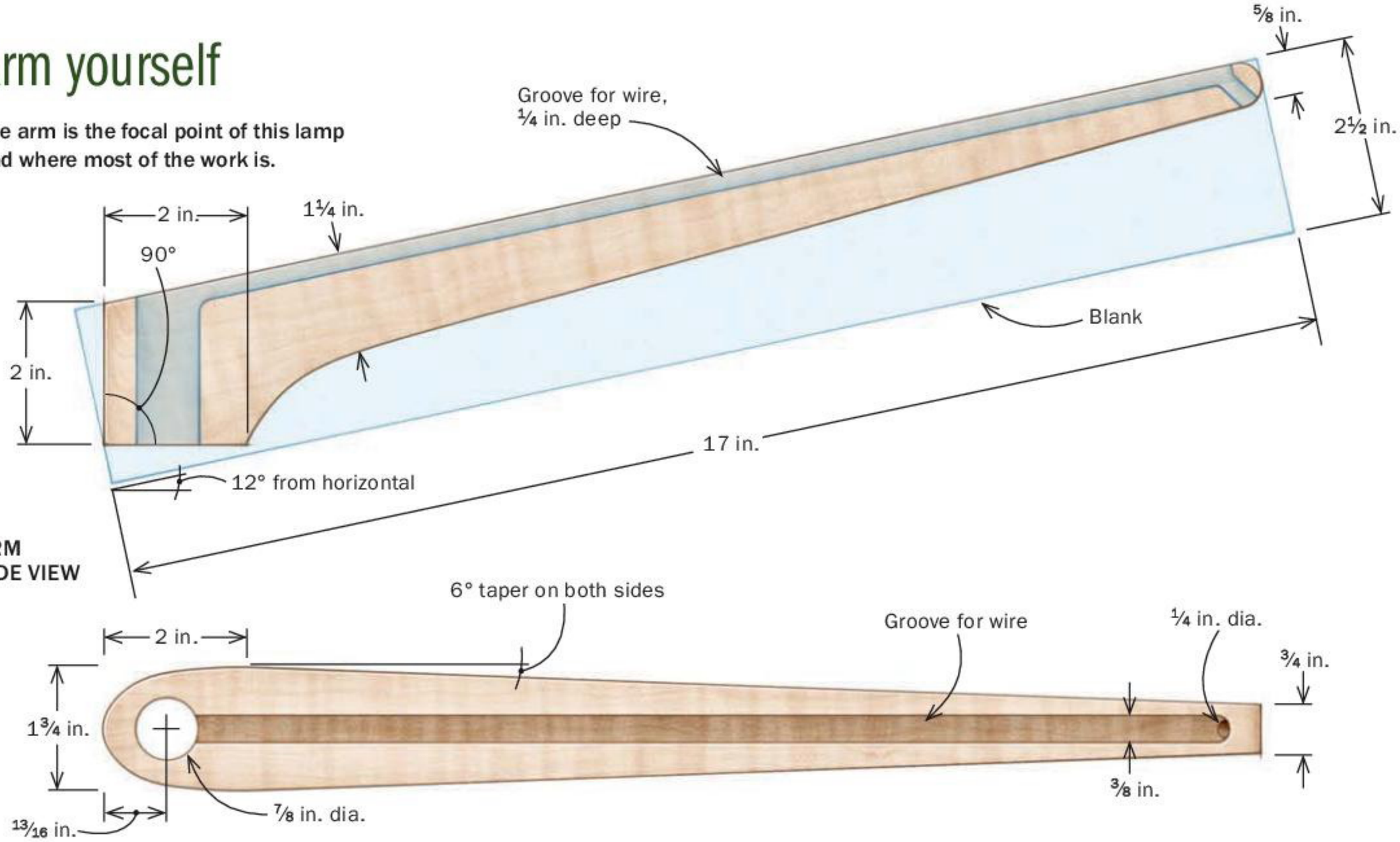
The arm slopes up about 12° from horizontal. To establish and maintain that angle, make sure that the flat section at the base of the arm is exactly 90° to the back edge. Next drill the ⅞-in.-dia. hole for the post, being sure that the base of the arm remains perfectly flat on the drill-press table. A spacer block to support the arm or a wooden hand screw clamp can help with this. Now draw the radius at the back edge of the arm. Cut the curve with the bandsaw and refine the shape with sandpaper (I use the disk sander), being sure to maintain the 90° relationship between the base and the back edge. I also refine the roundover at the front end of the arm at this point.

At the router table, cut the groove for the wire along the top of the arm. Then use a hand drill to cut an angled ¼-in.-dia. hole about ⅝ in. to ¾ in. from the front. The wiring will run in the groove and drop down through this hole to the light fixture.

Now it's time to cut the arm to a taper. With a straightedge and pencil, establish the angle on both sides of the arm from the back edge to the nose. Bandsaw both sides and then sand or plane them smooth. Then smooth all the faces of the arm, breaking all edges, and hand-sanding to 220 grit.

Arm yourself

The arm is the focal point of this lamp and where most of the work is.



ARM SIDE VIEW

ARM TOP VIEW

Drill the post hole. *After bandsawing the arm's bottom edge to shape, take it to the drill press and drill the hole for the post.*

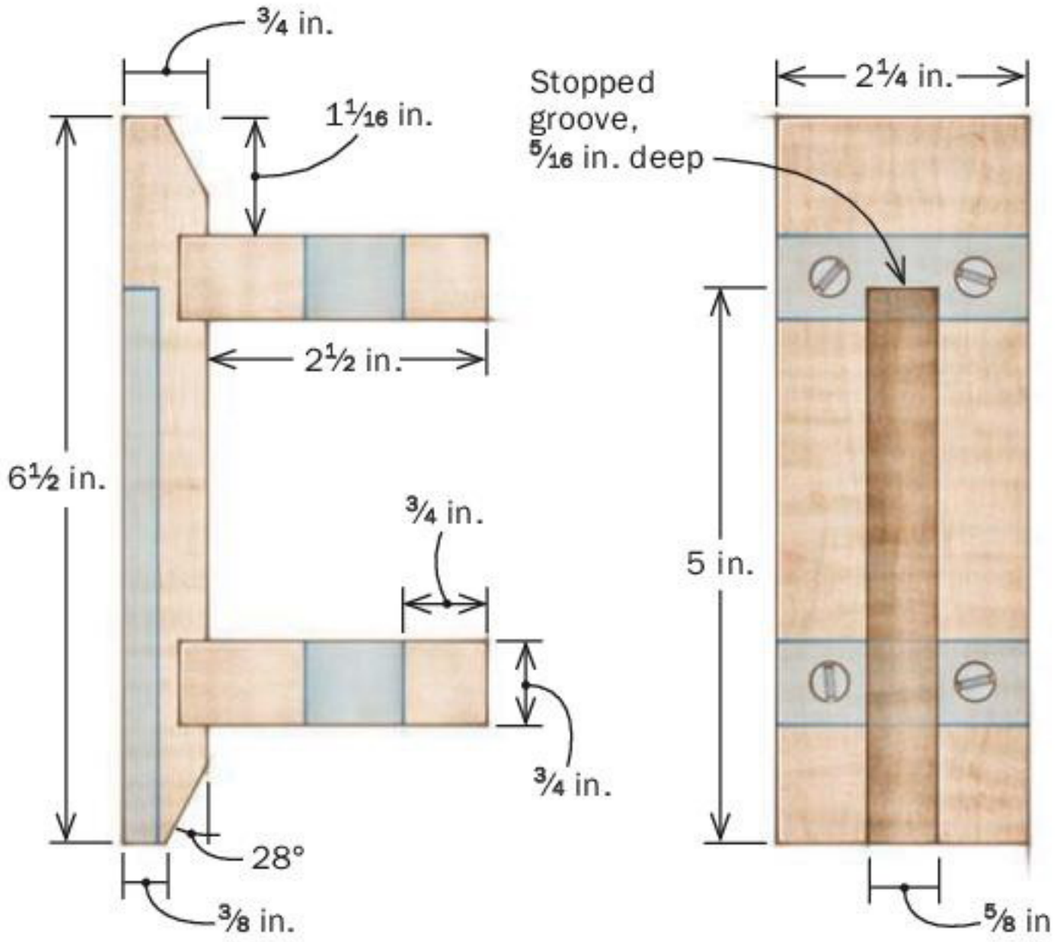
Groovin'. *At the router table, run a stopped groove for the wiring along the top of the arm. It should start about ¾ in. from the front and end in the post hole.*

Drill an angled hole at the nose. *Toward the front of the arm, in the groove you just cut, drill an angled hole to feed the wire through. The angle creates a subtle bend for the wire to follow.*

Taper the sides. *A 6° taper on both sides of the arm gives the lamp a lighter, more refined look and feel.*

Wall bracket keeps it all together

A vertical back plate with two horizontal members attaches to the wall and holds the arm in place.



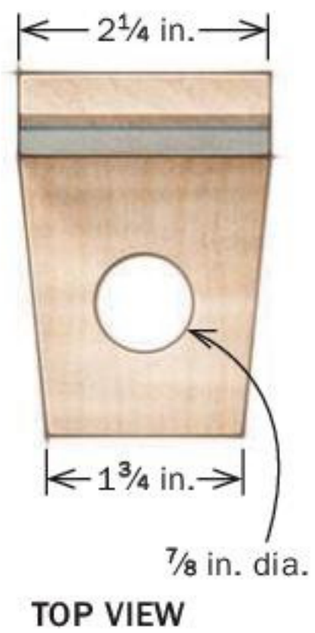
Wall bracket holds the arm

The bracket consists of a back plate and two horizontal pieces screwed into dadoes in the back plate. There's a stopped groove in the rear face of the back plate to accept hanging hardware—a nesting pair of tapered steel connectors.

I start with the horizontal pieces. On the drill press, make a jig to hold the pieces and drill a ⅞-in. hole centered about 1⅛ in. from the front. Next, taper the pieces 6° on both sides. I do this on the bandsaw and clean up by hand.

I chamfer the top and bottom of the back plate at about 28°. Then I cut the ¾-in. dadoes for the horizontal pieces, using a ⅝-in. dado set and sneaking up on the exact width.

Next, at the drill press, drill four clearance holes for screws, centered in the dadoes and about ½ in. from the sides of the back plate. Now, with the dado blade still in my tablesaw, I cut the stopped groove in the rear face of the back plate for the hanging hardware. For this cut, I use a push stick and a stop. I turn the saw off when I hit the stop, waiting until the blade stops before lifting the workpiece. Then I chisel the end of the groove square. Now sand all the pieces to a shine, and break the edges.



TOP VIEW

Dadoes for the horizontals. *After you cut a bevel on the top and bottom of the back plate, use a dado blade and a miter fence to cut the dadoes to hold the horizontal pieces.*

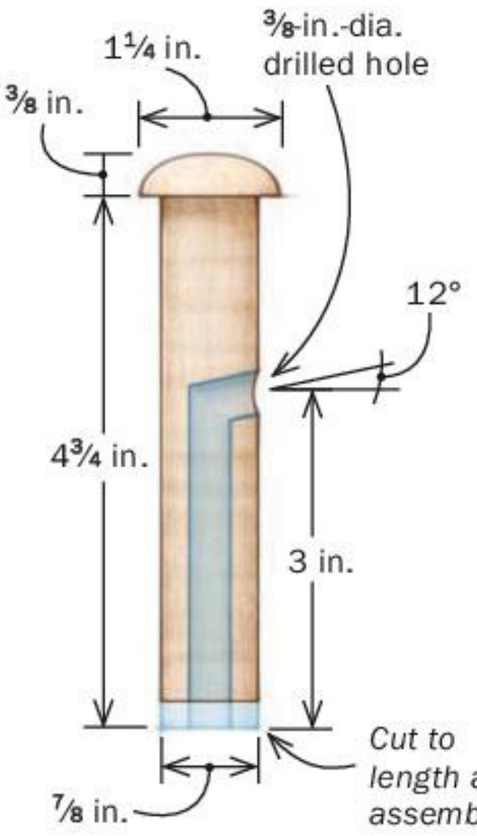
A groove for the hanging hardware. *Becksvoort cuts a stopped groove on the rear face of the back plate. When the workpiece hits a stop on the fence, he turns off the saw and waits for the blade to stop before picking up the piece.*

Taper the horizontals. *On the bandsaw, cut a slight taper on the sides of each horizontal piece. This little change creates a huge visual difference.*

Install the hanger. *After gluing and screwing the wooden pieces together, install the steel hanging mechanism (Lee Valley 4 in. Taper Connectors, No. 00S13.04).*

A turned post holds the arm in the wall bracket

A hole for the wire. *On the drill press, cut a 3-in.-deep hole centered in the bottom of the post stock. The cord will run through this hole and out the side of the post.*



Post locks the arm to the wall bracket

I turned the post on which the arm swivels from 1¼-in.-square stock. Alternatively, it could be turned from a 1¼-in.-dia. dowel. First, drill a ⅜-in.-dia. hole, about 3 in. deep, into one end of the blank. On the lathe, turn a section about 4¾ in. long to a smidge under ⅞ in. dia. Use the pre-drilled horizontal pieces to test the fit. The post should turn easily in the holes, but should not be too loose. At the top of the post turn a mushroom cap 1 in. dia. or larger and about ⅜ in. high. Remove the post from the lathe and sand or carve it to suit.

Putting it all together

Insert the two horizontal pieces into the dadoes, and glue and clamp them in position. After the glue dries, pre-drill for and drive 1½-in. screws. Fit both parts of the steel hanging hardware into the groove in the back plate, and make sure they are

Post production. *Turn the post down to ⅞ in. dia., testing its fit in the holes already drilled into the horizontal wall bracket pieces. Then turn a cap on the top of the post. Once the cap is sized, you can sand or carve it.*

Cut to length. *Insert the post in the wall bracket and mark its final length. It should not protrude from the bottom. Cut it to length at the bandsaw or with a handsaw.*

Assembling the lamp

All the parts together function like a large wooden hinge.

Piece it together. *Slot the arm between the two horizontals and insert the post. Next position the arm so that you can imagine the wire feeding up through the bottom of the post and coming out into the groove in the arm. Mark that spot with a pencil.*

flush with the back. Remove one part and screw the other part into the groove. The other half gets screwed to the wall.

With a sharp knife or rat-tail rasp, ease the edges where the wiring groove in the arm meets the front ¼-in. hole, and the back ⅞-in. hole. This keeps the electric wire from making too sharp a bend. Now insert the arm in the bracket, and pin it in place with the post. The arm should swivel easily.

With a sharp pencil, reach into the groove along the back of the arm and mark where it meets the post. Get as low as possible. Then remove the post and clamp it in a vise. With a ⅜-in. brad-point bit, held at about a 12° angle, drill into the post until you break through into the center hole. Clean up with a knife or rat-tail rasp.

Reassemble the whole business, making sure that the arm groove lines up perfectly with the angled entry hole you just drilled. Now lock that relationship in place with a #4 flathead wood screw, driving it through the arm and into the post. This set screw will need to be removed and re-inserted in the future, so to make that process easier, use a sharp knife or chisel to mark the alignment of arm and post.

Remove the post and sand everything to 220 to 320 grit. Finish with your favorite finish. This piece doesn't get handled a lot, so a bulletproof finish isn't necessary.

Christian Becksvoort makes furniture in New Gloucester, Maine.

Drill a hole for the wire. *At an angle, carefully and slowly drill a hole into the side of the post, stopping when you hit the vertical hole you drilled earlier.*

Lock the arm to the post. *Now put the lamp together and line up the angled hole in the post with the groove in the arm. Use a knife to make a registration mark on the post and the arm. Predrill and insert a tiny screw to keep the hole and groove lined up.*

Change it up

Starting with a simple arm design allows you to radically alter the look of the lamp by switching up the shade or cord. The same arm can work equally well with a traditional shade or a sleek, modern one.

