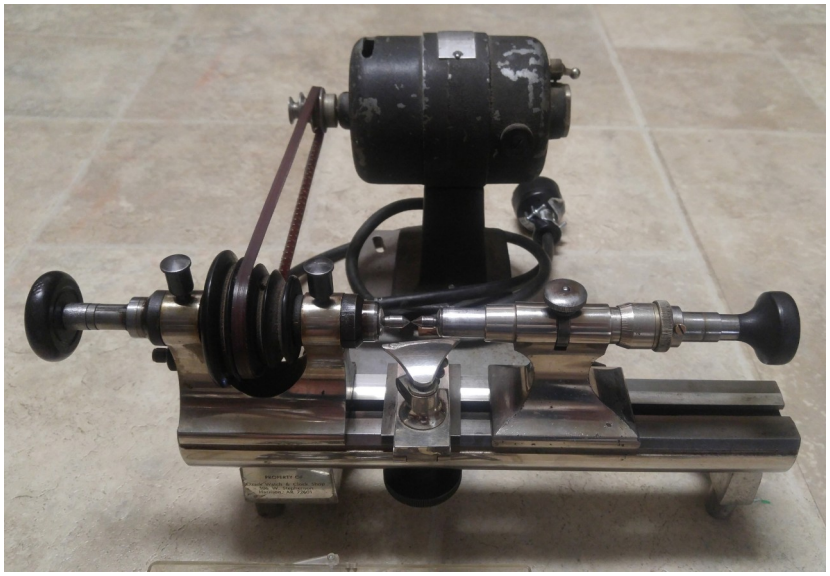
My Henry Paulson Supreme 8mm Micrometer Watch Lathe



As a kid growing up, I would see such beautiful plated lathes glistening on workbenches in the local jewelry stores. This was a time when skilled workers actually repaired mechanical watches. The lure of such precision machinery was and still is irresistible. This Paulson lathe was specially made to Paulson's specs in Germany and sold worldwide. Decades later this relic of times long gone has ended up in my workshop in need of some tender love.

Here is what I purchased.

1. The Paulson lathe with tip over toolrest

2. A Vigor reversible motor

3. 22 assorted wire chucks (collets)

