

# Make a Sturdy, Stylish Garden Gate

By Asa Christiana

When I replaced our old dilapidated wood fence with my own funky blend of wood and galvanized metal, I put a Japanese-style arch over the gate opening, planning to cook up an actual gate in the same style. I've learned not to rush the design stage, so I visited the excellent Portland Japanese Garden, took pictures of the gates I found, and also did some digging in Google images. This gate, with falling ginkgo leaves pierced through the lower panel and a traditional Japanese gridwork pattern in the top opening, is the result.

I'm the proud owner of a PantoRouter, and I knew the big, perfect-fitting mortises and tenons it produces would be perfect for my wide gate. Water and weather are hard on gates, and over the years they tend to sag. So I chose 1-1/4-in.-thick cedar for the frame, just thick enough to accommodate sturdy 1/2-in.-thick tenons but not an ounce heavier than they needed to be. I made all of the tenons the full 2 inches long that the PantoRouter allows.

Adding to the strength, I designed the rail widths for a single wide tenon in the two upper rails, and a two-tenon array in the wider bottom rail. A wider bottom rail also just looks good in a big frame-and-panel assembly, grounding it somehow.

All of this adds up to eight deep, thick mortises and tenons, four down each side of this wide door, plenty to keep it square over the years.



## The details are up to you

I won't go through every mortise-and-tenon step (you can find an excellent tutorial in our HOW-TO Guide on Mortise and Tenon), but once you know how to make a big sturdy frame like this, you can design any gate you like.

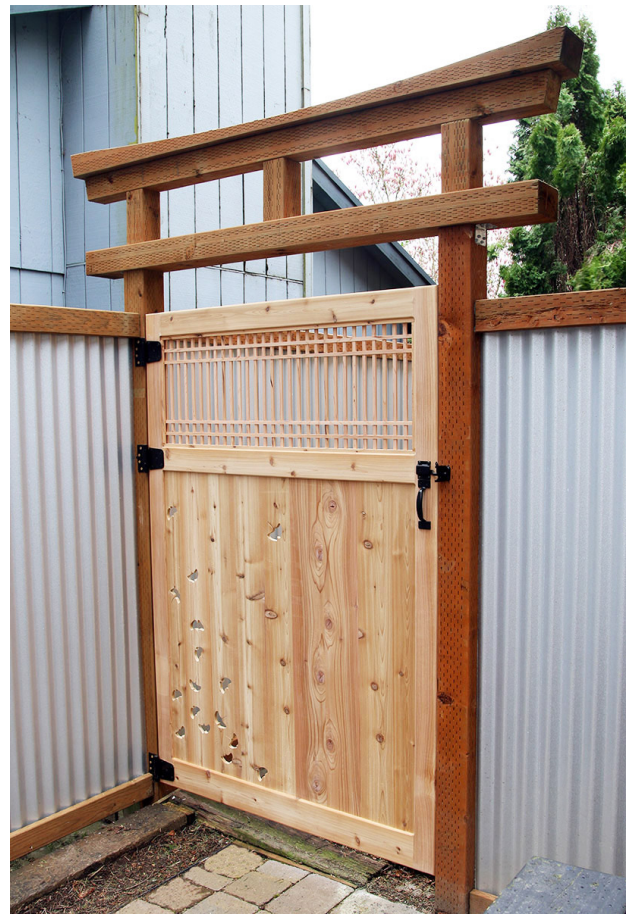
In my case I filled the lower frame with 1/2-in.-thick cedar boards. Those are very lightweight and would be easy to pierce with the ginkgo leaf pattern I had in my head. You can see how I did the leaves below. I didn't want gaps to appear between the boards over the years, so I fired a brad through the frame into each one, top and bottom. A single brad or finish nail will do in each spot, letting each board shrink and expand without moving around much.

I sized the top opening for my Japanese gridwork design. I used a cool L-fence attached to my miter gauge to make the tiny, evenly spaced notches in the thin 5/16-in.-thick gridwork pieces.

As for the finish, I'm not using one. My feeling with outdoor projects is to choose the right woods (Western red cedar is awesome) and then give in and let the wood weather naturally. This cedar will turn silvery grey, close to the color of the galvanized panels in the fence.

