Turn a Classic Floor Lamp

Manageable sections, connected by concealed joints, combine to make a lamp you won't find in any store

BY ERNIE CONOVER

As an avid reader, I have long appreciated the good illumination afforded by a floor lamp. Most store models are incompatible with period furniture and tend to be expensive and, to my way of thinking, a bit too low for good over-the-shoulder illumination.

When designing the floor lamp, I looked to the late 18th century for inspiration. A design that originally would have held a candle (hence such vestiges as the cup just below the socket to catch wax drippings) still works well electrified. Building this lamp allows you to practice both faceplate and spindle turning. The base (12 in. dia. by 3 in. high) is faceplate-turned, as is the wax cup. The three spindle-turned feet ensure that the lamp will never rock and allow the electrical cord to exit the bottom of the lamp in any direction.

The design accommodates a range of lathe sizes as well as different turning abilities. Depending on your lathe's distance between centers, you can either turn the shaft in one 36-in. section, as I did, or in 24-in. and 14-in. sections, the extra 2 in. to allow for a tenon. A bead in the main shaft will conceal the joint.

The lamp can be turned from any durable hardwood. I chose mahogany because it was the preferred wood of late 18th-century craftsmen. Also, it is straight grained, so it is very easy to turn and will tolerate generous amounts of scraping.

Prepare the stock

It is easiest to glue up stock for the shaft from two or more pieces of wood. Before glue-up, mill a trough in each half of the blanks with a small core-box bit. While I do this with a handheld router and a fence, a router table will work just as well.

When I made the lamp, my lumber merchant had sold out of 8/4 and 6/4 mahogany. I therefore had to assemble four pieces of 4/4 stock to create a hollow core. Two pieces of ¾-in. square poplar at both ends keep the four mahogany sections correctly separated and act as points of contact for the headstock and tailstock centers. To avoid gaps, apply strong, even clamping pressure during glue-up.

If you prefer to make the shaft from a single piece of mahogany, you will have to drill through the center of the main shaft with a pod auger (often call a lamp auger). This task requires special equipment: You will need either a hollow-tailstock spindle with a special hollow center or an accessory that mounts in the tool base (banjo) and holds the work during drilling.

Ideally the base would be turned from a

Photo, this page: Erika Marks

Turn the upper base first. *Cut a 2-in.-long tenon using a bedan. Use a pair of calipers to determine when the correct diameter of 1¼ in. has been reached.*

plank of 12/4 stock 12 in. wide. A more economical method is to use a 6-in.-wide plank of 12/4 mahogany. To maintain uniformity of color, cut the stock in half and glue the two pieces side by side.

