

Walnut Easy Chair with a Slung-Tile Seat

Mid-century style and hardwood scraps combine in a cool, comfortable chair

SCOTT McGLASSON



While the design for my rope-and-tile seats originated from a desire to make an enduring, comfortable, handcrafted chair, it was also about finding a use for the offcut pieces of beautiful walnut burl that were piling up from other projects. Another impetus was my affection for the wooden bead-and-rope pads that cab drivers used to cover their vinyl car seats in the 1970s. And when it came to determining the exact configuration of tiles, I thought of the running-bond pattern in which bricks are often laid, where each brick half overlaps the one beside it. I love the look of that pattern, and since using it would involve offsetting adjacent tiles, it promised a more comfortable seat.



Tile series. In a range of seating pieces, the author blends mid-century modern simplicity with inviting flexible fields of walnut tiles woven on polyester rope.

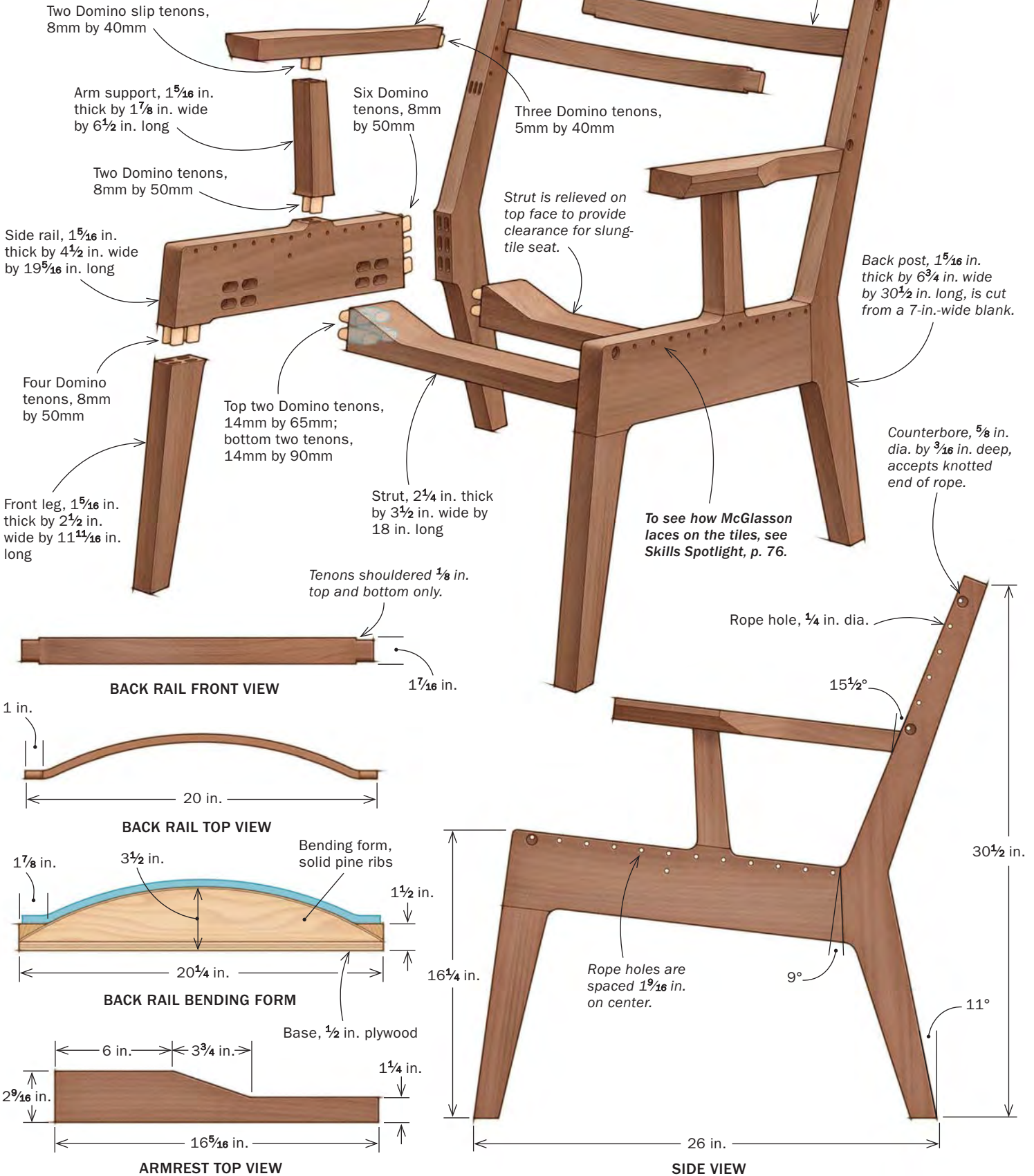


STOUT FRAME FOR A ROPE-AND-TILE CHAIR

All parts are solid walnut except where noted.

Armrest, $1\frac{3}{16}$ in. thick by $2\frac{9}{16}$ in. wide by $16\frac{5}{16}$ in. long

Back rail, $\frac{7}{16}$ in. thick by $1\frac{7}{16}$ in. wide by 20 in. long, a bent lamination of nine shopsawn plies




MAKE THE SIDES

Two types of templates guide the build. McGlasson makes oversize MDF templates for each of the parts that comprise the chair side. He also makes a single, h-shaped template that he'll use to template-rout the chair sides to final size.

Part layout. Tracing his rough templates, which are about $\frac{1}{4}$ in. oversize, McGlasson lays out all the parts for both sides of the chair from a single $6\frac{1}{4}$ walnut plank 8 in. wide and 10 ft. long.

