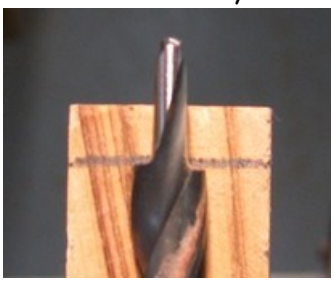
I've included a brass stop with your drill bit because I feel that it's a necessity when drilling a stepped hole. If you've ever ruined a blank by drilling too deep then you know what I mean. It's pretty straightforward but I'll give you a few tips that might help.

Pick a length for your blanks and cut them all the same, every time. This will keep you from having to adjust the stop all the time. I cut all mine at 4 1/2".

For the initial set-up, set the stop so the bit will bottom out at least 3/16" from the end of the blank, about 1/16" short of what's needed, and drill until you hit the stop.



Put the mechanism in, check it for length and move the stop a little. Drill again and check. Keep doing this until you have approx. .275" sticking out. Too little and the threads won't engage, too much and you will weaken the tip. I do the fine tuning by hand with the bit in a hand vise, but if you don't have one, just leave the drill in the chuck and turn the blank by hand.

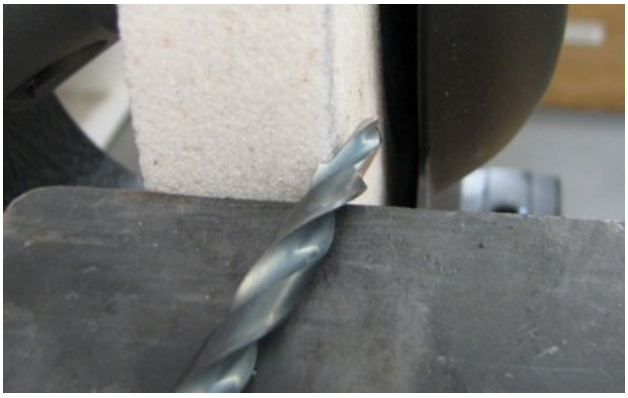
The threaded portion and the non threaded portion should be about equal length when the mechanism is inserted all the way.

As far as the actual drilling is concerned, I like to start by using a center drill and then a regular length 17/64" drill bit to drill the first couple inches. BY ALL MEANS you can just use the step drill, but it tends to wobble a bit at the beginning, leaving a slightly larger hole. Also, once the flutes disappear inside the blank, don't drill any more than 1/2" at a time before backing out and clearing the flutes. 1/2" is about all it takes for

the flutes to fill up and start to bind.

Even if your tail stock quill has enough travel to do the job, I find it easier just to move the tail stock while drilling. I drill the first couple inches using the quill and then I retract the quill and slide the tail stock in until I can feel the tip of the drill bottom out. Then I lock it down, drill 1/2", unlock it and slide it back. After clearing the flutes, I keep repeating this process until I'm done.

Finally, if you make enough of these pencils your drill bit is gonna need sharpening. If you have a bench grinder this can be done in a matter of seconds.



First, make sure you have a sharp 90 degree angle on the right side of the wheel. Hold the bit at a slight angle to the left as in the photo. Set the angle of the tool rest to match the angle on the flutes. Now advance the bit into the wheel with VERY LIGHT PRESSURE, at the same time give the bit a little "twist" to the right. Also, don't grind one side more than the other. It's VERY important to take equal passes on both sides. Two LIGHT passes on each side usually does the trick.
A Drill Doctor will work on the point but not on the flutes.

That's about it. Enjoy your new toy!