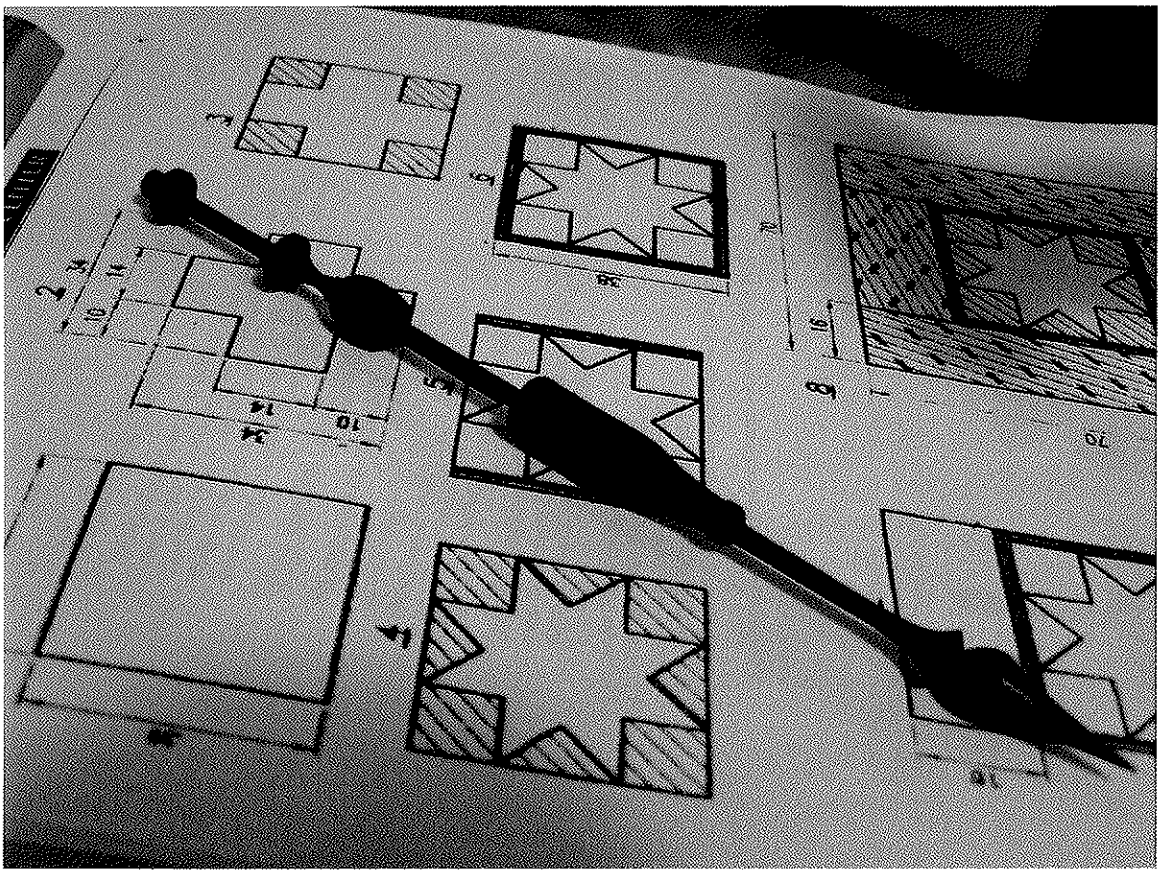
THE ULTIMATE FINIAL STEADY REST

By Capt. Eddie Castelin

During the summer of 2007 I attended Arrowmont Arts & Crafts School in Gatlinburg TN for a class with Eli Avisera, the noted woodturner from Israel. During this class he demonstrated how to turn what he called a "Tremblier". This is a very tall and thin finial, which serves no purpose other than, be beautiful and unique.
The steady rest he created for this purpose was quite unique and could be adapted for use in turning small finials and for novice turners to use while learning the "soft touch".

