Build a Harvest Table

A quick, satisfying project with simple lines and loose-tenon joinery

by Gary Rogowski

Details make the difference. *Circular cutouts in the rail centers and contrasting dowels are simple touches that add visual interest.*

I invited the entire family over for Thanksgiving dinner last year. Parents, siblings, spousal units, kidlings and significant others—all were welcome. Unfortunately, I had no table that was large enough to seat everyone. A small detail in the greater scheme of things, but an important one nonetheless if we were all to sit together as we dined.

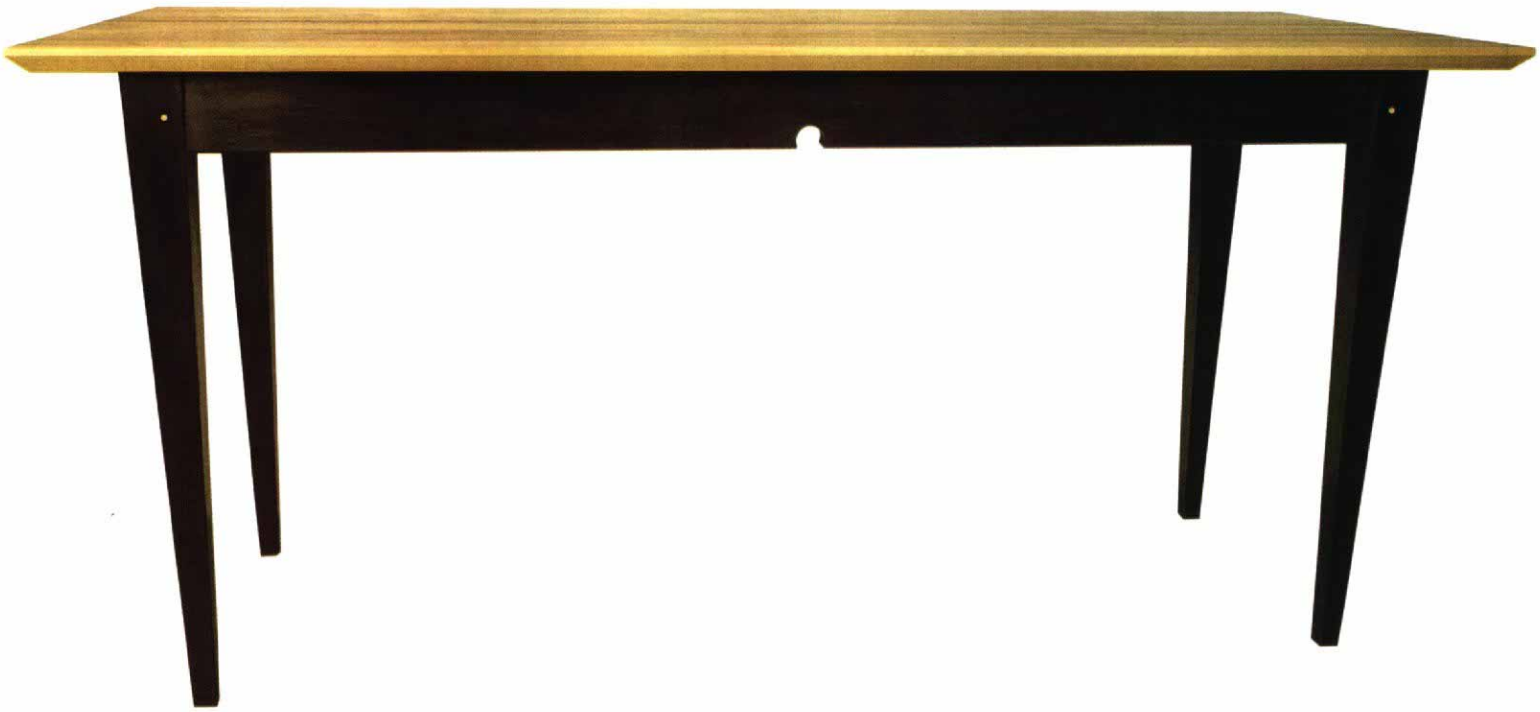
I set out to design and build a table that was handsome, sturdy and serviceable. And the table would have to take only a couple of days to make. I wanted it to have a clean and simple look, so I decided on tapered legs and a painted base, with a clear finish for just the top (see the photo below). I also decided on loose-tenon joinery to help simplify the construction.