SOURCES OF SUPPLY

ELECTRICAL SUPPLIES AND GLASS SHADE

colorcord.com

Shade ready socket
PSK-003-101

10 ft. wire

Cord thumb switch
PSW-001-010

homedepot.com

Leviton 15 Amp
125-Volt Light-Duty Plug
R52-00101-0WP

destinationlighting.com

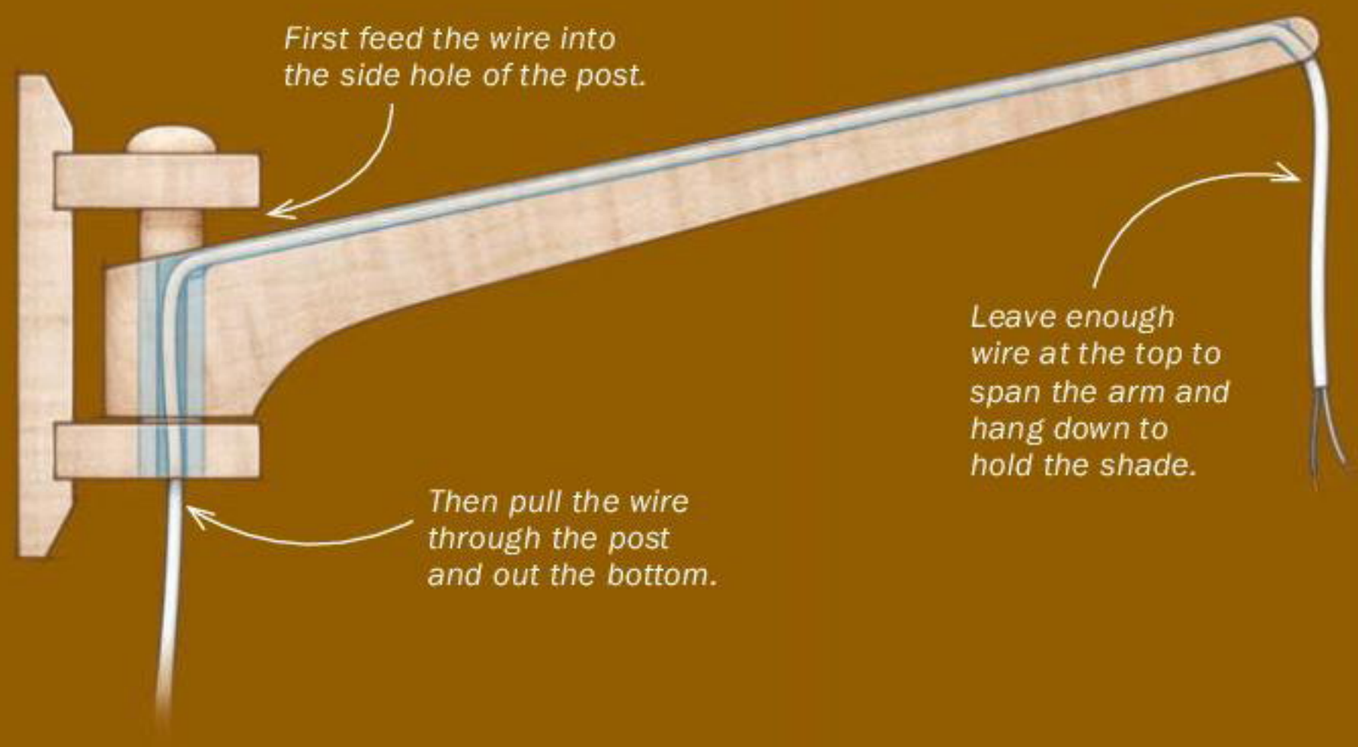
White Art Glass Shade
422032

Lots of options. *Sources for lamp parts are virtually unlimited, ranging from handmade to manufactured, and available online, in small stores, or from big box retailers. A few of Becksvoort's go-to online sources: colorcord .com, destinationlighting.com, lampglass.net*

Electrify your lamp

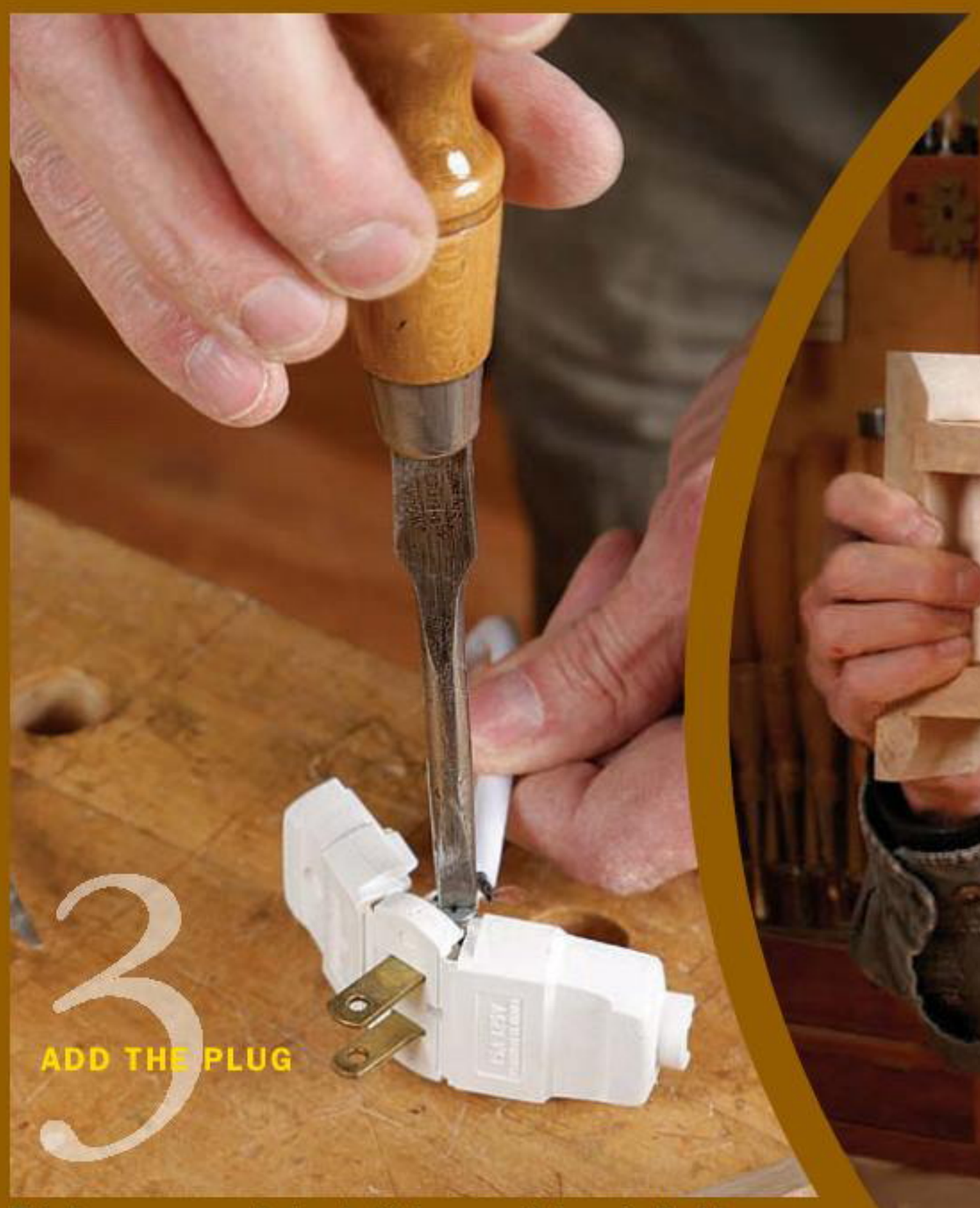
To power the lamp, feed the wire into the groove and through the post, then feed the other end through the front hole. Attach the socket, switch, and plug. Then attach the shade. To determine the correct size glass shade, measure the inner diameter of the shade holder (fitter) on your fixture. Common diameters for shade holders are: 2¼ in., 3¼ in., 4 in., 6 in., 10 in., and 12 in. Select a shade with a corresponding fitter diameter.

Feed wire from the top of the arm first. *Here Becksvoort feeds the wire into the side hole of the post. He pulls it through the post and out the bottom, leaving enough wire at the top to span the arm and hang down to hold the shade.*



2 SOCKET TO 'EM

Becksvoort pulls the wire through the shade cap and connects the wire to the socket. He adds a socket extender, slides on the shade, and secures it with a ring that threads to the extender, under the shade.



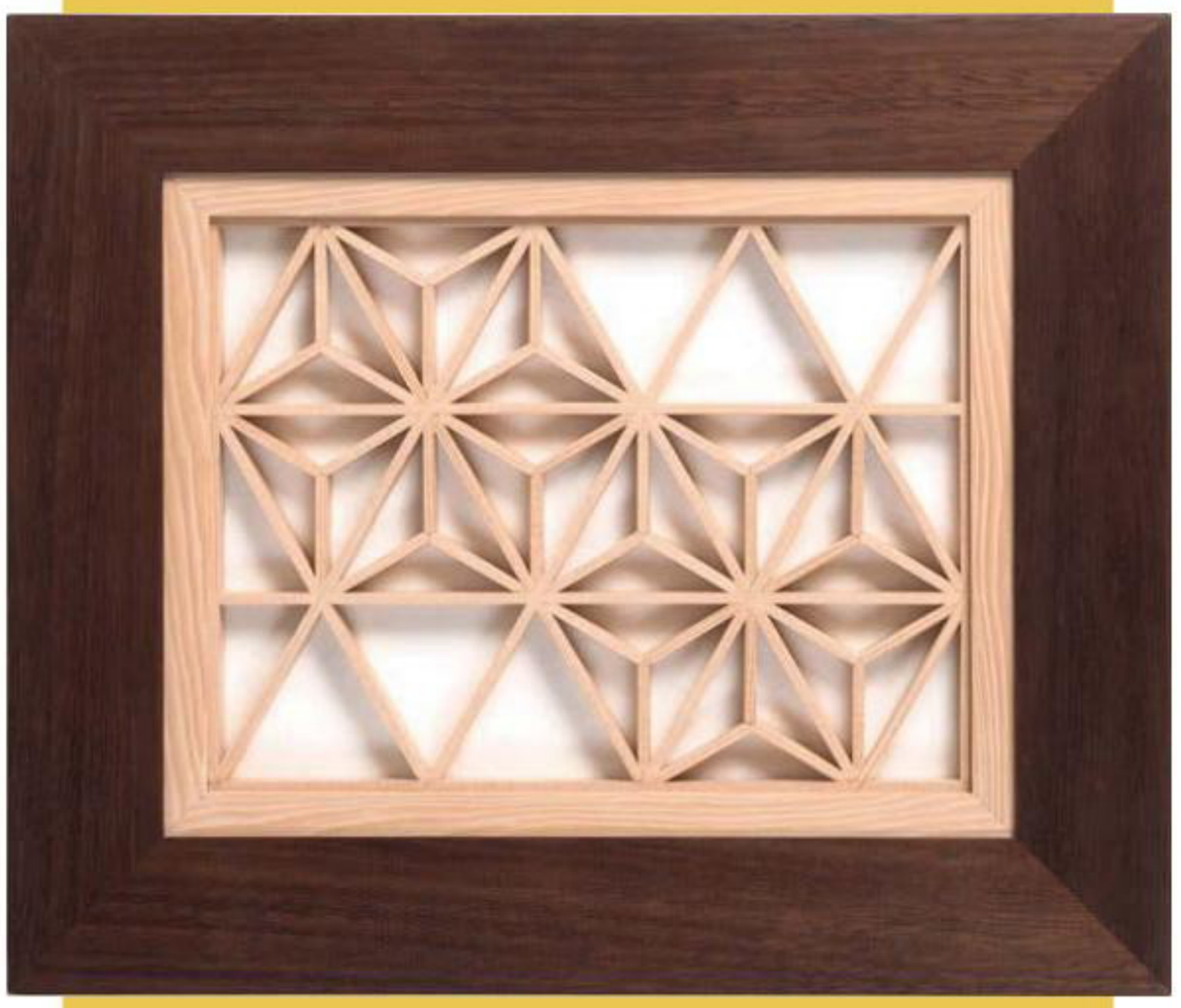
3 ADD THE PLUG

This lamp was made to plug into an outlet controlled by a light switch. However, you can add an inline switch if you want to use the lamp in an outlet that is powered directly.

Create Kumiko at the Tablesaw

Smart jigs simplify this complex design

BY MIKE FARRINGTON



I was first captivated by Japanese kumiko latticework on the back cover of *FWW* #226, which featured a stunning cabinet by John Reed Fox. Fox's piece had a pattern known as *asa-no-ha*, based on a square grid with 90° lap joints. (Michael Pekovich covered the how-to for that pattern in a Master Class in *FWW* #259.) After figuring out the square design, I explored others and found that many of my favorites are built on a grid of equilateral triangles.

While triangular gridwork is more challenging to produce than a 90° lattice, I developed a simple tablesaw sled that makes the complex joints quick and repeatable. I also use a planing jig so that each strip will have a uniform thickness—especially important with this three-way joinery. The infill pieces are more straightforward, made easy by a couple of planing jigs very similar to those Pekovich uses. Using this approach, you'll produce gridwork and infill so clean and snug that it doesn't need glue (though I do use a tiny bit). The kumiko process is fun and fulfilling, which is probably why the craft has survived for centuries.

There still is a learning curve. Don't give up. Your first attempt will be rough, the second will be better, and by the third you'll have nailed it.

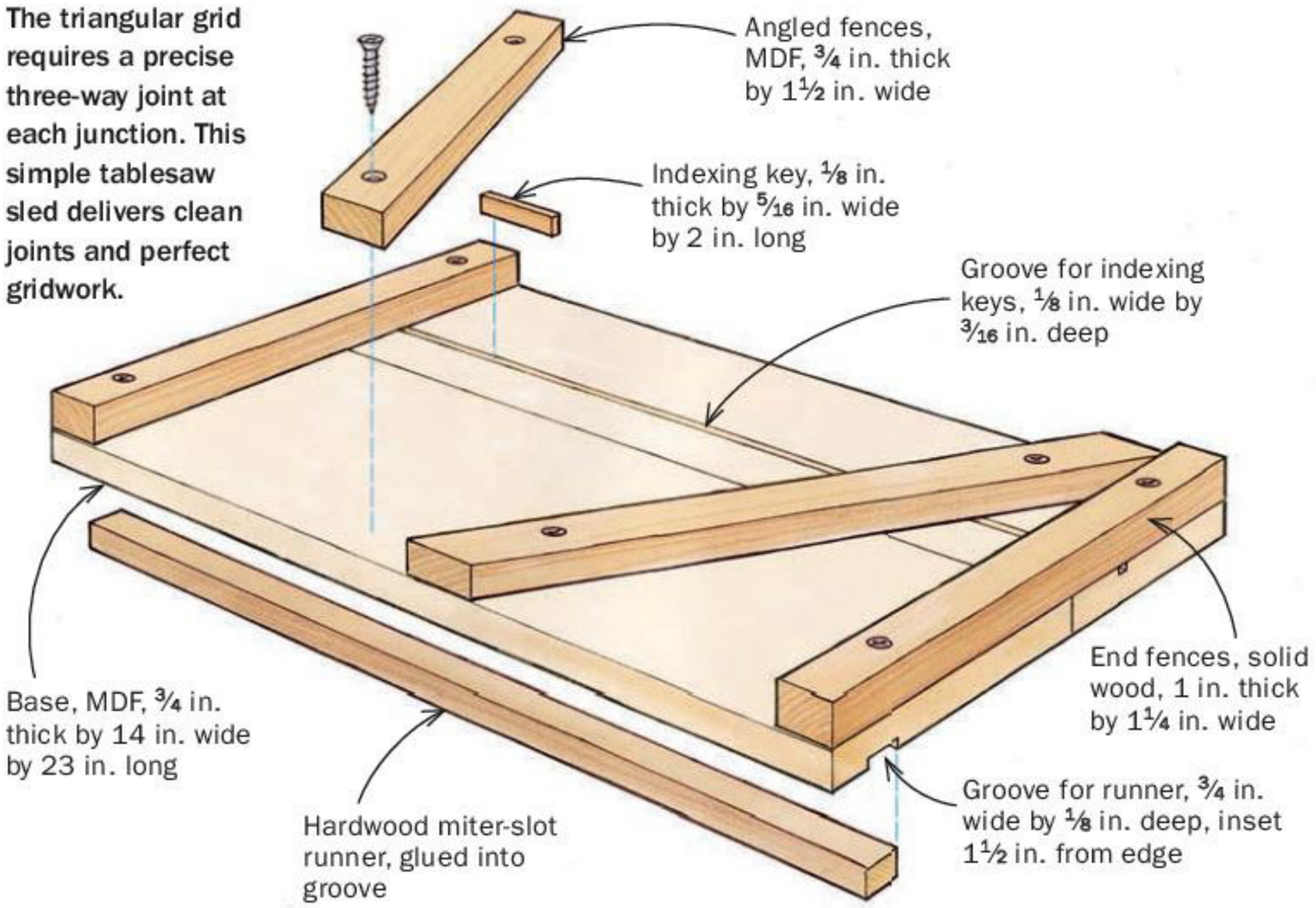
A word about design and wood

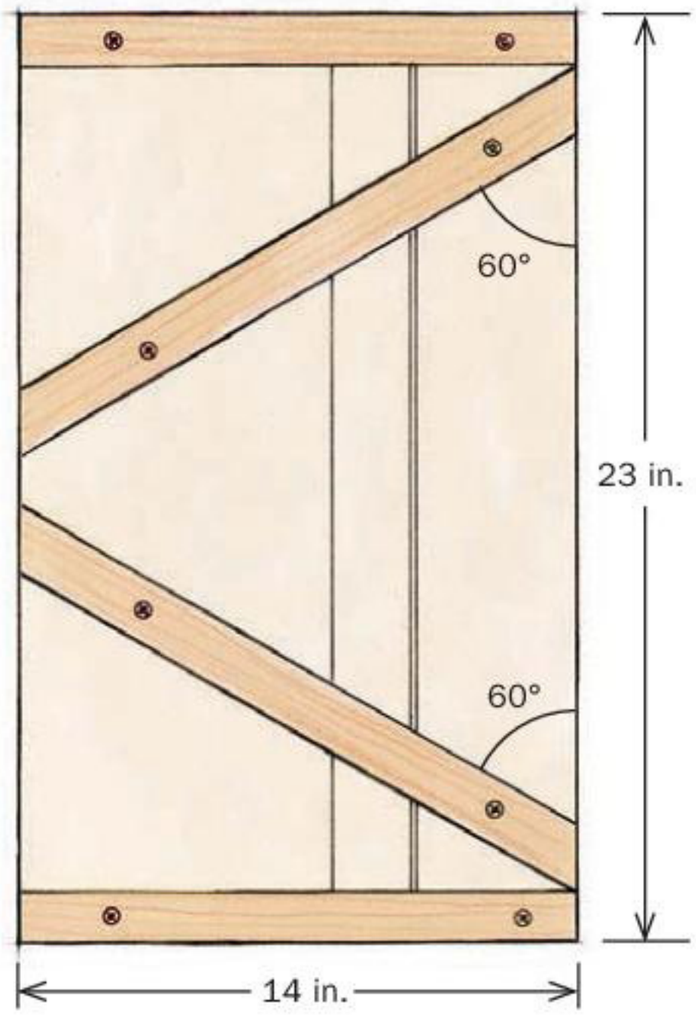
The foundation of any kumiko pattern is the gridwork, which can be scaled to suit everything from large shoji screens down to door panels, lamp shades, and coasters.