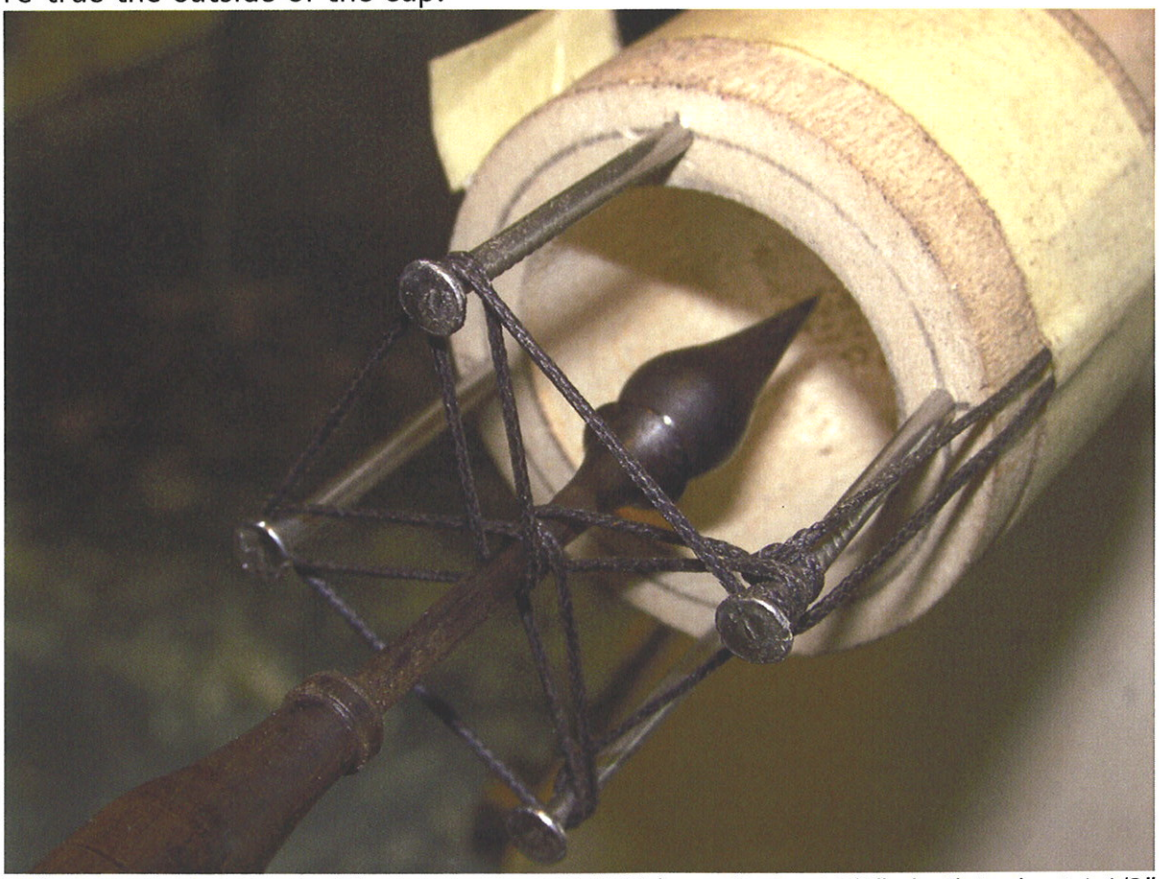


A sample "tremblier" for a friend at a vineyard. Notice the wine bottle and the goblet on the 1/8" thin stem. Overall length was 7.5" (19cm) By Eli Avisera 7/07

The steady rest is created with a single block of wood about 2.5" square and 6" in length. Chuck it in a scroll chuck and turn a tendon on one end. Flip it over and round it out to the maximum diameter available.

Begin by putting a mark on your center in your tailstock, establishing a point for a dimension needed for the Morse Taper you are about to crate. Remove the center from your tailstock and with a set of calipers copy the small dimension of the Morse taper to the end of your block with a parting tool.

Measure the point you marked on the center and take a measurement of the diameter at that point. Your next step is to measure up the same distance from the end of the center to the mark on your stock. Now transfer that measurement from the end of your stock and, with your parting tool and caliper, copy that measurement onto the stock. You have now set the diameters for your Morse taper on your steady rest. Using your gouge, reduce the diameter to these two points being careful to follow the two gauge points you have established. Sand, finish and seal this portion of your piece.
Continue the Morse taper another ½" or so, but without the taper. This insures that you will not be riding on a shoulder when placing it in your tailstock. Now bring up the tailstock and check the fit. It should be smooth and snug, just the way you want it.
Remove the stock from your chuck. Remove your chuck and place the Morse taper in your headstock. (This could be a problem for you one-way users, but you're big boys, figure it out). Bring up the tailstock, with your center in it. You are now ready to turn the cup. Turn up the speed to get a good cut and re-true the outside of the cup.



A close-up of the cup end of the Steady Rest. Wall thickness is about 3/8"; depth is about 1-1/2" at the center. Note the string placement and pattern.

Figure about a 1" union between the end of your Morse taper and the bottom of the cup. The cup is about 1-1/2" deep. This means you have about 2-1/2" of stock from the end of the Morse taper to the parting point for the cup.

Part off the block at this point and clean up the end. Using a 3/8", hand-held drill, drill a center hole 1-1/2" deep in the end of the stock. Using your favorite gouge, clean out the cup to a sidewall thickness of 3/8" and a clean bottom 1-1/2" deep. Sand the interior to clean it up a little.
Put a small groove, using your parting tool tip, in the center of the 3/8" wall on the end. (Noted by pencil mark in photo) This is to help you center the nails.
Sand and finish the entire exposed piece, this is a work of art.
Remove from lathe and take to drill press. If you have a pen blank vice, use it. Mark the four points with a blank layout tool to get the nails on the four axis points of the center. Drill a 1/8" hole about 1" deep on the groove you made. (Makes it easy with the groove, right?) This is where you will put four (4) six penny (6D) common bright nails. Tap them a little or a drop of CA to hold them in place. You now have a steady rest.
The string pattern is shown below. Start with point one and so forth. The string is braided fishing line like your grandpa used. A drop of sanding wax keeps it from burning your work.
I used maple, oak, gum and mahogany to turn these out of. They all work great.