Because time was of the essence, I decided to try a new approach to preparing the piece for a finish. For years, I've sweated over successively finer sanding grits of sandpaper as I ground down acres of wooden surfaces. This table was going to be different. There was to be no sanding of any sort on this piece—just handplaned surfaces and edges. "Why not?" I thought. "That's how it used to be done."

So I needed a wood that planed nicely without too much effort. Fancy figure or nice color wasn't really important because the base would be painted. I checked with my local hardwood dealer and found he had 12/4 poplar in stock. That clinched it. I didn't want to spend time laminating the leg blanks from thinner boards, so poplar it would be.

Tapering the legs

I tapered both outside faces of the table legs from their tops down to the floor. To get a taper I liked, I experimented with patterns made of hardboard until I was satisfied. I ended up with a leg that tapered from 2½ in. at the top to 1 in. at the floor.



Simple lines and a neutral, painted finish on the base make this table versatile. *Though built as a dining table, it also could be used as a side table or as an extra worktable in an office, den or child's room.*

To cut these tapers, I used my tablesaw and a taper jig I built specifically for these legs (see the box on p. 53). The jig took only about 10-15 minutes to build and ensured consistent tapers.

I cut the first taper and then rotated the leg so that the cut face was face up in the jig, so the leg would fit snugly in the jig for the second cut. I then made the second taper cut. I cleaned up the sawmarks by passing the legs over the jointer, which was set for a light cut—less than 1/16 in.

Mortising legs and rails

After tapering the legs, I routed the mortises for the loose tenons, which are separate pieces of tenon stock that are inserted into a pair of mortises (in the leg and rail, in this case). The beauty of using loose tenons is the speed with which you can join a piece of furniture.

For all the loose-tenon mortises, I used a plunge router outfitted with a ¾-in. template guide, a ½-in. up-spiral bit and a basic shop-built fixture. The fixture consists of a piece of hardboard with a slot for a router template guide, screwed to a squared piece of hardwood that serves as a fence (for a complete description of how to make and use the fixture, see *FWW* #108, p. 86). I used the wedge-shaped offcuts from the tapering operation for pads on the legs to prevent them from being marred by the clamp heads and to simplify clamping the fixture to the legs.

I used the fixture for both the legs and the rails. But because these pieces are of different thicknesses, I built the fixture to accommodate the wide legs. Then I used a spacer to reposition the slot in the fixture when I routed the rail mortises (see the top photo at right). I clamped the rails in my vise and marked their ends. Then I put the spacer between fixture and rail, positioned the fixture, clamped the whole assembly and mortised the rail.

For a little flair, I added a detail in the bottom edge of each of the rails. I drilled a 1¼-in. hole into the rails at the bottom edge, creating something a bit fuller than a half-circle (see the top photo on the facing page). I bored these holes with a Forstner bit on my drill press.

Preparing for a finish with a handplane

I like to prepare all surfaces for finishing before glue-up. This usually means sanding for days on end (or at least it seems that way), going through sheets of sandpaper and a dust mask or two. For this project, though, I had decided that any smoothing I was going to do would be with a handplane. So I sharpened the blade on my smoothing plane, adjusted it for a tissue-thin shaving and planed all the legs and rails in a matter of hours. The swoosh of the blade against wood was the only sound in the shop. Then I beveled all the corners of the pieces with my block plane and turned to making tenon stock.

