Charles Rohlfs Umbrella Stand

An eccentric design with atypical construction

BY PETER MARCUCCI

I have spent much time over the last few years researching and re-creating Charles Rohlfs furniture. Most woodworkers are familiar with Arts and Crafts makers such as William Morris, Greene and Greene, and Stickley. Charles Rohlfs, while popular among art history and decorative arts scholars, has not received the same attention from woodworkers. His work contains many elements of Arts and Crafts furniture but is set apart by its unique structures, shapes, ornamentation, and carving details.

I recently completed a re-creation of Rohlfs's circa-1900 "Graceful Writing Set," which included a desk, chair, and waste container (see Designer's Notebook, p. 38). To make it easier to empty the container, I built an insert that can be lifted out. It occurred to me that if the insert were modified, the container could be used as a plant stand or an umbrella stand.

The umbrella stand I made can serve as an introduction to Rohlfs's unique style, and I hope it will inspire you to take on the re-creation of some of Rohlfs's other works or to incorporate the style into your own designs.

I'll warn you now that Rohlfs used screws in the construction of his furniture, so I did the same. However, if using screws in furniture does not sit right with you, feel free to remove each screw, drill a larger hole, and replace the screw with a glued-in dowel.

Start with the base blank

The container consists of a base, six uprights, six fretwork panels, and six feet. Start by gluing up two boards to form a slightly oversize, square blank for the base. You can lay out the hexagon using a compass. First, set the radius of the compass to 9 in. and draw an 18-in.-dia.

Photos: Anissa Kapsales

From square to circle to hexagon

The hexagon is the anchor for the entire umbrella stand. The six-sided base holds six uprights, six panels that go between them, and six feet.

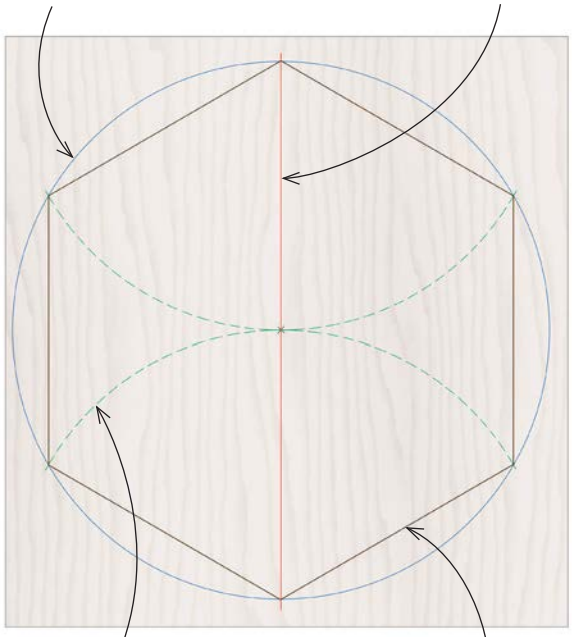
LAYING OUT A HEXAGON USING A COMPASS

STEP 1

With a compass, draw a circle with a 9-in. radius.

STEP 2

Draw a vertical line through the center point of the circle that intersects the circumference of the circle at the top and bottom.



STEP 3

Where the centerline intersects the bottom of the circle (with the compass still set at 9 in.), insert the compass point and draw an arc that spans the circle. Repeat the process where the line intersects the top of the circle.

STEP 4

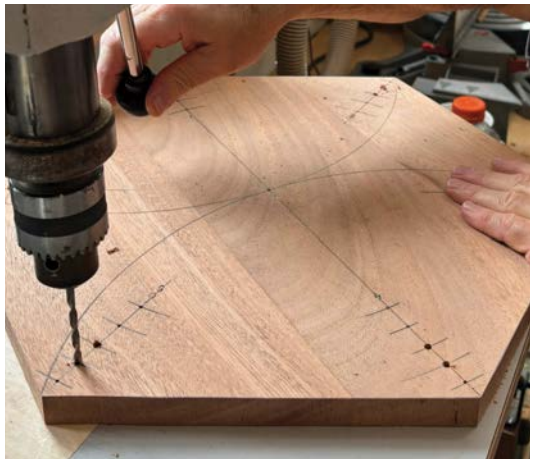
With a straightedge, connect neighboring pairs of points where the centerline and arcs intersect the circle. Now you have a hexagon.