4. A wax chuck with assorted brasses

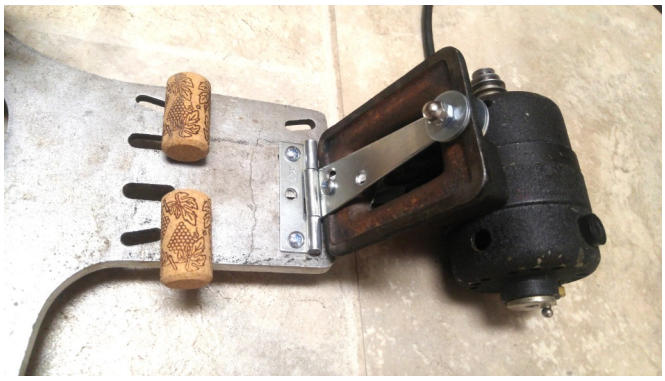
5. Two center collets

6. Assorted centers

7. New Foredom foot control

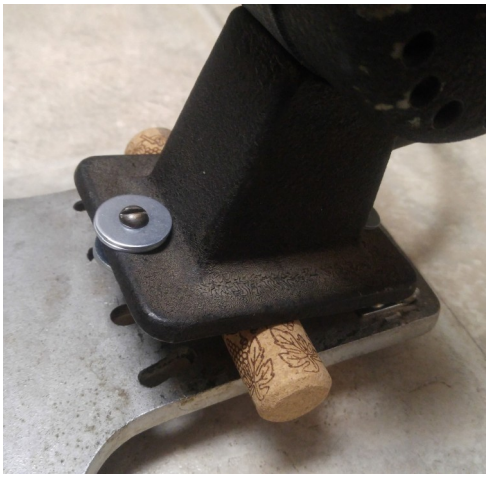
8. The Borel base

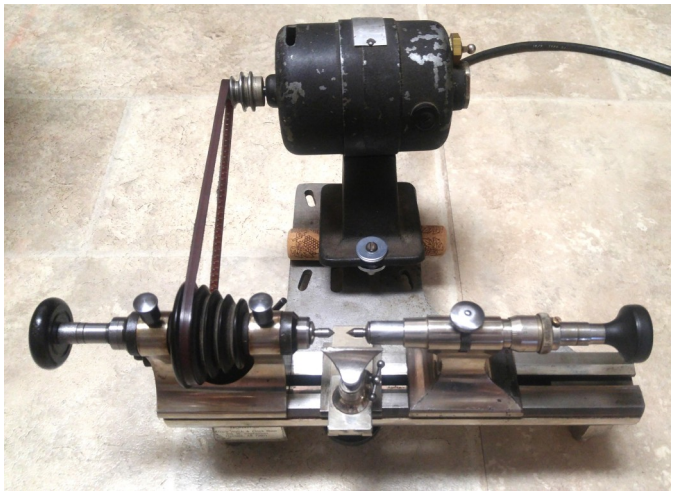
Looking over the goodies, it was apparent that only minor work would be required to get this little lathe up and running. The micrometer tailstock needed only cleaning and some oil. The tip over toolrest required the hinge pin to be tightened and lubricated. The headstock bearings are hardened and in great shape. The index pin tip was broken off and the whole indexing adjustment was glued together by old dried oil residue. A little oil and persuasion loosened up the mechanism and this was removed for a much needed cleaning. Before working on the index pin problem, I turned my attention to the way the motor had been mounted and the switch on the motor itself. The previous owner had used a wedge of wood to crudely adjust belt tension. This would need to go. My simple but effective solution to the belt tension dilemma is shown below.



My solution was to attach a standard 3” x 4” hinge to the motor pedestal. This would allow the motor to pivot to adjust belt tension. Belt tension is critical on such precision lathes.

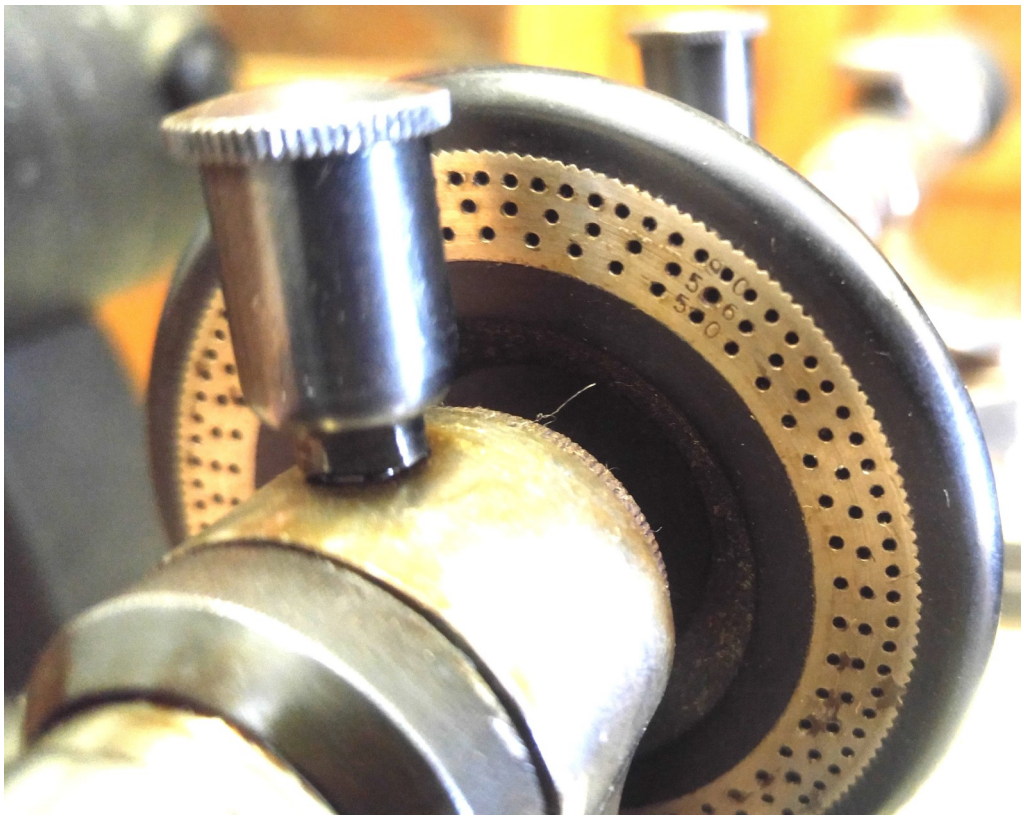
The amount of pivot was controlled by two wine bottle corks.