Set up for success

MAKE AN ACCURATE TABLESAW SLED

The triangular grid requires a precise three-way joint at each junction. This simple tablesaw sled delivers clean joints and perfect gridwork.





A groove for the indexing keys. *Mark the path of the blade, and then measure 2 in. from that to set the spacing of the gridwork. Flip over the base and cut a shallow groove at your layout mark.*

Add the fences. *Screw on the straight fences at front and back, and then attach the angled fences. Drill slightly oversize clearance holes in the angled fences, and use the 60° corner of a drafting triangle to set the angle of each fence as you screw them down.*

Insert the keys. *Trim the strips so they'll stick up only ⅛ in. or so, bevel their ends, and insert one in the groove in front of each angled fence.*

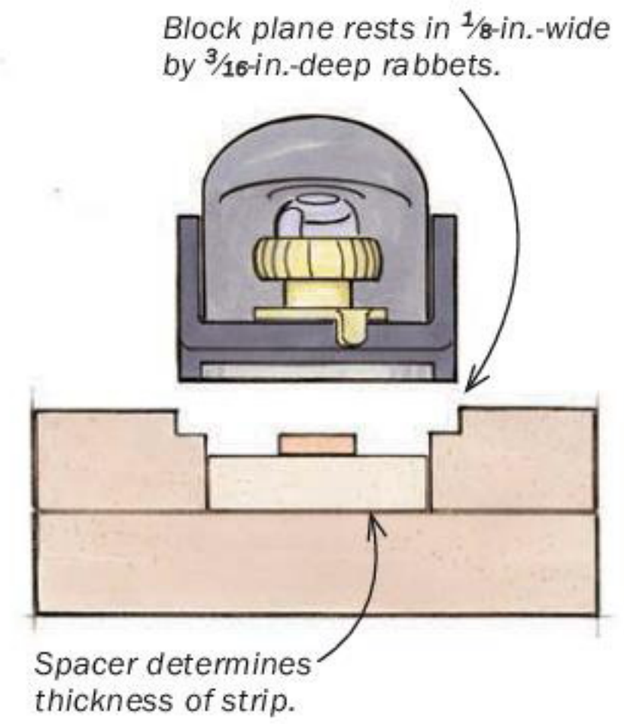
Photos: Asa Christiana; drawings: Dan Thornton

RIP AND PLANE THE STRIPS

Nothing works without straight-grained strips, planed to uniform thickness with the aid of a block-plane jig.

Rip strips slightly oversize. *Make the strips a hair thicker than the width of the blade's kerf.*

Prep the block-plane jig. *Plane a long spacer and screw it in. If the strips come out a little thick, add a piece or two of blue tape on the bottom side.*



Plane to perfection. *Farrington's block plane rides in the narrow rabbets and produces perfectly thicknessed strips. Be sure to plane both sides of each strip.*

The main variable is the pitch, which is the distance between the lap joints. A pitch of 2 in. to 3 in. is a good starting point for most projects. Another variable is the thickness of the strips, which is tied directly to the kerf of the sawblade used to make the three-way joints. Blades that are full-kerf (⅛ in.) and thin-kerf (typically 3/32 in.) both work great. For larger patterns, you might choose a two-blade stack, or a thick blade made for joinery. As for the width of the strips, ½ in. is a good rule of thumb.

Kumiko looks best with woods that are lighter in color with straight grain. Quartersawn or riftsawn material is best, with tight, subtle grain. I often use maple, but I've had success with fir, alder, walnut, and cedar, too.

Prepping perfect strips

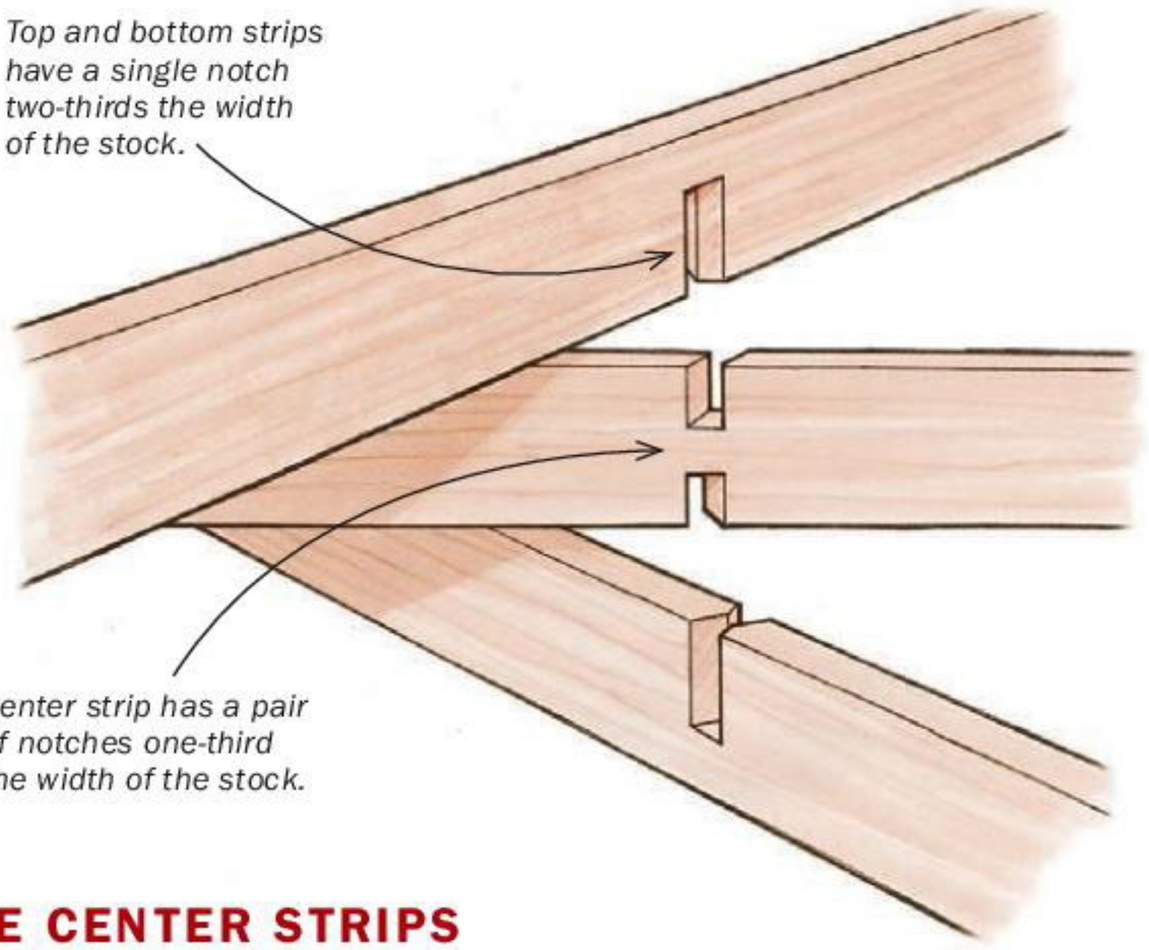
For a clean look, I try to make all the kumiko strips from a single board—or two at most, one for the gridwork and one for the infill. The thickness of the board becomes the width of the strips and therefore the finished thickness of the kumiko panel.

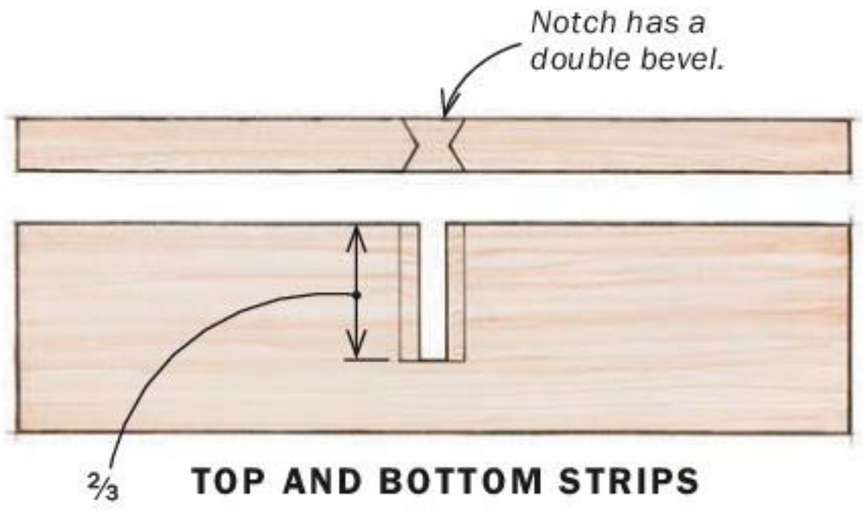
For clean, tight joints, you need very smooth, uniform strips. Make sure your board is four-square so you can rip strips off both long edges and so the

Check to be sure. *Use the tablesaw sled to cut a notch in an extra strip to confirm the strips are the correct thickness. The strip should slip into the notch with no struggle and no slop. Getting this fit just right is critical to success.*

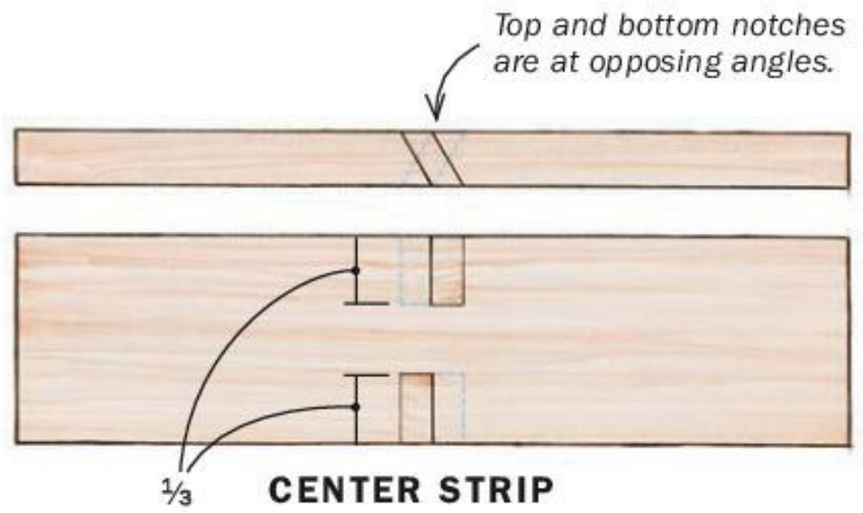
Notch the strips

Farrington's tablesaw sled notches the strips in two ways to create clean, strong, three-way joints. Note: The red stripe is a reminder to keep fingers and thumbs clear of the blade.



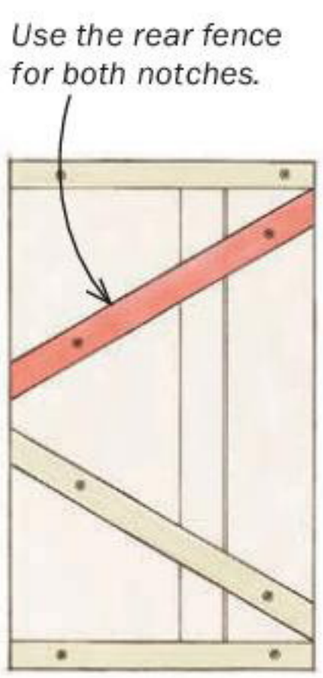


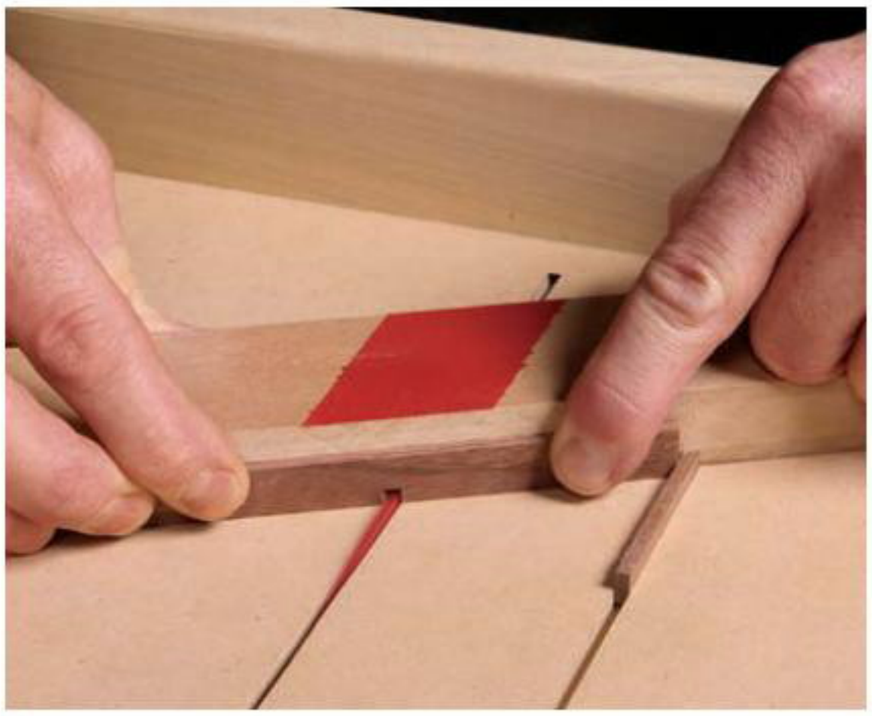
TOP AND BOTTOM STRIPS



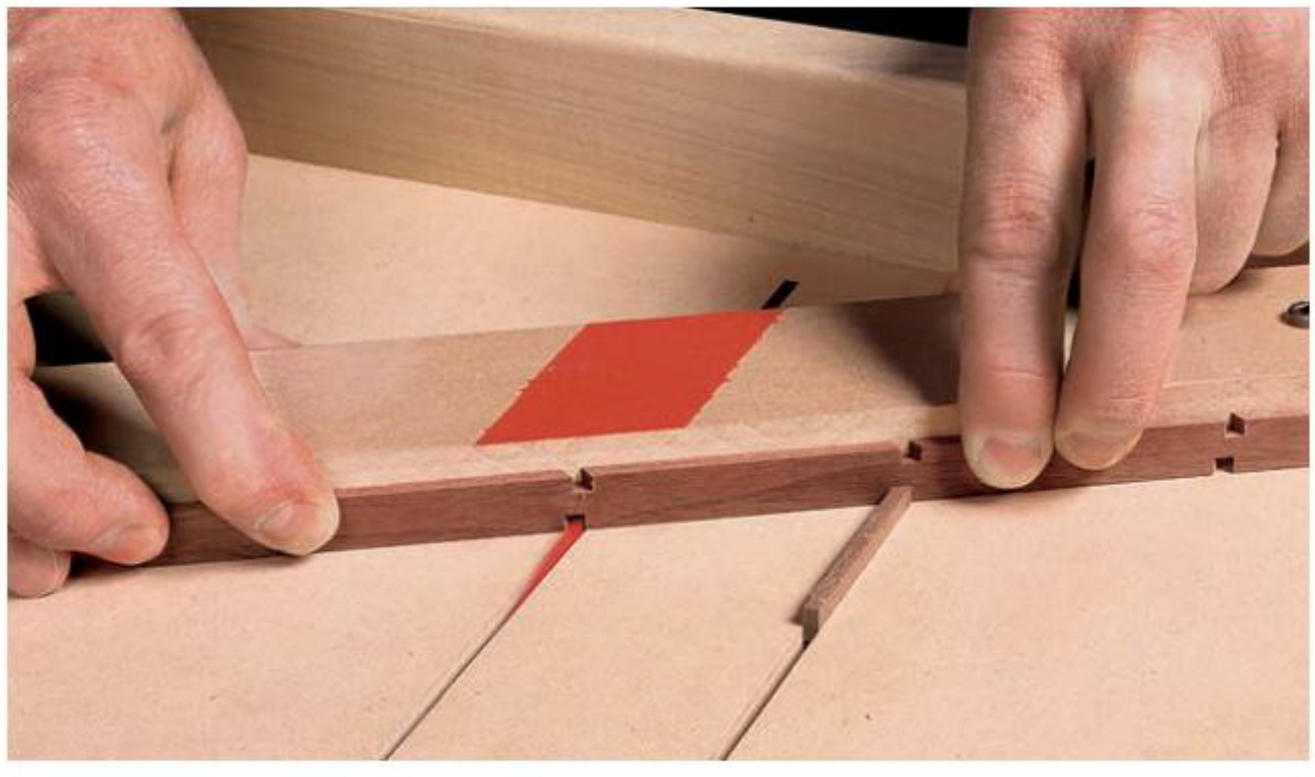
CENTER STRIP

THE CENTER STRIPS





Center strips are notched on both sides. *Set the blade height to cut a hair over a third of the way through a strip. Make the first cuts with the strip bumped against the key (above), flipping the strip to notch both sides. Then place those two notches onto the index key to make the next two notches, and so on down the strip (below).*



ends of the strips will cleanly contact the stops on the tablesaw sled. Cut off any planer snipe.

After milling the board, it's time to rip off strips. It's critical that the finished thickness of these strips precisely matches the kerf of the sawblade used to cut the joinery. So I rip the strips slightly oversize at the tablesaw and then plane them to perfect thickness with a block-plane jig (see drawing, p. 67). Rip plenty of extra strips to use for calibrating the jigs.

