Build a Greene-and-Greene Picture Frame

Shallow carving adds a twist to classic cloud-lift curves

BY KELLY J. DUNTON

A picture frame is an ideal project for a woodworker, regardless of skill level. It requires very little material, so it's inexpensive to build. Plus, it can be built quickly, offering a nice change of pace from complicated furniture projects that can take weeks or even months to complete.

With its rounded edges, stepped sides, square pegs, and distinctive cloud-lift patterns, this Greene-and-Greene-inspired frame resembles a piece of heirloom furniture. But I added a twist to the design by carving around the edges of the cloud lifts, and by using cherry instead of mahogany, which the Greenes favored.

Sturdy mortise-and-tenon joints hold the frame together, while the framed materials sit inside a rabbet. The profiles are cut with a jigsaw or bandsaw and cleaned up with a router and a simple half-template. And the carving, done with a marking knife and chisel, is a good introduction to some basic carving techniques.

Joinery first

The frame fits a standard mat that is 18 in. tall by 24 in. wide. The dimensions can be adjusted for different frame sizes, but check that the framed materials will fit the rabbet. If possible, build the frame from a single board—it will be easier to match the grain patterns and tones of the wood.

Cut the joinery before the curves—it's easier to work on square pieces. I used a hollow-chisel mortiser to cut the mortises on the rails first. Then I cut the tenons on the stiles at the tablesaw using a dado blade, and used a shoulder plane to fine-tune the fit of the tenons. The rabbet runs

Photo, this page: John Tetreault

FAST MORTISE-AND-TENONS

Beefy tenons make this frame stronger than the mitered joints of a typical frame.

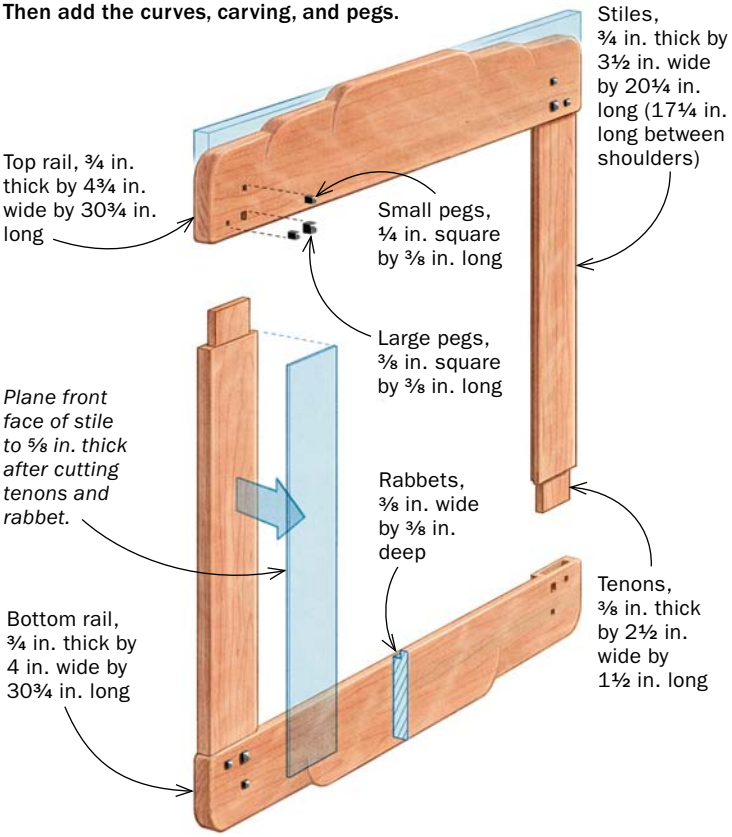
Mortises first. *A hollow-chisel mortiser makes quick work of the mortises, but you can also use a drill press and square the corners with a chisel.*

Dado the tenons. *A miter gauge and a stop block ensure equal shoulder-to-shoulder length.*

