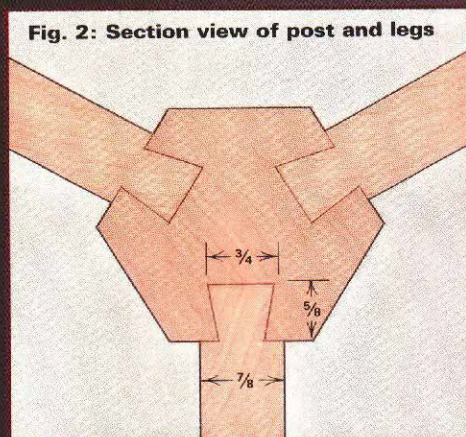
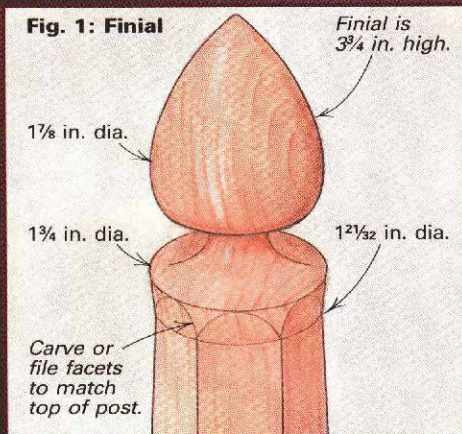


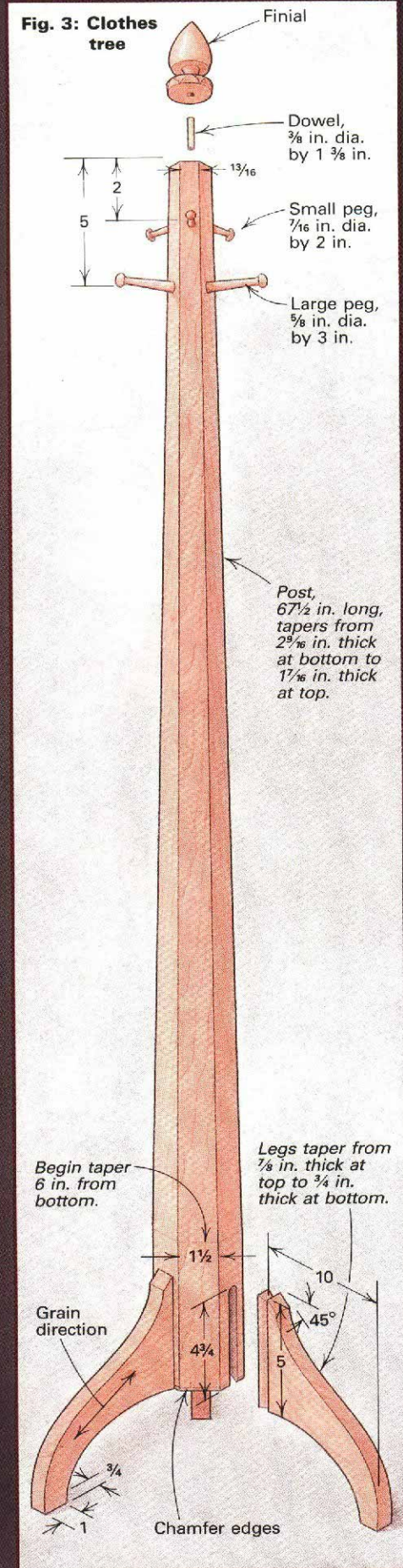
A Cherry Clothes Tree

A simple project to hang your hat on

by Christian H. Becksvoort



The author borrowed design details from a number of pieces to create this cherry clothes tree. The legs are from a Shaker round stand, the post and finial from a pencil-post bed and the pegs from a Shaker pegged wall board.



Recently I was commissioned to build a bedroom clothes tree to complement a cherry pencil-post bed I had already made (*FWW*#76, pp. 32-37). My initial reaction was to copy the bed's eight-sided posts. An eight-sided clothes-tree post with four legs seemed logical, but no matter what kind of legs I drew, none looked right. I even considered gluing up a lathe-turned flattened cone for a base, but this was too heavy visually.

To lighten the appearance and conform to the simple lines of the bed, I decided on a tapered hexagonal post with three legs secured with sliding dovetails. I made full-size cardboard cutouts so I could determine the best shape for the legs, and settled on the cyma legs, one of my favorite styles, taken from a Shaker round stand. Shaker pegs were a logical choice for hangers. I used three 3-in.-long pegs on the same facets as the legs and three 2-in.-long pegs higher up on the remaining three facets. To top off the post, I used the same modified acorn finial as the one on the pencil-post bed. This finial design was originally used to top off the back legs on chairs by Robert Wagan of the Mt. Lebanon Shaker community in New York.