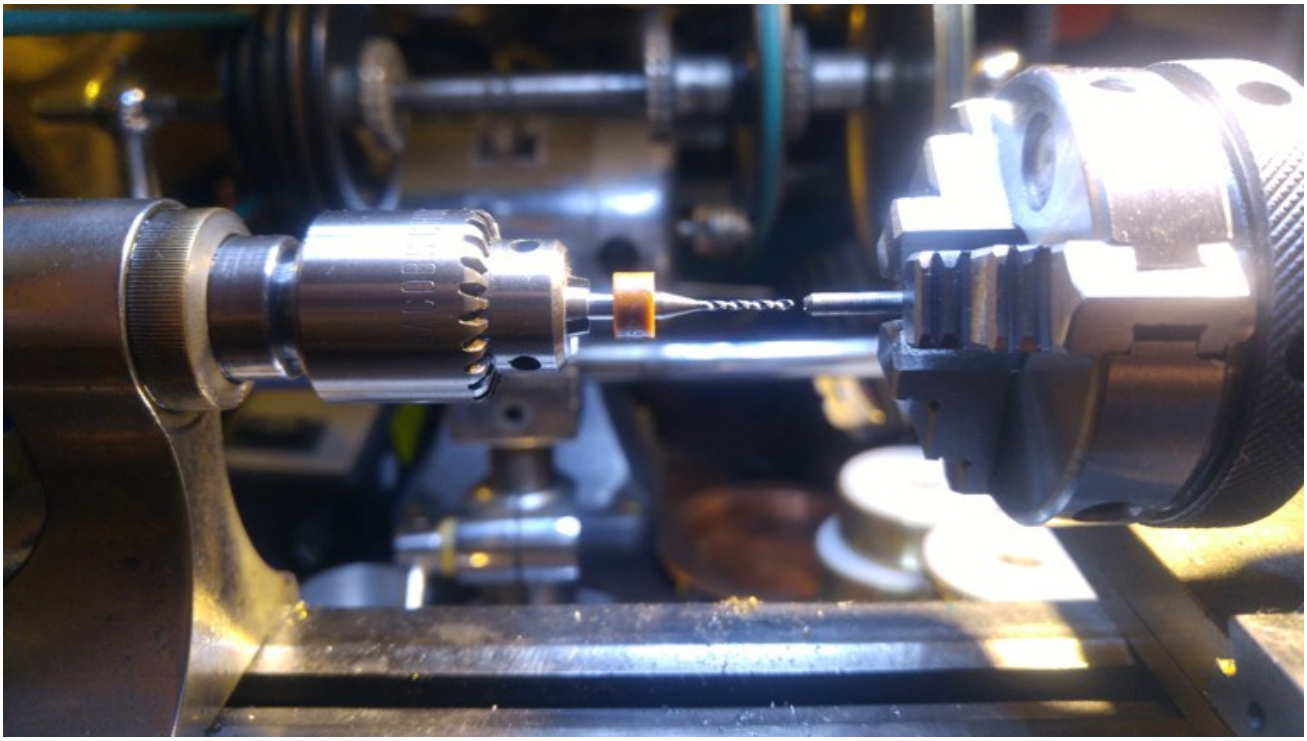
The pivot pin on the forward/reverse switch on the motor switch was broken – so I fixed that. Reverse can now work once again. While I had the motor off, I cleaned/lubed the bearings, checked the brushes, and worked on the switch.

