

# Build a Chinese Railing



Based on a historic model, this intricate alternative to balusters is attractive and easy to assemble

BY SCOTT McBRIDE

In central Virginia, a region known for its architectural landmarks, one of the most famous is Monticello, the home of America's first great architect, Thomas Jefferson. According to the book *Jefferson's Monticello* by William Adams, Jefferson probably was influenced by a pattern book of the day titled *Designs of Chinese Buildings*. Evidence of this influence can be seen in the striking geometric railings used in various locations on the estate (photos below).

I recently used a similar design for a set of wooden panels that cover the lower half of a screened porch. The panels are a lively alternative to conventional balusters and allow a floor-to-ceiling view. Functionally, the panels protect screens from dogs and errant projectiles. They also have the practical advantage of being self-bracing because of their triangulated configuration.

## First make a pattern, then cut

Despite their complicated appearance, these railings aren't too difficult to build. My first step was to draw a full-scale layout on a large piece of drywall: the perimeter first, followed by the long diagonals. This task divided the panel into triangular quadrants. The two intermediate rails for each quadrant then were drawn parallel to the diagonals. I sped up the drawing process by using a board as both a straightedge and a spacer. I found that a 1x4 board created a pleasing interval between rails.

After the layout was complete, I made a sample of each part and a cutlist. I chose 1½-in.-thick clear cedar for this project, but you also could use redwood, cypress, mahogany, or synthetic lumber (see *FHB* #172, p. 44). How-

ever, I won't recommend that you use pressure-treated yellow pine, which is unstable and has a coarse grain that's vexing to work.

## Stainless: the fastener of choice

The pieces were butted and fastened with stainless-steel square-drive trim-head screws (McFeely's; [www.mcfeelys.com](http://www.mcfeelys.com); 800-443-7937). Screwing directly into end grain doesn't make a strong attachment. Most of these joints are oblique, however, and the screws enter at a somewhat cross-grain angle.

To avoid splitting the wood, pilot holes are required for all trim-head screws. I used scrapwood to determine the proper diameter bit to use. Too small a hole causes the head to strip, and too large a hole weakens the grip. If the pilot hole is sized properly, the head sets neatly about ⅛ in. below the surface. After priming the panels, I filled the screw holes with glazing compound.

I finished the panels with a water repellent followed by an oil-based primer and a high-quality acrylic topcoat. The panels are mounted on the exterior against the screen, surrounded by a ¾-in. by 1½-in. stop nailed to 6x6 corner posts or 2x4 intermediate posts (drawing far right, facing page). Turn buttons make the panels easily removable so that leaves and other debris can be accessed. The finished panels proved to be remarkably sturdy and, as an unexpected bonus, cast bold shadows on the porch floor. □

Contributing editor Scott McBride is in the midst of restoring Montpelier, the historic home of former President James Madison. Photos by the author.

## HISTORY REPEATS ITSELF



The railing design was based on a recurring motif at Thomas Jefferson's home, Monticello. Jefferson borrowed the pattern to use in roof crests, boardwalk railings, and even in garden furniture.



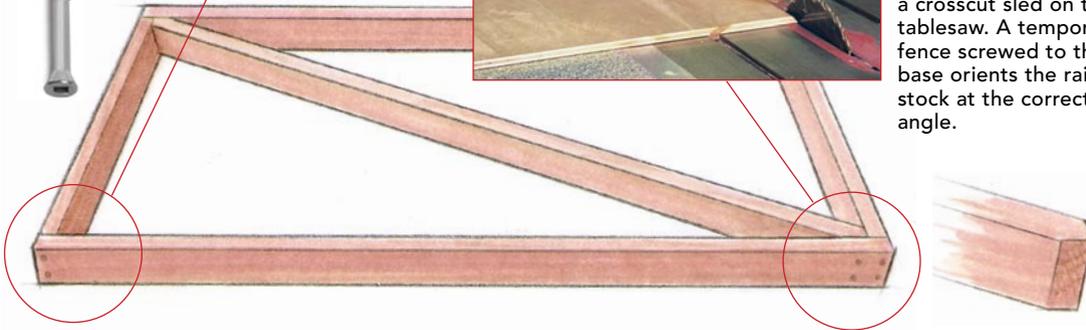
## THE GRID SEQUENCE

After making a full-scale drawing on a piece of drywall, I made a sample for each part and a cutlist. I then ripped lengths from clear cedar and square-cut the parts to rough length. Finally, I trimmed the pieces, checking the angles and lengths against the samples.

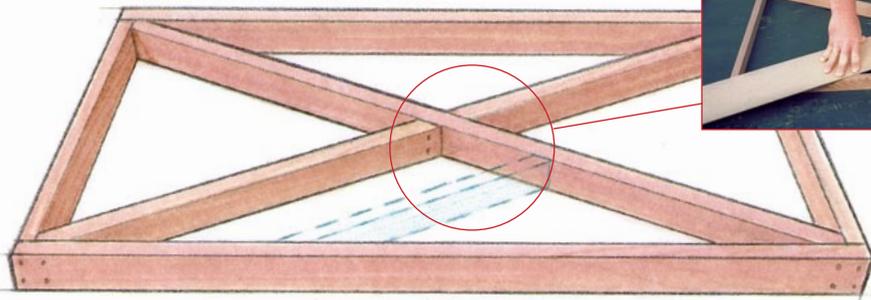
**1.** The rectangular stiles and rails were assembled first to make the perimeter. I used simple butt joints fastened with stainless-steel trim-head screws.



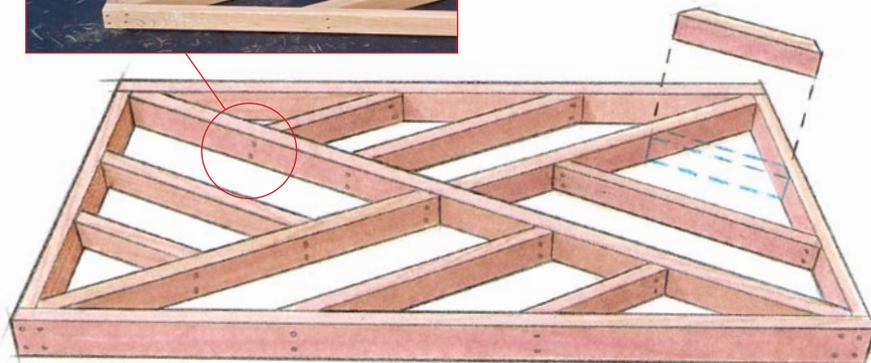
**2.** Next, I fitted a long diagonal that bisected the rectangle. Because cuts beyond 45° are difficult to handle on a miter saw, I set up a crosscut sled on the tablesaw. A temporary fence screwed to the base orients the railing stock at the correct angle.



**3.** To lay out the intermediate rails, I used a board as a combination spacer and straightedge.



**4.** After marking the layout, I installed the intermediate rails. A right-angle drill was a good choice for driving the screws because its head fit in the spaces between pieces.



### Removable panels

To make cleaning easier, the panels are removable. The screening is attached to a ¾-in. by 1½-in. frame, which is screwed to the posts. In turn, each panel sits within the frame; turn buttons at the bottom and top secure the panels.

6x6 corner post

¾-in. by 1½-in. screen frame, screwed to posts



Metal turn button mounted on a wood block (¾ in. by ¾ in. by 7/8 in.)