Shaker Chimney Cupboard

An original piece with classic looks and easy joinery

BY MICHAEL PEKOVICH

One of the great things about Shaker furniture is that no two pieces are exactly alike. Aside from chairs, the Shakers didn't make furniture for commercial production. Each piece was essentially a one-off design, made for a specific purpose or even an individual user, so the variations are endless. And in spite of the restrained design sense, there is a playful, subtle originality to each piece. It's what inspires me to make furniture in the style, and to make it my own.

I'd wanted to make a chimney cupboard for a while because I like the tall, slender proportions of the form. Every original example I've seen, though, has just a pair of doors, one stacked on the other. Wider cupboards, on the other hand, typically have an arrangement of drawers at waist height that add interest and utility. I like that look so I figured, "Why not sneak a few drawers into my chimney cupboard?" The result, in keeping with the Shaker spirit, is an original design in the classic vernacular.

Construction is simple yet solid

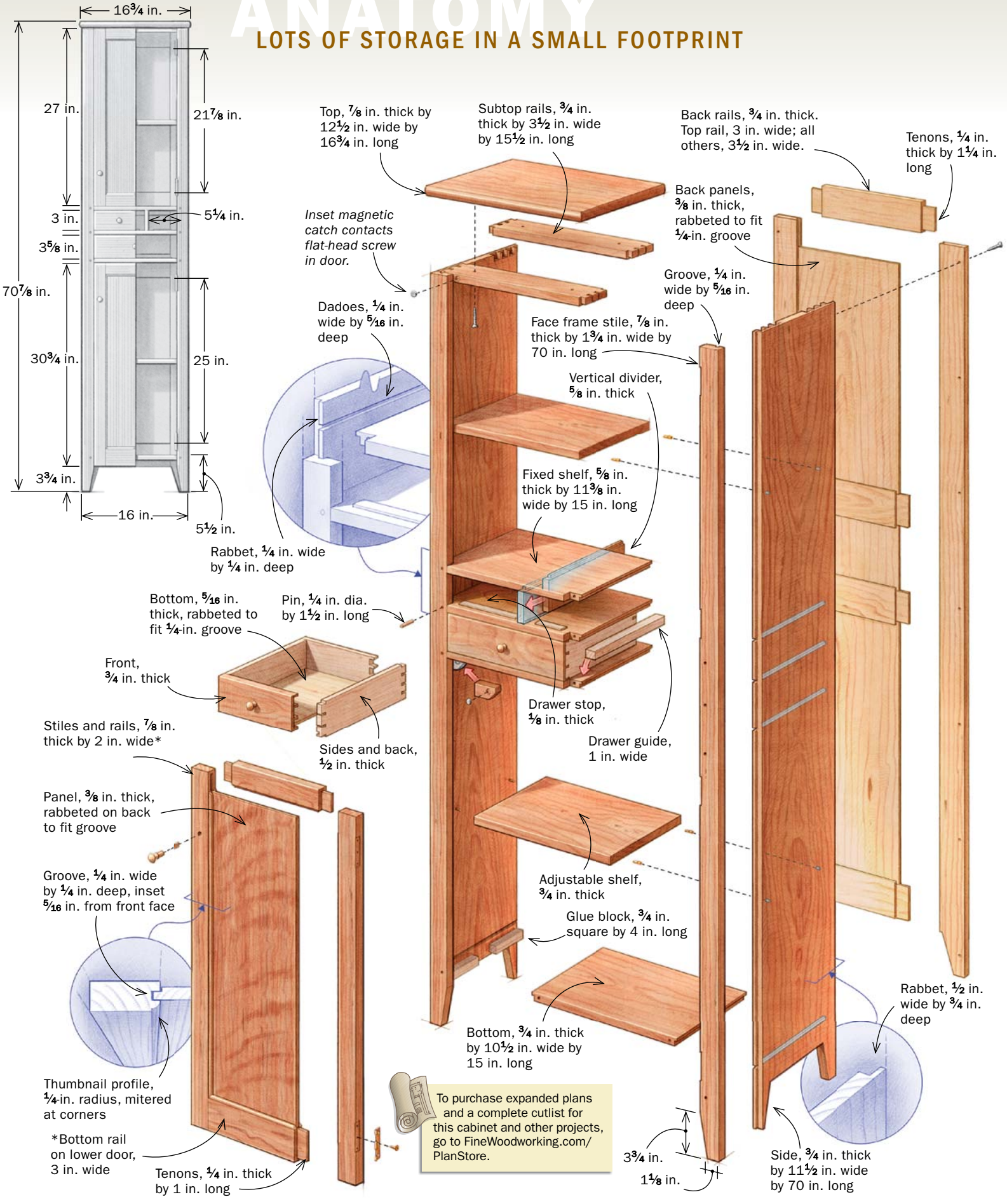
I looked to the Shakers for the anatomy too, but chose elements that are as straightforward as possible. Most of the joints are rabbets and dadoes. There are just a few half-blind dovetails at the top where the subtop rails connect to the case, but they're hidden, so there's no need to stress there either. Dressing up the front is a partial face frame, really just a pair of stiles glued to the sides. The stiles hide the shelf dadoes, but they also allow an opportunity to peg the case to the shelves for added strength. The primary wood is cherry, but I used pine for the frame-and-panel back. The back

