



## Make a mallet

BUILD A GREAT ONE WHILE HONING YOUR HAND-TOOL SKILLS

BY MICHAEL CULLEN

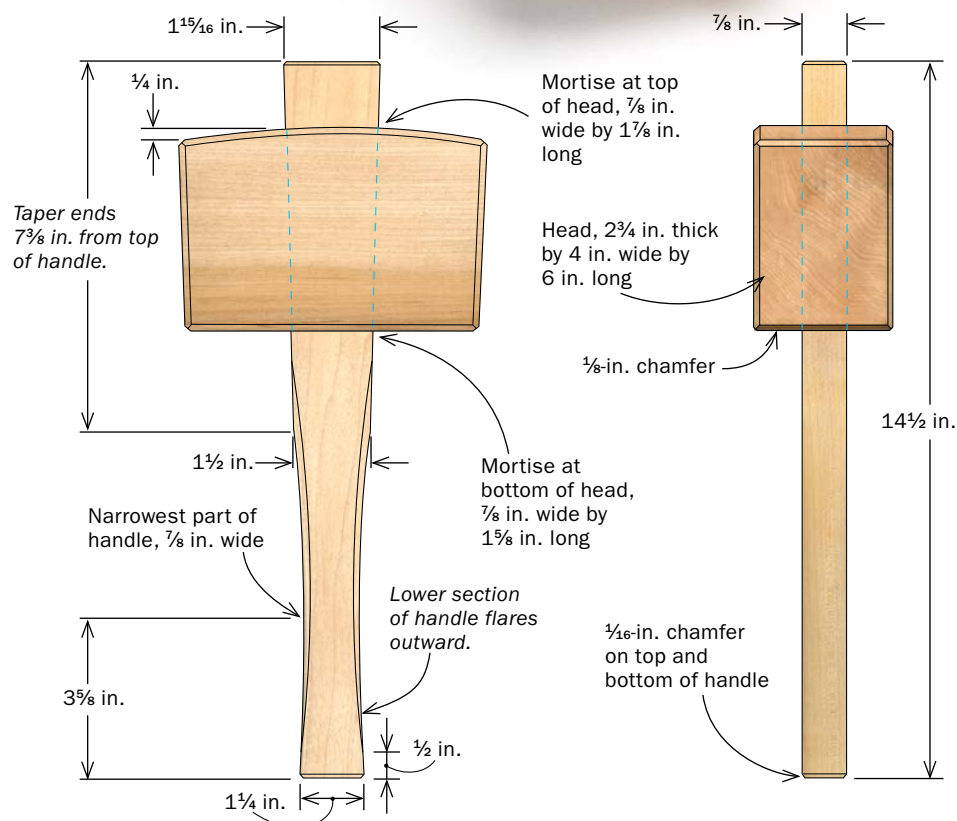
I like a stout woodworking mallet with an oversize head. Why? It lets me generate plenty of force for cleaning out a mortise or chopping dovetails, and I can also use it for delicate detail work by just choking up on the handle.

Making your own mallet is a great exercise in handwork, involving careful layout, sawing, planing, and precise joinery cuts. The reward is a mallet custom-fit to your grip, and the pleasure of having built an elegant tool that will see years of use.

Mine is a simple, two-piece design. The handle slides through the top into a mortise that's tapered perfectly to accept it. Swinging the mallet keeps the handle wedged tightly in the head, so there's no need for glue. It's solid, easy to build, and you need only a few tools to do it.

### Handmade for handwork

It's important to begin with a strong, dense wood. I like hard maple because it's relatively easy to work and widely





## Start with the mallet head

### SQUARE UP THE BLANK

You'll do the width and thickness now, but not the ends.



**Flatten one face.** Plane from side to side, taking even swipes. Check the face with a straightedge to make sure it's flat.



**Square an edge.** Rotate the block and plane the edge flat. Use a combo square to check that it's 90° to the face. If not, plane the high side.



**Scribe the rest.** Set a marking gauge to the final dimensions and run it along a flattened side to mark one parallel line all around the block. Then plane down to that scribed line, stopping as close to it as possible.

available, but oak or a similar hardwood will work, too. Use a 12/4 piece for the head and a 4/4 piece for the handle. Stock with rift- or quartersawn grain is best, especially for the handle, because it is more stable and less prone to breaking.

Start by rough-sawing the head and handle about 1/4 in. over length and width. Then get to work squaring the head and bringing it to final width and thickness with a No. 4 handplane. Don't bother with the ends, though, at this point.

#### Start with the head

It's best to make a square mortise and then add the taper. First make a pair of centerlines. Mark the mortise ends on the bottom of the head, and the locations for drilling two holes to remove the waste. Transfer the marks to the top, and mark the ends of the tapered mortise. Then scribe the mortise walls. Your final chisel cuts will start in those scribed lines.