The block-plane jig has an MDF base and two runners with rabbets that guide the handplane. The depth of the rabbets must be the same, as any inconsistency will transfer to your strips. Once the jig is together, I add a spacer to the bottom for the strips to rest on. The thicker the spacer, the thinner the strips will be. To reduce the thickness of the strips you can add a piece or two of blue tape to the bottom of the spacer. Each layer of tape reduces their thickness by a tiny, consistent amount. Don't add too many or the spacer will get squishy. You are looking for a nice slip fit where the strip fits easily into a test kerf.

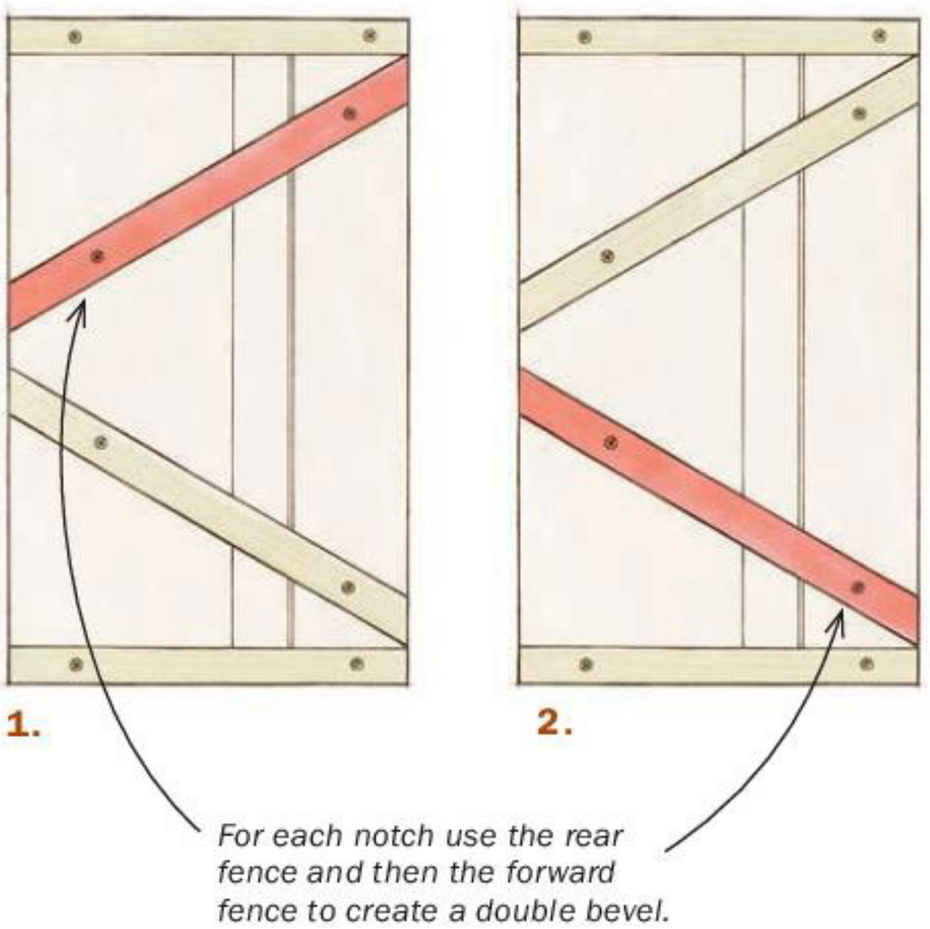
Watch the grain direction to avoid tearout as you plane strips, and make sure to plane both sides of each strip so they need no further surface prep.

Tablesaw sled tames the three-way joints

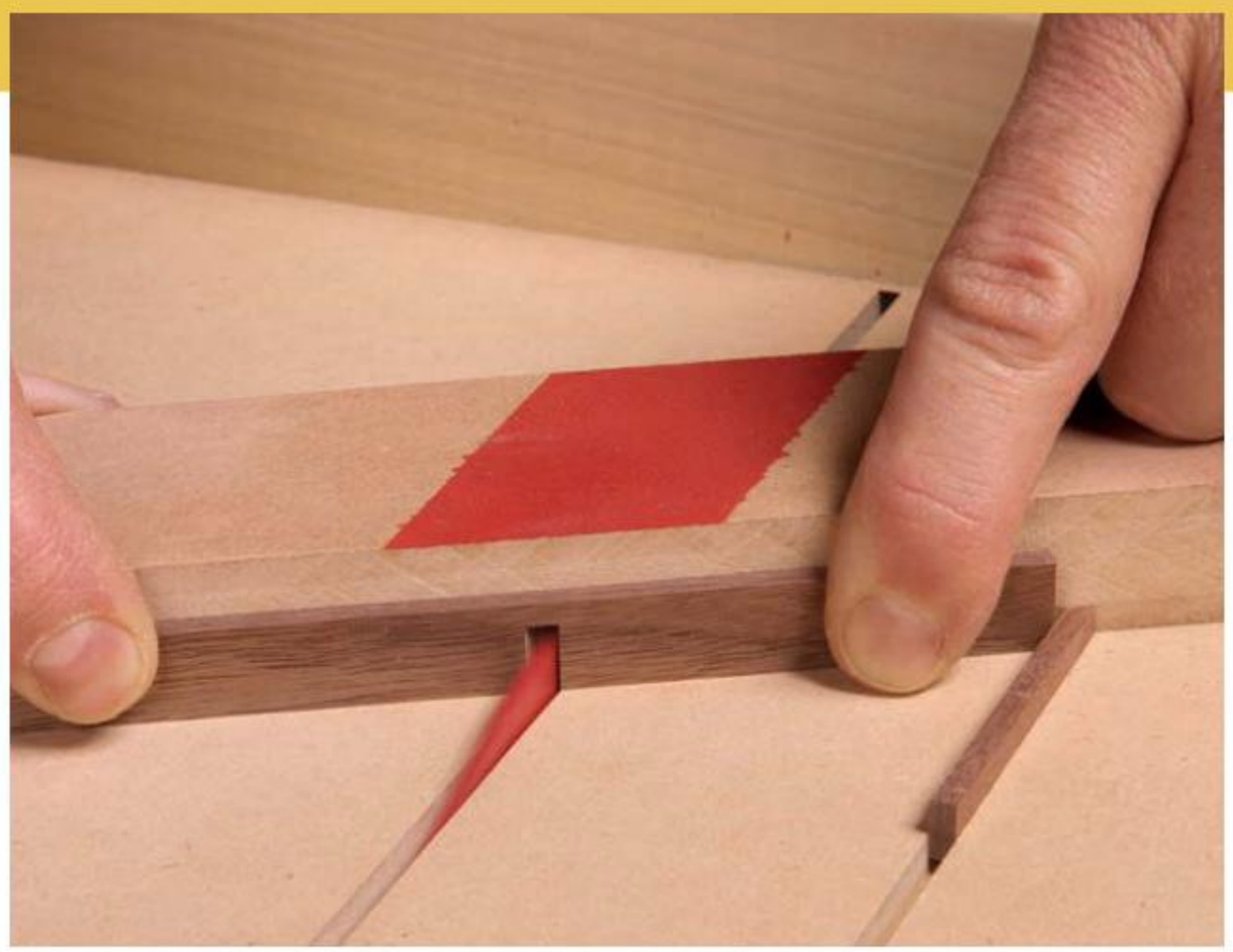
The triangular grid requires a tricky three-way joint at each junction. Normally this is done with fine handsaws, but my tablesaw sled with a 60° fence notches the strips to create a clean, strong joint.

Start by cutting and planing a runner for one of the tablesaw's miter slots. I use quartersawn hardwood.

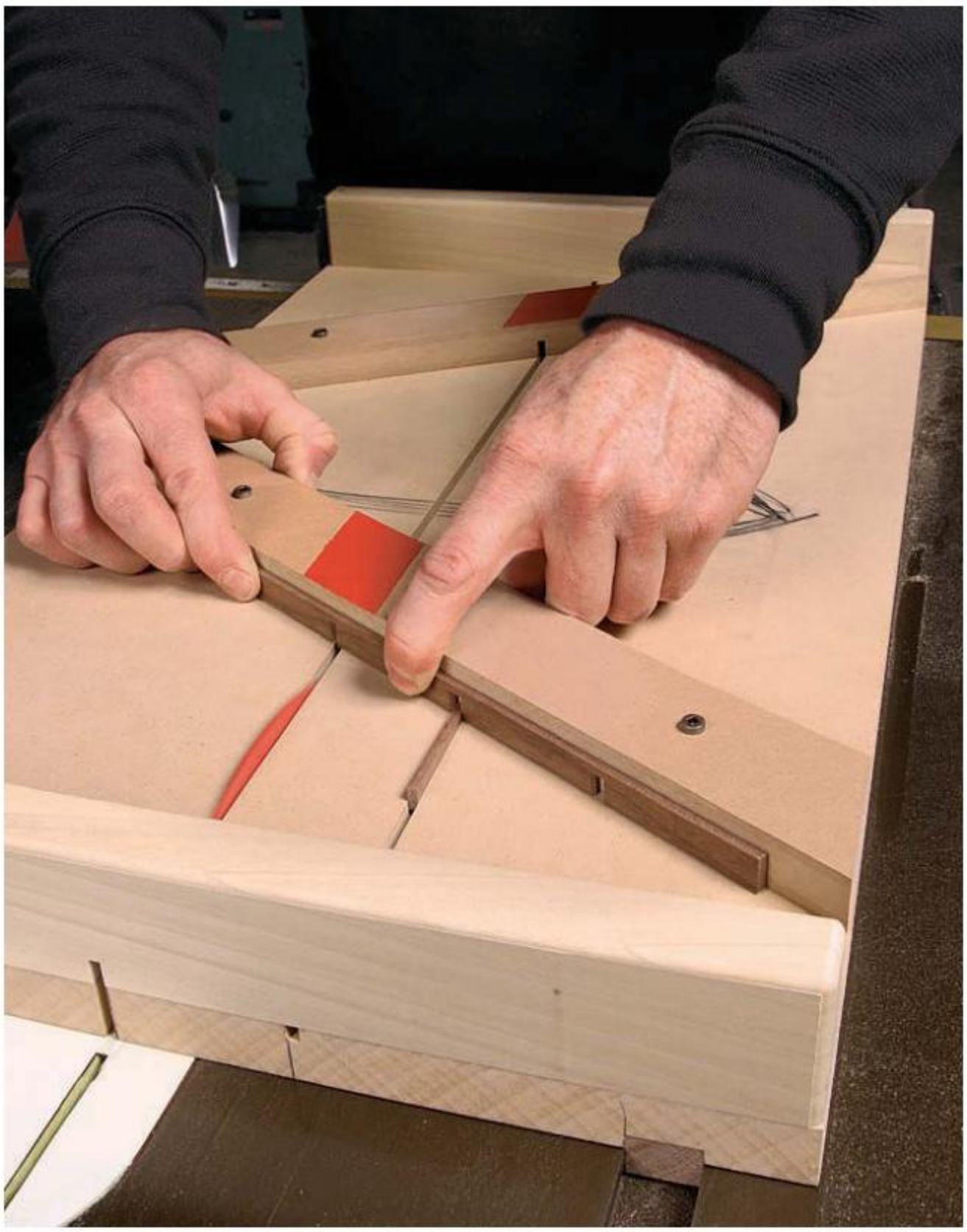
THE TOP AND BOTTOM STRIPS



For each notch use the rear fence and then the forward fence to create a double bevel.



Top and bottom strips are notched in both directions. *Start with the tip against the key as before (above), then use the key to make a row of evenly spaced notches. Now notch those same strips on the opposite fence (below). It helps the overall results to press the strip against this key in the opposite direction you pressed it on the first fence.*



It's critical that there be no slop; in fact, the runner should slide with a little friction. When cutting out the rest of the jig's parts, make sure their sides are perfectly parallel.

Next, cut a small dado in the base for the miter-slot runner, and glue it into place. This ensures that the runner is parallel with the edges. To determine the pitch of your kumiko, or the distance between the joints (in this case 2 in.), mark where the blade will cut through the sled, measure over from that mark, and cut a kerf 3⁄16 in. deep in the top face of the sled for the index keys.

The trickiest part is attaching the two fences at the exact same angle. You can do it with an inexpensive drafting triangle and careful work (see p. 66). Each fence should be very close to 60°, but it's even more important that both are set to the same angle. Screw but don't glue the fences. I drill slightly oversize clearance holes to allow for minor adjustment if needed, and use screws with flat-bottom heads (not countersunk) that won't shift the fences as I tighten them.

Next, cut off two small pieces from the strips you planed earlier and insert one into the key slot in front of each fence. Now drop the runner into the miter slot, cut through the whole sled, and it's ready to be used.

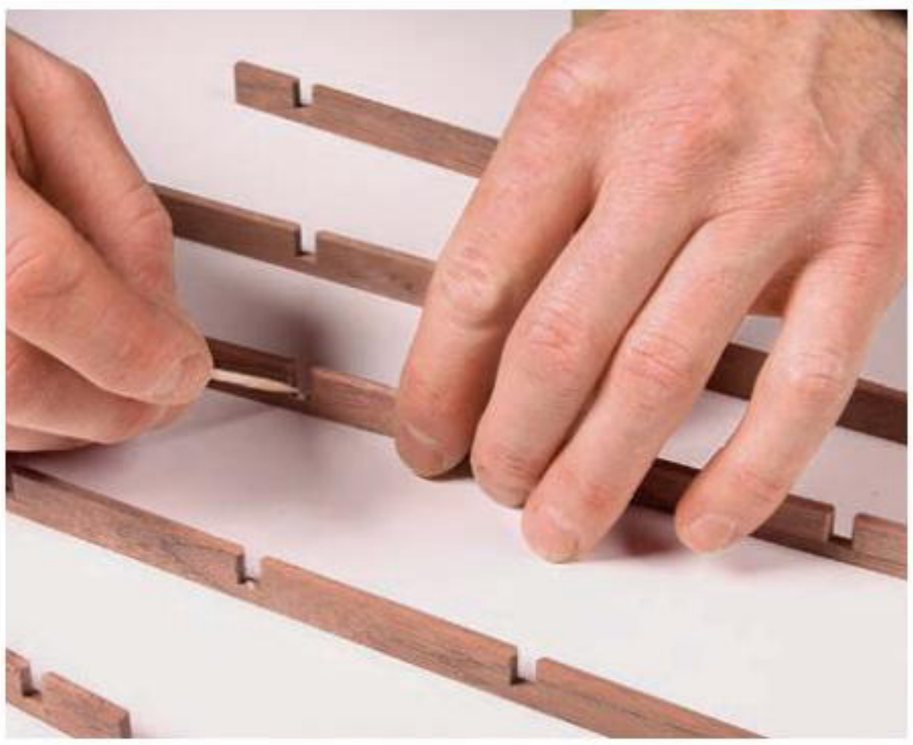
When using this sled your fingers can get very close to the blade, so I spray-paint a stripe on the fences to mark the danger zones.

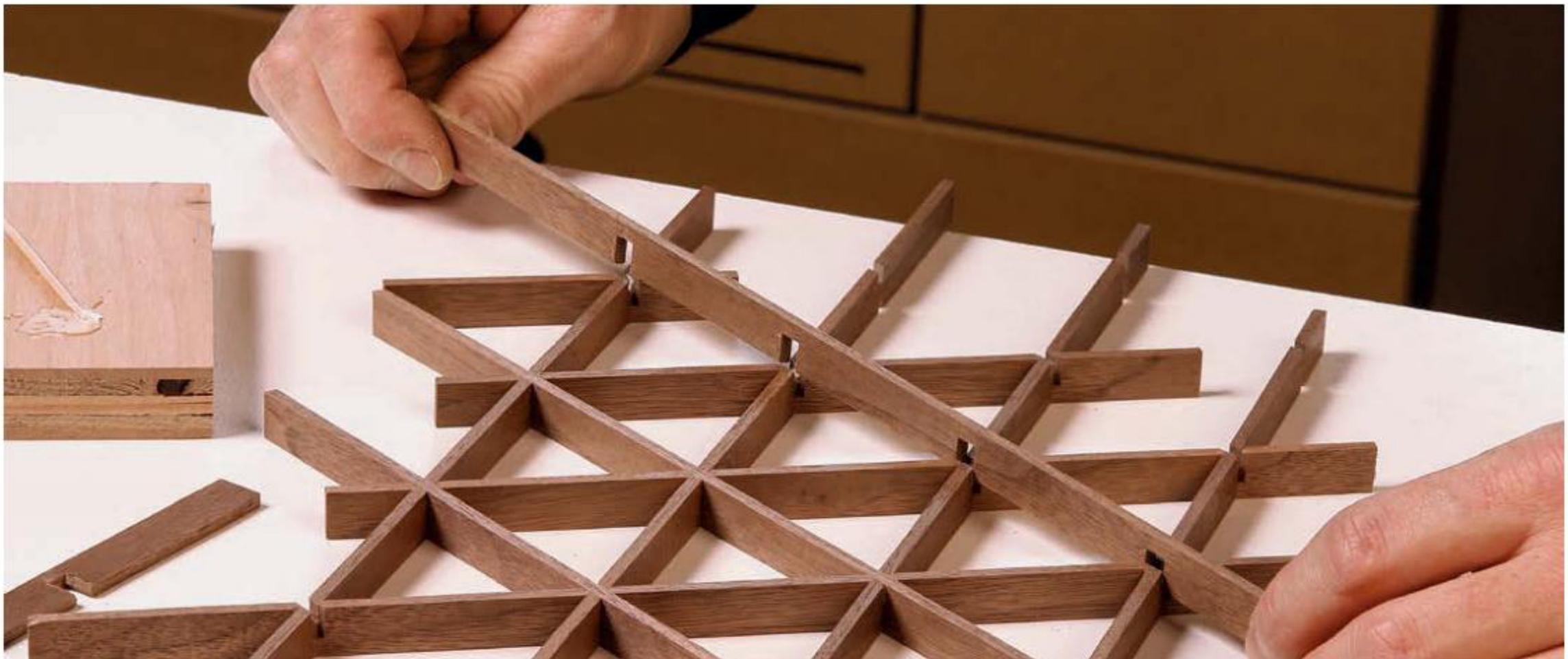
Notch and assemble your triangular grid

With the sled ready to go, set the blade slightly higher than one-third of the height of a strip, and cut all of the

Assemble the grid

Mate top and bottom strips with center strips. *Just a dot of glue in each is all you need. The deeper-notched strips go down first and the double-notched ones go next. Then the last deep-notched strips go on, tightening the joints and forming triangles in all directions.*





Online Extra

Watch Farrington put together one of his kumiko creations in the video at **FineWoodworking.com/274.**

center strips for the three-way joint. They have opposing notches on each side, all made at the fence closest to you. The sled works like a box-joint jig: You bump the strip against the key for the first cut, and then place the notch over the key for successive cuts.

