

Carve a Perfect Ball-and-Claw Foot

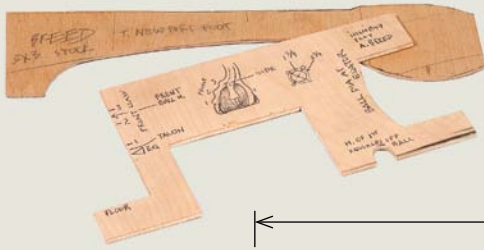
A veteran carver reveals his secret to success

BY ALLAN BREED

The iconic ball-and-claw foot has its origins in Chinese furniture and in the myth of a dragon pursuing a flaming pearl—if the dragon catches the pearl, it will bring him eternal life. When Colonial-era furniture makers adopted the ball-and-claw foot, they executed it in many regionally distinct variations. Boston, Philadelphia, Newport, New York, and rural Connecticut all had different ball-and-claw feet. The Newport, R.I., foot I'm carving here, from a John Townsend high chest built around 1765, is the most naturalistic of the lot and is probably my favorite. It has pronounced tendons running up the legs, no webbing between the claws, and long, lifelike talons. The effect is dramatic, almost scary, and the extra time it takes to carve is well worth it.

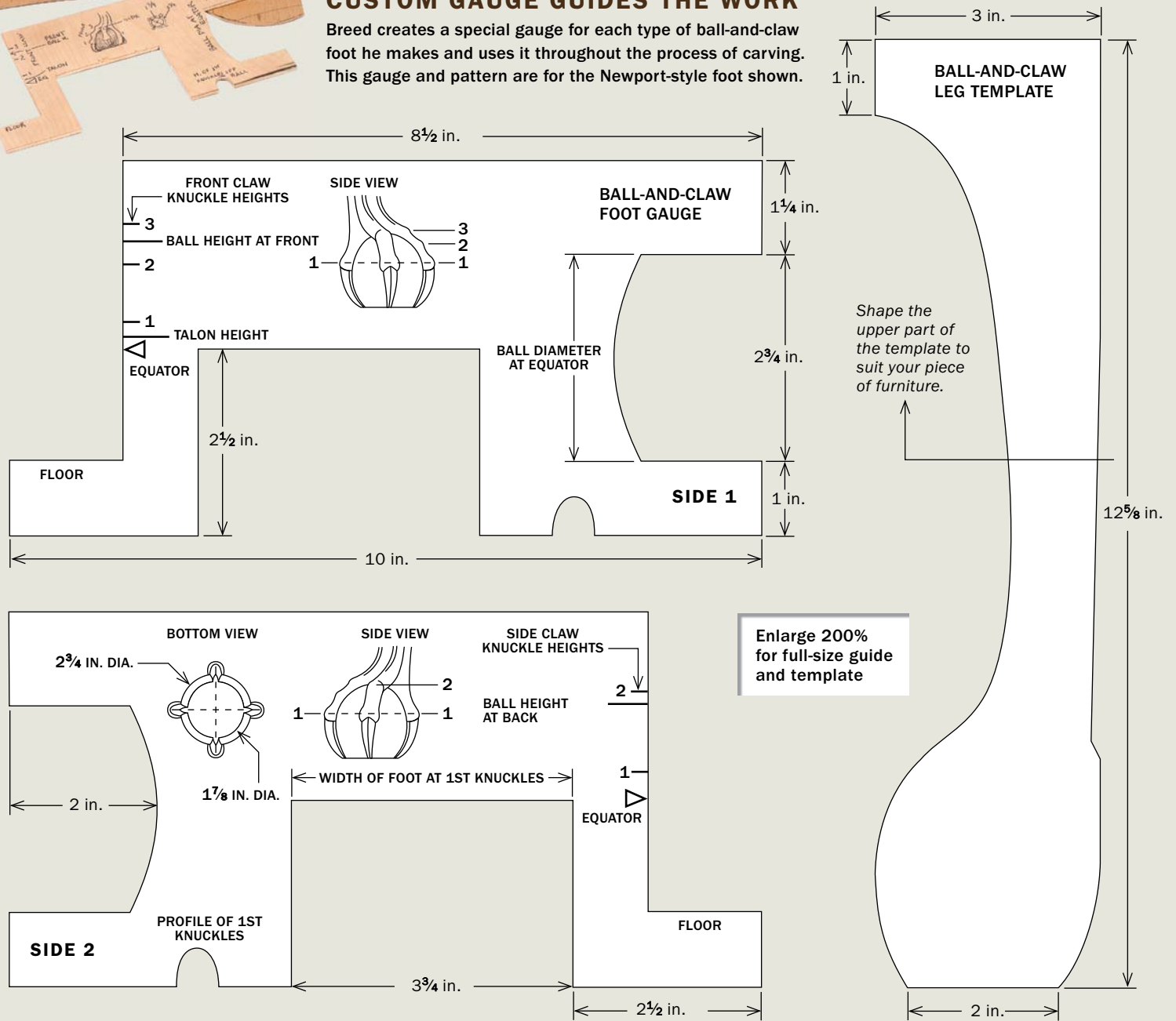
Some ball-and-claw feet have open talons—there is space between the talons and the ball. This one (shown after scraping and before sanding) is not open-taloned, making it easier to carve and less subject to the





CUSTOM GAUGE GUIDES THE WORK

Breed creates a special gauge for each type of ball-and-claw foot he makes and uses it throughout the process of carving. This gauge and pattern are for the Newport-style foot shown.



