

Cutting dovetails in curved drawers

BY ED WELCH



Introducing curves in furniture can be both exciting and intimidating; the same can be said of hand-cutting dovetails. So surely cutting half-blind dovetails in a concave drawer front must be a real emotional roller-coaster?

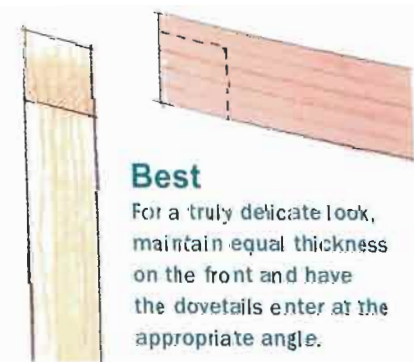
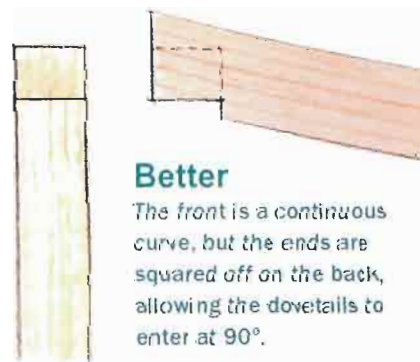
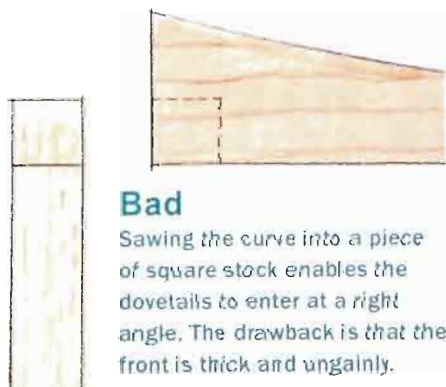
There are three main ways to do this (see drawings, below). My method is the most aesthetically pleasing, and with precise preparation and helpful jigs is easier than you'd think.

An accurate template is vital

When making furniture that includes steam-bent or bent-laminated parts, make these parts first. Then, if they spring back when removed from the form, you can adjust the design to the curve. With the curved parts made and the carcass assembled, make an accurate template of the bottom of the drawer pocket. I use 1/2-in.-thick medium-density fiberboard (MDF). The template, which should fit snugly in the pocket, displays the critical angle of the drawer front to each side. The success of this process will depend upon how closely you can match that angle.

Cut the ends of the curved drawer front on a crosscut sled on the tablesaw, using shims to secure it at the correct angle. Remember to leave the front

Three ways to join the drawer front and sides



Get an angle on the drawer parts



A working template. Create a template from 1/4-in. MDF that exactly fits the drawer opening and the profile of the drawer front. This will reveal the angle at which the drawer sides enter the drawer front.

1/16 in. oversize; you will plane the drawer to fit the opening after glue-up. Cut the corresponding angle on the drawer sides by tilting the sawblade. Check the cuts by placing the pieces on the template, making sure there is no gap where the side butts against the front. Use a shooting board if necessary to make sure the angles are accurate and clean.

Precise preparation will pay off later

In order to chop pins in the drawer front, you will need a cradle to hold the curved piece in place. The original form used for the laminations works well.

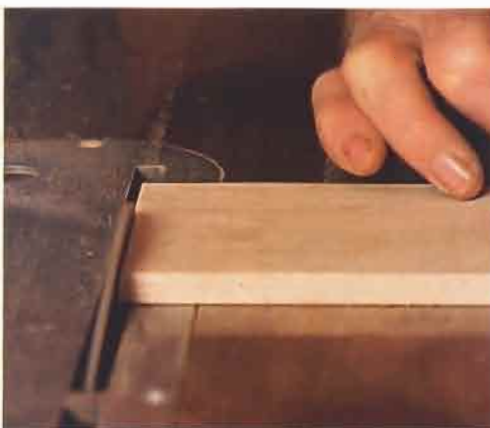
Make a pair of chopping blocks from 2-in.-square pieces of hardwood that each have the critical angle on one corner. Gluing sandpaper on the bottom prevents slipping. Both blocks should be identical except that the block used to clamp the drawer front has an angled top to ensure perpendicular clamping pressure against the curved cradle.

Marking the setbacks—First, decide on a pleasing setback for the pins, in this case about 1/8 in. for drawer fronts that are 5/8 in. thick. Plane a piece of hardwood to this thickness and use double-sided tape to attach it to the end of the form. This piece serves as a paring platform for the pins, so make it about an inch wide to support the chisel. The platform angle should reflect the angled ends of the side pieces.

Set a gauge and scribe a line along the ends of the drawer front. Clamp the drawer front to the cradle against the paring platform. Because of minor differences in the thickness of each end of the drawer front, or on multiple fronts, you may need to shim the cradle with masking tape next to the paring platform so that a chisel slid across the platform hits the scribed line. With the same gauge,



Cut the drawer parts to length. Use shims to support the drawer front when cutting it to length using a tablesaw crosscut sled (above). Tilt the sawblade to cut the front ends of the drawer sides to match the angle at which they enter the drawer front (left).



Check the angle. Use the template to see if the drawer front and side meet at the correct angle.