One full circle and two arcs. *With your compass, draw a full circle. Then draw a centerline that goes through it. Next, keeping the compass setting the same, draw two arcs with the pin of the compass set where the full circle and centerline meet.*

Connect the dots. *The centerline and the arcs will intersect the circle in six different spots. Use a straightedge to connect those points. Voilà—you've drawn a perfect hexagon without measuring a thing.*

Online Extra

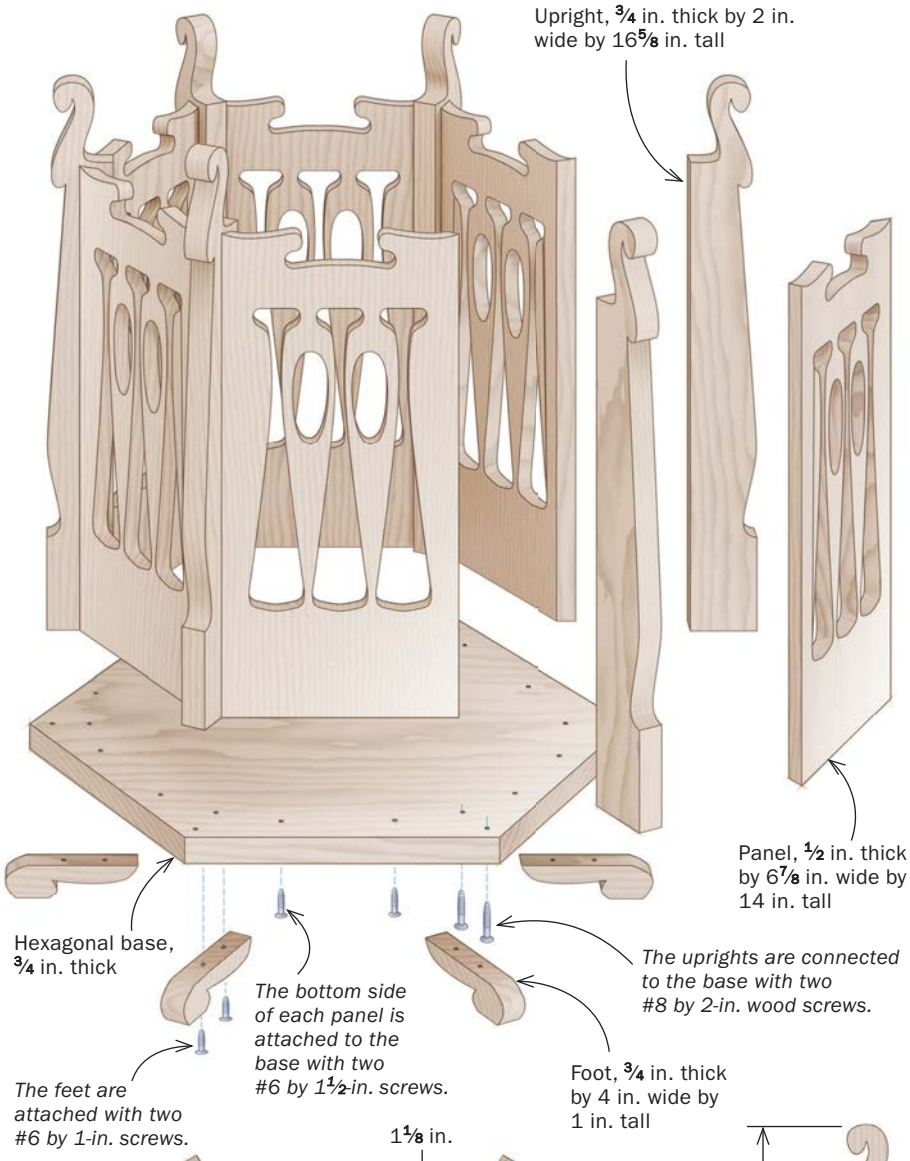
To download the full layout pattern, go to **FineWoodworking.com/317.**