Rabbet the stiles. *At the router table, cut through-rabbets on the inside edges of the stiles.*

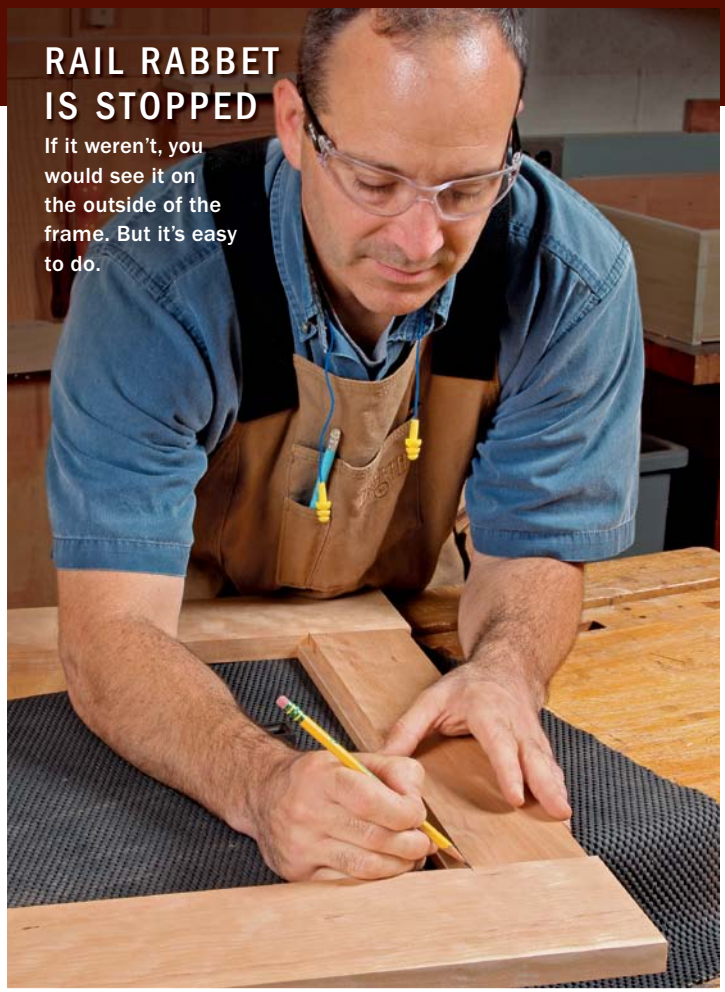
SIMPLE ANATOMY

Leave the pieces square while cutting the joints. Then add the curves, carving, and pegs.



RAIL RABBET IS STOPPED

If it weren't, you would see it on the outside of the frame. But it's easy to do.



Mark the ends. *Dry-fit the frame and use a pencil to transfer the stopped rabbet marks from the stiles to the rails. Carry the marks to the opposite face with a square.*

Line it up. *Mark the edges of the rabbeting bit on the router-table fence and align the marks with those on the workpiece. Pivot in to start the cut and pivot out to stop the rabbet.*

Square the edges. *Mark the ends of the rabbet with a knife and then square them with a chisel. Nibble away, working toward your scribe lines.*