Making the post—To build the clothes tree, I started by first ripping the post stock into a hexagon with 1½-in.-wide facets and then tapering it on my jointer. To prepare the stock, crosscut a 3½-in.-wide piece of 1¼ cherry to 67½ in. long. Joint the wide face of the stock flat and plane it to 2⅞ in. thick. The 1½-in.-wide facets at the base of the post predetermine the measurements: 2⅞ in. from face to face and 2⅓ in. from point to point (see figure 4). To lay out the hexagon, I divided the thickness of the stock in half and scribed a centerline across the bottom. Using a sliding T-bevel set at 120°, I drew the lines shown in figure 4 to define the first two cuts.

Before ripping the bevels on the tablesaw, move the fence to the side of the blade opposite the direction the blade tilts, raise the blade about 1½ in. and then set it to 30°. Adjust the fence, as shown in figure 4, so the blade cuts on the waste side of the layout line and the cut-off scrap is not trapped between the fence and the blade. After making the first cut, I flipped the stock end for end, keeping the same edge against the fence, and ripped the second facet. Since I didn't change the fence position, both cuts met at the centerline. Now, on both faces of the stock, draw a pencil mark 1½ in. from the cuts just made and, using the sliding T-bevel, draw the lines on the end of the stock for the third and fourth cuts. As you did for the first two cuts, adjust the fence and make the third cut, and then flip the stock end for end and rip the last bevel.

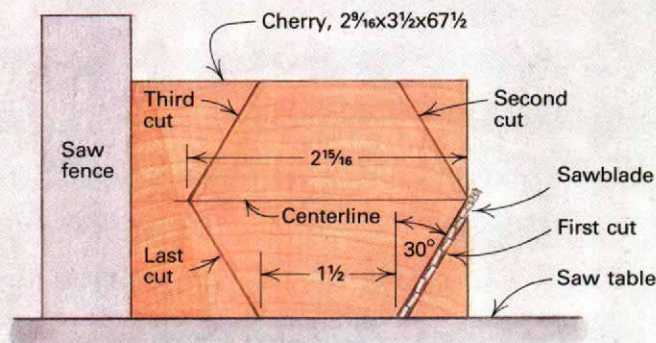
I prefer tapering the post on the jointer because it's quick, easy and produces smooth surfaces. You want to leave 6 in. of untapered stock at the bottom of the post, for dovetailing the legs, and then taper the remainder from 2⅞ in. thick to 1⅞ in. thick at the top. This requires removing ⅞ in. from each facet, which I do in two passes with the jointer set to take a ⅜-*in.*-deep cut. First, draw a reference line at 30¾ in. from the top on each facet. Then with the top of the post at the end of the infeed table, lower the reference mark onto the cutter and feed the post, bottom end first, through the cutter. If your jointer doesn't have this capacity, make multiple passes of lighter cuts, but taper each facet equally. Tapering can also be done with a bandsaw and handplane, but this is difficult because the bandsaw table must be tilted to 30°. When you are finished tapering, sand out planer marks or sawmarks, easing the transition between the taper and the straight surface at the base. (See *FWW* #54, p. 54, for more on tapering on a jointer.) A word of advice regardless of your tapering method: Mark the tapers before cutting them and draw the smaller hexagon, 1⅓ in. per side, on the top of the post. As the tapering progresses, the end view becomes an optical illusion, and without these marks, it is difficult to determine which facets have been tapered.

Shaping and dovetailing the legs—The three legs that support the clothes tree are cut from ⅞-in.-thick stock, with the grain running the length of the leg, and dovetailed into the post. Develop a pattern from figure 3 and then trace it onto the stock and bandsaw the three legs. Be sure that the bottom of the leg and the edge that will be dovetailed into the post are perpendicular and that this edge is perfectly straight. I used a drum sander attachment on my lathe to sand the curve underneath the leg flat and to shape the curve on the top to a crowned profile.

When the three legs are sanded, it's time to cut the dovetails, which can be done on a table-mounted router or by hand. Using a router-table setup is less time-consuming, but not as much fun. I'll discuss both methods, since I use both in different circumstances.