VIDEO WORKSHOP

Watch Pekovich build this cupboard from start to finish in a members-only video at FineWoodworking.com/extras.

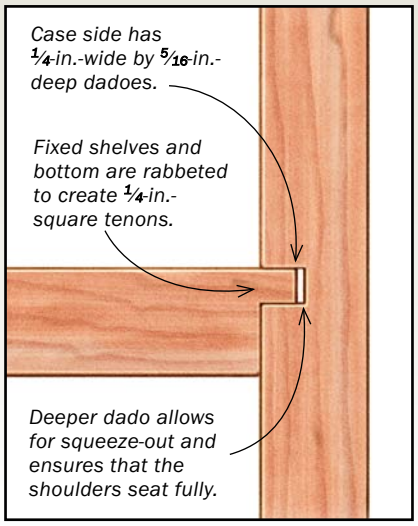
ANATOMY

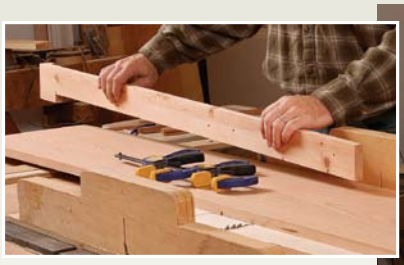
LOTS OF STORAGE IN A SMALL FOOTPRINT



To purchase expanded plans and a complete cutlist for this cabinet and other projects, go to FineWoodworking.com/PlanStore.

Photo (opposite page): Michael Pekovich; drawings: John Hartman





Accurate dadoes at the tablesaw. *Clamp a long hook-stop to your crosscut sled to position the case sides (above). Dado both sides before moving the stop for the next pair of dadoes. The extra plywood on the sled base creates zero clearance around the dado blades.*

Add an end stop for the bottom dado. *Screw the stop to the sled (above). Hold-down clamps secure the case side and prevent it from lifting or pivoting during the cut (right).*

Rabbet the shelves to fit. *Widen the dado set to ⅜ in. and bury a portion of the blade in a sacrificial fence to dial in the width of the rabbet. Use a featherboard to ensure a consistent depth. Aim for a snug fit and fine-tune the joint with a shoulder plane.*

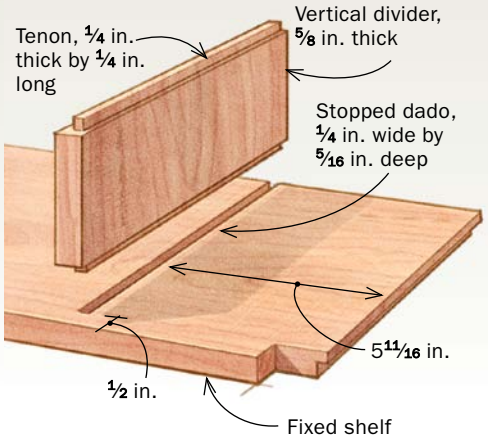
adds rigidity and the pine lightens up the look of the interior. Finishing things off is a top with a subtle bullnose profile. It overhangs the front and sides and is attached to a pair of subtop rails. The rails add rigidity to the top and also act as a doorstop. I simply glued and screwed on the top because the grain of all the parts runs in the same direction and seasonal movement isn't an issue.

Glue blocks under the bottom shelf and drawer blocks at the center shelves lend additional support. Added up, this is a very fast and strong way to build a cabinet.

This project is also a good one for working entirely by hand, but for that I'd probably do the whole thing in pine.