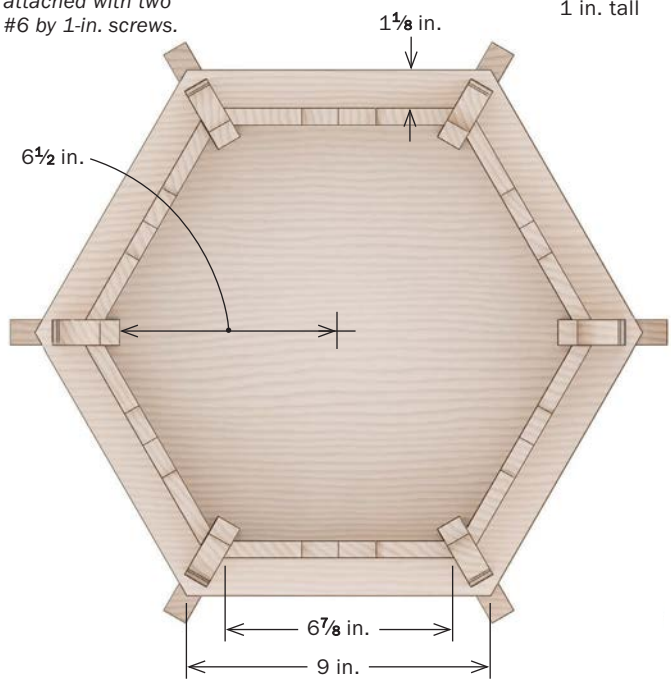


Mark and drill for the uprights. *Draw lines that run from each corner of the hexagon to its opposite corner. On one of those lines, measuring from the center point, use a ruler to mark five points. These locate the inner and outer edges of the uprights; the inner edge of the feet; and two pilot holes for screws into the uprights. Use a compass with its point at the center of the circle to transfer those locations to the other five points of the hexagon. After you've cut out the hexagon at the bandsaw, drill the pilot holes for the uprights at the third and fourth points from the center.*

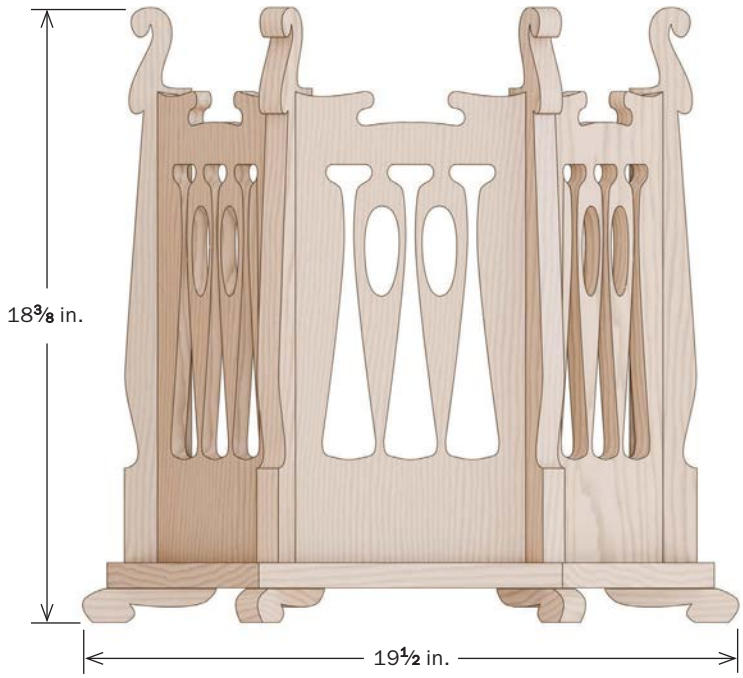
Mark and drill for the panels. *Pencil in the layout of all the parts on the base, then drill the pilot holes for the screws that will hold the bottom of the panels in place.*

UMBRELLA STAND





TOP VIEW



FRONT VIEW

circle. Then draw a straight line through the center point of the circle. Where the straight line intersects the top of the circle, insert the point of the compass—still set at 9 in.—and draw an arc that spans the circle. Repeat this process from the point where the vertical line intersects the bottom of the circle. You should now have four points where the arcs intersect the circle, and two points where the vertical line intersects the circle. With a straightedge, join the intersection points to create six sides, each 9 in. long.

