

# Half-Blind Dovetails in Half the Time

Get the hand-cut look with the speed and consistency of machines

BY STEPHEN HAMMER



**Bandsawn tails**

**Zip, zip.** A simple jig delivers accurate and uniform tails every time. You also get narrow pins and variable spacing.



**routed pins**

**No wasted time.** The router is much faster than a chisel and mallet, and it guarantees uniform depth.



**perfect fit**

**Clean up and enjoy.** After a few minutes of paring, the joint goes together without any trials or tribulations.



No joint says “hand-made” more than half-blind dovetails with delicate pins, so I use them on drawers as one way to distinguish my furniture from the furniture churned out by factories. However, because traditional techniques for making dovetails rely heavily on hand tools, they can eat up a lot of shop time. Time is something a professional furniture maker can’t waste, so I developed a method for cutting the joint with a bandsaw and a router. It gives me the best of both worlds. I get the refined look of a hand-cut joint, but I achieve it with the speed and consistency only power tools can offer.

I start by cutting the tails at the bandsaw, using an incredibly simple jig—it’s really just a tapered board with a stop—to hold the drawer side. It slides against the fence and lets me cut every tail quickly and with a consistent slope. Then I cut the pins with a handheld router and a straight bit, working freehand right up to the scribe lines. Only the corners of the pin sockets are left to clean up with a chisel, and fitting the joint takes only a bit of paring. Even if you’re not as worried about time as I am, you’ll enjoy perfect joints with very little fuss.

### Cut tails with a bandsaw, not a backsaw

First, use a marking gauge to scribe shoulders on all four sides. I use a “cutting gauge” with a sharp knife because a cut shoulder line is one of the telltale signs of hand-cut dovetails. It also is more precise than a pencil line and serves as a guide for your chisel when you’re paring down to the line.

Then cut a shallow rabbet, about 1/16 in. deep, across the inside faces of the sides, under the tails. I use a dado set in my tablesaw, setting the fence

## DOVETAIL LAYOUT IS SIMPLE

Because you’ll be using the bandsaw jig on the following page to cut the tails, you need to lay out the tails just once.



**Mark the length of the tails.** Use a marking gauge with a knife-type cutter to scribe all four sides. Do this on all the drawer sides. By the way, Hammer turned his pin gauge into a knife gauge by filing a bevel on the pins.



**TIP**

**RABBET THE SIDES FOR EASY ALIGNMENT**

Use a dado blade to cut a shallow rabbet on the inside face of the drawer sides, right up to the scribe line. This will make it easy to align the parts when marking the drawer front later.

so that it cuts right up to, but not past, the shoulder line. There are three reasons for the rabbet. First, a clean shoulder on the inside contributes to the overall attractiveness of the joint. Second, the rabbet’s shoulder helps to align the side to the front when you transfer the tails. Finally, the shoulder also can be used as chisel guide when you’re paring away the last bit of waste between the tails.

Next, lay out the spacing for the tails—you only need to do this on one of the sides. The



**Now lay out the tails.** Do it on one drawer side only. You’ll use that piece to line up the cuts for all of the others.



## BANDSAW THE TAILS IN MINUTES

You could cut the tails freehand at the bandsaw, but you'd have to lay out every workpiece and then risk straying from the line. Hammer uses a tapered jig that rides against the rip fence to ensure perfect cuts on stacks of drawer sides.