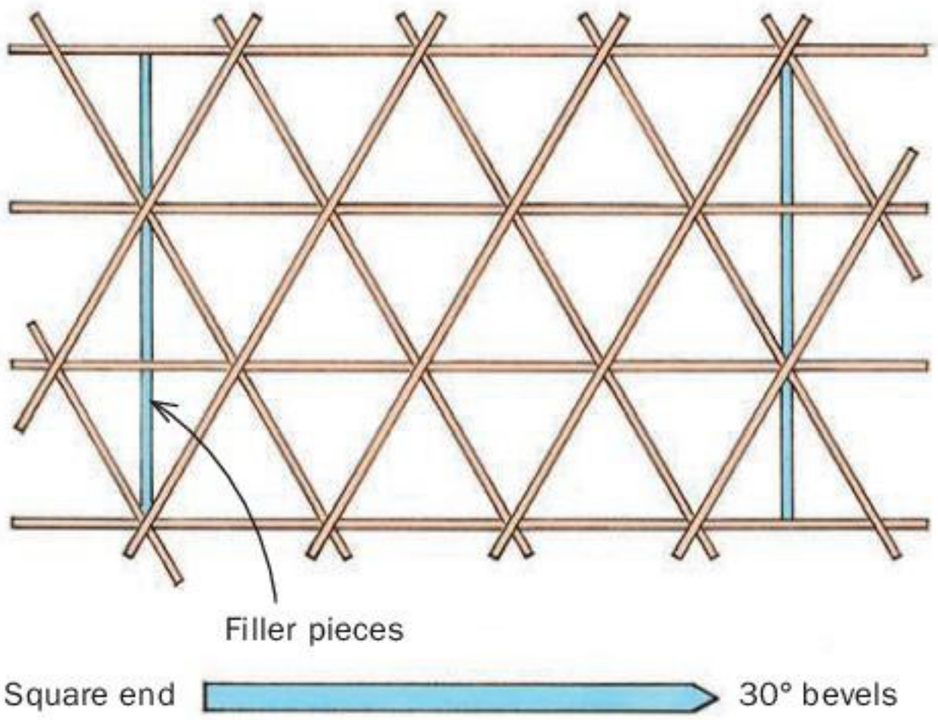
Next, tackle the top and bottom strips of the joint. These are identical, with single, two-way notches that work in both directions. Adjust the sawblade so it cuts just slightly over two-thirds of the height of your strips, and make two cuts on each strip, both through the same notch, using both fences on the sled.

This two-way notch is where you'll find out if your sled is accurate. If it is, the opposing cuts will form a little point in the exact center of the thickness of the strip. If not, go back and check the fences with your triangle. Often simply reattaching them will solve the problem. When these last cuts look good, notch all of the top and bottom strips.

At this point you'll have a small pile of center strips with cuts made one-third of the way through on both sides and a larger pile of top and bottom strips with cuts made two-thirds of the way on one side. Using a small handsaw, break these pieces down into usable sizes. Kumiko is almost always used in a frame

SQUARE IT UP

Most grids go into square frames. To square off the triangles at two ends of the pattern, you'll need to insert filler pieces as shown.



of some kind, so I build the pattern with a big square or rectangle in mind.

Assembly is straightforward. Starting with the bottom pieces, add a dot of glue with a toothpick, press the center pieces in one by one, and then finish off the grid with the top pieces.

Trimming kumiko for a square frame

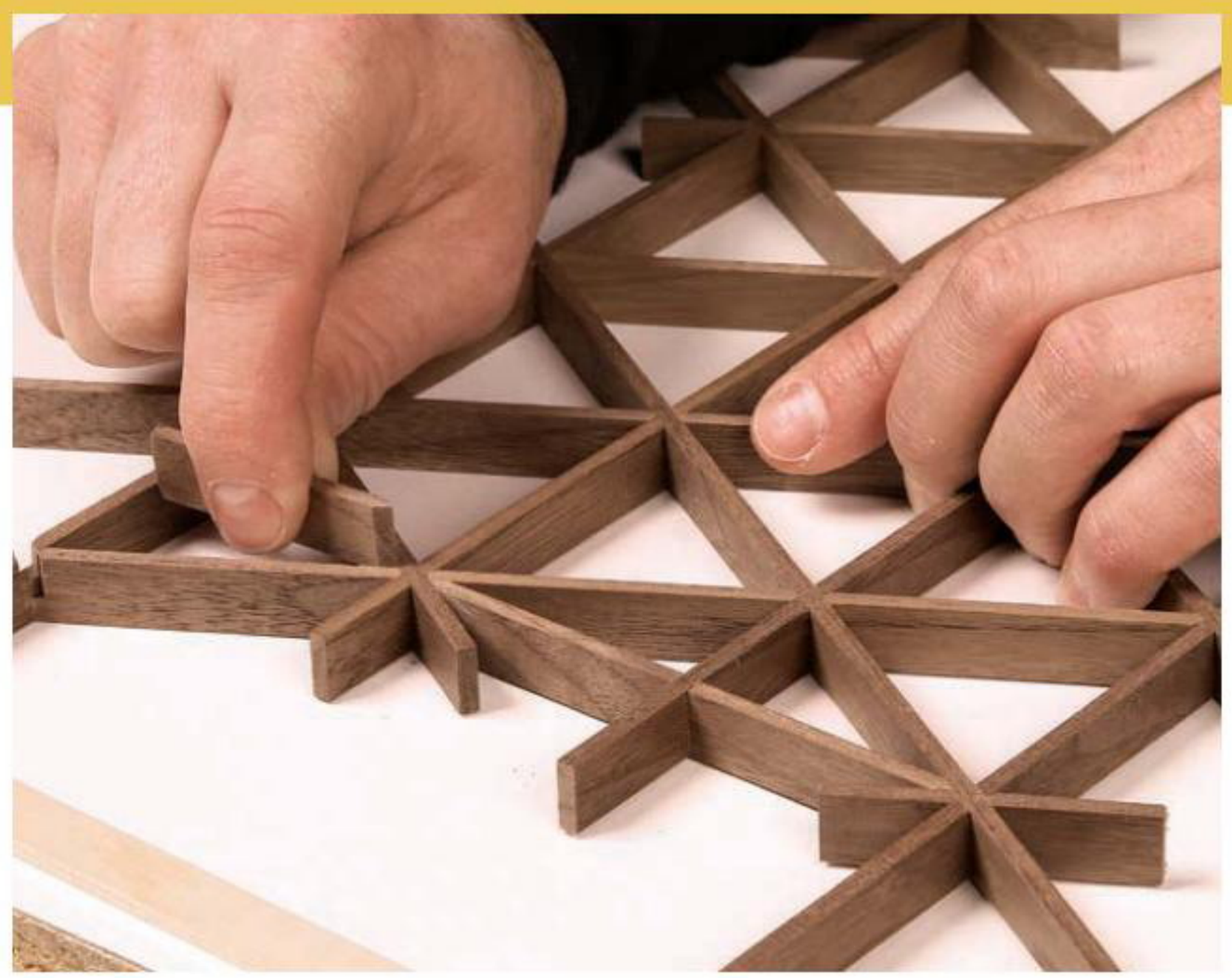
For most applications, you'll need the edges of the gridwork to end up square. This is a little trickier with the triangular kumiko than a square grid. You'll need to add little pieces to square the triangular spaces along two edges of the pattern, and then cut the stray grid pieces off all four edges with a flush-cutting saw.

Try your first infill pattern: asa-no-ha

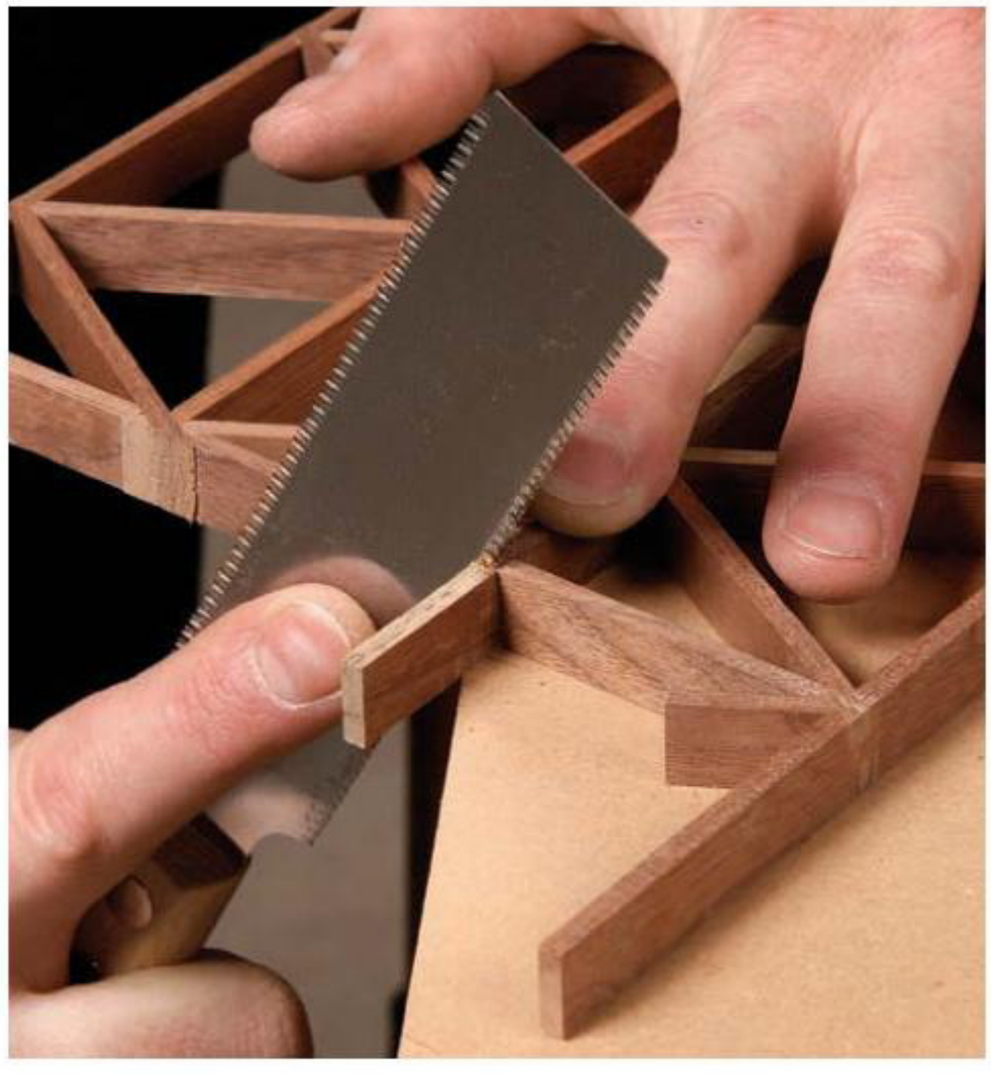
Asa-no-ha is a common kumiko pattern, used in both square and triangular grids. Intended to represent overlapping hemp leaves, it is simple yet beautiful, and a great place to start down the rabbit hole of this wonderful craft. The three infill pieces are identical in *asa-no-ha*, meaning that if you have a uniform grid, you should be able to dial in the infill planing jigs and keep them right there for the entire pattern.

The jigs are simple guides for a wide chisel or small handplane—either will work. I use them with an adjustable-mouth block plane (No. 60½). For whatever reason, I can plane small pieces all day with this plane.

I make the jigs from two thick pieces of hardwood—usually poplar—with one rabbeted to hold the infill strips. Then I carefully align the pieces, screw them together, and cut the desired angle on the end with my miter saw. As for the stop, some folks hold it down with a drywall screw, but I prefer using a pan-head



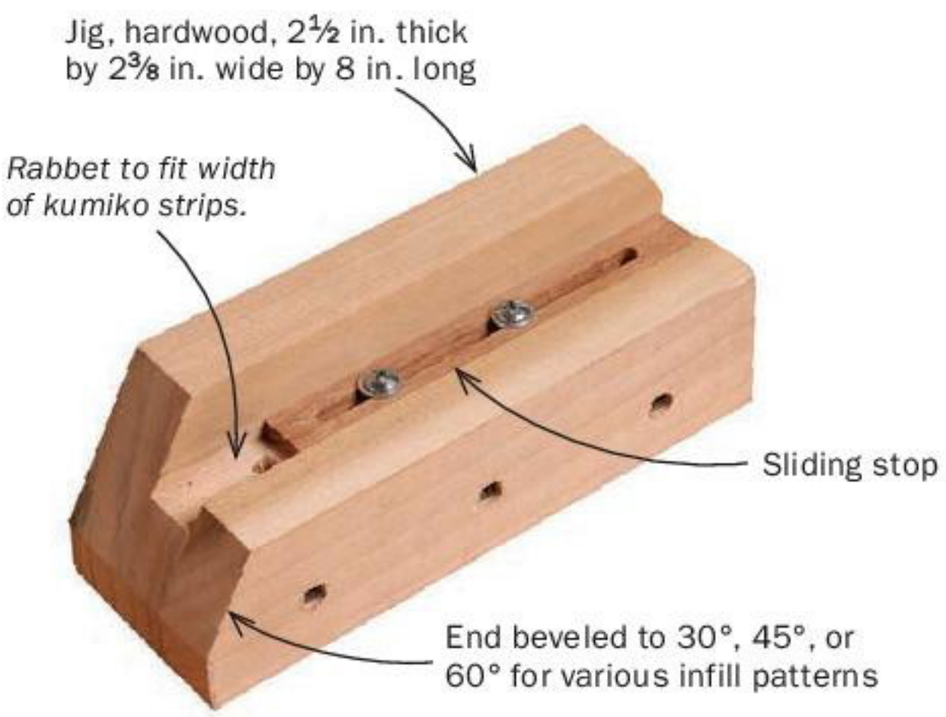
Simple sticks. *Use the 30° planing jig to create a centered point on one end, then trim the square end as needed. When the fit is just right, add a dot of glue at both ends. Use a straightedge to check the alignment of the small filler sticks, and adjust as needed.*

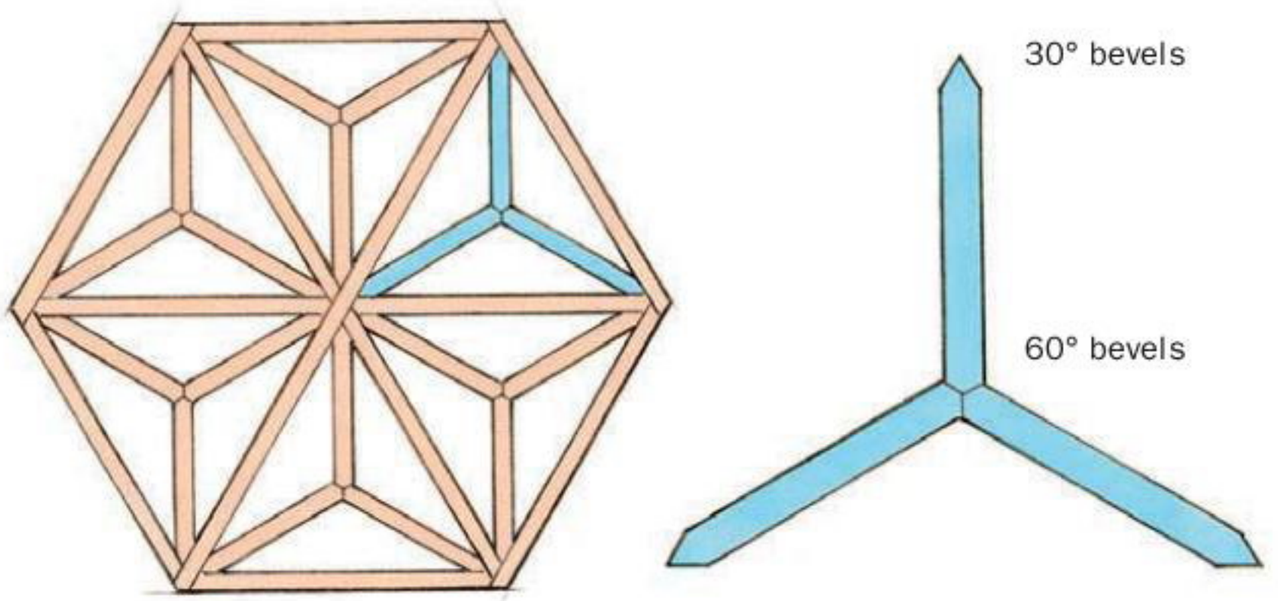


Saw off the excess. *Use a flush-cutting saw—riding the edges of the pattern—to cut off the extra material and form a clean rectangle.*