Cut the pins in the drawer front



Lay out and saw the dovetails. Scribe a line that marks how far the dovetails are set back from the front of the drawer face (left). Lay out the pins on the ends of the drawer front (center), and cut as far as possible with a thin-kerf saw (right).



mark the inside of the drawer side, being careful to slant the gauge to the angle on the end of the side. Bring the line around to the top and bottom of the side. The blade on my gauge will not reach the outside of the drawer side, so I simply use a straightedge and a knife to connect the lines.

Gauging for the side's thickness—Set a second gauge to just thicker than the drawer side. That way, the pins will protrude slightly from the sides, which will allow you to file over the fibers to cover slight imperfections. Use this second scribe to mark the inside of the drawer front, but do not mark the top or bottom of the drawer front.

When laying out the pins, remember to leave enough of the half-pins on the top and bottom so that you can plane the drawer to fit later. You may lose up to $\frac{1}{8}$ in. depending on the width of the drawer front, the type of wood, and the seasonal change in humidity where you live.

Well-honed tools are a must

Saw the cheeks of the pins as far as possible, making sure not to go past the scribed lines. You will pare the pins straight and true later, so the cuts do not have to be exact. Re-clamp the front in

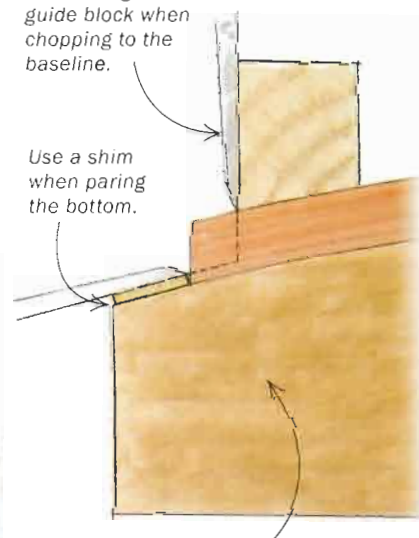


USE A GUIDE BLOCK WHEN CHOPPING OUT THE WASTE

Chop on the line. After removing nearly all the waste, use the chopping block to guide the chisel for the final cuts along the line.

Use an angled guide block when chopping to the baseline.

Use a shim when paring the bottom.



The bending form is used as a support when dovetailing.

Precision paring. The strip of hardwood stuck to the bending form serves as a platform to guide the chisel when making the last paring cuts around the pins.



Marking the tails. With a drawer side resting on the paring platform and pressed against the drawer front, use a sharp pencil or a knife to mark the location of the tails.

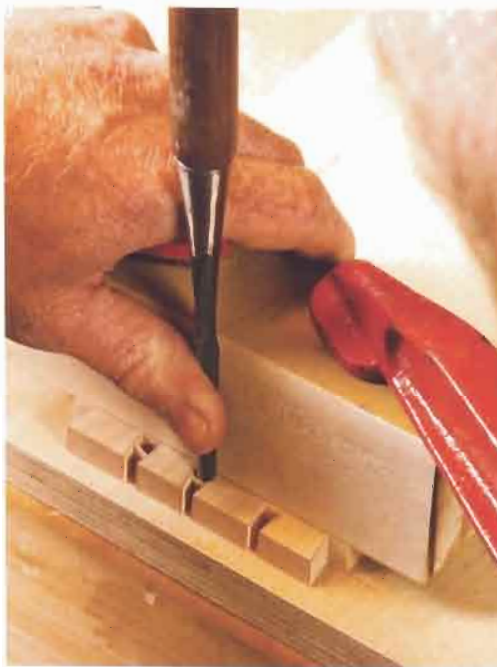
the cradle, this time using the angled chopping block as a rest for your chisels. Chop away most of the waste and make your final cuts on the line using the chopping block and the shim as guides (see photos, p. 101).

Marking and chopping the tails—With the drawer front still on the cradle, place the drawer side on the paring platform against the pins. Use a knife or a very sharp pencil to mark the edges of the tails. After carrying the layout lines onto the end grain, saw the tails and then clamp the second chopping block to the scribed line. Chop halfway through the side, then turn it over, reclamp the block on the opposite line, and finish the job.

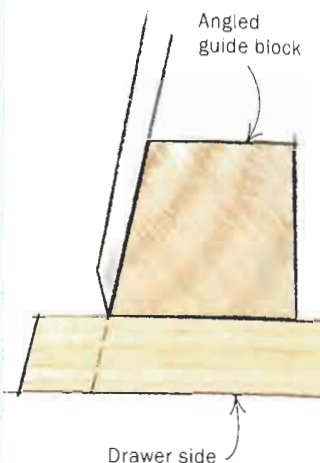
The process for a convex drawer is similar except that you use a concave form. If the radius is not too severe, you can still use a vacuum press because the bag will stretch considerably, but ease all the outside corners to avoid damage to the bag. When starting to remove the air, press the laminations down onto the form so that the bag won't go between the two. You then can use the form as a cradle when cutting the dovetails.

With practice, cutting dovetails on curved surfaces will be no more difficult than on square ones and will add an exciting new dimension to your furniture-making repertoire. □

Cut the tails on the drawer sides



Chopping the tails. Use the second angled chopping block to guide the final cuts on the tails.



A perfect fit. The secret to well-fitting dovetails is to gradually pare away small amounts of wood, checking the fit regularly.