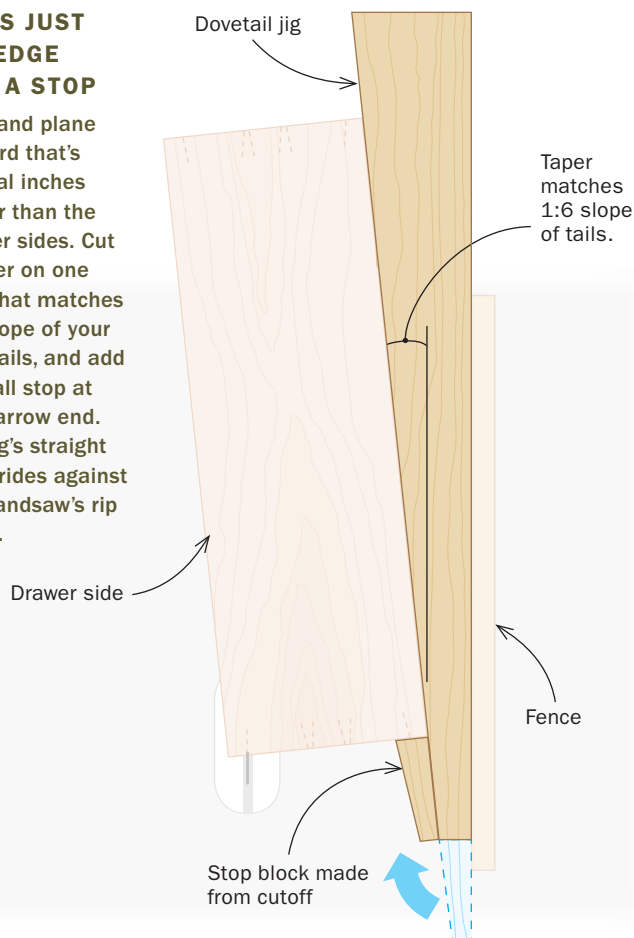
### MAKE THE BANDSAW JIG



**Taper the jig to match the tails.** It should be several inches longer than the drawer sides.

### JIG IS JUST A WEDGE AND A STOP

Joint and plane a board that's several inches longer than the drawer sides. Cut a taper on one side that matches the slope of your dovetails, and add a small stop at the narrow end. The jig's straight edge rides against the bandsaw's rip fence.



tail cuts are made using a jig that's guided by a fence. Use the marked board to set the fence, and all the other unmarked boards can be cut using the same settings.

The jig that holds and guides the drawer sides is nothing more than a piece of wood that is straight on one side and tapered on the other side to match the slope of the tails. Make sure it is sturdy enough to be used over and over again.

I use a 1:6 slope for my tails, which gives them a traditional look. Lay out the taper on a board at least 2 in. or 3 in. longer than the drawer sides and then cut it at the bandsaw. Clean it up on the jointer or with a handplane, then glue on a stop at the narrow end of the board.

Before using the jig, adjust the bandsaw's fence to compensate for the blade's drift. Place the jig against the fence



**Joint the taper for a clean edge.** It's fast and accurate. You also could use a handplane.



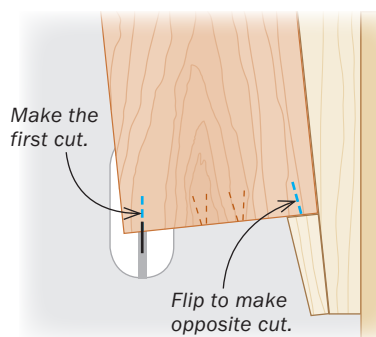
**Glue on a stop.** Put it at the narrow end, which leads into the blade, so that the jig can handle drawer sides of any length.





## PUT THE JIG TO WORK

You need to reposition the bandsaw fence only three times to make all six cuts—on both ends of the drawer side, if desired.



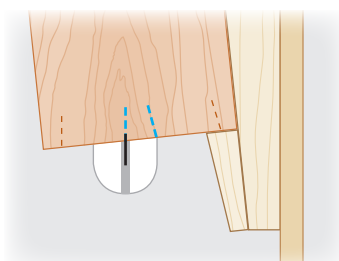
**First position.** Set the fence and cut down to the shoulder (left). Flip the board for a second cut (right). And make the same cuts on your other drawer sides before moving the rip fence for the next cut.

and put the marked drawer side in place, making sure that it is against the stop. Set the fence so that the bandsaw blade lines up with the first tail cut from the edge of the drawer side. You'll make two cuts with the fence in this position, one on each side of the drawer side. Make the first cut, pushing the jig and side together. Then flip over the drawer side and make the first cut in from its other edge. Now make the same two cuts on the drawer's other side.

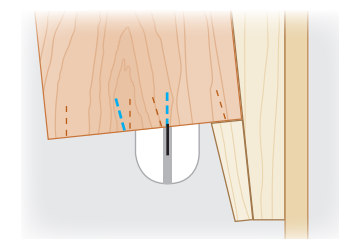
If you are doing multiple drawers, make the tail cuts on every drawer side before adjusting the fence for the next

cut. Put the marked drawer side in the jig so that you can see your layout lines, adjust the fence, and make the first cut on the next tail in. Flip the board and make the next cut. Continue to adjust the fence and make cuts. At first, you're cutting one side of the tails, but when you pass the middle you begin to cut the other side of the tails.