Photos, except where noted: Ken St. Onge

Stopped dadoes for the vertical divider. *Clamp both shelves together with the back edges adjacent. Rout the dadoes using a straightedge to guide the router base. Stop short of the ends and square up the dadoes with a chisel.*



How to work efficiently

Though most of the joinery is simple dadoes, there are a lot of them, so I came up with ways to make the process as efficient as possible. First I cut the dadoes narrower than the shelves, dividers, and bottom, and rabbeted those parts to fit.

This approach has some big benefits. First, rabbeting a part to fit a dado is much easier than milling a part to a precise thickness to fit a full-width dado. Second, the rabbet creates a shoulder on the shelf that registers against the inside face of the case side. This makes for much more accurate glue-ups because it doesn't rely on the bottom of the dado being perfectly even (that is difficult to pull off on a wide case side). And because the joint registers off the shoulder, you can cut the dado a little deep, which allows room for excess glue to gather and prevents squeeze-out. The face frame and back panel hide any gap at the bottom of the joint.

To cut the dadoes for the shelves, dividers, and case bottom, I used a crosscut sled and a ¼-in.-wide dado blade on the tablesaw. To cut the three dadoes for the shelf and drawer dividers, I registered the work against a long hook stop (opposite page). The dado for the case bottom is a little trickier because the long side can pivot during the cut. For that dado, I made a stop block with hold-down clamps and attached it to the sled.

While I had the ¼-in.-wide blade in the saw, I grooved the back of the face-frame stiles. The trick here is to locate the groove so that the face frame will be about 1/32 in. proud of the case side when glued up, so

DOVETAILS STRENGTHEN THE TOP

Scribe the case sides. *A shallow rabbet on the inside face of the rails (above) makes it easier to align the parts for scribing (right).*

Rout and chop the waste. *A router makes quick work of removing most of the stock. Pekovich reground a pair of chisels at an angle to work into the corners as he chops the end grain. Afterward, he pares to the scribe line with a wide chisel as shown.*

Photo (top): Rachel Barclay

ASSEMBLY

1. START WITH THE FACE FRAME

Shape the feet first. *Pekovich jigsaws the profile on the case sides, and then smooths it with a block plane as shown, using a file to work into the corners. He tapers the bottom of the face frame on the bandsaw, smoothing the cuts with a bench plane.*

Glue the face frame to the case sides. *A narrow caul directs pressure over the joint and distributes it along the length. Check for square during clamping. When the glue is dry, plane the face frame flush to the case sides.*

you can plane the face frame flush to the case. If you're really organized, you can cut the panel grooves in the door and back frame parts now as well. I hate changing out my dado blade more than I have to. One more thing: You can use cutoffs from the grooved parts to dial in a perfect fit on the rabbets later.

Next, I widened the dado set and rabbeted the case sides, dividers, and shelves. The case sides get a rabbet along the back and front edges. The rabbet in the back houses the case back. The one at the front creates a tongue that fits the groove in the back of the face frame stiles. It's a little more work than simply butting the parts together, but the tongue-and-groove joint makes it easier to register the parts during glue-up and can help correct any slight bow in the long case sides.

The two horizontal dividers require a stopped dado to accommodate the vertical drawer divider. I handled this with a router. Clamp both shelves to the workbench. With a T-square fence clamped in place, you can rout both shelves at once, saving time and ensuring perfect alignment.

Dovetails lock the top of the case

The subtop rails are joined to the case sides with half-blind dovetails. Start by cutting the tails on the subtop rails, and then transfer their layout to the case sides. I normally stand the pins board in a vise for scribing, but these sides were too long for that. Instead, I placed the side flat on the benchtop and held the rail vertically while scribing, and then I kept them right there to rout, chop, and pare away the waste.

The last task before assembly is to cut out the feet on the case sides and the bottom of the face-frame stiles.

Face frame anchors everything else

Normally the face frame is the last thing I add when building a case, but it's the first thing I tackled on this project. Gluing the stiles to the sides first eases construction in a couple of ways. First, it allowed me to plane the stiles flush while the side assemblies were easy to deal with; doing it when the whole cabinet is together is awkward. It also was easier to mark and notch the shelves to fit around the stiles at this stage. And that let me assemble the

2. NOTCH THE SHELVES

Scribe and cut. *The fixed shelf and dividers end up flush with the case front, so they need to be notched to fit around the face frame. Butt them against the face frame and be sure they are vertical when scribing. Cut outside the line and pare to fit with a chisel.*

Photos, this page: Rachel Barclay

3. GLUE UP THE CASE

Recipe for success. *Elevate the piece on rails to make room for clamps. Insert the shelf, dividers, and bottom flush against the face frame and drop the second side into place (left). Last, tap in the dovetailed rails (below).*

rest of the case all at once, without having to slide in the shelves afterward.