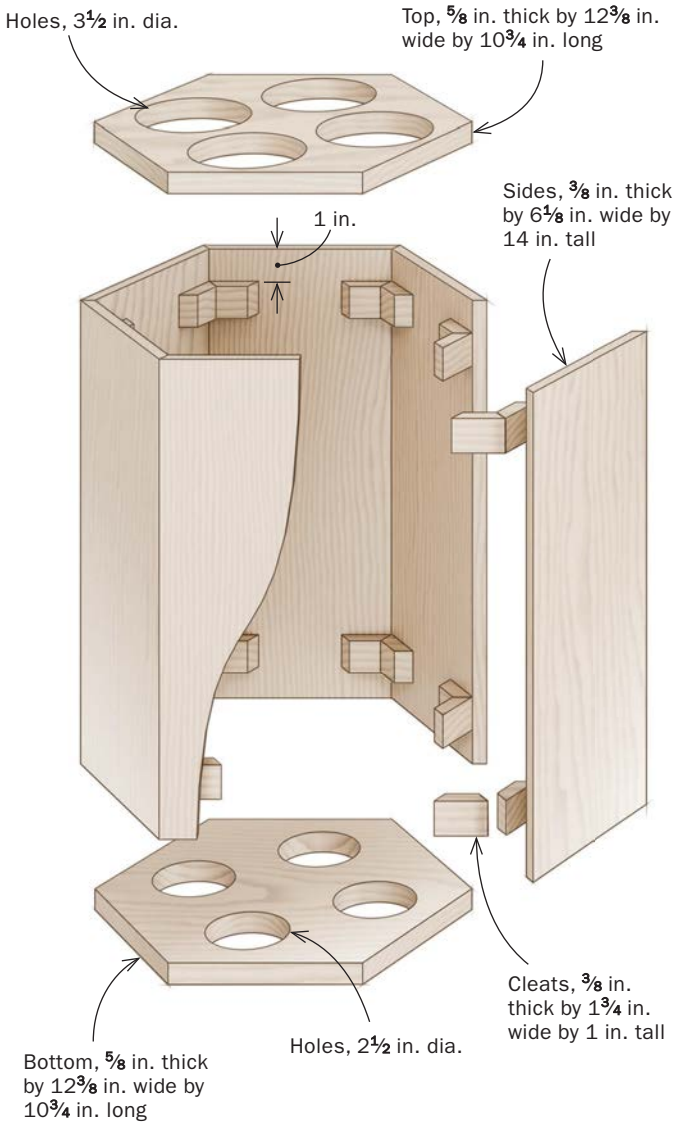
Continue with the base layout

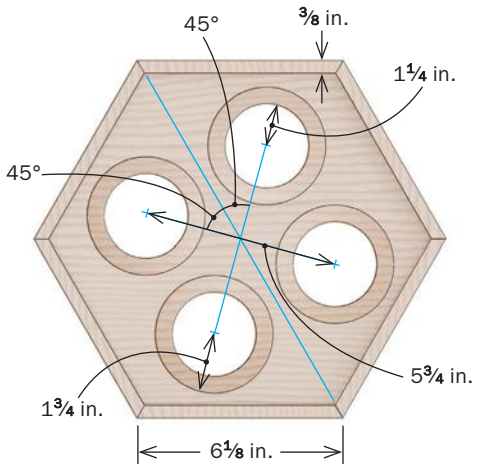
To establish the location of the parts on the base and the pilot holes you'll drill through it, draw a series of five concentric circles within the large one. You can draw these as full circles or just as hash marks across radius lines aimed at each point of the hexagon. The innermost circle marks the inner edge of the feet. The second circle marks the inner edge of the uprights. The third and fourth circles mark the pilot holes for the screws that connect the uprights to the base. The fifth circle marks the outer edge of the uprights.