Rough cutting the side parts. Following the rough-template tracings, bandsaw out the side parts. The stepped portions will provide purchase for clamping and will be sawn off after the side is assembled.

My series of rope-and-tile seating pieces started with an easy chair and expanded over the years to include a chaise lounge, an ottoman, a rocking chair, and various benches. I'm attracted to simple modern forms and clean lines, and those pieces reflect that. When I built the easy chair, I referenced dimensions and angles from two iconic mid-century chairs that I own, the Eames Molded Plywood Lounge and the Hans Wegner CH-25. The style of my other rope-and-tile pieces flowed from the easy chair.

 **Online Extra**

For full-size drawings of all the templates McGlasson uses, go to FineWoodworking.com/313.

Joint prep. Everything else can be roughsawn and oversize at this point, but flatten the surfaces that will receive Domino tenons. Some you can cut at the table saw; others can be smoothed at the jointer.



Place and trace. With all the side parts sawn out and their mating surfaces flattened, put them in position and trace the finished template onto them. Also, mark the joints for Dominos.



Portable mortising. McGlasson used to use a stationary mortiser when joining the side parts, but now he finds the Domino far more convenient.

The structure for all of them is similar and quite simple: Two beefy, parallel sides are connected by similarly beefy struts and rails, and the tiles are strung between the sides on high-grade polyester rope. The tiles are drilled twice through their edges and lined up with corresponding holes drilled through the chair sides.

