

### May Meeting of the Northeast Region - 2003

*IronFlower Forge (Steve & Kimmy Bloom)*

The subject of the meeting was the construction techniques useful in dagger production with emphasis on the utilization of lathes.



We started with the production of a pear-shaped pommel from a 1.5" piece of 1.25" diameter round stock using a Logan metal cutting lathe. The piece had both ends faced and the center marked using a center drill. One end was drilled with a #7 bit and tapped for a 1/4x20 bolt. The piece was then bolted to a ‘handle’ (a 5/8" diameter x 3" piece of round stock with a centered hole through which a 1/4 x 20 bolt could be run) and placed back on the lathe. Given the dimensions (see drawing), the necessary angles for the two cuts were determined and the cross-slide on the lathe was used to make the cuts.

The result was effectively two truncated cones each with 1.125" base sitting base-to-base. Then handle was replaced with a short bolt and the bolt was chucked up in an electric drill. A few minutes work at the belt grinder was sufficient to convert the cones to a pear shape. A few more minutes at the buffer converted it into a high-polish pommel. The technique for producing a wheel-pommel was also discussed.

The same principles can be applied to a guard. Start with a 3/8" piece of square stock 6.5" long. Mark it at the 0.75" and 2.75" from both ends (the 3/4" ends will be held in the lathe chuck or supported by the live center, the center 1" section will be where the tang slides through the guard, and the remaining pair of 2" sections will taper from the center - at 3/8" diameter- to the tips - at 1/4" diameter). As with the pommel, the dimensions and a bit of math result in an angle of 2.5 degrees which the cross-slide and lathe then converts into reality. The addition of a pair of side plates, a bit of free-hand grinding, and the judicious application of heat results in a completed guard.



The next item was the handle. The desired shape was a spindle approximately 5" long, 1" wide at the widest point and tapering in both directions to 5/8" diameter. We started with a square piece of cocobolo 7" long x and 1.25" wide. The ‘corners’ were removed with a radial arm saw to give a rough octagon and the centers on both ends were marked. The piece was placed on a Shopsmith wood lathe and using a crude turning tool made from an old file, the chips were sent flying. The tang cavity was drilled on a drill press using a cross-vise, a dead-center and a key ring laser (to position the chuck directly over the center’s point).