With the layout complete, cut out the hexagon on the bandsaw. It's necessary to disassemble and reassemble the piece a few times before completion, and with six uprights attached to the points of the hexagonal base, it can be hard to keep track of what goes where. So I number each point of the hexagon, 1 through 6, with a small metal number punch.

Drawings: Dan Thornton

UMBRELLA STAND INSERT

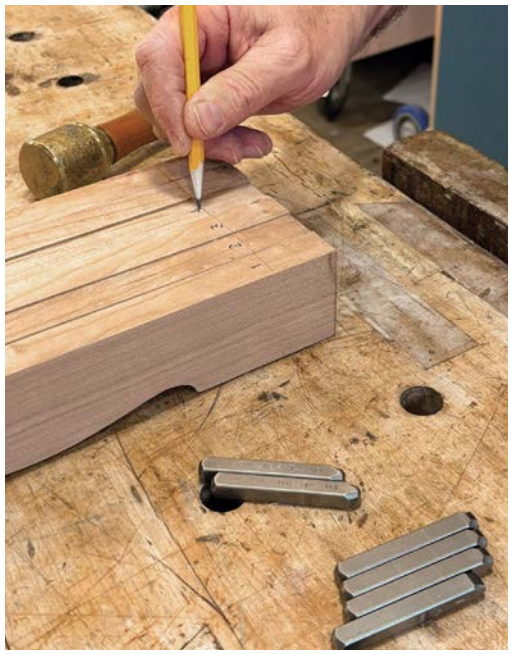




INSERT TOP VIEW

Keep track with numbers

The main stand gets screwed together and disassembled multiple times. To keep track of the parts, mark the base and each upright, panel, and foot. Pencil marks will get sanded away before assembly. Discreetly located number punches filled with pencil survive sanding.



Mark the base. *Each point of the hexagon gets numbered 1 through 6. When assembled, the numbers will be hidden inside the stand under the insert.*

Sync the uprights to the corners. *Each upright gets a number corresponding to its corner. Punch the number on the inside edge of the upright, which will be unseen.*

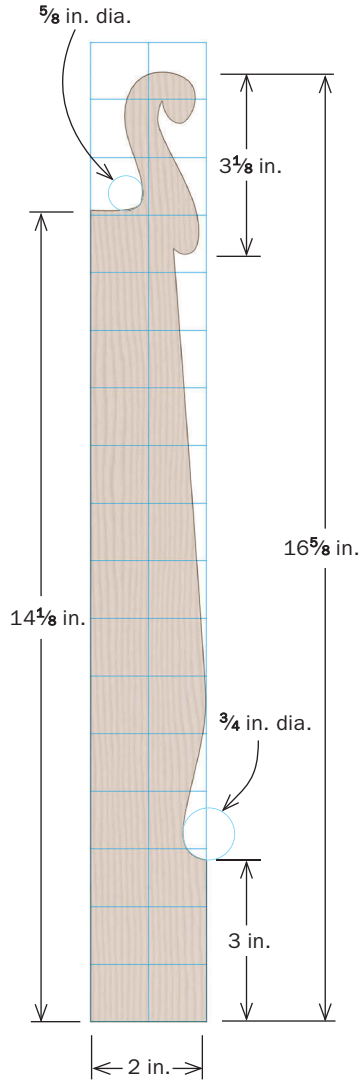
Panels get double numbers. *At the bottom of each panel, on the inside face, punch numbers to match the adjoining uprights.*

An upright in each corner

Before you locate the six uprights to the base, you must shape them.