Use a template to rout the profiles

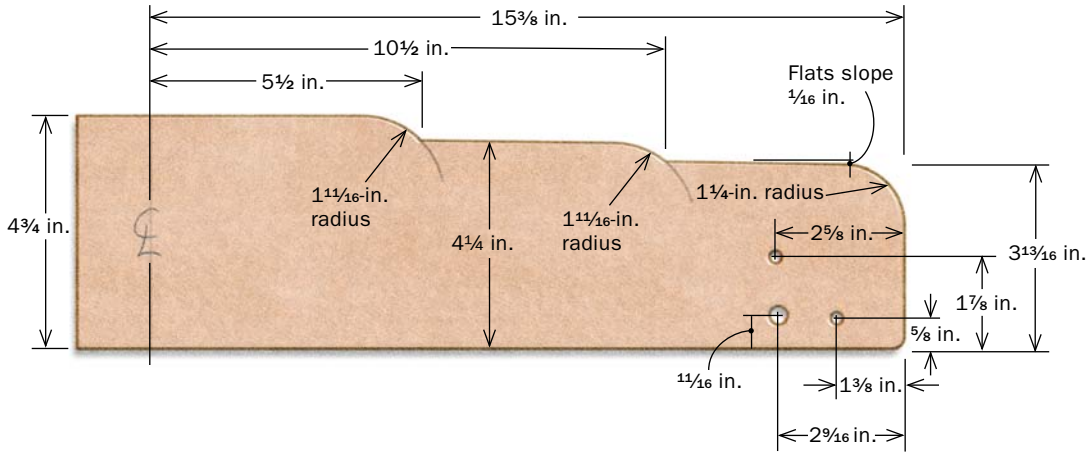
MAKE A PAIR OF HALF-TEMPLATES

The half-templates, made from ½-in. MDF, make it easy to cut symmetrical curves and align the pegs.

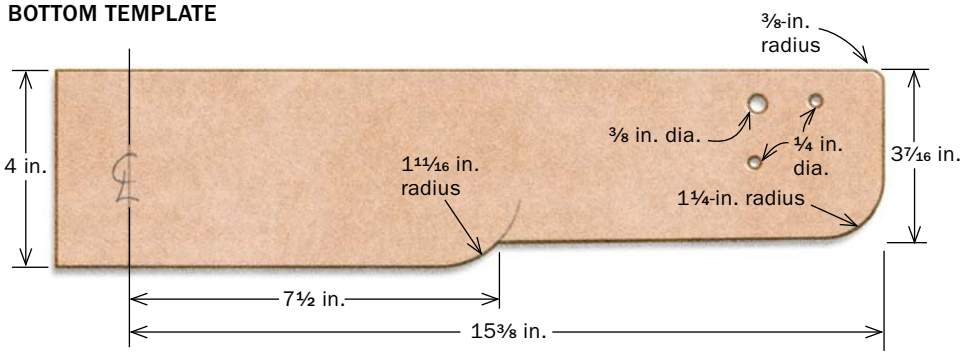
Uncanny curves. *After marking the guidelines on the template, use the bottom of a can to draw the curves.*

Bandsaw the profiles. *Stay close to the line.*

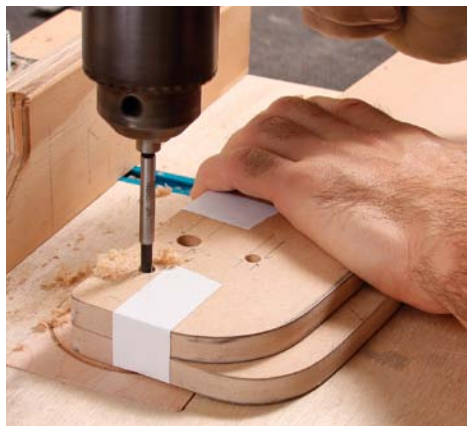
TOP TEMPLATE



BOTTOM TEMPLATE



Final prep. *Use a sanding block to clean up the edges and shape the templates as perfectly as possible. Defects in the template will transfer to the workpieces during routing.*



Drill holes once. *Mark the peg holes on one template and tape it to the other to drill a matched set of holes.*

the entire length of the stiles, but stops short of the ends on the rails. It's easiest to cut the rabbets at a router table with a ⅜-in. rabbeting bit.

Rabbet the stiles first. Then dry-fit the frame to mark the stopped ends. Disassemble the frame, rabbet the rails, and use a chisel to square the rabbeted corners.

After rabbeting, plane ⅛ in. of material from the top faces of the stiles. The planing gives the frame a layered look—a key Greene and Greene design element.