Start with the upper section of the base

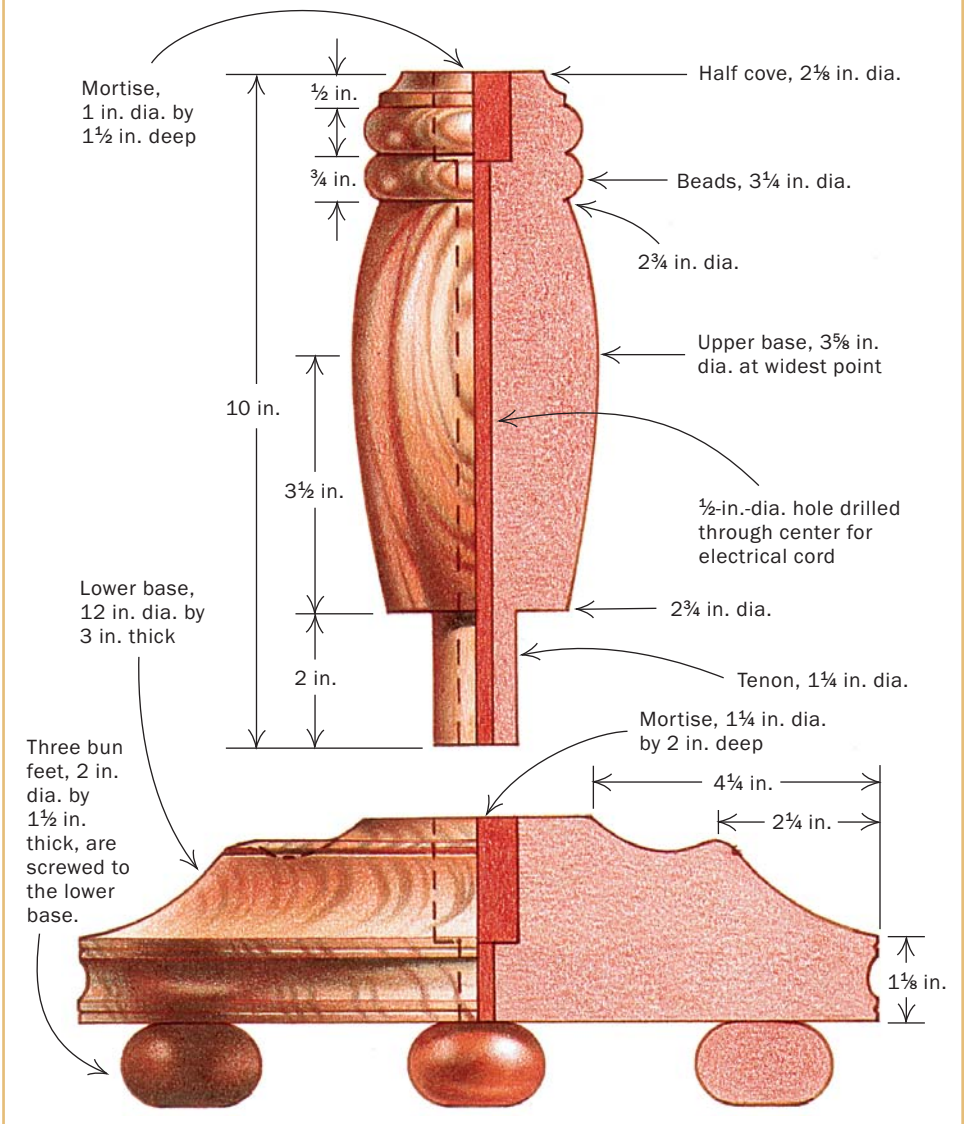
With the lathe turning at 900 rpm to 1,100 rpm, rough out a 3-in.-wide by 3-in.-deep by 10-in.-long blank with a roughing-out gouge, until there are no flat spots. Next, turn a tenon 1¼ in. dia. by 2 in. long using a bedan. To gauge the final diameter use either a pair of calipers or a wrench of the correct size. When turning heavy stock (8/4 or bigger), it is common for the center to have a higher moisture content and hence to shrink a bit once turned. For this reason allow the tenon to dry for a day or two before fitting it to the lower base.

Although some turners recommend using a skew chisel to turn beads (see *FWW* #145, pp. 84-87), a spindle gouge is a more forgiving tool. I use a skew chisel to sharpen the profile of a bead by cutting a narrow bevel at its base. Any tearout near the peak of the bulge is sanded out.

When you are satisfied with the surface texture, apply a coat of dark dewaxed shellac (2-lb. to 3-lb. cut). I applied it with a