Starting the sides

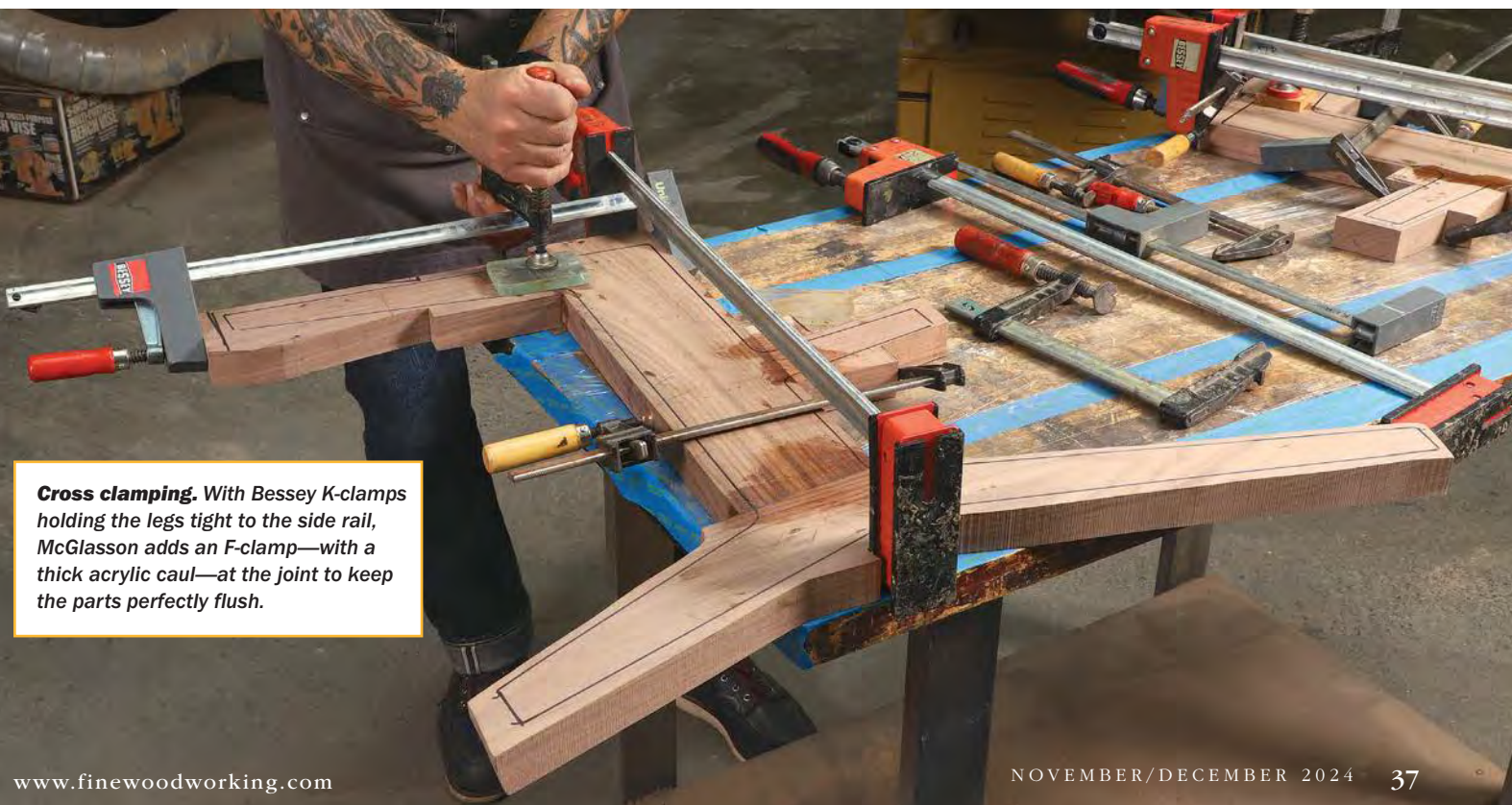
The sides are the heart and soul of these pieces, key to their structure as well as their style. In the easy chair, each side consists of

four pieces, all in the same plane: front leg, side seat rail, arm post, and rear leg/post. The four parts are joined with Dominos. On my first chairs I used mortise-and-tenon joints, but the Dominos make things far simpler. If you don't have a Domino machine, routing the mortises and making your own floating tenons will work fine. The armrests are added only after the two sides are linked by the struts and back rails.

I like to cut all the side parts from a single plank to ensure that the pieces are uniform in color and



Slow assembly. Epoxy's long open time permits you to assemble the whole side (except for the armrest, which is added later) in one go. A hand-screw clamp keeps the parts upright as you seat the front leg.



Cross clamping. With Bessey K-clamps holding the legs tight to the side rail, McGlasson adds an F-clamp—with a thick acrylic caul—at the joint to keep the parts perfectly flush.