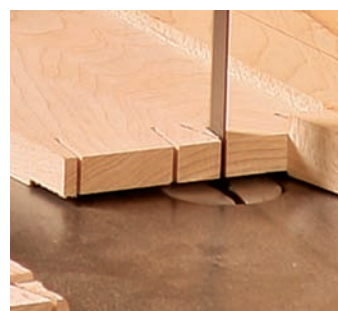
After all of the tails are cut, remove the waste between them with a coping saw, leaving about  $\frac{1}{16}$  in. of waste above the shoulder line. Use a chisel to pare it away. Pare first from the outside, starting in the scribed shoulder



**Move the fence.** Cut one side of the center tail and then flip the board for the second cut.



**Final cuts.** Move the rip fence one more time for the last tail cuts.



**Clean out the waste with a coping saw.** There really is no faster way to get the job done (left). Leave just about  $\frac{1}{16}$  in. for paring. Pare from both sides, starting on the outside face. On the inside face, you can use the rabbet's shoulder to guide the chisel (above).



## POWER THROUGH THE PINS WITH A ROUTER

If there's one thing machines do better than hand tools, it's the grunt work, like removing the waste between pins. Not only does a router do it with ease and efficiency, but it also is very accurate.

### Transfer the tails.

Hammer clamps the drawer front in a vise and pushes the rabbeted underside against it. The side doesn't move and the transfer is dead accurate (right). Mark the length, too. Taking it directly from the drawer side (below) is more accurate and easier than using a marking gauge.



line and chopping straight down. Don't worry, there isn't enough waste to force the chisel into the shoulder. Stop before you go all the way through, and finish the job by paring from the other side, using the shoulder of the rabbet as a guide.

With the waste removed, transfer the tails to the drawer front. I use a marking knife because it's more accurate than a pencil, but I darken the lines with a pencil to make them easier to see. Next, use a marking gauge to mark the depth of the pins on the inside face of

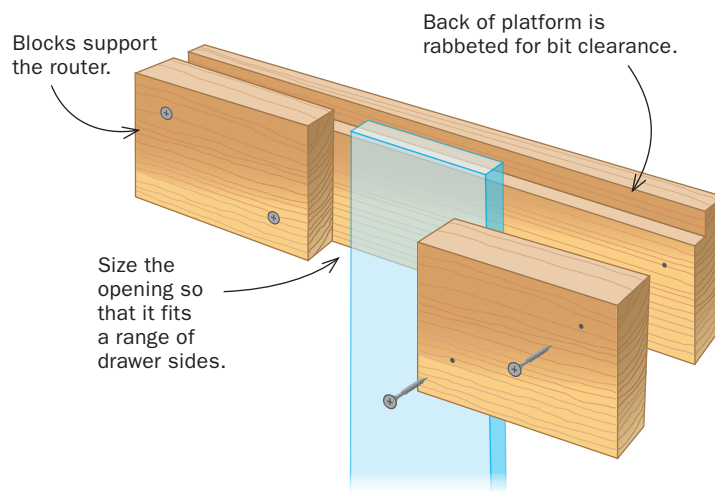
the front. Set the gauge directly from the thickness of your tails.

### For pins, a router is mightier than the chisel

After you're done laying out the pins, you are ready to rout away the waste between them, using a 1/4-in.-dia. straight bit. Make sure the bit is sharp; it will be easier to control. To improve the router's stability as I rout the pins, I clamp a simple jig to the drawer front and then clamp the jig into my shoulder vise. Set the bit depth so that it reaches the shoulder line you marked with the gauge earlier.

### MAKE A PLATFORM FOR ROUTING

There is no way you could balance a router on the end grain of a board and rout accurately. Make this three-sided jig and clamp it to the drawer front to create a large surface for the router to ride on. The back rabbet prevents you from routing into the jig as you move from socket to socket.



**Router jig is easy to set up.** Use your benchtop to bring the top of the jig level with the drawer front. Then clamp it in place.





**Set the plunge depth.** After zeroing out the bit, place a tail between the stop and the turret on the base for an accurate setting.



**Route freehand.** The jig offers enough surface area to keep the router stable. Shine some light into the work area to improve visibility (left). After a bit of practice, Hammer discovered that he could rout right up to the layout lines without any trouble (above). It helps that long grain is easy to rout.



**Tips for clean paring.** Pare down the back first. It's easier to get a straight cut with the workpiece and chisel vertical than with the workpiece horizontal on the bench. On the pin walls, work across the grain (right). Use a chisel wide enough to pare the entire wall in one pass.

Rout the first socket, cutting as close to the layout lines as possible. Rout the remaining sockets in the same manner.

After the waste has been removed, clean up the sockets with a chisel. Again, because there is so little waste left, you can place the chisel right on the shoulder and pare straight down. Test the joint's fit, paring the pins as needed (but that shouldn't be much) until it comes together. □

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**Check the fit.** The joint should come together without any trouble. But if it doesn't, pull it apart, pare carefully, and try again.