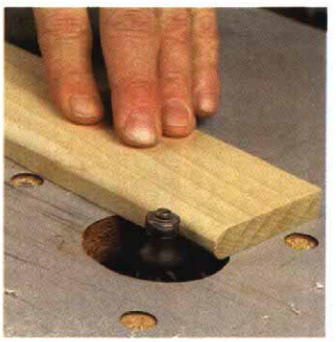
Making and fitting tenon stock

I stuck with poplar for the loose tenons, but you could use almost any scrap you had lying around. It's a good idea to mill up some extra stock, just in case. Besides, once you're set up, the process goes very quickly.

I milled the tenon stock a hair thicker than my mortise, leaving the stock fairly long (each piece about a foot), so I could rout the edges of the stock with a roundover bit on my router table (see the center photo at right). A ¼-in. radius bit set to the right height will give your tenon stock an edge that will match the rounded corners of a ½-in. mortise nicely. Experiment on scrap planed to the same thickness until you get it right. Once I'd rounded the tenon stock, I cut it to length in a crosscut box on my tablesaw.

I used a handplane to fit the loose tenons to their respective mor-

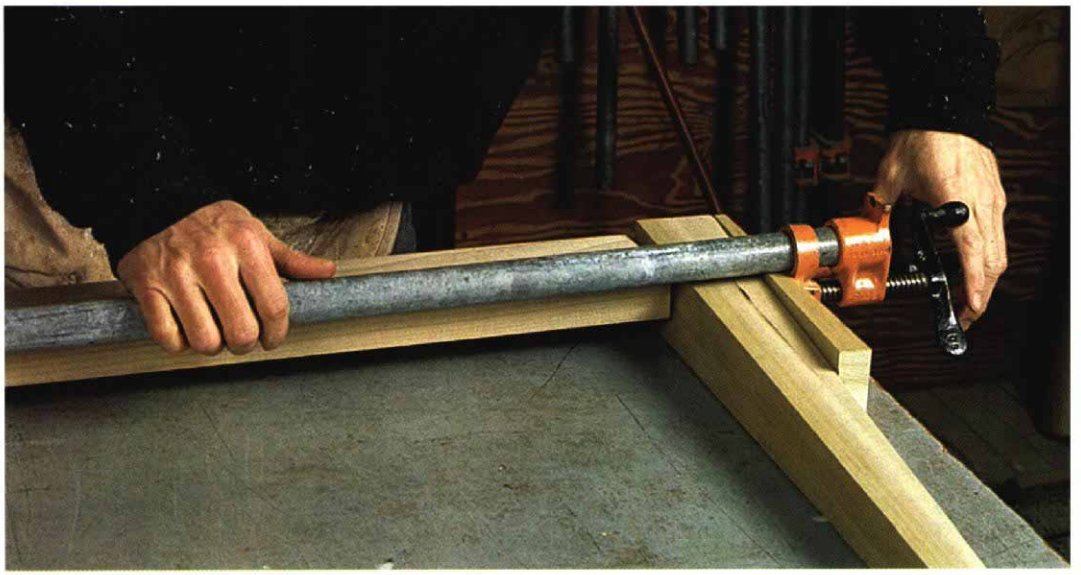
Simple router mortising fixture works for leg and rail. *A slotted piece of hardboard screwed to a hardwood block provides all the guidance you'll need for routing accurate mortises. A spacer inserted between fence and rail correctly positions the template for the rail mortises.*



A ¼-in. roundover bit puts a good edge on ½-in. tenon stock. *Experiment on scrap to get the bit height right, and keep the tenon stock long until you round it over.*

A couple of passes with a handplane take the tenon stock down to size. *The author mills the tenon stock a hair thick, so he can get a precise fit for each joint with a plane.*

Photos: Vincent Laurence



Gluing and clamping up one assembly at a time makes the job a lot less harried. *After gluing the tenons into the long rails, the author glues and clamps the rail and two legs together to make one side of the table. Offcuts from the tapering operation make good clamping blocks.*

Two short rails connect the long-rail assemblies to complete the base. *Adjust the clamping pressure above and below the tenon locations to keep the shoulders tight against the legs.*

tises. Setting them in a bench hook, I took a shaving or two off each until they fit snugly into their mortises (see the bottom photo on p. 51). The tenons shouldn't be so tight that you have to hammer them into the mortises, but you shouldn't be able to pull them out of the mortises easily either.