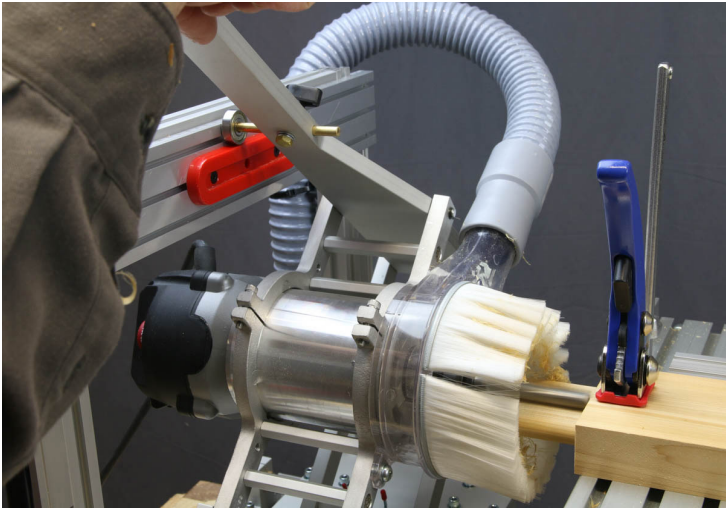
Read on for the step-by-step, but here is the main lesson: Once you own a PantoRouter, mortises and tenons (and tons of other joints) are easy to make and come out perfect every time. With the joinery in the bag, you can focus on the other details, the ones that make a project really sing.

**Pretty way into the backyard.** This cedar gate is more like a big door, and the deep PantoRouter tenons are the key to its sturdiness.

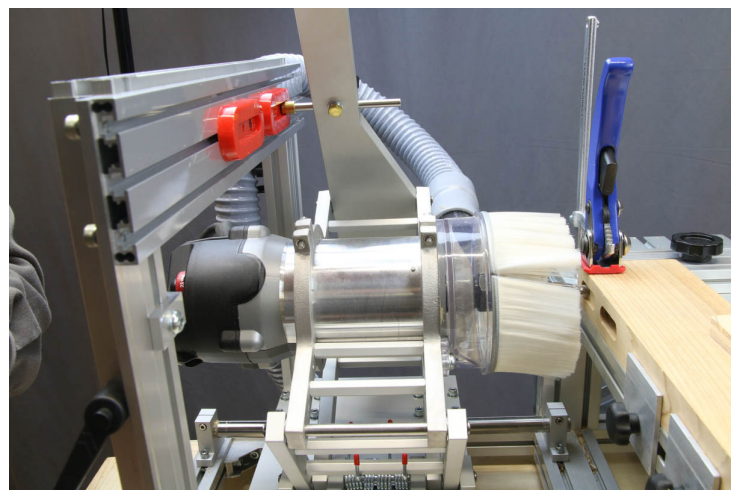
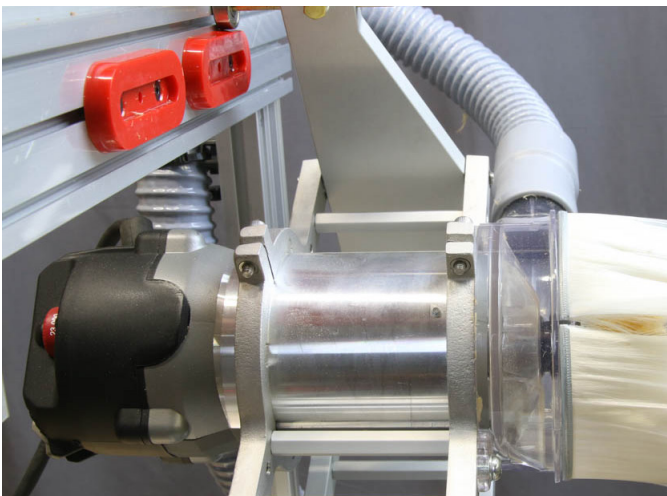


**Japanese touches.** I love Asian style in general. In this case I made a traditional Japanese gridwork up top, holding it in place with simple nailed strips. And I pierced the bottom boards with a falling pattern of ginkgo leaf shapes.





**It all starts with joinery.** I used 2-1/2-in. wide mortises and tenons in the two top rails, which are 3-1/2 in. wide. You want a snug fit that slides together with hand pressure, and the PantoRouter makes that easy.



**Double tenons at the bottom.** The bottom rail is wider, at 4-1/2 in., which let me use two 1-1/2 in. wide tenons. Double tenons are just as easy as single ones on this machine.