Layout in 3-D



Trace the pattern. Using a plywood template, trace the outline of the foot on two adjacent faces of the 3-in.-square leg blank, then carefully bandsaw to the lines.



Circle in the square. Draw lines corner to corner to find the center point of the blank before bandsawing. After bandsawing, scribe a 1 7/8-in.-dia. circle to define the ball's final footprint.



Establish the knuckles. Using the gauge, transfer the marks for the knuckles of each of the claws.

Rough in the claws



Chamfer and check. Using a #7-20mm gouge, knock off the corners of the foot until the gouge fits over them.



ravages of the vacuum cleaner. Since attempting my first ball-and-claw feet 40 years ago, I've carved hundreds of others, and I've discovered that visualizing two things helps me with the process. First, the ball-and-claw lives in a cube with a claw on each corner. Second, there is a lot more ball than claw when all is said and done. It's also very helpful to have a sample foot for reference as you carve. This could be an actual foot or a resin casting (\$40 at The Breed School, breeds@comcast.net).

I most often use mahogany, but walnut also carves well. If you select a clear piece of stock with no figure, your carving tools will leave a smooth



Create facets from knuckle to knuckle. Working to the knuckle layout lines, rough in the outer profile of the claws and talons with a #7-20mm gouge. Later these ridges will be scooped to a saddle shape from knuckle to knuckle, but for now make them straight.



Incurve at the ankle. The rear claw has an inward curve that begins above its one knuckle. Create the curve with a #7-20mm gouge, making cuts from the bottom and top that meet in the middle. Alternatively, this curve can be shaped with a rasp or a spokeshave.



Draw the claws. After making a horizontal pencil line to mark the top of the ball, Breed defines the outlines of the claws.



Claw carving. Cut in the claws with a #12-8mm V-gouge, working down to within $\frac{1}{8}$ in. of the circle on the bottom of the foot, then back up the ankle. Use the same V-gouge (right) to establish the recess formed between the top of the ball and the crotch of the claws.



Shape the ball



Bring the ball into being. Use a broad, shallow gouge (#5-35mm) to begin creating the spherical shape, from the equator downward.



Arriving at the equator. Carve upward from the equator into the crotch between the claws (left). Then skew the chisel to clean up the V. Carve carefully and use the gauge (right) to see when the ball is the correct diameter.



X marks the high spot. Using the gauge, make a horizontal mark at the equator on each quadrant of the ball (left), then cross it with a vertical line centered by eye between the claws (above). These marks should remain visible through the rest of the carving.



Follow the equator. Carve around the ball at the equator with a #3-30mm gouge. Take light cuts near the claws, and sight from the bottom of the leg to be sure your arcs look continuous from one quadrant to the next.

Refine the sphere. Use the shallow-sweep #5-35mm and #3-20mm gouges to true up the ball, shaving nearly to the footprint circle on the bottom.



Bring the claws to life



Redefine the claws. Use a V-gouge to further clarify the edges of the claws (above) where they meet the ball. Then shape the sides of the claws with a #8-16mm backbent gouge (right), taking them from square and chunky to rounded.



Start at the cuticle. Create the cuticles at the tops of the talons with a #7-20mm gouge, making two cuts to form a shallow V-shape. Make the cuts about $\frac{1}{16}$ in. deep.

Tackle the talons



Taper the talons. With a $1\frac{1}{2}$ -in.-wide paring chisel, chop the talon to a taper. The talon should be $\frac{7}{16}$ in. wide at the cuticle and $\frac{1}{4}$ in. wide at the floor.



Give them some curves. After shaping the outer profile of the talons with a #8-13mm gouge and drawing a line down the center of the curve you've cut, round both sides of the talon from the ball to the centerline with a #7-20mm gouge.

Define the details



Carve the tendons. After using a narrow gouge (#11-7mm) to cut channels up the leg that define the tendons (above), work across the grain with a wide, shallow gouge (#3-16mm) to remove the waste between the channels (left).

finish and the wood will also scrape well. Practice is vital to success. Even now, I'll carve a practice foot or two before carving the final feet for a new piece. If you want to conserve your pricey mahogany, use basswood or pine for the practice round. Don't use poplar, as it's tough and very hard to push a tool through.

Due to the complexity of these feet, the tool kit required is more extensive than for most others. Sharpness is the most important attribute of the tools, however, and any dull tracks or scratches on the wood mean the tool needs resharpening. A light mallet is handy for roughing out, but the final work will be done without it. □

Allan Breed builds 18th-century furniture and teaches at The Breed School in Rollinsford, N.H.



Scrape the sphere. Scrapers ground to various concave shapes are ideal for doing the finish work on the foot.