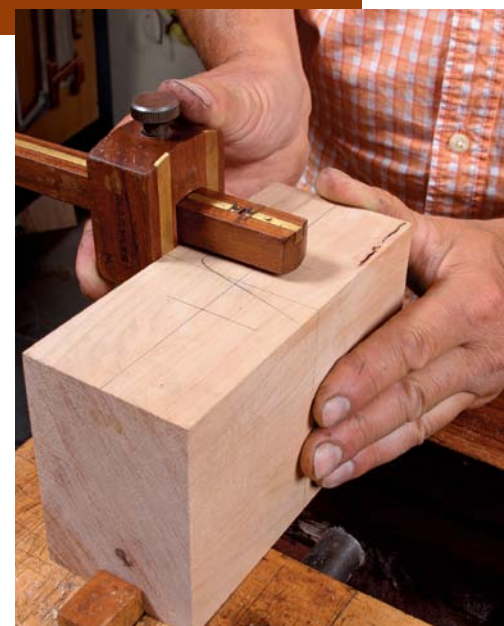
I drill out most of the waste before squaring the mortise with bench chisels.

### LAY OUT THE MORTISE

Since the ends are still rough, you'll rely on accurate centerlines for most of the layout.



**Start with centerlines.** Mark them carefully and carry them around the head. Then lay out the ends of the mortise, plus the extra distance for the taper.



**Scribe the walls.** Use a marking gauge to scribe mortise walls equidistant from each side.



## CUT THE MORTISE



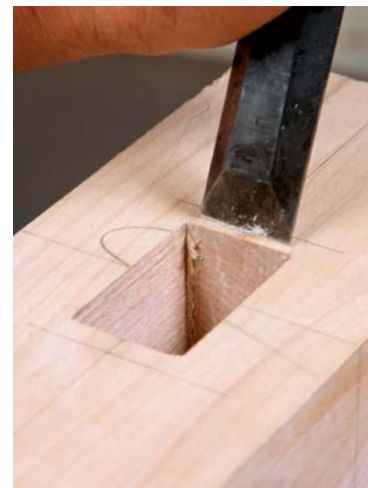
**Clear the waste.** Drill two  $\frac{3}{4}$ -in. holes on your centerlines. Go halfway, flip the piece, and finish from the other side. Use a square as a visual aid to keep the bit straight.



**Square the mortise first.** Chop out the walls and ends from both sides, working steadily back to your scribed lines.



**Check for flatness.** A small rule reveals any bumps or hollows in the walls of the mortise.



**Taper last.** At the top, chisel out the taper by working back toward the marked lines.

Work about halfway into the mortise and then flip the piece to work from the other side. Once it's square, work top side up and add the taper by chiseling back toward the marked lines. I end the taper just short of the bottom of the mortise to minimize tearout.

Now cut the angled ends of the head and add the curve. Lay out the angles by marking 3 in. to each side of the centerline at the top edge and  $2\frac{7}{8}$  in. at the bottom edge, and connect those marks. Saw to the line and plane the ends smooth. Mark the radius using a shopmade template. I shape the curved top by planing heaviest at the ends of the curve and easing the cuts as I work back toward the center. I finish by chamfering the edges and smoothing any tool marks with P220-grit sandpaper.

### Get a handle on fitting tapers

For the handle, begin with a square piece that's a little too thick and too wide

## FINAL TOUCHES



**Saw the ends.** Lay out and crosscut the angled ends. Smooth them with a handplane, and plane the curve into the top.



**Add a generous chamfer.** Break the edges with a handplane to help prevent splintering or chipping in use. Sand away the tool marks, if you like.



## Make the handle

### TAPER FOR A TIGHT FIT



**Thickness first.** Start with an oversize, square handle and plane the sides until it fits snugly.



**Saw the tapers.** Make a small crosscut at the narrowest part of the handle and then saw down into it, keeping to the waste side of the line.



**Flip it to finish the job.** Turn the workpiece upside down to saw the flare at the bottom of the handle.



**Take long, even strokes.** Plane in toward the narrow part of the handle, stopping before the sole of the plane gets lifted by the bottom.

for the mortise so you can sneak up on a final, tight fit. Tackle the thickness first, taking light, even shavings with a bench plane and testing the fit against the mortise. Stop planing when the handle just begins to slide into the head.

Lay out the handle's shape by drawing a centerline and using it to mark and draw the taper at the top end of the handle, and an inverted taper at the bottom of the handle that forms the pommel. Make a small crosscut where the tapers intersect and then saw down to it, staying close to the waste side of the lines. Clean up the cuts with a handplane.

### SHAPE FOR COMFORT



**Taper until it's gapless.** Dry-fit the handle and keep planing the tapers until it fits perfectly. The handle should seat in the mortise without any play and the end of the handle should protrude roughly 1¼ in. from the top of the head.



**Contour the grip.** Last, shape the grip with a spokeshave so that it feels comfortable to hold.

Dry-fit the handle inside the mortise frequently. Keep making even swipes on both sides of the taper with a handplane until it fits tightly. It's a mechanical joint, so a good fit is important.

Once the handle fits, shape the grip with a spokeshave, taking short, thin strokes to make a curve that is comfortable to hold. Chamfer the handle ends with a block plane, and finish the mallet with a thin coat of shellac and wax.



Michael Cullen is a furniture maker in Petaluma, Calif.