Gluing up in sections

I glued up this table in sections (see the top photo): the loose tenons into all the rails, the long rails into the legs and, finally, the two long-rail assemblies connected with the short rails. This method made gluing and clamping relatively easy. Trying to glue up the whole table at once is much more hectic.

I glued the loose tenons into the rails and then drilled ¼-in. holes about ¾ in. from the ends of the rails on the inside, pegging the tenons with sections of dowel. I dry-fitted the long-rail assembly to make sure the tenons weren't too long, and I checked the legs to see that they remained square to the rail when I clamped the joints. Then I glued the long rails into the legs. I clamped the assembly together and checked the legs again to make sure they hadn't twisted under clamping pressure.

After giving the glue time to dry (four hours or so), I planed the tops of the rails flush with the tops of the legs. It's pretty simple to put the long-rail assemblies in a vise and then plane the rails flush. Waiting until the base is completely assembled makes it a little tougher.

Before I glued the two long-rail assemblies together, I dry-fitted the joints, so there would be no surprises. Then I put some glue in the mortises and a little on the tenons and pulled the rails home, making sure the shoulders of the rails fit snugly against the legs (see the photo at left). I measured the diagonals of the table to see whether it had clamped up square. It was within 1/16 in., so I didn't have to clamp across the table diagonally.

Once the joints were dry, I planed the tops of the short rails flush with the tops of the legs and made sure the table sat flat on the floor. I decided to use metal tabletop fasteners to secure the top to the base, so I used a biscuit joiner to cut small recesses in the rails about ½ in. down from the top edge.

Finishing the base and pegging the tenons

The clock was still ticking away, so I needed a quick finish for this piece. I decided on milk paint for the base. This centuries-old finish dries quickly, is easy to apply (and clean up after) and, with a clear coat over it, resists water spotting. It's very durable.

Because I had handplaned all surfaces, I didn't need to wet sand before painting. Planed surfaces aren't abraded, so even a water-based finish like milk paint doesn't raise the grain appreciably. I put on two coats of milk paint, lightly sanding, I mean, *rubbing* each down after they'd dried (okay, so I sanded, but with 400-grit and only for a couple of minutes). After waiting overnight for the second coat to dry thoroughly, I gave the base a coat of Danish oil. This tends to darken milk paint significantly, so make up a sample piece first to see if you like the color change.

I wanted to peg the loose-tenon joints in the legs with a pin that contrasted with the paint, so I used a natural birch dowel against the black paint. I made up a drilling guide to use with a hand-held drill. This guide is simply a piece of hardwood scrap with a ¼-in.

Taperjig is simple, safe and ensures consistent results

I make my living as a woodworker, so I need to spend more time making furniture than making jigs or fixtures. My approach to jig making is no-nonsense: What's going to give me accurate, consistent results, safely and quickly? Which brings me to my taper jig.

It's a dedicated jig (that is, it's for one taper only; it's not adjustable), so it isn't as versatile as it might be. But it more than makes up for that in safety. The leg is captured front and back rather than just in the back as is the case with most adjustable jigs. I've made three more harvest tables since the first one, and I've been able to depend on this jig for consistent tapers.

To make the jig, I ripped a piece of plywood about 6 in. wide (the width isn't important, but this feels about right to me) and about 3 in. longer than the leg I'm tapering. At the back edge of this plywood, I screwed a fairly wide block of wood, so I'd have a sturdy back stop. I made sure this block was flush with the bottom edge of the plywood and was sticking out far enough from the edge of the plywood to act as a stop for the leg (see the drawing). The top of the leg will fit against this stop.