The case bottom and the front subtop rail butt against the back of the face frame and act as door stops. The fixed shelf and dividers, on the other hand, end up flush with the front of the face frame, so you need to notch them to fit around it. With the stiles already glued to the case side, it's easy to scribe the notches. Mark them a little high, so the shelves end up protruding a bit from the front of the case. That will let you plane them perfectly flush later. Cut just outside the line with a handsaw or on the bandsaw, and pare the remaining waste with a chisel.

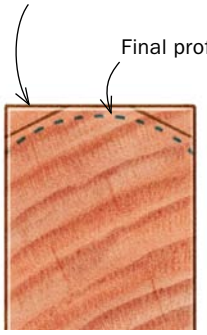
Assembly continues with gluing up the sides, shelves, and bottom and top rails. Dry-fit and clamp the parts together and check for square. This is also a good time to check that all the shelf notches are sized properly. A notch that's too narrow will look fine from the front of the case, but won't allow the shelf to seat fully. Also the notch should be deep enough so that when slid forward, the shelf or divider is just proud of the face frame. When everything looks good, go ahead and glue up the case. Once all the clamps are on, add the glue blocks under the bottom shelf. Apply a thin coat of glue on two faces and rub the block back and forth until it grabs. The vacuum will hold it in

4. ADD THE VERTICAL DIVIDER

Plane its neighbors, then slide it in. *Go slowly when planing (1) to avoid gouging the face frame. Then slide the vertical divider most of the way in (2), apply glue, and tap it home. Plane the divider flush when the glue is dry (3).*

THE TOP GETS A BULLNOSE

Profile is plane easy. *Lay out pencil lines as a guide and plane a wide, shallow chamfer along each edge (right). Then plane off the peaks for a smooth curve. Keep the corners crisp (bottom right) for a nice shadow line.*



place without clamps. To allow for seasonal movement, apply multiple short blocks along the joint rather than one long one. The drawer guides are glued in the same way, but because the guides are long, glue the front half only. Afterward, drill through the face frame at the shelf, divider, and bottom locations and pin the joints. This really locks the assembly and adds a little visual interest.

After the case has dried, flush up the shelf and dividers with the face frame. Then slide the vertical divider in place, and plane it flush. All that's left of the casework is to glue the top in place and add the frame-and-panel back. The back has two center rails aligned with the fixed shelf and lower divider, allowing you to screw the back to them as well as the sides, further strengthening the case joinery.

Attach the top and back. *The top can be glued and screwed directly to the subtop rails because the grain on the parts is running in the same direction (above). Trim the frame-and-panel back to a snug fit and screw it in place (left).*

Doors and drawers are straightforward

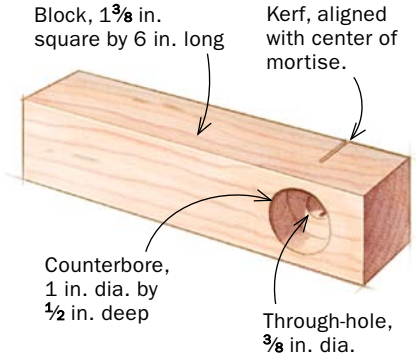
The doors are classic Shaker: simple flat panels surrounded by a thumbnail profile. I like to rout the profile into the door frame, and miter it where the parts meet. But Christian Becksvoort offers a simpler alternative ("Frame-and-Panel Doors Made Easier," *FWW* #218). He makes a standard frame-and-panel door and adds a quarter-round molding to the inside edge of the frame after assembly.