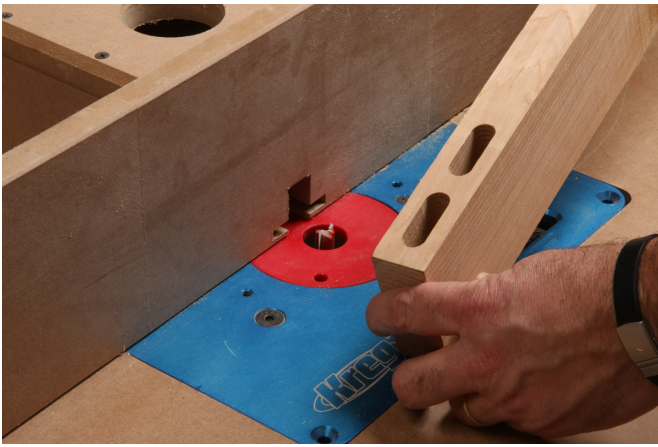
**Create a nice array.** With the panel boards all laid out in the right order, I played around with the templates until I found the tumbling, windblown look I was going for. There was some erasing involved, but it's easier to erase pencil lines than a hole in the wrong spot.



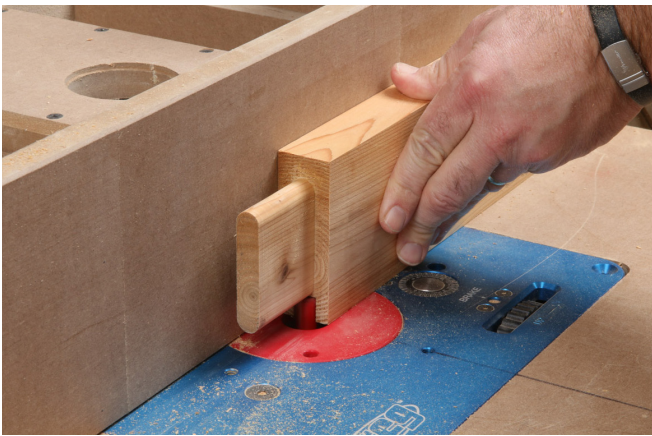
**Jigsaw did the job.** I simply drilled holes for access, put a narrow blade in my jigsaw, and plugged in my earbuds for a long session of careful sawing.

**Old-fashioned handwork.** A small dowel and 80-grit sandpaper is very effective on soft cedar, helping me smooth away all the bumps and wood whiskers.





**Grooving the stiles.** The frame's long uprights needed 1/2-in. wide grooves, running between the lower mortises and the middle ones. I did that on the router table, making the grooves 1/2 in. deep in two passes.



**Groove the rails too.** The middle and lower rails needed the same grooves. I did that in two passes again on the router table, 1/4 in. at a time.



**Make templates for the leaf cutouts.** I found nice silhouettes of ginkgo leaves on Pinterest, and I scaled them on my printer to the sizes I wanted. Then I borrowed my daughter's glue stick to attach them to cardboard and cut them out with an X-Acto knife.



**Always do a dry-fit.** Once I was sure all of the joints would close nicely, I took the opportunity to round all the inside corners with my router. If you did it on the parts separately, you might accidentally round the areas where the middle rail hits.



**Assemble in stages.** Start by slotting the boards into the lower and middle rail, with NO glue. Then apply glue to all of the mortises and tenons and you can add the top rail and side pieces (stiles). I used the bar clamps to draw the joints home, as they got pretty snug once glue was on them. BE SURE to use Titebond III, which is water-proof for outdoor use, and also gives you 10 or 15 minutes before it starts to cure and seize up.



**Get ready for the gridwork.** I surrounded the gridwork with 1/4-in.-thick strips in front and behind it. The back ones go in first. I made these little L-shaped stops to help me place those strips right where I wanted them. Then I shot 18-gauge brads through the strips to lock them in. Thank goodness for air nailers.



**Grid magic.** Start by cutting all the gridwork pieces to fit inside the opening. They are all held together by tiny notches that go halfway through each piece. I cut those with a stack dado set, dialed in for the perfect width of the strips. The four little notches in the uprights were easy to cut using my miter gauge, with the rip fence acting as a stop. But the horizontal parts needed a perfectly spaced series of notches down their length. For that I used this simple jig that attaches to the table saw miter gauge. It has a little key on it that indexes the last little slot you just cut, spacing them all evenly.

**Locking in the grid.** After gluing up the entire grid at once, with a dab of glue at each joint, I let it dry (with weights on it to hold it flat), and then placed it in the opening. Then I nailed in the front strips to lock it in place. If it ever gets damaged, I can always pull it out and repair or remake it.