To rout sockets and pins for sliding dovetails, I use a ¾-in. dovetail bit with a 14° angle chucked in my table-mounted router. Set the bit for a ⅝-in.-deep cut and adjust the fence so the cutter is centered on a facet of the post laying flat on the table. I clamp a second fence of scrapwood on the other side of the post to hold it in place, and then clamp a stop to the fence 4 in. past the router bit to control these cuts. Hold the post firmly down on the table

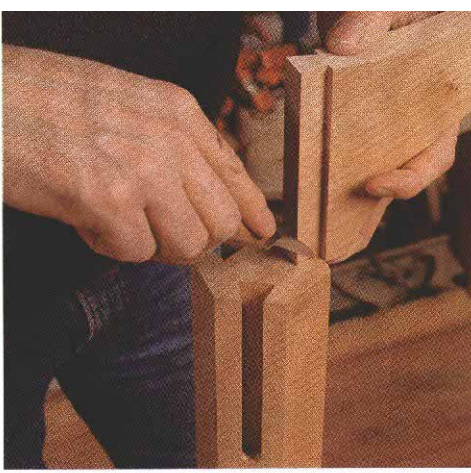
Fig. 4: Laying out and cutting the hexagonal post



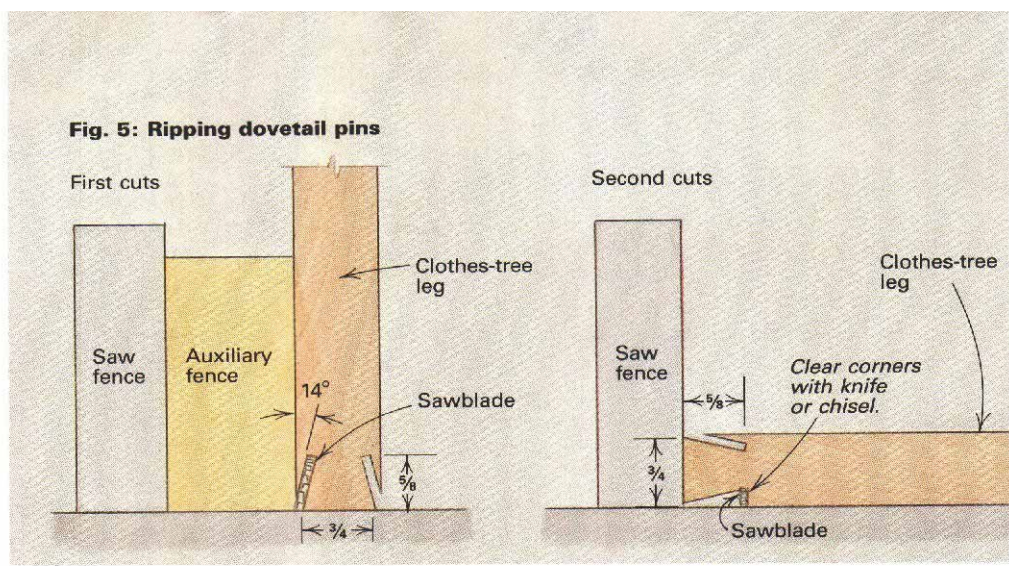
Above: Fences on two sides of the post and a stop block to control the length of cut ensure accurate and consistent dovetail slots for joining the legs to the post.

Right: Becksvoort cuts the dovetail pins on the leg ends quickly after setting the fence through a series of trial-and-error tests on a scrap block.





Using the dovetail pin on the leg as a guide, the author scribes the layout for the slot, which is cut with a dovetail saw and then chopped with chisels.



and slide it into the cutter, as shown in the top photo on the previous page, until it hits the stop. Gently back out the post and repeat this twice more on the alternate facets until you've cut $4\frac{3}{4}$ -in.-long dovetail sockets for the three legs.

To cut matching pins on the legs, remove the stop and the second fence without changing the cutter height. Add a wooden auxiliary face to the fence and move this face into the cutter until a little less than $\frac{1}{8}$ in. of the cutter is exposed. Then make a test run: slide a scrap block past the cutter, flip it over, cut the other side and fit it into one of the sockets. If the fit is too tight, move the fence back a hair and recut a scrap. If the fit is too loose, move the fence into the cutter and test again with another scrap. Once you've found the correct position for the fence, cut the pins on the three legs, as shown in the bottom, right photo on the previous page.

If I'm not routing the dovetails, I usually rip the pins on the leg first and then handsaw or chisel the slots to fit. To do this, begin by setting the tablesaw blade to between 12° and 14° , so that it's just under $\frac{5}{8}$ in. high, and by adjusting the fence to cut a pin about $\frac{3}{4}$ in. wide (see figure 5). Cut both sides of the pins on all three legs. Then reset the blade to 90° , lower it and cut the waste on the shoulders. The two sawcuts should just meet, but not overlap. The remaining waste in the corner must be cleaned out with a knife or chisel.

