Construction and Efficacy of a Quartz Crystal-Tipped Hand Drill
by storm

A few years ago, amongst the shovel-and-pick gold claims and scattered stately yuccas, I had collected some point-tipped quartz crystals in the San Bernardino National Forest of southern California. There were fascinating outcroppings of pegmatite, a coarse-grained granite containing tourmaline, beryl, phosphate, micas, and quartz (to name a few possibilities), which sometimes offered large crystals. “These must be of some use,” I thought to myself as I not-so-gently crushed the pegmatite to reveal small pockets of clear quartz crystals. Four years later, a few uses presented themselves.

Having nearly no knapping skills, I’ve thought long and hard about alternatives to the stone micro-drills so wonderfully displayed in the annals of the *Bulletin of Primitive Technology*. Putting the eyes in bone needles, holes in shell ornaments, and primitively starting friction-fire sockets are tasks that have become important to me. It had recently dawned on me that I could *simply* sink a pointed quartz crystal into a hand-drill spindle (of which I have a few hundred), affix it with pitch, and drill away. One of the photos shows the cutting and sanding tools, deer dung, Douglas fir pitch (and littleneck clam shell container in which to melt it), elderberry and honeysuckle spindles, and quartz crystals necessary to make a hand drill. In order to create the socket in which the crystal would be glued into the spindle, I hand-spun the pointed tip of the quartz into the future working-end of the spindle shaft, which took about ten minutes. Using a little fir pitch to firmly nest the crystal into place, the tool was finished and ready to use. For the fun of it, I bought a fluorite crystal and made a drill out of that, but the fun ended when I found that this mineral was far too soft to be useful in general.

Now it was time to test the tools at hand. The last photos illustrate the various materials that have been successfully drilled with the quartz crystal hand drill. An avid friction-fire practitioner, I am very pleased to have a wholly primitive tool capable of easily starting the socket in which a hand drill or bow drill spindle would spin.

Here is a little efficacy examination of this mineral drill regarding various materials:

Material	Time Took to Complete Task (min.)
CA Fan Palm Wood Hearthboard (3mm depression sought)	0:20
Red-Belted Conk Fungus (3mm depression sought)	0:30
Coast Live Oak Hearthboard (3mm depression sought)	0:35
Mussel Shell (2mm thick)	1:15
Snapping Turtle Carapace Shard (6mm thick)	2:20
Deer Leg Bone Shard (4mm thick)	3:25
Elk Antler Shard (7mm thick)	4:00