Paper patterns. *Marcucci lines up the long edge of the pattern with one of the long edges of the upright blank. He attaches it with hot hide glue because it is easier to remove the pattern and any remaining residue.*

Shapely uprights. *First, use a Forstner bit to cut the tighter curves of the pattern. Then cut the rest of the shape on the bandsaw, and refine and fair the curves with rasps, files, and sandpaper.*



UPRIGHT DETAIL

Mark and drill the screw holes. *Use the hashmarks on the hexagon to transfer the location of the screw holes to the bottom of one upright. Set a marking gauge to mark the centerline of the uprights; then with dividers set to the marks on the first part, mark pilot holes on the rest.*

The punched numbers survive moderate sanding. Later, I number the uprights to match. To complete work on the base, drill and countersink the pilot holes for the screws that will connect the uprights and the panels.

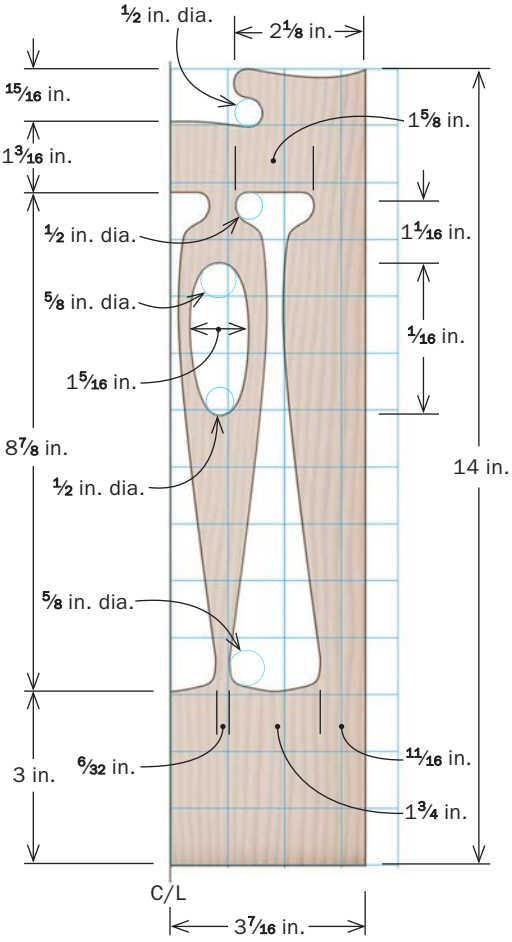
A set of six uprights

There are many methods for shaping the uprights. I don't have a CNC machine, and the router is one of my least favorite woodworking tools, so I used a drill press and bandsaw.

First, I printed six copies of a paper pattern and glued one to each upright blank. I began the shaping at the drill press by cutting holes with a Forstner bit at the tight inside curves in the design. I sawed out the rest of the shape at the bandsaw, cutting close to but leaving the lines. Finally, I used rasps, files, and sandpaper to remove the bandsaw marks and fair the curves.

Six panels and six feet

As you did with the uprights, shape the panels and feet before locating and installing them.



PANEL DETAIL

Patterned and mitered. *After gluing patterns to the panel blanks, cut the bevel on one side of the panel, then the other, sneaking up on the fit. Test the panel's fit between its specific uprights.*

Cutting an ornate pattern. *Start by drilling holes at the tight inside curves. Use a ½-in. Forstner bit in the tightest curves and a ⅝-in. bit in the others. Use a scrollsaw blade in a jigsaw to cut the rest of the pattern.*

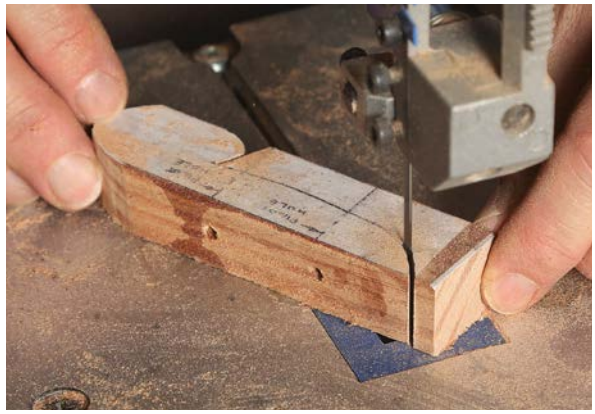
Peel it back. *To remove paper patterns applied with hot hide glue, generously soak a rag with water, set it over the pattern for about 10 minutes, and slowly peel the pattern off.*