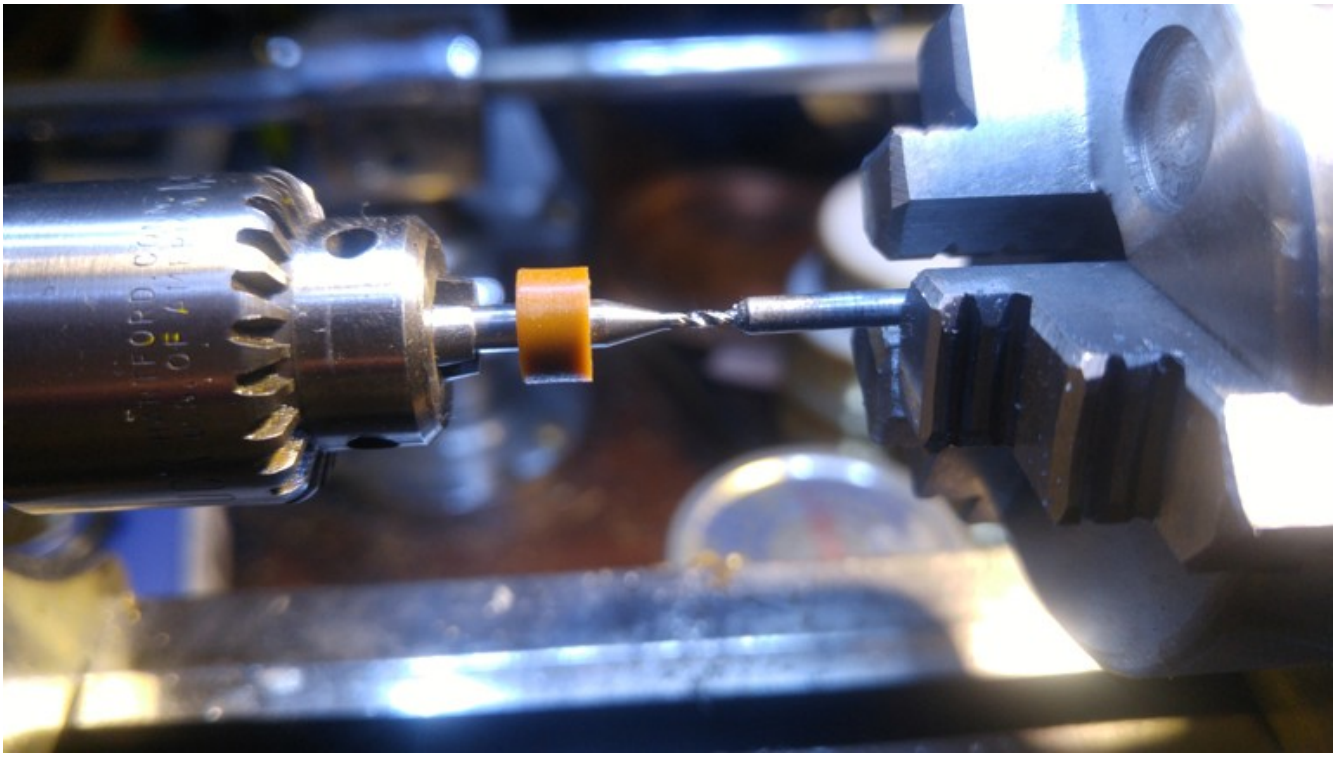
Next I returned to the broken index pin. The Paulson lathe has three rows of indexing holes 50, 56, and 90 giving 2, 3, 4, 5, 6, 7, 8, 9, 10, etc. even divisions using only the headstock indexing system.



The tip of the indexing pin was broken off. I decided to drill out the original pin and insert a new stainless steel tapered tip.

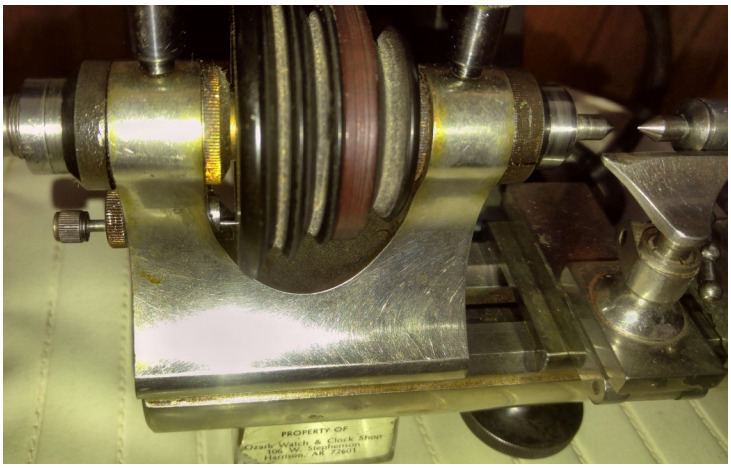
I set up for drilling the end of the small index pin on another of my WW lathes. I would drill in 6 mm.