THE BASE PIECES

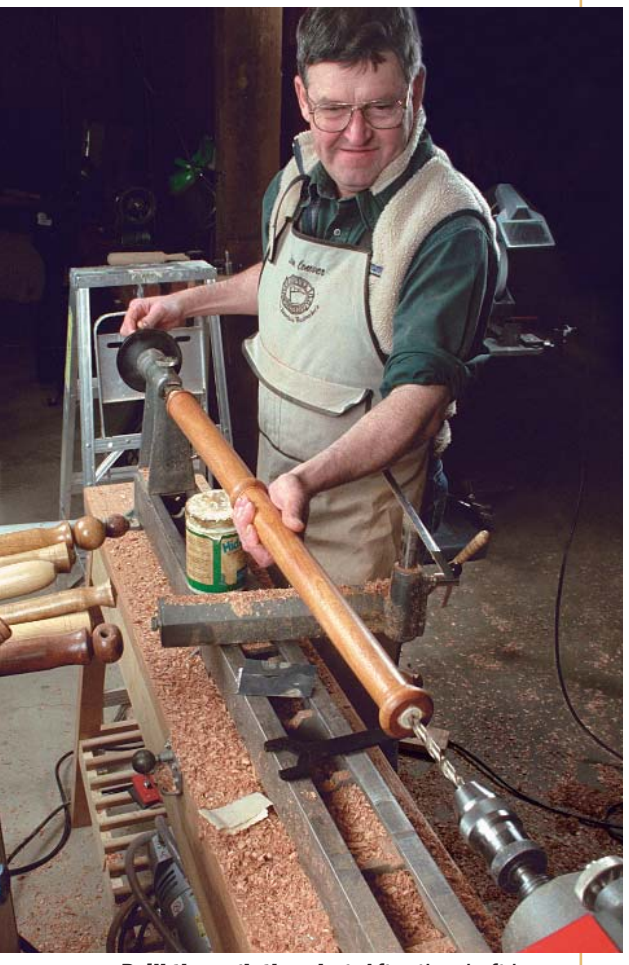
Make the joint between the upper and lower bases. *Flatten the area on the lower base, where the upper base will make contact, with a ½-in. bowl gouge to create a seamless joint.*



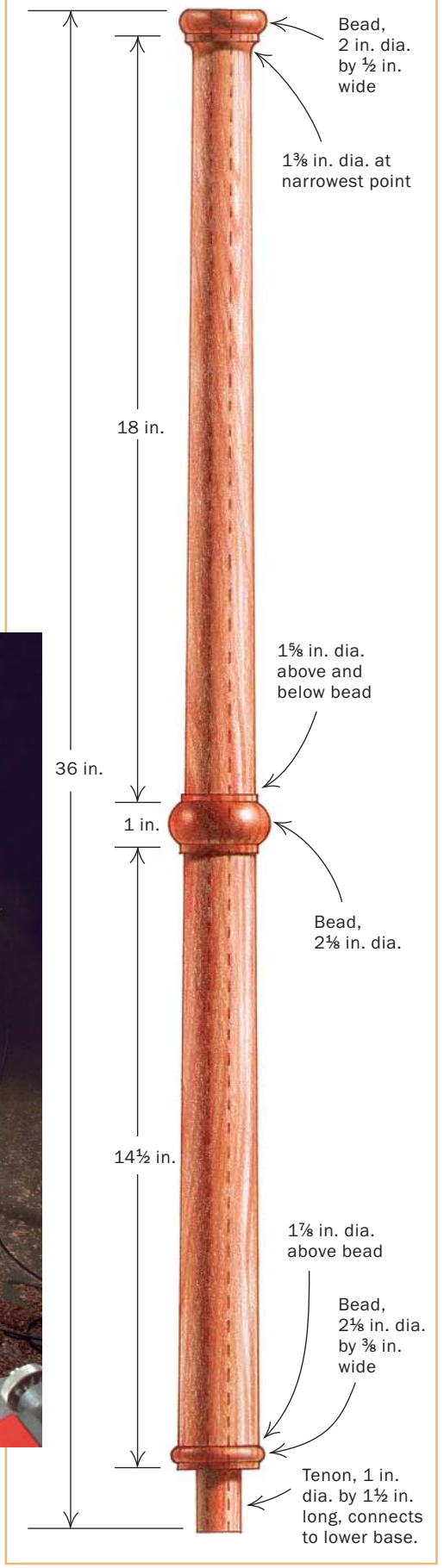
Photos, except where noted: Mark Schofield; drawings: Michael Gellatly

