

SHOPMADE BURNING-WIRE TOOL

Jim Duxbury



You do not have to play guitar to use the strings. Steel guitar strings make excellent burning wires for adding decorative black lines around your turnings. You can buy them as individual strings or in sets of six that include different wire gauges. But even better than purchasing them, you may know a guitar player who is willing to give you used strings that have been retired. From each guitar string, you will get about two good lengths of burning wire, and they last a long time.

Holding a burning wire during use can be difficult—and downright unsafe if you wrap it around your fingers. Many turners use a wooden handle with the wire fastened at one end with a screw and washer. This method may work for a while, but

the wire has a tendency to break at the point of fastening. My turned handles eliminate this problem. The idea is to turn handles, or grips, that are comfortable to hold and that firmly retain each end of the wire. The handles have a hole drilled through them to accept the wire, which is trapped within the hole with a single drywall screw.

To make these handles, you will need a length of steel guitar string, two 1" (25mm) drywall screws, and a piece of hardwood, such as ash, 1" square by 6" (15cm) long.

Turn the handles

Cut the hardwood blank into two 2¾" (7cm) lengths and mount one in a four-jaw chuck on your lathe. True up the end of the handle. I used a ⅜"

(9.5mm) spindle gouge for this task. Then use the long point of a skew, presented flat on its side, to create a small recess, or starter hole, in the center (*Photo 1*). Mount a ⅛" (3mm) starter bit in a tailstock-mounted Jacob's chuck and drill an alignment hole about ¼" (6mm) deep. Now, with the lathe speed fairly slow (about 500 rpm), drill a ⅝" (4mm) hole all the way through the handle. You can hold the drill bit in either a Jacob's chuck or by hand in a wooden handle (*Photo 2*); the ⅛" alignment hole will help keep the through hole centered. Withdraw the bit frequently to eject the chips. It is also possible to drill this through hole off the lathe, using a drill press or hand-held drill.

I like to countersink both ends of the handle (*Photo 3*) for re-mounting

Drill and countersink



1 Make a centered starter hole using the long point of a skew.



2 Drill a hole through the blank.



3 Countersink both ends of the blank.

the blank with a drive point and cone tailstock center. If you don't have a drive point like the one shown in *Photo 4*, a standard spur drive and tailstock center will work fine, as close to center will be good enough for this project. Countersinking also allows for the drywall screw to be inserted flush with the end of the handle later.

With the workpiece mounted between centers, turn the handle to $\frac{7}{8}$ " (22mm) diameter, then make pencil lines to indicate the location of your turning details. I shaped my details using a $\frac{3}{8}$ " spindle gouge (*Photos 4, 5*). The cove toward the top of the handle is a nice feature because it gives you a good place to grip and pull the wire tight during use.

I added burn lines to my burning-wire handles. To do this, use a point scraper, presented flat on the toolrest, to cut shallow V-grooves in the handle. Hold the burn wire taut and press it into a groove, applying downward pressure until you begin to see smoke and a dark line (*see opening image*). Lightly sand the burnt groove and surrounding surfaces to clean up any extra charring. I applied clear paste wax as a finish.

Remove the handle from the lathe and repeat the process for the second one.

Attach the wire

Steel guitar strings come with a small barrel attached at one end for mounting on a guitar. Cut this barrel off using a wire cutter. Insert one end of the guitar string into the hole in the top of a turned handle and push it in until it shows at the other end. Then thread a drywall screw into the bottom end of the handle next to the wire so it presses the wire tight against the inside of

the hole. Do this with the other end of the wire and the other handle, and your new burning-wire tool is completed (*Photo 6*). ■

Jim Duxbury, a woodturner and inventor, prides himself on creating wooden items that function with precision and stimulate creativity, while retaining the qualities and beauty of the wood grain. For more, visit duxterity.com/ec.

Re-mount and turn



4 With the blank mounted between centers, turn it round and add details. A cove near the top aids in gripping the burning wire during use.



6 Affix the wire to the handles using drywall screws. The wire is inserted through the top all the way to the bottom of the handle, where the drywall screw pinches it firmly in place. Note the screw at right is left unfastened for the purpose of illustrating the tool's construction. Tighten both screws to hold the wire firmly in place prior to using the tool.