

Fascination with Friction

Emmett Manley

The first embellishment many woodturners learn to make is a burn line, or as the British prefer, a scorch mark. In just a few seconds this magic line appears, always perfectly at right angles to the spinning wood. The curling smoke is impressive, a reminder that we are working with powerful forces. I am convinced that making a first burn line is the moment that addicts many to woodturning.

Fascination with friction-generated lines carries over to woodturning customers—given a choice, the public usually selects the item that has burn lines. Working with another woodturner, I once took orders for 25 custom mortars; every person checked the “add burn lines” option.

Beginners often passionately create burn lines, not realizing that decorations used sparingly and for a purpose enhance rather than detract. I most often use burn lines to embellish plain wood and to hide a defect in the wood (natural or manmade). A small spot of torn grain or stubborn tool mark may be hidden under a burn line. Or the burn line can lead the viewer’s eye elsewhere.

Burn the wood

Holding a wire within a small groove while the wood spins on the lathe creates a burn line. The groove can be cut with a skew chisel or parting tool or any pointed turning tool. The width of the line is determined by the width of the wire selected and how long the wire is allowed to burn. Following the burning process, the burned grooves can be cleaned with a wire brush, folded sandpaper, or the wire itself.

Burn lines are added to a spindle turning.



Holding a piece of hardwood against the spinning wood can also make burn lines, a technique that can produce beautiful rims on bowls. In this case, both woods are significant: some woods burn easily such as sweet gum, others do not. Some woods burn; some do not. Cocobolo has a reputation as a good burn-line wood, but my results have been mixed.

Safety

A few reminders about safety: you are reaching across the lathe and near the spinning wood, so keep your sleeves out of the way. Keep the wire taut, never letting loose wire sag down onto the chuck where the wire could get caught in a protruding jaw. Never wrap the wire around your fingers. I recommend the use of balls as wire handles so that the wire-and-ball assembly will be jerked out of your hand in the event of a catch.

Design considerations

One of the unwritten rules of woodturning seems to be that the number of burn lines should be odd with one, three, and five being most common. There is a general belief that even numbers of burn lines are not as pleasing. I tend to agree although I cannot say why. The odd-numbers rule extends to other areas of woodturning. Nick Cook makes five grooves in his honey dippers, saying, “Three are not enough, seven are too many, and you can’t use even numbers.”

It can be challenging to evenly space burn lines. For three lines placed together, make the two outside marks first, and then split the two with a third cut. Or, use pencil marks to establish the lines before making a cut, followed by the application of the wire.



Turned and burned utilitarian objects

Wire holder

Wire holders for adding burn lines can be purchased or shopmade. I have seen one instructor make his burn lines with a spool of wire in one hand and a pair of pliers in the other hand. That crude setup can be dangerous. Wire holders are easy to make, so I keep several on hand.

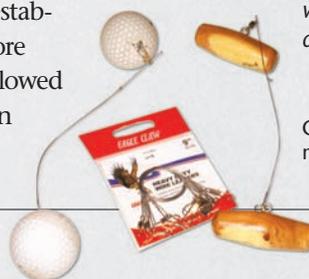
I make my wire burners with 30-pound-test steel fishing leaders. A pack of six leaders is less than two dollars and packs are available in three lengths, 6" (15 cm), 9" (23 cm), and 12" (30 cm). Nine inch is ideal for my needs. A major advantage of using wire fishing leaders is that the swivel keeps the wire from twisting, which can be a problem with other wire burners. Also, the wire used for fishing leaders is flexible as well as strong. The coating on the wire will quickly burn off. The wire is sturdy and will last a long time.

Fabrication is simple. Use small but strong screw eyes. Pry one screw eye open and then close it around the swivel end of the wire fishing leader. The fishing leader has a snap at the other end, so simply snap the leader onto the other screw eye.

Handles can be turned from wood. Small wooden balls are available at craft stores, or use my favorite: golf balls. Surprisingly, the tough rubber holds the screw eyes firmly and the golf balls fit my hand nicely.

Happy burning! ■

Emmett Manley is a retired medical scientist/professor who got hooked on woodturning in 2005. He enjoys studying and collecting wood native to western Tennessee and turning that wood into useful items. He may be contacted at emanley1@comcast.net.



Golf balls and 30-pound-test fishing leaders make excellent burn-lines implements.