THE MAIN SHAFT

Hollow main shaft. *Four pieces of mahogany surround sections of poplar at each end to form a hollow center for the cord. The poplar sections provide contact points for the lathe's centers.*



Drill through the plug. *After the shaft has been turned, sanded and finished with shellac, drill a hole through both solid ends to allow the lamp rod to enter at the top and the cord to exit from the bottom.*



handful of wool from the back of my wife's sheep, but a cotton cloth is nearly as good, if not as exotic. Turn the lathe by hand while applying the shellac. Then burnish the piece by running the lathe at around 1,500 rpm to 1,800 rpm while holding a handful of shavings against the spinning wood. Keep the finish off the tenon to ensure a good glue joint.

Last, drill a ½-in.-dia. hole in from both ends to a depth of about 5 in. Mount a drill bit in a Jacobs chuck held in the headstock. Place the center of the work against the point of the drill and catch the opposite end with the tailstock center. While holding the work to prevent it from spinning, use the tailstock ram to force the work against the drill. Low speed (200 rpm to 300 rpm) is essential. Be sure to back out the drill frequently to eject the shavings and to avoid overheating the bit.

Faceplate-turn the lower base

Mount the blank on a screw chuck and rough it out. Then cut a hole to receive the tenon of the upper base. If you decide to drill the mortise, first mark the exact center of the work using the toe of a skew chisel. To ensure that the mortise is concentric with the rest of the base, start the cut with a bowl gouge and fine-tune the fit with a chuck-making scraper (right). The scraper allows you to cut the mortise to fit the tenon exactly. My tool is a reground ½-in. commercial scraper, but it can be made from an old file or chisel. It is configured so that sharpening keeps the orientation of the edges the same; if the edges were parallel, the left edge would tend to walk across the blank.

CHUCK-MAKING SCRAPER

For a seamless joint, smooth the area around the mortise to the same diameter as the upper base. Mark the edge of the joint with a pencil to avoid cutting into this area when you turn the rest of the base. Before unchucking the work, apply several coats of shellac, then burnish the piece.

Now glue the lower and upper bases together, using the pressure of the ram as a clamp, which will ensure that the mating parts are not off center. When dry, drill a 1-in.-dia. hole in the top of the upper base that will receive the tenon of the main

shaft. Before unchucking the base, use the lathe's indexing mechanism to lay out three equally spaced locations for the feet.

Turn the main shaft

Rough out the blank, then cut a 1-in.-dia. tenon 1½ in. long at the lower end and a bead just above to conceal it. Roughly halfway up the shaft, another bead breaks up the monotony of a long section and can conceal a joint if you need to turn the shaft in two sections. Before turning the long taper, form the beads to define the diameter of the shaft. To check for a steady taper all the way up the shaft, hold a straightedge to the work. To reduce vibration, steady the workpiece with one hand and guide the tool with your thumb.

Sand the shaft and apply a shellac finish. Then drill a hole through the solid sections at both ends of the shaft to allow the lamp rod to enter at the top and the lamp cord to pass through the bottom.

Turn the last parts and assemble

A 6-in.-dia. by 1-in.-thick blank for the wax cup is turned on a screw chuck. If you do not have one of these, they are easy to make by putting a #8 or #10 wood screw through a block of wood and attaching the block to a faceplate.

The candle blank is 2 in. square and 8 in. long and is turned to imitate a wax candle in its holder. You have the option of painting the shaft a cream color to represent the candle or leaving it in its natural mahogany.

Using the same 7/16-in. drill bit used to drill the ends of the main shaft, drill down the center of the candle section and the wax cup to allow the passage of the lamp rod.

The final items to be turned are the three bun feet made from 2-in. by 2-in. blanks 1½ in. thick. These can be attached to the base using screws or tenons.