To lay out pilot holes for the screws into the bottom of the uprights, make a centerline along the bottom of each upright with a marking gauge. Transfer the spacing of the pilot holes on the base onto one upright. With dividers, transfer the location of the pilot holes from the first upright to the other five. Drill the holes and temporarily screw each upright to the base.

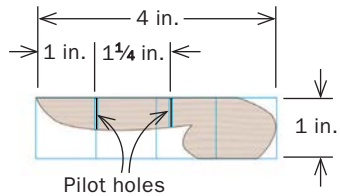
Half a dozen panels and three pairs of feet

You can use the same paper-pattern approach for shaping the panels. Once the patterns are glued onto the panel blank, rip a 30° bevel on both long edges. Start with the panel slightly oversize so you can sneak up on a tight fit between the uprights. Number each panel so it goes back between the same two uprights.

Begin the fretwork by drilling holes with a Forstner bit at tight inside curves, then saw the rest. I used my jigsaw, with a scrollsaw blade



Fancy feet. *Similar to the uprights, the feet blanks get pilot holes for the screws, paper patterns glued to them, and then shapes cut out and refined.*



FOOT DETAIL

Fit and finish

Before final assembly, screw the uprights and panels in place to fine-tune the fit. Then disassemble and apply finish.

One panel at a time. *Screw the first two uprights in place. Fit the mating panel between those uprights and screw it in place from the bottom of the base. To define the glue surfaces on the uprights, draw lines on them, tracing along the inside and outside faces of the panel (above right). Work your way around the base, screwing in one upright and panel at a time until you've assembled the whole container.*

Tape off glue lines. *Before applying finish, make sure to tape off the bevels on the panels and a corresponding strip on the uprights. Take care to apply stain and finish to the inside edges of all the curves and fretwork.*

inserted. Clean up the inside edges with small rasps and sandpaper.

Use the same process to make the feet: Attach a paper pattern to each foot blank, drill Forstner holes, cut the blanks at the bandsaw, and clean them up with rasps and sanding.

Dry-fit, finish, and final assembly

You'll have to assemble the piece fully to make sure the panels fit snugly. Start by attaching the uprights to the base. Next, drill two pilot holes through the base for the screws that will be driven into the bottom edge of each panel. Then screw the panels in place. When you have all the pieces assembled, define the glue surface on the uprights by tracing along each panel, inside and outside, where it meets the uprights.

I next take the pieces apart, give them a final sanding, and finish them unassembled. I've reproduced Rohlfs pieces using oak, walnut, and mahogany. When I use mahogany, as I did here, I apply an English chestnut stain. Then I finish the piece with a few coats of Danish

oil or a couple coats of shellac rubbed down with steel wool and waxed.

The glue-up is very similar to the dry-fit, except now the edges of the panels get glued to the uprights. And I now use a 23-gauge pin nailer to toenail the top of the panel to the uprights and hold it in place until the glue has dried. When the glue has cured, locate the feet on the underside of the base, drill pilot holes through them, and attach them with screws.

Build the hexagonal insert

The insert is made up of six sides mitered together and a top and bottom. To assemble the insert, tape the pieces together, outside faces up, long edge to long edge. Flip the assembly over and carefully run tape along each side of the miter joints. When the joint closes, these will catch any glue squeeze-out. Apply glue to each joint, roll the assembly together, and tape the final joint. (This technique is explained more fully in "Hexagonal Boxes Are Little Gems," *FWW* #285.)

Add a removable insert

Though the original Rohlfs piece didn't have an insert, Marcucci added one to keep umbrellas upright.

