handwork

Turn a carver's mallet

SHOPMADE TOOL IS THE PERFECT FIT FOR HAND-CARVED DETAILS

BY MICHAEL CULLEN

very woodshop needs at least two mallets. A traditional square-faced mallet like the one I described making in *FWW* #230 (Handwork: "Make a mallet") is great for dovetailing and mortising, where heavy striking is required and the chisel moves only slightly between blows. But when it comes to carving and other tasks where a light touch and much movement of the chisel is required, a turned mallet is the one to use. Its tapered, cylindrical head and compact size permit you to approach the chisel handle from any angle while still ensuring perfect contact. And yet it's not a light-duty tool. The solid, one-piece construction packs enough power to drive a large chisel or gouge. And turning your own mallet means you can contour the grip to fit your hand exactly.

Pick the wood and make a blank

Look for a chunk of dense wood that is relatively easy to turn, such as hard maple,



black locust, oak, or eucalyptus—species that will stand up to the rigors of banging against tool handles year after year. I used teak for this mallet. I save cutoffs from other projects for this type of turning, but logs or firewood can also yield great mallet wood. Be sure to choose a piece of wood that is straight-grained, since slanting grain could create weakness in the handle.

When you've found just the right piece of stock, saw out a blank that is at least $\frac{3}{4}$ in. longer than the finished mallet will be and at least $\frac{1}{4}$ in. wider than the finished diameter of the head. Chuck the blank between centers in the lathe and start turning. Even if you're not much of a wood turner, this mallet is straightforward to make.

The head comes first

Turn the square stock to a cylinder using a 1½-in. or 2-in. roughing gouge. Then, for a finer cut, switch to a 1-in. spindle gouge and turn the entire cylinder down to its largest diameter, 3¼ in. At that point, turn off the lathe and make pencil marks at the four key spots that will guide your transitions: the two ends of the mallet, the base of the head,

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Rough out a cylinder





Big gouge does the heavy work. Knock off the corners of the blank and bring it to a cylinder with a large roughing gouge. To guide the work, use calipers set to the mallet's largest dimension.

Lay out the key parts





Mark and measure. Pencil marks define the high point on the knob, the ends of the mallet, and the lower end of the head. Use calipers and a parting tool to define these four diameters.



MALLET MEASUREMENTS

These dimensions are guidelines for turning the mallet, but it's not essential to stick to them. The head should be a straight taper at not too steep an angle, but its diameter is not critical. And the handle should be shaped to a length and contour that best fits your grip. Also, your blank should be at least ³/₄ in. longer than the finished mallet.

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Shaping

Head first. Taper the mallet head with a spindle gouge (1), creating a smooth, straight taper. Rough out the knob next (2). After using a parting tool to relieve the waste ends of the mallet down to roughly 1 in. dia., use the gouge to cut a rough cylinder at the high point of the knob.







Make quick work of the handle. After turning the handle down to a cylinder equal to its largest finished diameter, use a spindle gouge to create the shoulder at the base of the mallet head.

and the high point of the knob at the end of the handle. With the lathe spinning again, touch the pencil to each mark so the lines wrap around the cylinder.

The next step is to set several pairs of calipers to the sizes you'll need. The calipers are very handy, but don't let them completely dictate the turning—you don't have to stick to precise diameters; it's more important to get smooth curves and transitions.

Use a parting tool to define the ends of the mallet, turning each end down until the stock is about 1 in. dia. Next, define the taper of the head with a parting tool, cutting in at the transition to the handle. Then use the 1-in. spindle gouge to create the tapered surface of the head. If the surface is a little rough or not quite straight enough, you can smooth it out by taking light passes with a skew chisel or a gouge.

Make the handle fit your grip

Start turning the handle with a ¹/₂-in. spindle gouge, roughing in a cylindrical shape that's the size of the knob at the base —the largest diameter of the finished handle. Then begin shaping the handle's contours, working inward from either

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Nearing the perfect grip. Carefully turn the contours of the handle, stopping the lathe occasionally to see how it fits in your hand. Adjust the shaping accordingly.





Flatten the top. As you define the top of the mallet's head, be sure to make it flat or slightly concave. A rounded head won't be stable standing on the workbench. Use a gouge after the parting tool to create a clean surface.

At last, define the knob. Use a skew chisel to shape the bottom of the knob, coming to within ¹/₄ in. or so of parting it off.

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Finish

Sand between centers.

Sand the mallet with the lathe running (right), being sure to round the sharp edges at the top and bottom of the head. Then turn off the lathe and wipe on a thin coat of shellac (below), and follow that with a coat of wax.







Cut it loose. A few strokes of the saw will cut the mallet free. Use a chisel and sandpaper to smooth away the sawmarks or nubs.

end with the ¹/₂-in. gouge, switching to a ³/₈-in. detail gouge if necessary. I use Thompson detail gouges, which are stouter and tougher than regular spindle gouges.

When you turn the steep curve that forms the transition from the head to the handle, be sure to tilt the gouge on its side so that it enters the wood without any flutter or hesitation. Hold the gouge firmly to keep it from slipping out of the cut and marring the mallet head. Use the same technique to define the concave upper side of the knob. Then create the tapering curve that forms the bulb in the middle of the handle. Continue sculpting the handle so that the curves flow into each other to make a pleasing shape. Turn the lathe off periodically and check the fit of the handle against your grip.

Back at the top of the mallet, use a parting tool to create the end surface of the head, and use a gouge to clean up any tearout caused by the parting tool. Since the mallet will be stored on its head, make sure the top end is flat and not domed—otherwise, it will fall off your bench. The last curve to cut is the bottom face of the knob at the base of the handle, which you can turn with a small detail gouge or a skew chisel. Keep rounding until there's about 1/4 in. diameter left at the bottom. Complete the turning by rounding the corners of the head and the transition points so that they won't be damaged when you're using the mallet. You can use a gouge for this task, or sandpaper as shown in the photo above.

Finishing up

It's simplest to finish the mallet while it is still on the lathe. I use a pad to apply a thin coat of shellac, and after a quick buffing of the surface with steel wool, I finish with a coat of wax.

Free the mallet by cutting through the ends with a handsaw. Then you can smooth any nubs with sandpaper and a chisel, and touch up those spots with shellac and wax.

Michael Cullen makes custom furniture in Petaluma, Calif.