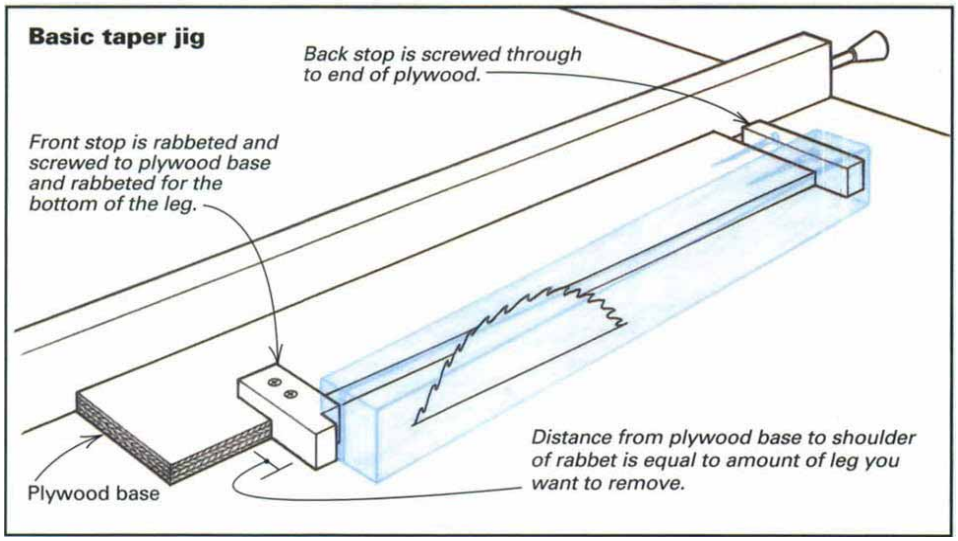
The leg bottom is the first part to enter the sawblade. It needs to be set out away from the plywood base of the jig a distance equal to the amount you want to remove. For this table, I wanted to taper the legs from **2½** in. at the top down to 1 in. at the bottom, so I needed to push the leg bottom out **1½** in. from the edge of the plywood.

To do this, I made another stop that positively located the leg **1½** in. from the edge of the plywood. I cut two rabbets in this stop at 90° to each other, one indexing against the plywood and the other securing the bottom of the leg. I screwed this stop onto the plywood.

If the leg doesn't fit snugly between these stops, glue on a piece of sandpaper or some other shim to make sure it does. When you run those legs through the blade, with over **2½** in. of blade protruding from the table, you want to know the leg is positively captured in the jig, not vibrating around. — *G.R.*

Dedicated taper jig ensures safe, consistent results. *With stops both front and back, this jig captures the leg snugly, keeping it from vibrating or moving as it's cut.*

After the first taper cut, *turn the leg so the cut faces up. This keeps a jointed face on the saw table and a square end against each stop for the second cut.*



hole in it at the proper distance from an edge. Setting the guide against the leg put the hole right where I needed it. I cut dowels to length, drove them nearly home (I left them slightly proud) and chamfered their ends.

Making, finishing and attaching the top

I made the tabletop of poplar, as well, saving the best boards for where they would be seen and appreciated. I beveled the edges of the top on the tablesaw and then handplaned the top, taking care to plane in the right direction so that I didn't get any tearout. I also eased all the sharp edges on the top with a block plane.

I wanted a durable, clear finish for the top, so I brushed on three coats of a water-based polyurethane, waiting two to three hours between coats, as the manufacturer recommends.

The harvest table was completed with hours to spare. Of course, I had to borrow a few chairs, but another holiday, I'll come up with another quick project for that. □

Gary Rogowski designs and builds custom furniture and teaches woodworking at Oregon School of Arts and Crafts in Portland, Ore.

Drawing: Maria Meleschnig