To lay out the dovetail slot, position the leg so that the pin rests on the bottom of the post, centered on one of the facets, with its shoulders touching the edge of the post. Mark around the pin with a knife, as shown in the photo above, and use a square to transfer these lines $4\frac{3}{4}$ in. down the face of the facet. With a dovetail saw, cut the slot on the waste side of the lines, being careful not to saw beyond the $4\frac{3}{4}$ -in. stopping mark.

Clearing the waste from the slot takes about 30 minutes, if the grain is straight. First, anchor the post firmly in a vise with padding so it won't be marred. Then make a stop cut with a $\frac{1}{2}$ -in. chisel in the end of the slot. Next, waste the bulk of material from the post, beginning at the bottom and working to the stopped cut. To clean the bottom and sides to fit, use a no. 2 pencil and blacken the first $\frac{1}{2}$ in. of the bottom and two sides of the pin. Force the pin into the slot until it binds and then withdraw it. The pencil smudges in the slot reveal tight areas where binding occurs. Shave these areas and slightly beyond with sharp $\frac{1}{2}$ -in., $\frac{5}{8}$ -in. and $\frac{3}{4}$ -in. paring chisels. The pin slides about $\frac{1}{16}$ in. to $\frac{1}{8}$ in. further into the slot with each fitting. Continue the trial-and-trim technique until the pin hits the end of the slot. Although the fit must be tight, hand pressure should be enough to slide the leg into place. However, it may take a few mallet taps to get the leg out. Because each leg will fit slightly differently, I marked the slot and leg so they could be paired again during assembly.

When all the legs were fitted, I handsawed the flat area on top of

each leg to approximately 45° . Taper the leg from its $\frac{7}{8}$ -in. thickness at the dovetail to $\frac{3}{4}$ in. at the bottom of the foot. Now finish-sand all three legs and glue them into their respective slots. Because of this tight fit and the self-wedging action of the dovetails, clamping should not be necessary. When the glue has dried, sand the bottom sides of the three legs flush with the post.

Making and installing the pegs and finial- Although I turned the pegs for my clothes tree on a lathe, similar-size cherry pegs are available from Shaker Workshops (Box 1028, Concord, Mass. 01742; 617-646-8985) or Cherry Tree Toys, Inc. (Box 369, Belmont, Ohio 43718; 614-484-4363). Be sure you buy the pegs before drilling the post so the holes are the right size. My large pegs, located 5 in. from the top on the same facets as the legs, have $\frac{1}{2}$ -in.-dia. tenons, while the small ones, located 2 in. from the top on the remaining three facets, have $\frac{3}{8}$ -in.-dia. tenons. Lay out the holes on the centerline of each facet, and then tilt the table on the drill press to compensate for the taper of the post so that the facet lies perpendicular to the drill bit. Position the post under the bit and clamp it into place. Drill the $\frac{1}{2}$ -in. holes about $\frac{5}{8}$ in. deep and the $\frac{3}{8}$ -in. holes $\frac{1}{2}$ in. deep. I've found that the top hole for mounting the finial is best drilled with a doweling jig. To do this, find the center of the top and locate the barrel of the jig directly over the center. This is easiest if you insert a $\frac{3}{8}$ -in.-dia. brad-point bit into the barrel. Because the post is tapered, small shims are required at the top to mount the doweling jig.

To turn the pegs on the lathe, cut the tenons with a plug cutter on the drill press, and then mount the blank in a chuck, steadying it with the tailstock center. After you turn the pegs, cut off the waste, back off the tailstock center and finish-sand the pegs on the lathe. Apply a dab of glue to each tenon and glue the pegs into their holes.

The $1\frac{7}{8}$ -in.-dia. by $3\frac{3}{4}$ -in.-long finial is turned from a 2x2x5 cherry blank. Before mounting the blank on the lathe, drill a $\frac{3}{8}$ -in.-dia. by $\frac{3}{4}$ -in.-deep hole in the bottom of the finial for doweling it on the post. The finial flares slightly as it goes up from its base, which should be the same diameter as the corner-to-corner measurement at the top of the post. After the finial is turned, glue a $\frac{3}{8}$ -in.-dia. by $1\frac{3}{8}$ -in.-long dowel into the top of the post. Position the finial on the dowel and with a knife, outline the top of the post on the bottom of the finial. Carve or file six flat, half-oval facets into the base of the finial, as shown in figure 1. This provides a smooth transition from the turned finial to the hexagonal post. When the fit is perfect, sand the finial smooth, glue it to the post and apply the finish of your choice. I like the soft glow of a hand-rubbed oil finish. □

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