With all of the parts completed, dry-assemble the lamp to be sure you are happy with the overall proportions. (I thought the top bead of the upper base was too large, so I decided to reshape that section.) Next, make the electrical connections (see the story below) and place a suitable lampshade on the harp. □

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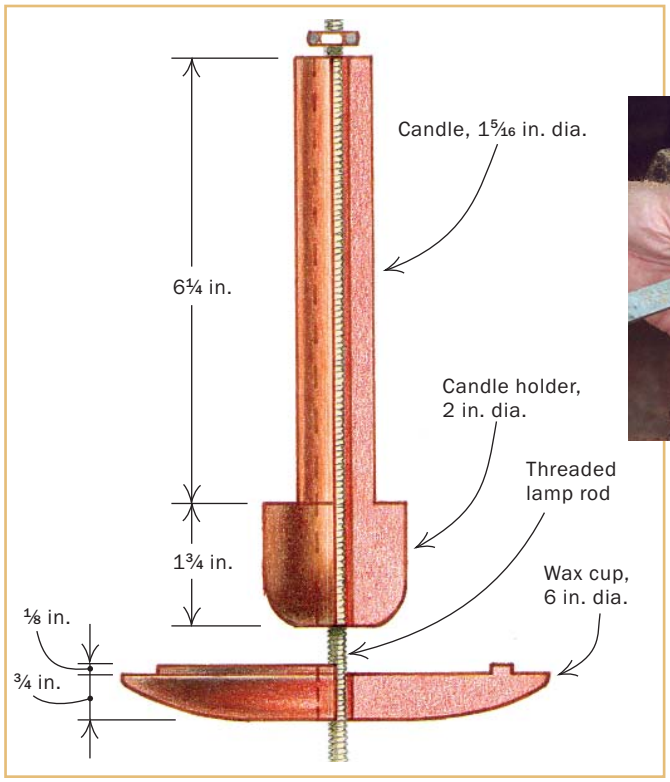
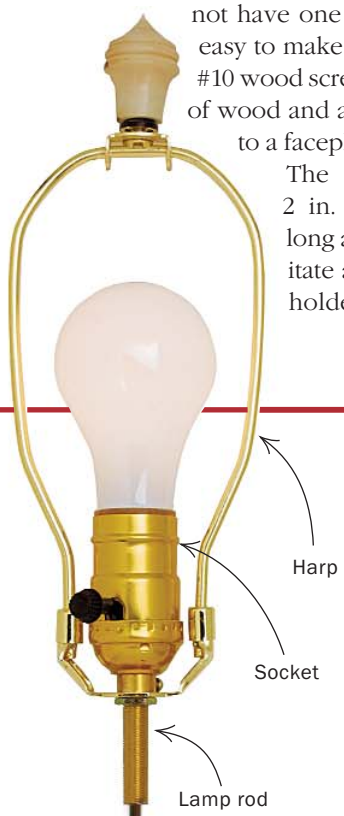


WAX CUP AND CANDLE

The two sides of the wax cup. *Turn the piece on a screw chuck and refine the inner and outer surfaces with a scraper.*

Wiring the lamp



To meet electrical code, the lamp cord must be continuous from the plug to the socket. There cannot be any splices inside the lamp base or shaft. Use 18-gauge, or heavier, wire long enough to thread through the shaft and reach an outlet. You also need a two-blade plug rated for 15 amps at 120 volts, a single- or three-way socket with a similar electrical rating, a lamp rod of at least 15 in. and a couple of nuts for it and, finally, a harp and a shade. Hardware stores and electrical-supply houses should be able to provide all of these items. One of the two wires (the neutral) in the lamp cord has ribs or a line molded into the insulation. The plug, if it meets code, has one blade a bit wider than the other so that it can only be plugged into the electrical receptacle in one orientation. This wider blade is the neutral line, and the ribbed wire should be attached inside the plug to the terminal for this blade. On the bulb socket, the ribbed wire should be attached to the silver terminal. Attach the other wire (hot) to the dark (often copper-colored) terminal.

Photos, this page (bottom) and facing page (right): Kelly J. Dunton