Filling out the grid

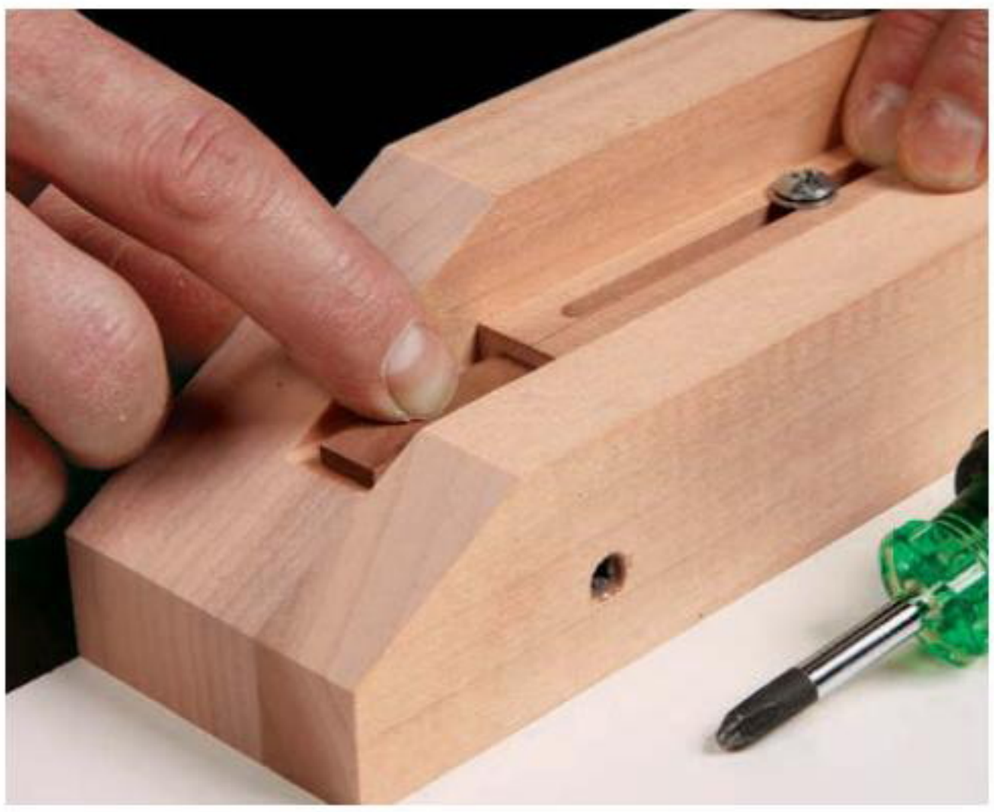
A variety of designs can be created by fitting beveled pieces into each triangle of the grid. Simple planing jigs outfitted with sliding stops make it easy to bevel the parts at the precise length.

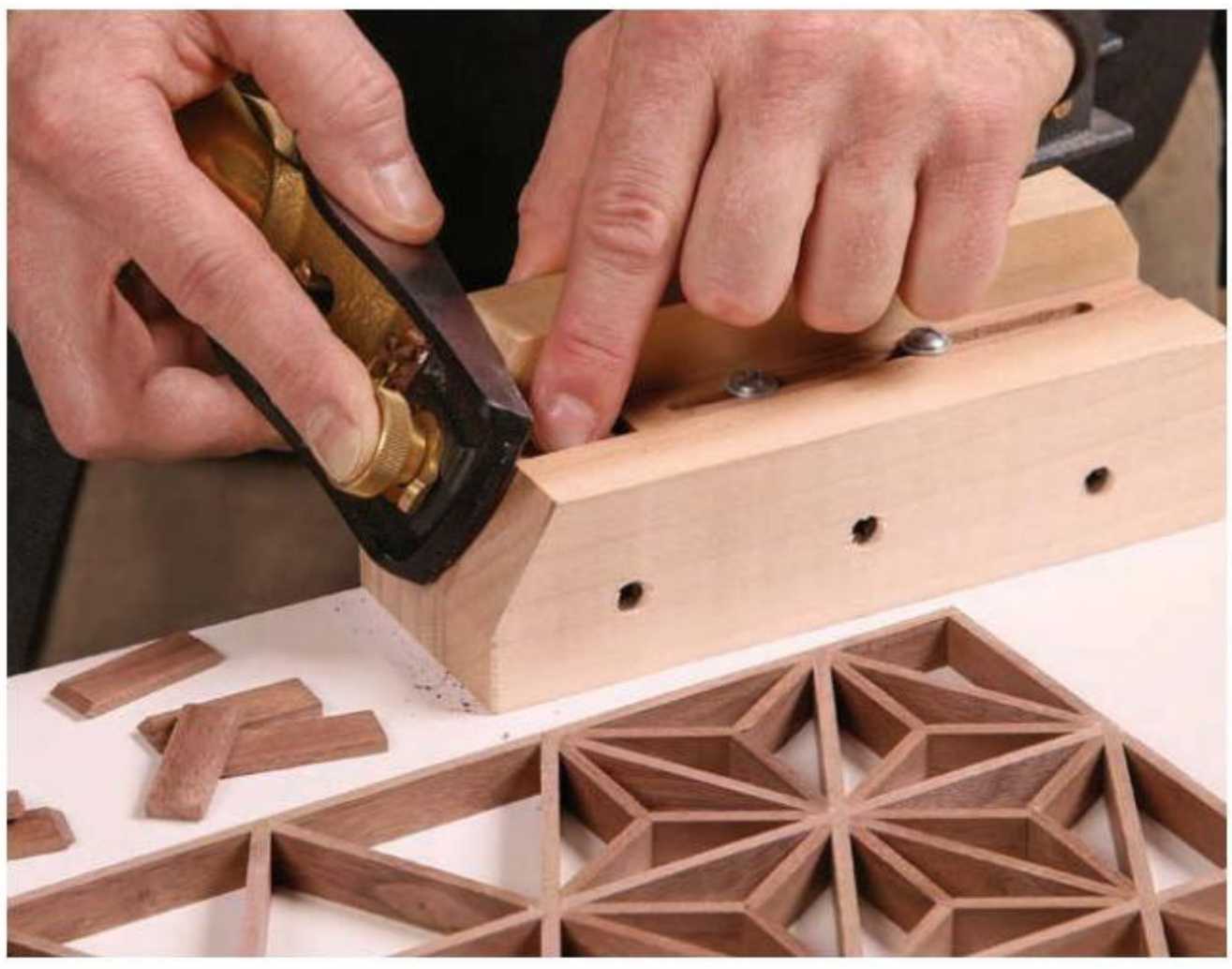


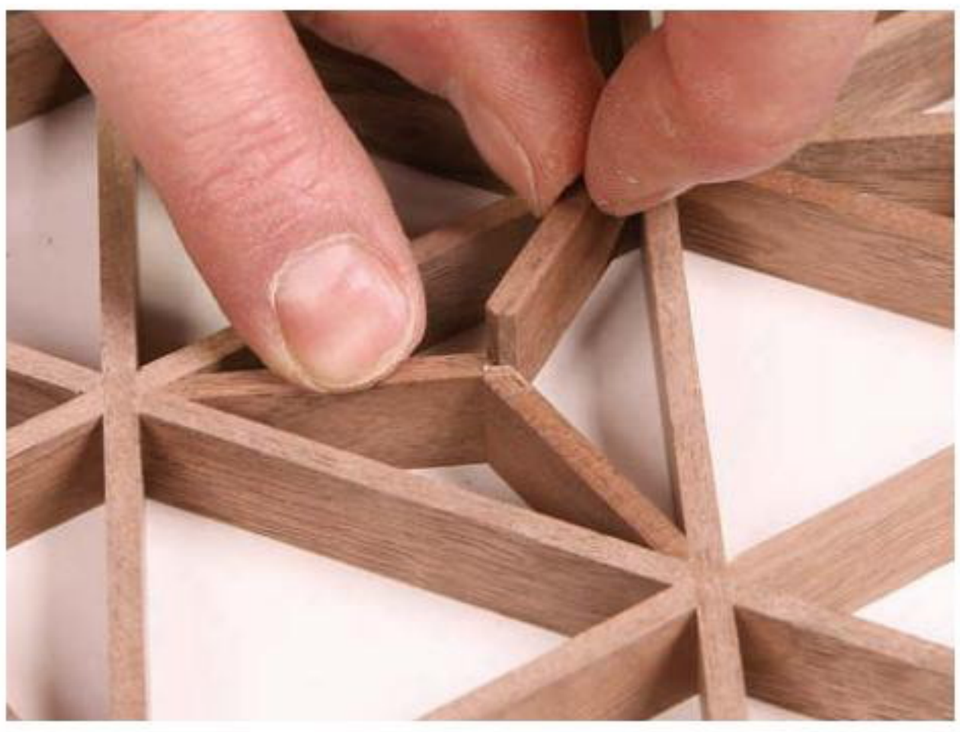


The **asa-no-ha** pattern is a classic design created by filling each triangle with three pieces of equal size.

Start at the pointy end. *Set the stop on the 30° jig so the piece overhangs a bit. Then flip the piece over and plane both sides to create an even point.*







Plane the blunt ends last. *Set the stop on the 60° jig and flip the pieces like before to create a centered point. This end determines the fit, so creep up on it at first. With practice you'll be able to dial in the setting for these three identical pieces and leave it there for the rest of the infill. Don't force the pieces or you could distort the whole grid. When you're happy, add a dot of glue to the ends to lock them in.*

bolt that goes into a threaded insert. That makes fine adjustments easier and helps the jig last longer.

Each identical piece of the asa-no-ha pattern has two 30° bevels at one end, forming a 60° point that fits into a corner of the gridwork, and two 60° bevels at the other, forming a 120° point where all three infill pieces meet. When building the 30° planing jig, I turn it 90° on the chopsaw, which lets me make the extreme angle cut at 30° instead of 60°. To do that I build an L-shaped cradle for the saw base. One could also cut this high angle on a tablesaw sled.

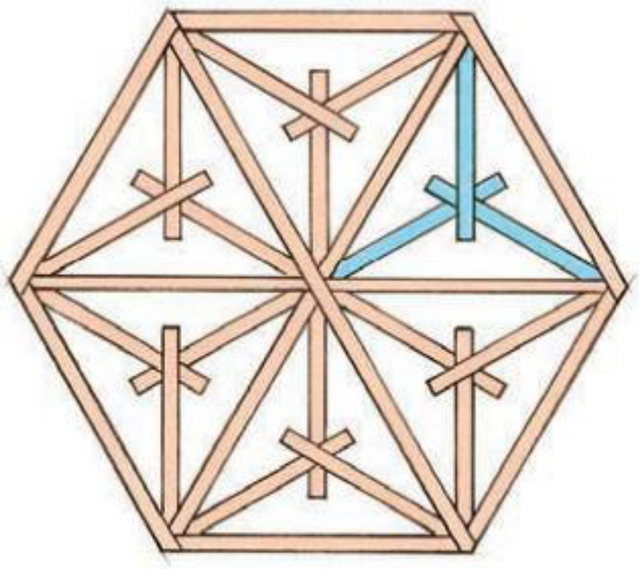
To create perfect infill, start by cutting a few of your strips intentionally long. Set up the stop block on the 30° jig and plane both sides of the piece to create a sharp point on the end. Now set the stop block on the 60° jig and do the same to the other side of the piece, and then repeat the process on two more pieces.

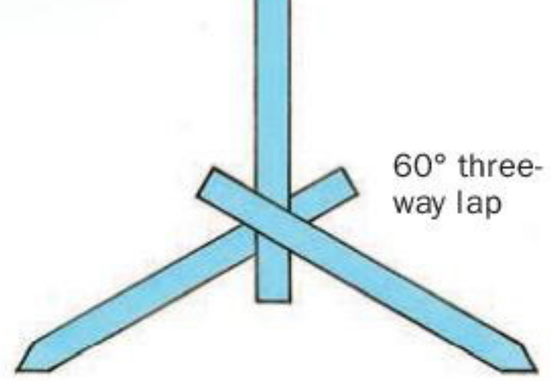
At this point the infill will not fit into your gridwork. Move the stop blocks and do more trimming until the three pieces come together nicely in the center. Keep in mind that material is coming off the ends of all three pieces as you make adjustments, so a little goes a long way. The goal is a nice friction fit, but not one that requires much force to assemble.

Once you have the fit precise, you'll be able to cut all the other infill at the same settings. With practice and experience, you'll get there.

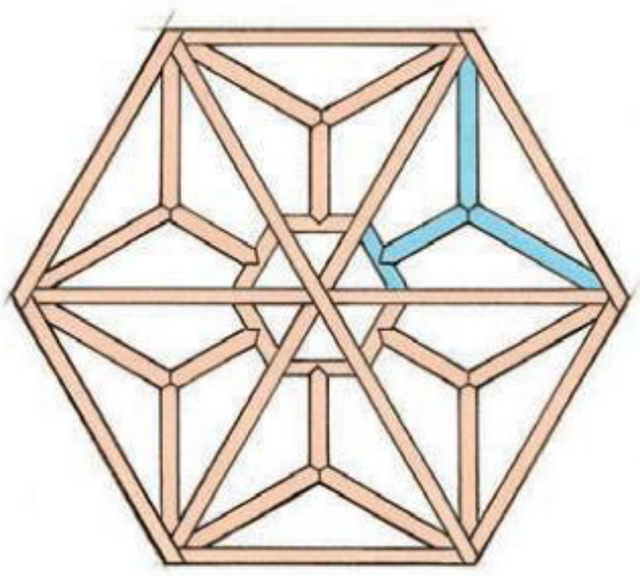
I hope you give this traditional art form a try. It will test your patience at first, become very satisfying before long, and make your woodworking stand out in the end. □

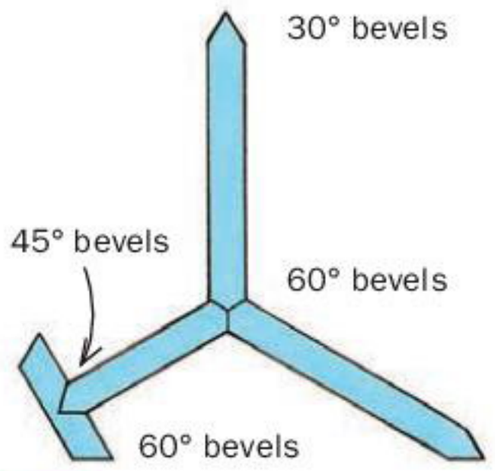
Mike Farrington is a furniture maker in Aurora, Colo.



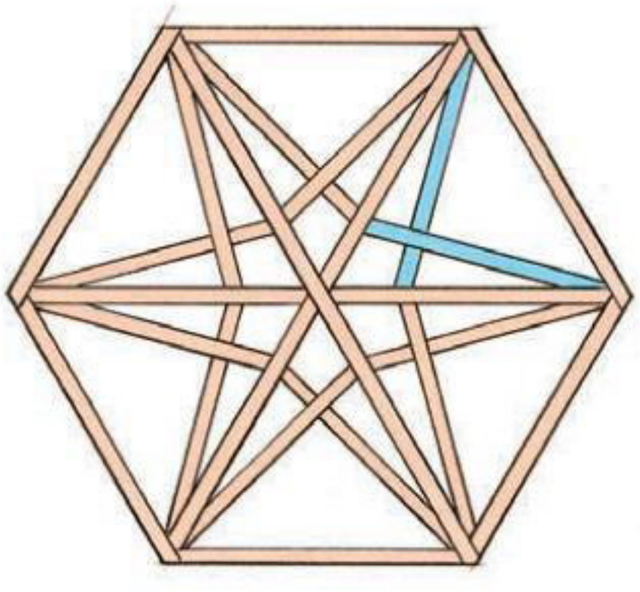


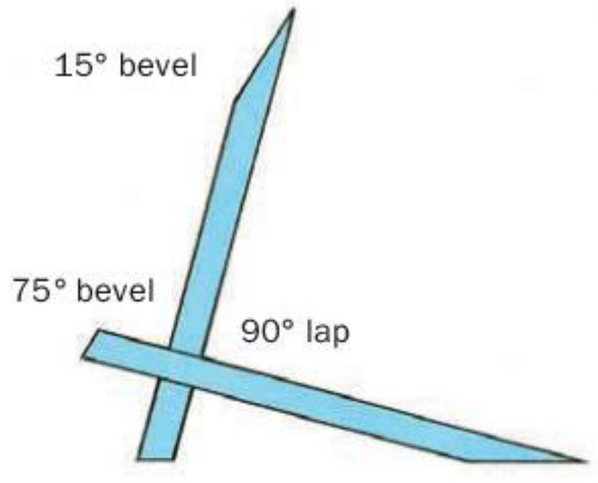
The tsuno asa-no-ha is a variation of the asa-no-ha pattern. The center joint is the same three-way lap joint used to make the gridwork.





Sakura is a very common and beautiful pattern. The pieces making up the ring have a 90° notch cut with a V-groove bit.





Kasane-rindo is the author's favorite. The outside points are beveled at 15° on just one face. The lap joint is 90°.

gallery

Inspiration for our readers, from our readers

WILLIAM WILSON
Rock Hill, S.C.