Tape, glue, and roll. *Before gluing up the hexagonal insert, apply strips of tape beside the bevels on the inside face to make cleanup easier. Then, with the parts laid on the bench side-by-side and outside up, apply a strip of tape along each joint, and back those up with horizontal strips. Apply glue to the inside of the miters, roll the assembly up, and tape it closed.*

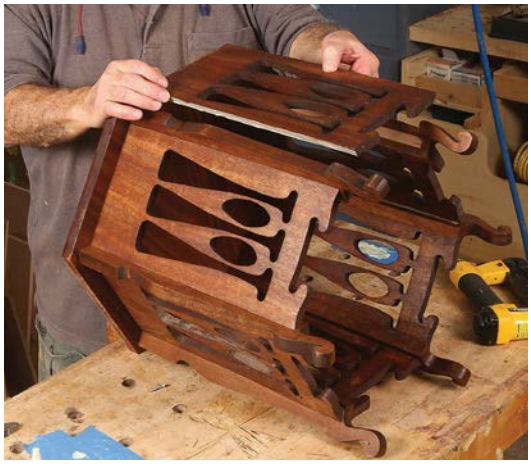
Mark the top and bottom. *When the glue is dry, peel the tape off. Set the insert on the top and bottom blanks in turn to trace the inside shape. Then cut them out on the bandsaw.*

Hole saw in a hand drill. *Marcucci uses a hole saw to drill the holes in the top and bottom. He drills halfway through, flips the piece over, locates the hole saw in the bit hole, and cuts the rest of the way through.*

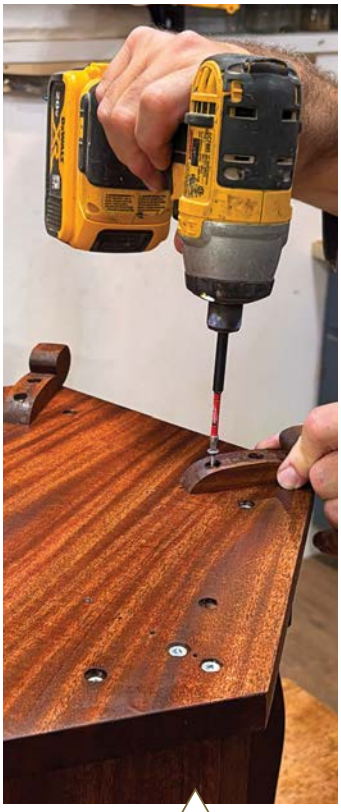
Glue and tack the top and bottom. *After gluing small cleats inside the insert, glue and pin the top and bottom onto the cleats.*

The final assembly

With all the parts finished, it's time to screw everything together for the final time and add some glue to the panels.



Repeat the assembly, almost. *Just as in the dry-fit, work your way around the hexagon, installing the uprights and panels for the final time. The difference now is that you'll add glue to the beveled edges of the panels before you place them between the uprights. And after you screw through the base into each panel, you'll use a pin nailer to tack the top of the panel to its uprights while the glue dries.*



Six feet under. *Turn the container upside down and screw the six feet in place at each point of the hexagon.*

Add a top and bottom to the insert

To make the insert's top and bottom, trace the inside perimeter of the glued-up sides onto two square blanks. Cut out the hexagonal shape, leaving the line that you traced. Then trim the top and bottom to achieve a snug fit.

To hold the umbrellas, drill four holes through the top and four smaller holes through the bottom. Begin the layout for the holes by drawing a straight line through two opposite points of the hexagon. Then draw two radial lines located 45° from either side of the straight line. Draw a 2⅞-in.-radius circle from the center point of the hexagon. This circle will intersect the two 45° radial lines at four points. These intersections mark the center of your circles. This same layout will work for both the top and bottom boards.

To help locate and fasten the top and bottom, I fitted cleats around the inside of the insert. The cleats are glued and held in place with 23-gauge brads. The top and bottom are attached to the cleat with glue and brads. □

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Insert the insert. *Gently place the insert into the decorative container and it's ready to hold your bumbershoots and shillelaghs.*