TRIM AND DRILL THE SIDES

Tight to the line. Once the side has been glued up and sanded flat, retrace the finished template and bandsaw carefully to within $\frac{1}{16}$ in. of the lines.

Custom flushing jig. With sets of chairs to build, McGlasson made a special jig for flush-trimming the sides. A side is placed within the walls of the jig, and the finished template is attached to the top with double-stick tape. The routing is done with a top-bearing flush-trimming bit.



figure. For walnut chairs, I love boards with some curly figure. The finished thickness of the sides is $1\frac{5}{16}$ in., so I use $\frac{6}{4}$ material. A $\frac{6}{4}$ board 10 ft. long and 8 in. wide is ideal, allowing me to get all the parts while working around knots and sapwood.

Before I begin sawing up the plank, I make some templates from $\frac{1}{2}$ -in. MDF. First, I make a set of five rough templates—one for each of the four parts of the chair side plus the armrest. These rough templates are $\frac{1}{4}$ in. or so larger than the final size of the parts, and some of them include squared-off sections outside the final outlines of the parts, which will provide purchase for clamps during assem-

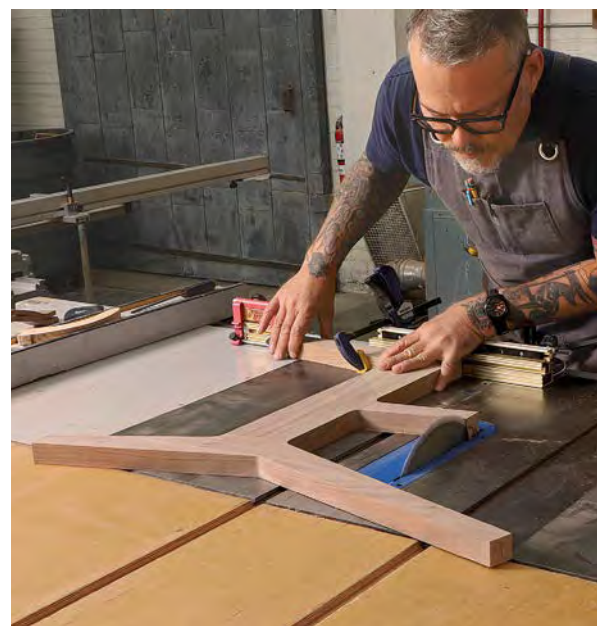
bly. I cut out the rough templates at the bandsaw.

Besides the rough templates, I make one finished template, which represents the entire final shape of the side. Initially I use it as a tracing template; later it guides the router as I flush-trim the assembled side to final size. I cut it out carefully at the bandsaw and sand its edges smooth.

With the templates made, I joint and plane my plank and then lay out all the side parts on it, tracing each rough template two times. Then I bandsaw out all the parts.

Assembling and sizing the sides

The next assignment is to create flats where I'll cut mortises



Post slice. At the table saw, make a clean joinery cut at the top of the arm post; next, cut Domino mortises for the arm.

Stout struts. The pair of hefty struts below the seat that join the sides are relieved on their top face to provide clearance for the slung-tile seat.



Drilling pattern. A stick with small holes drilled along its length is clamped to the top of the side rail, providing a template as you mark for the rope holes with an awl.



Rope holes. Following the pattern of awl marks, drill holes for the rope with a $\frac{1}{4}$ -in. Forstner bit. A sacrificial piece of plywood or MDF beneath the side ensures a clean exit.

for Dominos. Depending on the shape of the part, I do this at the table saw or the jointer. Then, on a large worktable, I piece together the parts for each side. I lay the finished template on top and trace it. This gives me the precise outline of the finished side, so when I remove the template I can mark for the Domino mortises.