Wilson built this chest on chest using walnut harvested from his grandfather's property in Indian Land, S.C. He used plans from *Thomas Elfe Cabinetmaker* by Samuel A. Humphrey (Gibbs Smith, 1994). The chest was built in three sections—the lower case of three large drawers, the upper case of smaller drawers, and the crown of fretwork and carvings.

BLACK WALNUT, 23D X 43W X 87½H

KYLE COOK
Brooklyn, N.Y.

When Cook had the chance to use some wood from an ancient elm tree in Prospect Park, he couldn't pass it up. At 89 in. dia., it was one of the largest trees taken down in New York City. The elm, with its crazy grain, was difficult to work, he says, but with time and "mindful" milling, Cook achieved the wall shelf you see here. "Now it hangs in my living room across from the park where it lived for 200 years."

RED ELM, ASH, AND BASSWOOD, 12D X 48W X 12H

BRUCE HART
Fort Bragg, Calif.

"This desk was quite a challenge," Hart says. The top is veneered walnut with narra inlay. The curved drawer fronts are bent-laminated narra veneered with walnut for a continuous grain pattern across the front. The drawers are joined with compound-angle dovetails, and two of them have hidden compartments in the back.

BLACK WALNUT, NARRA, WHITE OAK, PAU FERRO
14D X 52W X 30H

Photo: Todd Sorenson

Show your best work

For submission instructions and an entry form, go to FineWoodworking.com/rg.

GREG BROWN
Hooksett, N.H.

The walnut crotch slab used for this tabletop evokes two rivers merging, so Brown named the table "Northern Confluence." The sculpted base reaches up to embrace the slab and is shaped to follow the grain. Brown carved shadow lines in strategic places on the base to catch the eye.

WALNUT, 19D X 48W X 32H

Photo: Bill Truslow

CRAIG KOSONEN
Toronto, Ont., Canada

When Kosonen set out to build this lingerie chest for a guest room in his house, it was the perfect size to use some smaller pieces of maple burl he'd been holding on to. "The constraints of the veneer size and small bedroom worked out perfectly for this chest. I followed Steve Latta's instruction on veneering drawer fronts and applying beads."

CHERRY, MAPLE BURL VENEER, WHITE OAK, AND EBONY, 15D X 20W X 50H

FRED ROSSI
Manchester, Mass.

Rossi made this bent-laminated chair at the request of a client who wanted a minimalist design, but between the dynamic grain of the bubinga veneer and the sweeping arches, Rossi says, this chair ended up making quite a statement. "It's also super comfortable."

ITALIAN POPLAR PLYWOOD AND BUBINGA
16D X 42L X 16H

Photo: Marshall Dackert

COSMO BARBARO
Edinboro, Pa.

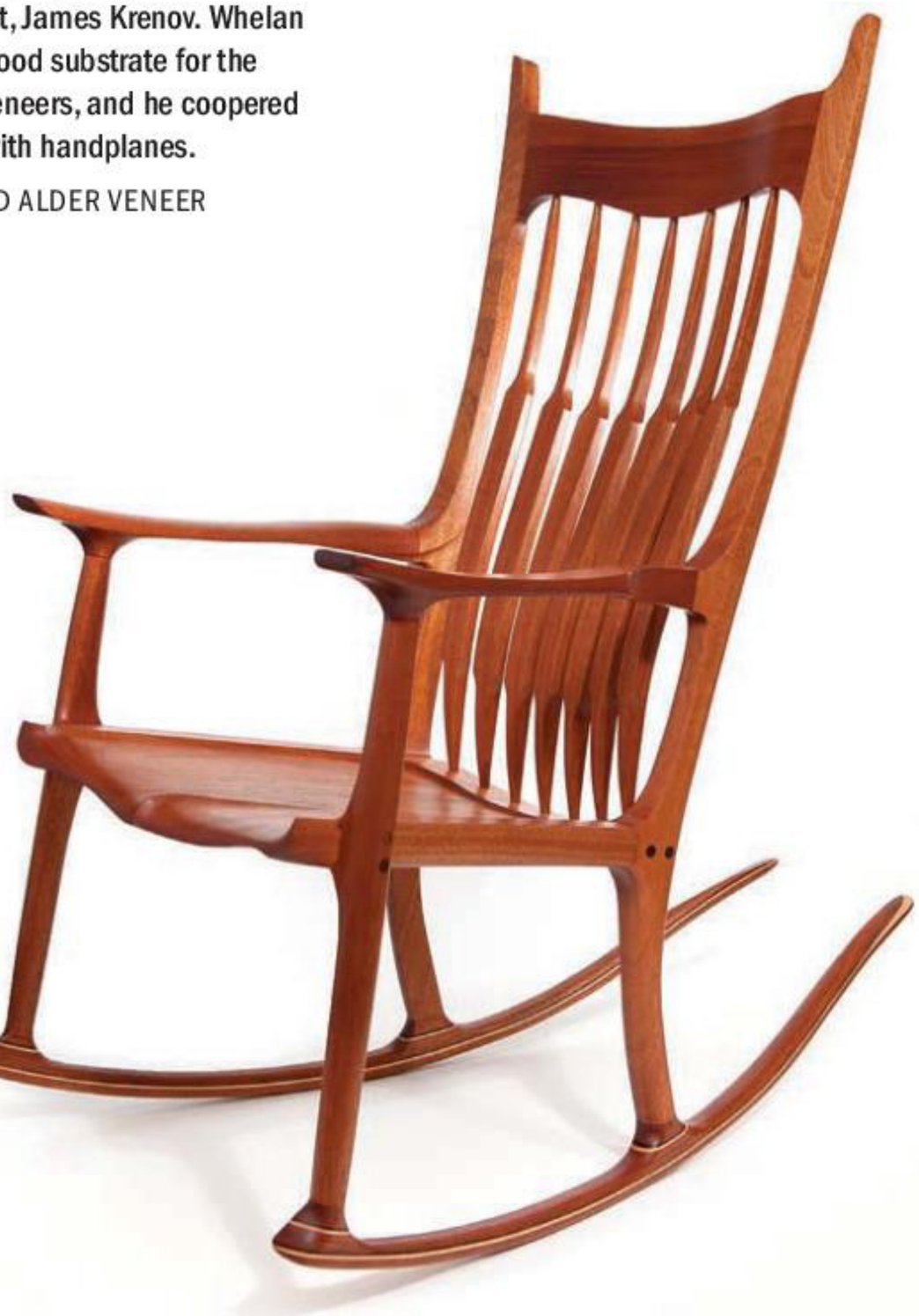
This desk is the latest in a series of striped pieces that Barbaro has made, inspired by Egyptian furniture. The drawers are made with finger joints, and he turned the pulls and other striped details from wenge and then used milk paint to give them their black-and-white stripes.

SOUTH AMERICAN MAHOGANY, MAPLE, WENGE, ALUMINUM, AND STEEL
20D X 48W X 31H

ROBERT WHELAN
Edmonton, Alta., Canada

The glass-paneled, curved door of this cabinet-on-stand was the first thing Whelan built when he started this project, a technique also employed by the man who inspired the cabinet, James Krenov. Whelan made his own plywood substrate for the walnut and alder veneers, and he coopered the cabinet sides with handplanes.

BLACK WALNUT AND ALDER VENEER
14D X 34W X 62H



JEROME JUSSAUME
Melrose, Mass.

For Jussaume, the goal of this rocking chair project was less about woodworking than it was about family. "I wanted to spend time with my father while he taught me the artistry and craftsmanship of Sam Maloof." The two worked one day a week for about a year "to bring this piece of functional art to life."

MAHOGANY, MAPLE, AND WALNUT, 40D X 26W X 47H

Photo: Eastern Photo

PETER TURNER
South Portland, Maine

Turner made this sideboard for a client who wanted display space for a collection of small sculptures with storage space below that is closed off from view. The glass top makes the contents of the drawers visible, while the large open shelf offers more room to display items. The drawers have dimmable LED lighting inside, plus a simulated leather lining.

CHERRY, 20D X 65W X 40H

Photo: Scott Gibson

BRIAN HOLCOMBE
Princeton, N.J.

Holcombe designed this butler's desk to fold open when needed and to hide away and "appear part of the scenery" when not in use. He made the piece entirely by hand, even going so far as to make his own hardware because he couldn't find existing products that suited his needs.

WALNUT, 18D X 40W X 42H

ARTHUR KEENAN
Saugus, Mass.

After admiring a case piece like this made by Phil Lowe at the Furniture Institute of Massachusetts, Keenan looked for further design inspiration at the Metropolitan Museum of Art in New York City. When he found a piece he was drawn to, he kept it in mind but didn't copy it. "The geometric pattern of the moldings on the drawer fronts are where the inspiration especially shows up. That and the split turnings and corbels."

WALNUT, PINE, AND MAPLE, 16¾D X 32⅜W X 30H

Tapered sliding dovetails

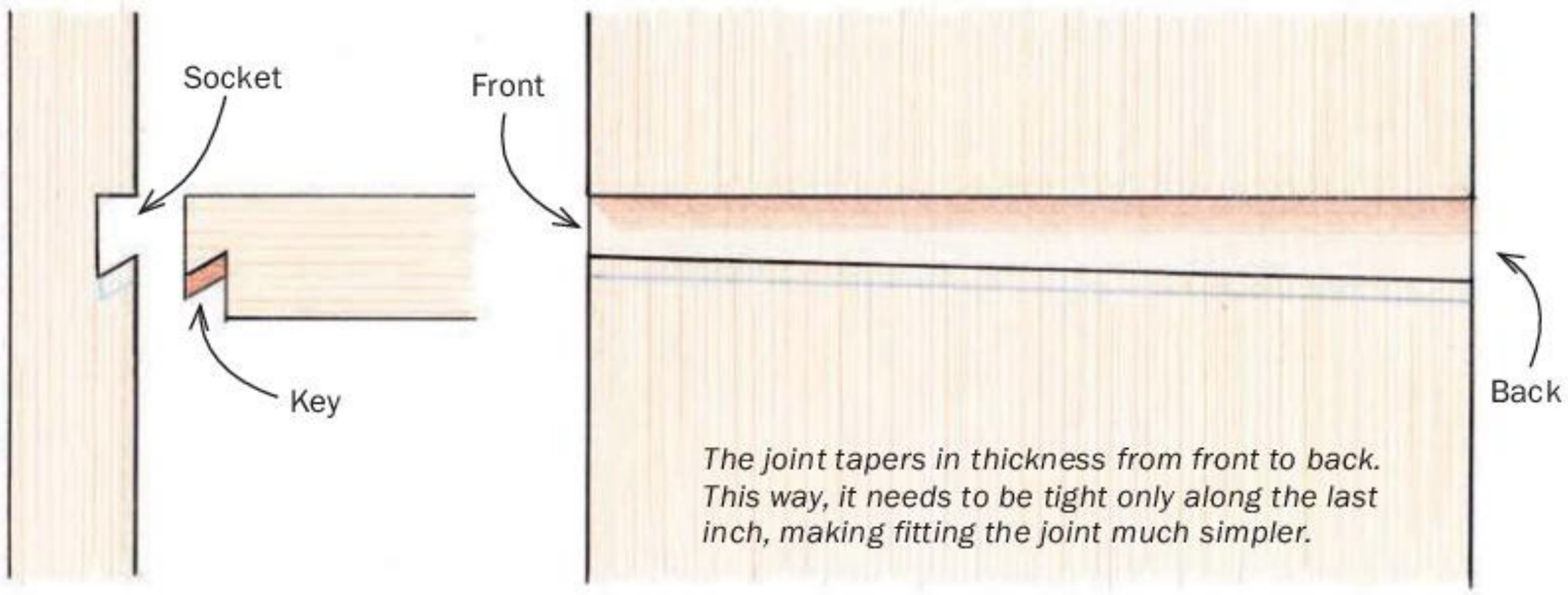
SPECIALTY PLANE HELPS CUT THIS SELF-LOCKING JOINT

BY CHRIS GOCHNOUR

Sliding dovetails are a very useful joint in furniture making. I like to use them for partitions and fixed shelves in cabinets. Getting standard sliding dovetails to fit snugly along their whole length without seizing can be frustrating, however. That's why I taper the joint, making it narrower at the front than the back. This enables me to slide the key in from the back with ease until the very end, when it firmly tightens in the socket.

These joints are quick to cut by hand, and require a modest tool kit. In addition to some chisels and a saw, I use a dovetail plane to form the key, and a router plane to finish the socket. To guide my saw when cutting the socket walls I use a shopmade batten, which is square on one side and beveled to match my dovetail plane on the other. I typically make sliding dovetails as through-joints and conceal them with a face frame, as I did on the cabinet shown below. But making a stopped version doesn't require much more work.

Built-in strength. *This cabinet's shelves connect to the case via tapered sliding dovetails, creating a solid piece with concealed joinery.*



FRONT VIEW **INTERIOR VIEW**

Photos: Barry NM Dima; drawings: Vince Babak

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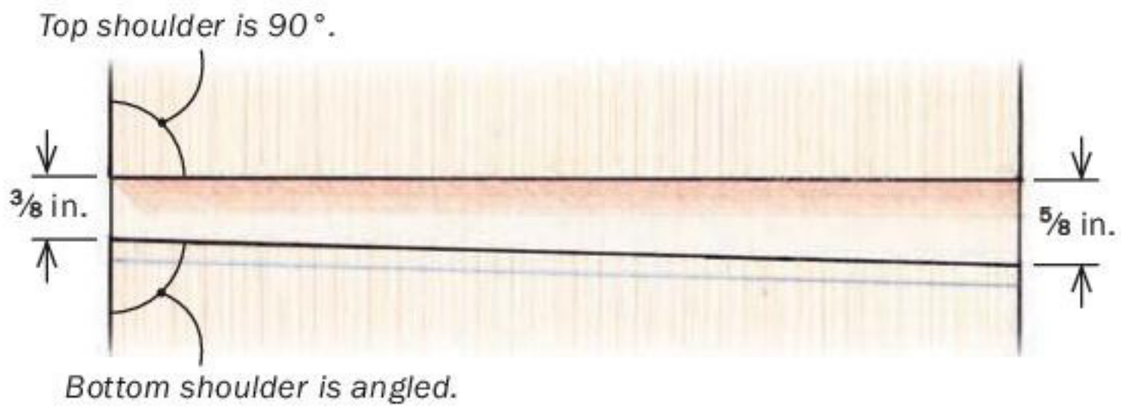
Dovetail socket

LAYOUT

Draw the socket. *Draw a line square across the case side (above left), at the top of the shelf. Then draw the angled bottom line (above right), creating a ¼-in. taper.*



Top remains square. *Use a square when transferring the top layout line to the edges of the workpiece.*

Bottom is angled. *Grab a bevel gauge, set to the angle of your dovetail plane, when wrapping the bottom line onto the edges of the workpiece.*

Scribe the bottom. *Use a cutting gauge to mark the bottom of the socket.*

Online **Extra**

Watch Gochnour create tapered sliding dovetails as he makes his Enfield Cupboard in a members-only video at **FineWoodworking.com/274.**

Lay out and cut the socket

Start layout with the socket. The top line is square across the case side. The bottom one is angled to create the ¼-in. taper. The dimensions of the tapered socket in the drawing (left) assume a ¾-in.-thick by 12-in.-wide shelf; if the shelf is thinner or thicker, I recommend keeping the taper at least ⅛ in. over this span.

When transferring the layout marks from the face of the workpiece to the edges, use a square for the top line and a bevel gauge set to the angle of your dovetail plane for the bottom line. Scribe the socket's depth last.

Now it's time to cut the joint. I clamp my shopmade batten to the case side when sawing the socket walls. The batten is 1½ in. thick by 2½ in. wide, and 2 in. to 3 in. longer than the workpiece is wide. One edge is square and the other is beveled to the angle of my dovetail plane.

I hold the plate of my saw tight to the batten when cutting both the square and angled kerfs for the two walls, and then I remove the waste with a paring chisel and router plane.

Lay out and cut the key

To ensure the key fits snugly in the socket, pull dimensions from the socket itself when laying out the key. Use dividers, setting them to the width of the bottom of the socket at the front and back edges of the case side. Transfer these dimensions to the end of the shelf and connect them with a straightedge. Scribe the key's shoulder last.

SQUARE CUT ALONG THE TOP

Batten guides the saw. *Start with the top of the socket. Position the square edge of the batten so it just covers the line. Gochnour secures it with holdfasts (above). Holding the saw plate against the batten, establish the kerf before taking full-length strokes (right).*

ANGLED CUT ALONG THE BOTTOM

Beveled side for angled cut. *Reposition the batten so its beveled side, cut to match the angle of your dovetail plane, just covers the tapering bottom layout line. Again, keep the saw tight against the batten to ensure an accurate cut.*

Pare most of the waste. *Work in from both edges to prevent blowout.*

Router plane finishes the socket. *While a chisel can level the joint, a router plane is more efficient and reliable.*

Dovetail key

LAYOUT

Transfer the socket to the key. *Set dividers to the width of the bottom of the socket at the front and back edges of the shelf (above). Make prick marks to transfer these dimensions to the ends of the shelf (right).*

Connect the dots. *To finish laying out the key's taper, use a straightedge and connect the divider marks.*

Scribe the key's baseline. *Use the same marking gauge setting you used to mark the depth of the socket.*

Dovetail plane quickly cuts key

A dovetail plane is essentially a rabbet plane with a fence—except that its sole is angled to produce a dovetail. The fence setting determines the length of the dovetail, and the depth of cut is set using a hammer. A scoring cutter slices the wood fibers ahead of the blade, leaving a clean shoulder even when planing across the grain. The amount that the blade projects from the side is not critical; it can be anywhere from 1/28 in. to 1/32 in. It is crucial, though, that the blade and scoring cutter are aligned and set to the same depth.