Half-templates ease curves

The cloud-lift patterns on the rails are another design element of the Greenes. Cut them using half-templates for each rail. The templates ensure both sides of the profile will be symmetrical, and they also locate the holes for the peg mortises.

Make the templates from a piece of ½-in.-thick MDF that is the same width as the rail, and a few inches more than half the length. The extra length will help guide the router bit into the cut.

Photos, except where noted: Ken St. Onge; drawings: John Hartman

PERFECT PROFILES

Place the template on each side, aligning it with the centerline.

Lay out the curves. *Mark the profile on both sides of the rails, and bandsaw the curves. Stay about ⅛ in. to the waste side.*

Then stick it on. *Use double-sided tape to attach the template to the rail.*

You can use the scale drawing to lay out the curves on the template, but I just used cans with similar radii. The largest can will also help later when carving. Draw and cut the template with a jigsaw or bandsaw, and clean up the edges with a file or sandpaper. Then drill the holes in the corners.

Align the centerlines of the template and rail, and trace the template onto both halves. Cut away the waste and use double-sided tape to affix the template to the workpiece. Flush-trim the rails to the template with a bearing-guided bit on the router table (see photos, right).

While the templates are on the top faces, use drill bits—Forstner, if possible—as transfer punches to mark the centers of the peg mortises. Cut the holes at the drill press, using a piece of scrap in the frame mortises to prevent blowout.

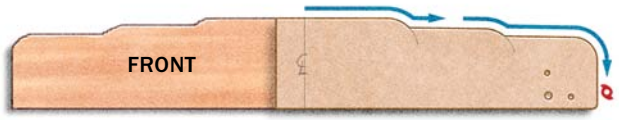
After drilling, use sandpaper or a handplane to surface the workpieces, and round over the edges of the rails and stiles with a handheld router.

Carving complements stepped look

The shallow carving around the cloud lifts extends the line of the curve into the rails, and adds a three-dimensional look to the surface. Start the carving by placing the largest can on one of the inside curves on the frame. Scribe around the can with a marking knife to sever the wood fibers.

Use a 1-in.-wide chisel to pare along the frame's face into the scribed line. Cut deepest at the edge of the frame, and taper toward the middle. You may need to deepen the scribe line with the marking knife. Clean up the carving with sandpaper and round over the edge to match the routed

Rout downhill. *A flush-trimming bit follows the template, but you must rout down the curves to prevent blowing out the grain.*



1. Start with right front. Align the template with the centerline, attach it, and start routing, stopping short of the last corner. Then use the ¼-in. and ⅜-in. drill bits to transfer the holes.

2. Flip end-for-end. Flip the workpiece but keep the template in the same relative position, and rout the other side.

3. Rout a corner. Prevent tearout when routing the corners by reattaching the template as shown.

4. Rout the other. Flip the workpiece end-for-end and reattach the template. Rout the corner and then transfer punch the remaining holes for the pegs.

Transfer punch. *With the template in place on the front of the rails, use drill bits to mark the peg locations.*

Round all the edges. *Round over all edges with a router and a ⅛-in. roundover bit. But avoid the shoulders of the stiles.*

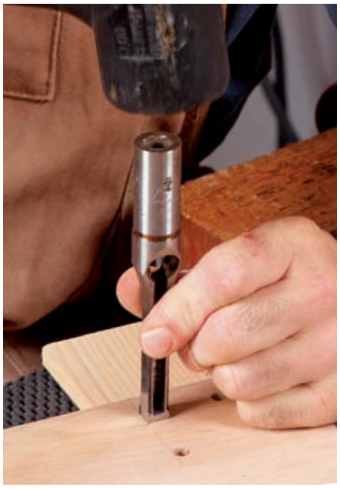
Relief carving

The same can used to make the templates extends the curves onto the frame, and guides the carving.