I double up the Dominos, using six 8mm by 50mm tenons in the critical back leg joint and four in the front leg. When I've cut all the mortises, I'm ready to glue up the



BENT BACK RAILS

Back rails are bent laminations. Using a vacuum bag and a bending form, glue nine layers of $\frac{1}{16}$ -in.-thick shopsawn walnut to make the chair's curved back rails. Make the lamination double wide, and rip it in two when it comes out of the vacuum bag.

Cross-cutting a curve. With both its ends flat on the table saw and its length against the miter gauge, the back rail is stable as it is cut to length.



Elevated shoulder cut. A block against the bandsaw fence elevates the end of the rail, stabilizing it and presenting it to the sawblade for a 90° shoulder cut.



Quick cheek. The long edge of the rail is tight to the bandsaw's fence as the cheek is cut.

sides. Using epoxy for its long open time, I glue all four parts at once. I press the parts home by hand, then draw them all the way tight with bar clamps and F-clamps. In addition, with some small F-clamps, I apply pressure to the faces of the parts at the glue joints to keep adjacent parts perfectly flush.

When the glue has dried, I sand the sides, sending them through my wide belt sander. It does an outstanding job, but the joints are typically quite flat, and a random-orbit sander could certainly be used instead.

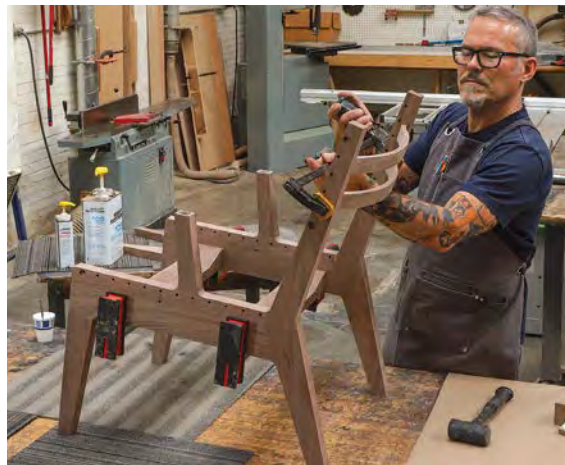
After sanding each side, I retrace the finished template on it and then trim it to within $\frac{1}{16}$ in. or so at the bandsaw. Then I cut it to final size with a router and a pattern bit with a top bearing. I built a special jig to support the router while I do the flush trimming. I put the assembled side inside the walls of the jig and use double-stick tape to adhere the finished template to the side. The walls of the jig are exactly the same height as the side plus the template.

Constructing the connectors

I make two very stout struts that connect the sides beneath the seat and two curving back rails that connect the sides up top. These struts, which I make from 10/4 stock, are 2 $\frac{3}{4}$ in. thick and

ASSEMBLY

Dry run. After cutting mortises in the sides for the back rails with his Domino machine, McGlasson does a dry-fit to confirm that all the joints are closing properly.



Glue-up. Using slow-setting epoxy gives you plenty of time to glue the side to the struts and back rails.

3½ in. wide. I leave them full size at the ends, where they get four large Domino tenons, but I bandsaw away nearly half the thickness across much of their length to provide room for the downward arc of the slung seat.

The back rails are far smaller, but they still do a good job of stiffening the back of the chair. I make two at a time in a bent lamination consisting of nine ¼-in.-thick strips of shopsawn walnut. After bending them over a form in the vacuum bag, I rip the pair in two. They could be cut from solid stock at the bandsaw, but I prefer the greater strength achieved in the bent lamination.

I cut mortises for the back rails with the Domino. The rails go into the mortises full thickness, but I do cut shoulders on the sides at the bandsaw. Before final assembly, I drill all the holes through the sides for the rope.

I use epoxy again for the final glue-up, and it tends to go pretty smoothly. I set the assembled chair aside for several days so the epoxy can fully cure before I turn to tying the tile seat and back.

For a full description of making and weaving the tiles, see Skills Spotlight, p. 76.

Scott McGlasson builds furniture in St. Paul, Minn.

Finishing up. After fitting and gluing on the arms and doing a final sanding to 400 grit, apply your finish.