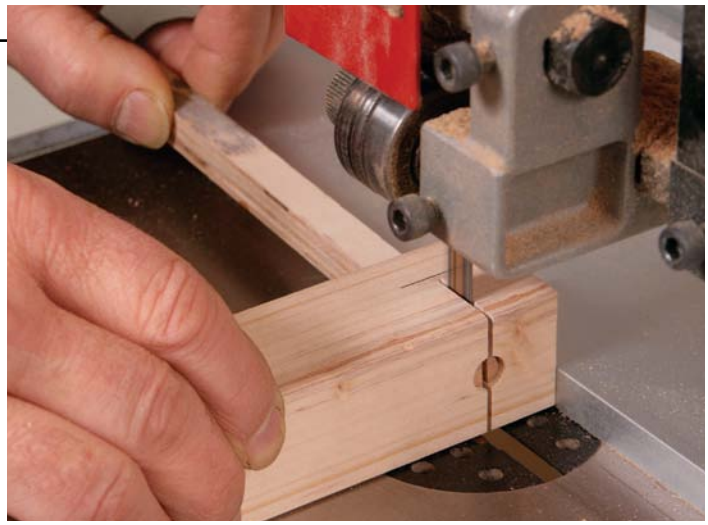
The drawers are traditional dovetail construction. The important thing is to cut all the fronts from a single board for a continuous grain match. I turned my own pulls, but if you don't have a lathe, you're not out of luck. Hardwood knobs are readily available. They're typically a little clunky, but it's easy to refine the profile on the drill press ("2 Classic Pulls," *FWW* #222).

The pulls on the doors and drawers are secured with wedges. For the drawers, I simply drilled a hole through the drawer front and wedged the pull from the inside. On the door, I got a little fancier. I didn't want the tenon exposed on the inside of the door, but I still wanted to wedge it. So I used a really cool joint called a fox-wedged tenon (opposite page). You start by drilling a stopped mortise. Then you insert a wedge into the kerf in the tenon and insert the pull into the mortise. If everything is sized correctly, the wedge contacts the bottom of the mortise, forcing it into the kerf as you drive in the pull, creating a self-wedging joint. The only trick is to cut the wedge to the right length so that the pull seats before

WEDGES SECURE THE PULLS

Safe slotting on the bandsaw. *A simple block holds the pull. Insert the pull into the stepped hole (below) and slide the block along the rip fence into the cut (right). Stop 1/16 in. short of the pull's shoulder.*

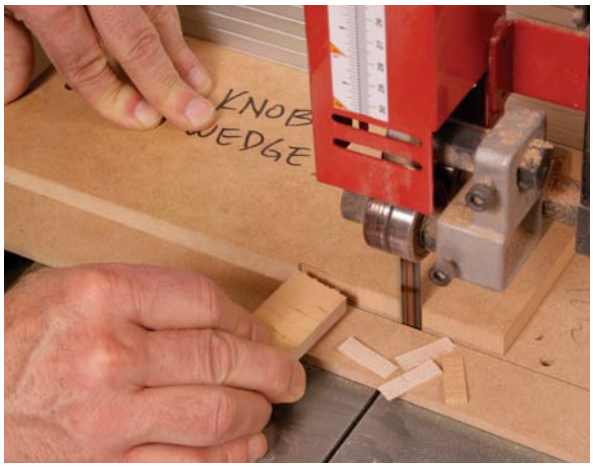




the wedge bottoms out in the kerf. Wedging is simple in concept, but tricky in practice. The toughest part is kerfing the tenons of the pulls. Cutting kerfs in such small, odd-shaped parts can be difficult, but a simple block makes it easy on the bandsaw. You can use the same block to cut the tenons to length.

I finished the case and knobs before installing them. It makes for less nooks and crannies to work around when finishing. I used a wiping varnish, building it up for a deep luster and good protection, as I demonstrated in *FWW* #218 ("Wiping Varnish: The Only Finish You'll Ever Need"), followed by steel wool and wax. □

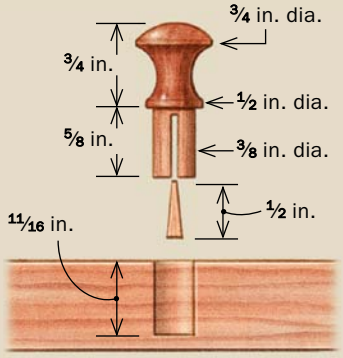
Michael Pekovich is FWW*'s art director, and a prolific furniture maker.*



A jig for wedges, too. *A scrap of MDF with an angled notch makes quick work of wedges (above). To install the drawer pulls, add glue to the mortise and insert the pull. Press in the wedge (right), tap it home, and trim flush.*

A hidden wedge for doors

For a clean look on the inside of the doors, Pekovich hides the wedge in a stopped mortise. The wedge is placed into the slot prior to installing the pull.



Self-setting. *Insert the wedge into the slot (left), and then install the pull. Use a pine block as a pad when driving in the pull (above). As the wedge contacts the bottom of the mortise, it is forced into the slot, expanding the tenon for a tight fit.*

Photos, this page: Rachel Barclay