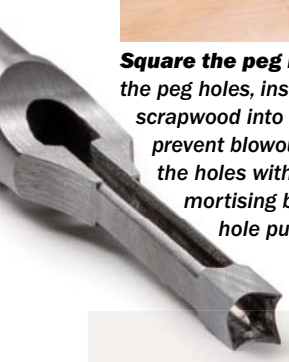
Scribe the edge. *Line up the can on the profile and continue the curved line. The knife line gives the paring cuts (right) a place to stop cleanly.*

Ease into the line. *Use a 1-in. chisel to pare along the face, into the knife line. Recut the line as needed.*

Crisp curves. *Square up the inside corners left round by the router bit. Then pare along the edge to extend the roundover.*



Square the peg holes. *Drill out the peg holes, inserting a piece of scrapwood into the mortise to prevent blowout. Then square the holes with a hollow-chisel mortising bit or a square hole punch (see below).*



Glue and clamp. *After carving and drilling the peg mortises, brush glue in the mortises only (to avoid squeeze-out) and clamp the frame along the stiles.*

SOURCES OF SUPPLY

Hollow-chisel mortising bits
¼ in. and ⅜ in., $14.50 each

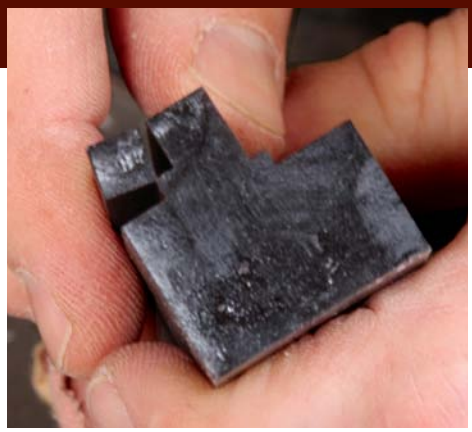
Square hole punches
¼ in. ($25.50), ⅜ in. ($27.50)

leevalley.com

Greene-and-Greene pegs made easy

Cut the pegs from an ebony pen blank and shape them before gluing them in place.

Cut the kerfs. *A thin-kerf blade will make straight cuts with minimal waste—a bonus with expensive, exotic woods like ebony. Dunton uses a scrap piece to hold the block against the fence.*



Not too deep. *Leave just enough material so the ebony strips stay safely attached to the blank on the tablesaw, but snap away cleanly by hand afterward.*

Online Extra

To see Dunton make these pegs, watch the video at **FineWoodworking.com/extras.**

Chamfer first. *Use a block plane and bench hook to chamfer the ends of the stock.*

Soften second. *Pillow the pegs by rounding the chamfered ends on a piece of 320-grit sandpaper on top of a folded napkin.*

Insert carefully. *To avoid squeeze-out, put glue in the mortise only. Then tap the peg down to just the right height.*

edge. After carving, glue up the frame and let it dry for a few hours.

Add pegs to corners

The solid-wood pegs in the frame's corners add a decorative detail to the frame, but they don't actually peg the tenon in place. It's OK; the mortise-and-tenon joints are plenty strong enough for a picture frame.

Greene-and-Greene pegs are gently pillowed, which can be tricky to shape. I've found that the pillowing looks much better if you start with a pyramid-like profile. Start with a square strip cut from a pen blank. Chamfer the ends with a block plane, then round the chamfers by rubbing the ends into a piece of sandpaper. Cut off the pillowed ends with a handsaw to get the pegs.

Apply a dab of glue to each peg and set it in place with hand pressure. The pegs should sit evenly, so when gluing be careful to avoid sinking them too deeply. I find it's easiest to set all three in place and then tap each one down a little at a time until they are about equal height from the surface—about 1/16 in. higher than the face.

Finish the frame with a washcoat of shellac, and two to three coats of Minwax Antique Oil finish. □

Kelly J. Dunton is an associate art director.

Photos of bits and ebony blank, this spread: John Tetreault