ECE and Ulmia dovetail planes both do the job well. Vintage models can also be found.

Hammer adjusts depth of cut. *Tap the blade to advance the blade, and tap the body to retract it.*

Align the blade and scoring cutter. *Gochnour uses a straightedge to check that they are in line. Additionally, he sets the scoring cutter to the same depth as the blade.*

CUTTING KEYS

Relieve the front corner. *Because he must plane across the grain to create the key, Gochnour cuts and chisels off the front edge to prevent blowout (which could be caused even by the plane's scoring cutter).*

Plane close to the pencil line. *Because the key tapers, you'll take more passes at one end than the other, using the layout line as a depth guide. Keep a square handy to make sure the plane isn't tilting.*

Pencil lead reveals high spots during test fits. *When you're ready to fit the joint, pencil some lead onto the angled wall of the socket (left). When you push the joint together and it seizes (center), the lead will rub off on the high spots of the key (right). Plane these down.*

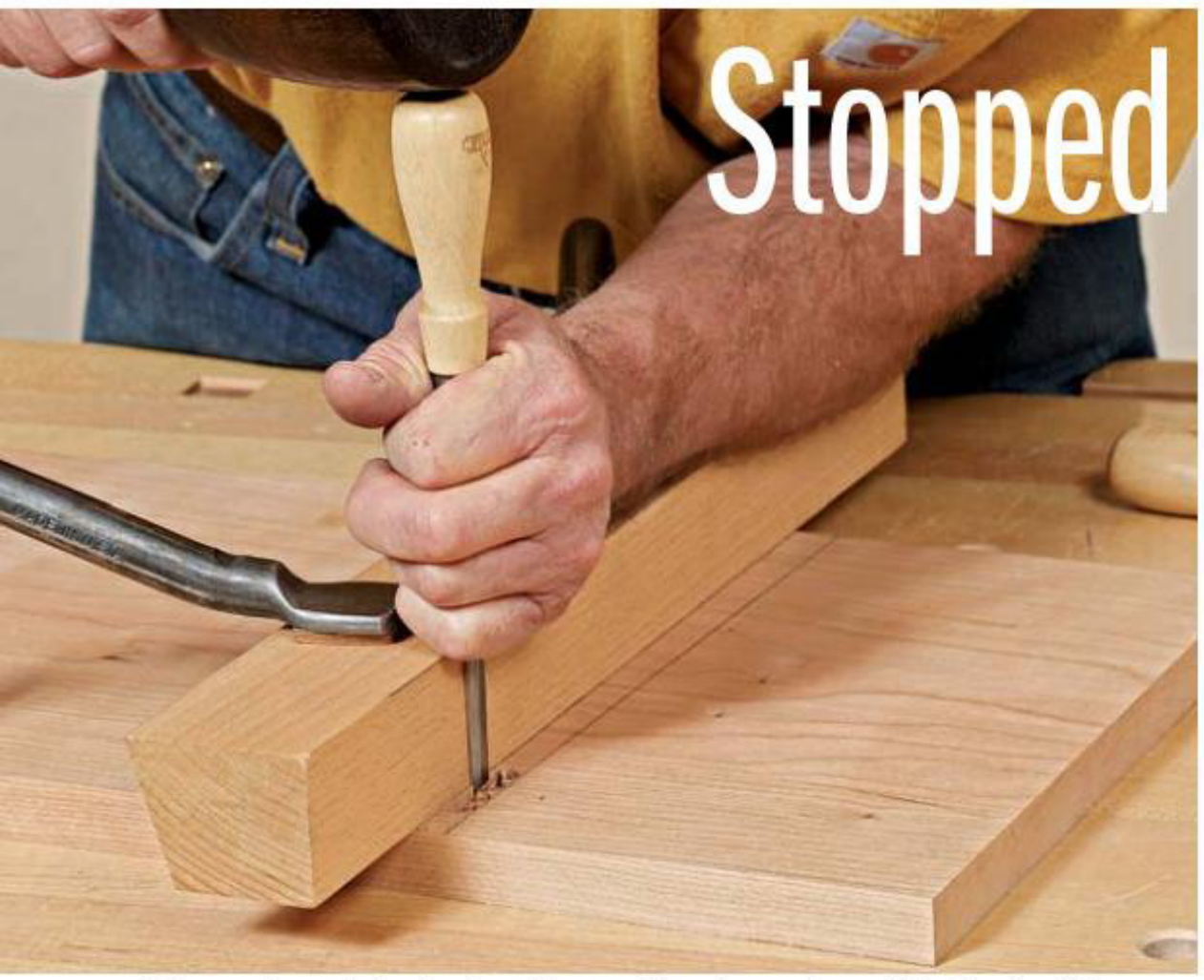
I cut the key with a dovetail plane (opposite page), setting the fence to the depth of the joint's shoulder. Before the first pass, draw the plane backward to score the cross-grain fibers with the scoring cutter. Take a few full-length passes to establish the shoulder before tapering your cuts.

I test the fit when I am just shy of the pencil line. Stopping short now lets me nail a perfect fit later. When you can push the joint together so the key is about 1 in. shy of the front, tap it home with a mallet. You can glue the joint, but it's not necessary. When you fit the shelf's other end, be sure the joints seat simultaneously.

Stopped dovetail for sleeker look

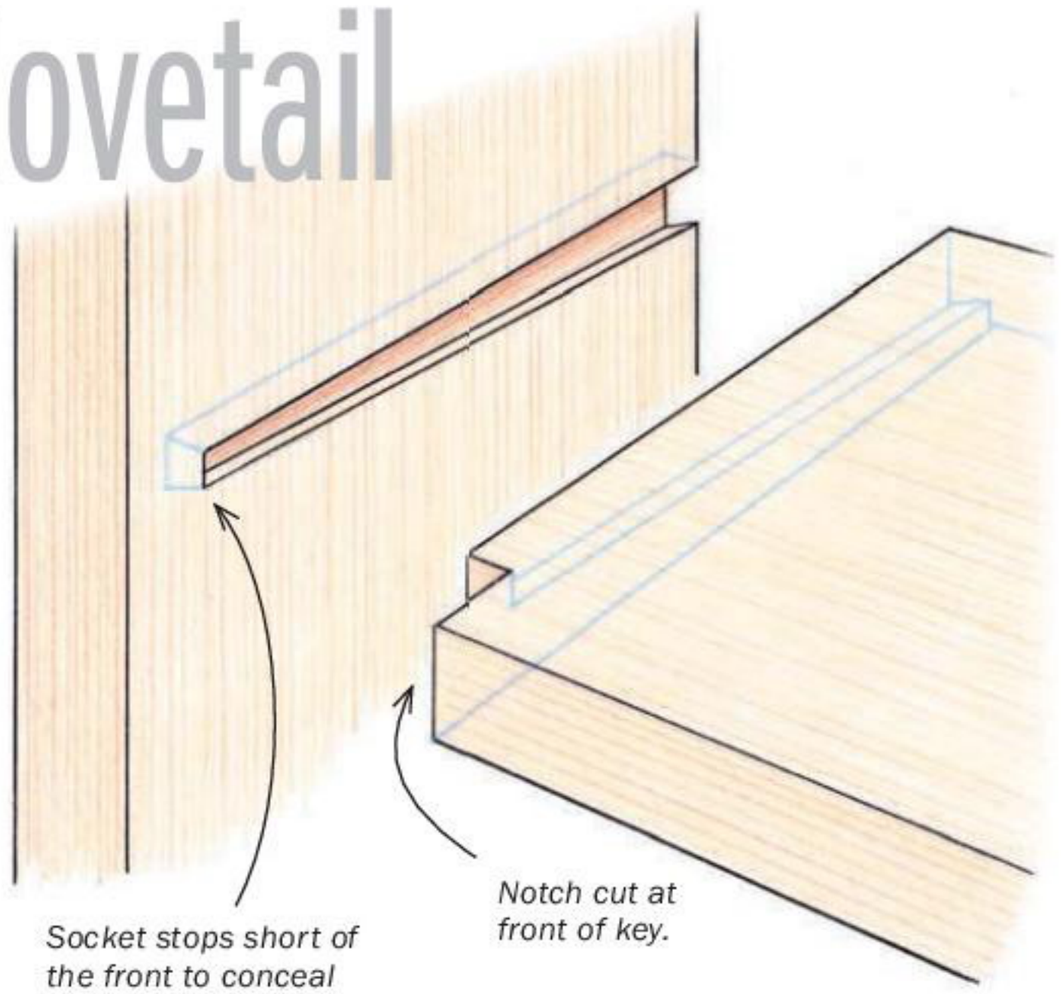
If you want to hide this joint but don't want a face frame, try the stopped version. Layout and execution are

Tap it home. *When the key fits 1 in. shy of the front of the socket with just hand pressure, use a non-marring mallet to drive the shelf flush.*



Stopped socket starts with mortise. *A mortise at the front of the socket provides a place for the saw's toe when sawing the socket walls.*

Stopped dovetail



Start sawing. *Just as it did for the through version, the batten serves as a guide while you saw the walls of the stopped dovetail. After chiseling out most of the waste, bring the socket to final depth with a router plane.*

Create a notch in front of the key. *After cutting the key and fitting it with hand pressure, saw off the extra inch at the front so the shelf can slide all the way into place.*

nearly as simple as they are for the through-dovetail.

Lay out the socket as you did the through version. Since the joint is stopped, scribe the depth of the socket only on the back edge of the case side. Next, chop a mortise at the front of the socket to give the toe of your saw a place to travel when you cut the socket walls. Use the batten as a guide when paring the cheeks of the mortise. Cut the rest of the socket as you did the through-dovetail.

To lay out the key, scribe the shoulder lines on the face and edges of the shelf. Use dividers again to transfer the width of the socket at its wide end to the shelf.

You'll need a different tactic for the narrow end. First, set the dividers to your layout lines at the narrowest part of the socket. Transfer this dimension to the scribed shoulder line at the front edge of the shelf. Then, using a bevel gauge set to the dovetail angle, pencil a line from the divider mark at the shoulder to the end grain. Use a straightedge to connect this line to the divider mark at the other end of the key.

Use a plane to cut the joint. Saw off a notch at the front and then begin fine-tuning the fit (see p. 83). □

Chris Gochnour makes furniture in Salt Lake City. His hand tools may be faster than your router.

INDEX TO ADVERTISERS

The family violin

BY DAVID FINCK

My personal story is about endings and beginnings, father, son, and daughters, completing one circle and starting another.

My father, Henry Finck, was a professor of anatomy at the University of Pittsburgh; at home he was a craftsman in leather, weaving, and wood. He had a little shop in the basement when I was growing up, and that's where I found my interest in woodworking. When he was a 13-year-old, he was already a precocious woodworker with an entrepreneurial bent—he purchased an industrial-quality jigsaw and started reproducing gingerbread trim for Victorian homes in his Baltimore neighborhood. He took up playing violin around the same time. Years later, his musical and woodworking interests would combine.

I was 10 when my father began planning his violin-building quest. At first I was puzzled when he told me he would start by building a guitar, then a viola da gamba, and then, finally, as if making a staged assault on Everest, the violin. Why not just build the violin, I wondered? Of course, I wasn't grasping the benefits of building skill upon skill that this sequence offered.

My father had a lot on his plate with his job and three children to help raise, and progress on the violin project was slow. In high school I took up playing guitar and must admit I nagged my dad quite a bit to finish the guitar he had started. One summer, applying a bit of "child psychology," I set about building a guitar myself with the hope that he might be spurred to complete his own. It never occurred to me that I would actually finish my guitar, let alone ignite a passion for fine woodworking and discover a career, but all of those things came to pass. In the mid-1980s I spent two years studying furniture making under James Krenov, and afterward I opened a shop and began building furniture.

By 1999, when I was 13 years into my furniture career, I was married with two young daughters and had assumed the role of primary child caregiver. At one point, running short of ideas on how to spend time with the little ones, I took my daughters, ages 2 and 4, to meet a woman offering Suzuki violin lessons to very young children. Since that first lesson, the girls have never put down their fiddles.

In time my father did finish his guitar, but the viola da gamba was only half-completed at the time of his death, and the violin was a dream never realized.

After my father died I was struck with the notion that I ought to build a violin. His unfinished viola da gamba and his unfinished dream were urging me on. Also, my older daughter was in need of a better instrument. Bolstered by a lifetime of woodworking skills, several feet of bookshelf dedicated to all aspects of the violin, most of the necessary tools, and some choice wood, I decided that the time was ripe to begin. And so I did.

Wonder of wonders, that first violin came out very well. And you can't very well make a violin for one daughter and not the other. Both daughters took to their new violins right away, and I'm honored to say that they continue to play them today as professional violinists.

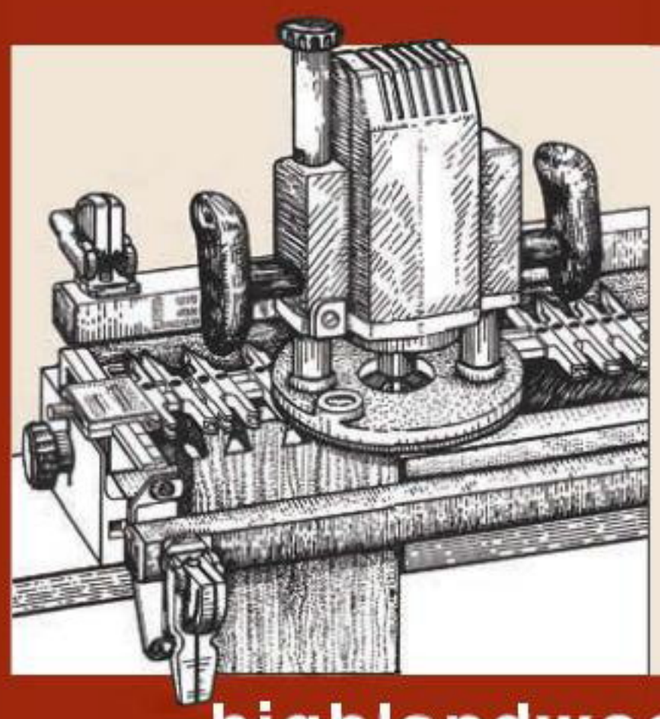
As that first violin took shape it hit me with the deepest certainty that I had come across my calling. I felt completely at home every step of the way. I shifted my career path soon after from furniture building to focus on making concert-quality violins and violas.

I've come to think that building a violin is a little bit of a nod toward making one's mark in the world. So many of us look back over the generations and we see a grainy photograph of an ancestor, and that is often all that we have of them. But with the violins, my kids' kids and their kids have something that can be handed down that's tangible—but it's alive too. If those future relatives are also violin players, well that's an incredible connection through the generations.

Now, as I begin carving a violin, I think of the dreams of my father. And although I miss him greatly, I am comforted remembering him this way, and I often smile and silently thank him for propelling me along this beautiful path. □

David Finck makes violins and violas in Valle Crucis, N.C.

Photo: David Finck



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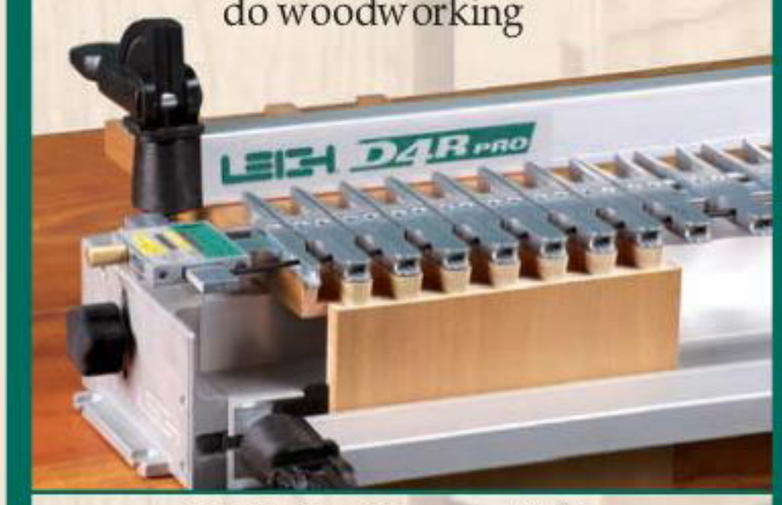

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East-West Windsor

Nine years old and growing up in Honolulu, Andrew Mau took a ceramics class at the local YWCA. His classmates, 10 elderly Japanese women, were proficient in various modes of molding clay, and Mau was eager to copy them. But his teacher emphasized originality. "First figure out what you want to make; you'll learn the technique soon enough." Her advice carried him through years of ceramics classes and all the way to Rhode Island School of Design, where he studied furniture making. In 2014, when he met two other RISD grads, Sara Ossana and Jonathan Glatt, whose company, O&G Studio, in Warren, R.I., produces modern Windsor chairs, Mau joined them and designed this settee, which is now part of the O&G line. Mau blended Chinese and Windsor elements in the design. "I was looking at brace-back Windsors from Nantucket and it hit me I could create two rows of spindles and make a really sturdy structure." The striking crest rail that caps them was inspired by columns and double roofs in Chinese architecture. Mau built three prototypes for the settee, incorporating extensive feedback from Ossana and Glatt. Mau says there were gaps in his knowledge of Windsor construction when he designed the settee, but that didn't impede his pursuit of an original vision: "It worked in my favor, and avoided stifling creativity in my sketchbook."

—Jonathan Binzen

Photos: courtesy O&G Studio