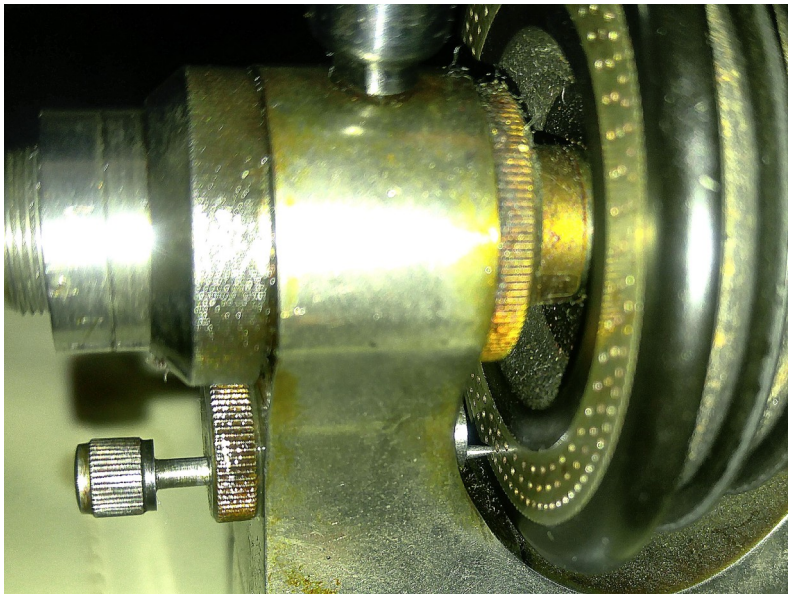




The drill used was a PCB solid carbide drill and such small drilling is straight forward on these lathes. The hole was drilled and a new pin tip was ground from stainless steel. This new tip was made for a tight fit in the new hole. This new tapered tip tapers down to .4 mm to fit the holes in the index ring of the headstock.

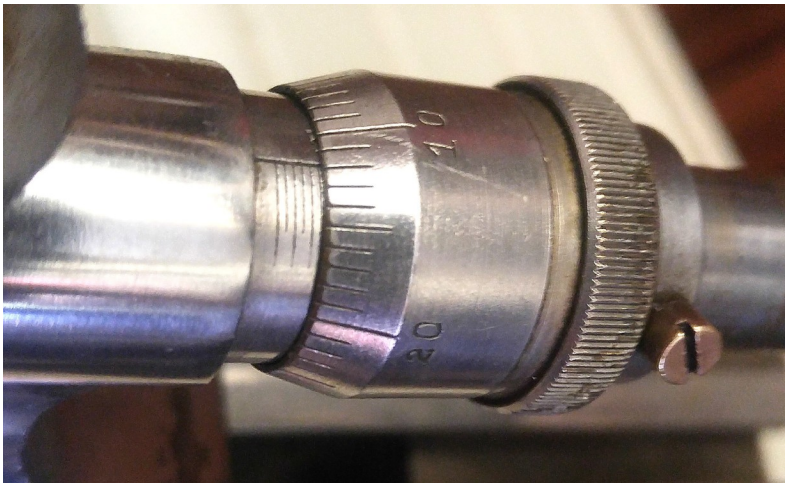
Here is the index pin with its new replaceable tapered tip in action.

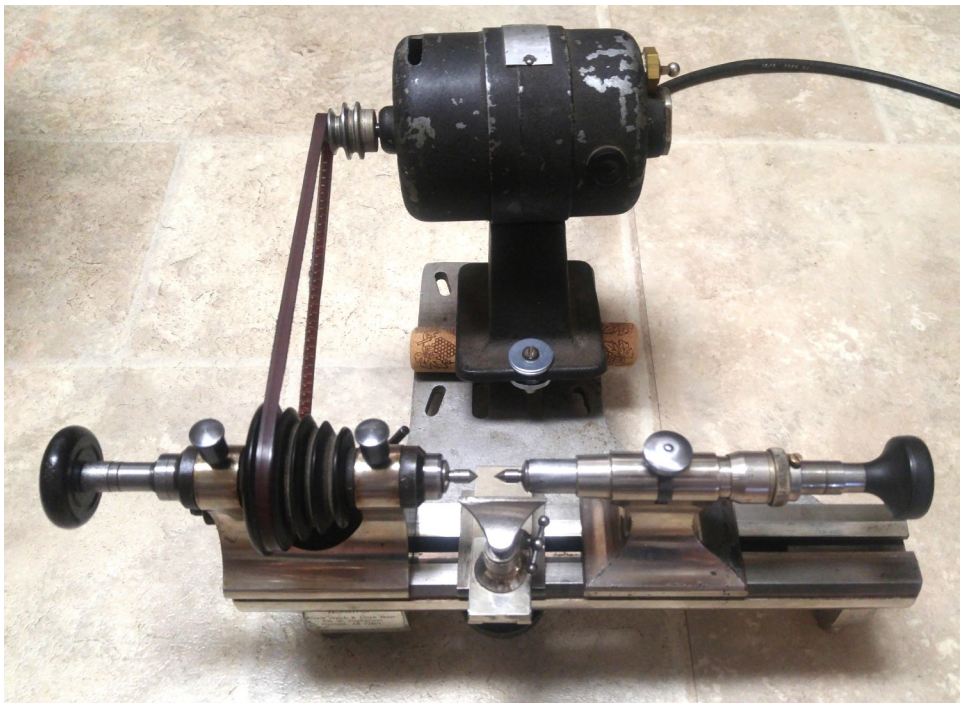




This close p view better illustrates the new pin tip in use.

Here is a close up view of the micrometer tailstock adjustment for depth control.





With the above items completed, the lathe is now ready to start making money.