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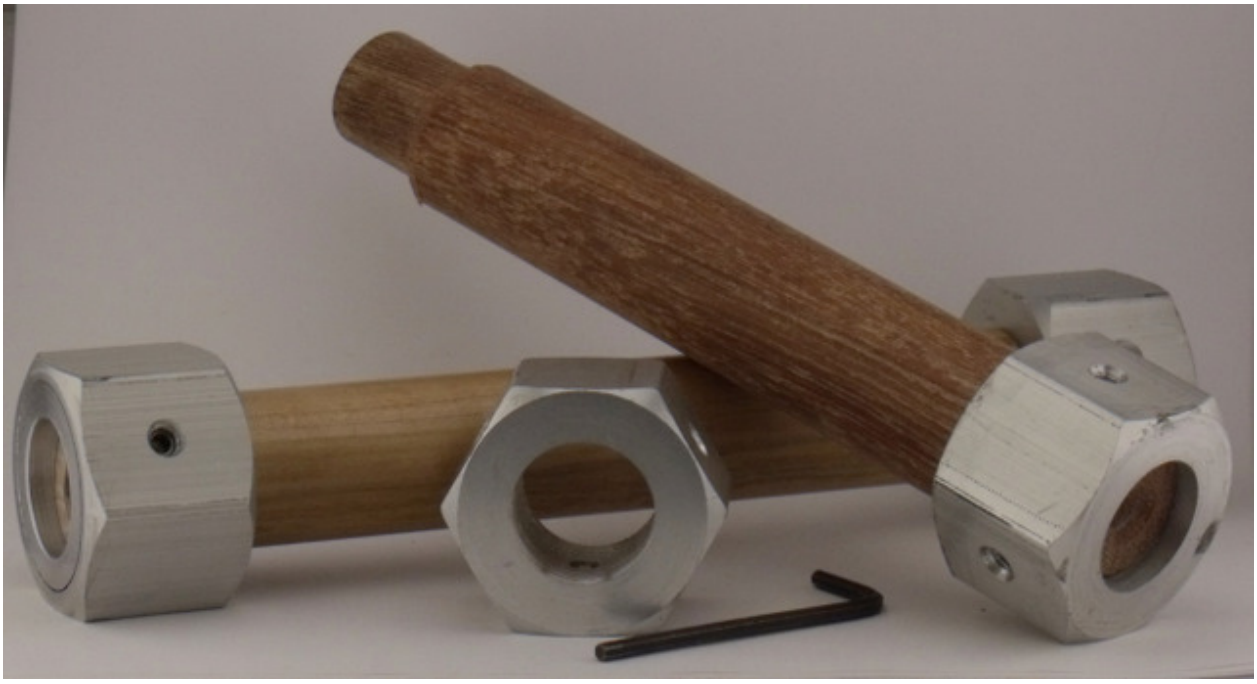
Rat Nuts

These easy to make hexagonal nuts are one way of indexing 'feathers' around a pen blank.
They are used simply as a guide to ensure that each successive cut is the same as the previous ones.
I made mine from large aluminium nuts but they could be made from wood or plastic too.
They could be used on almost any cutting tool like a tablesaw, bandsaw or even a chopsaw like I used.
You will mostly use the tool that has a blade kerf that matches your insert 'feather'

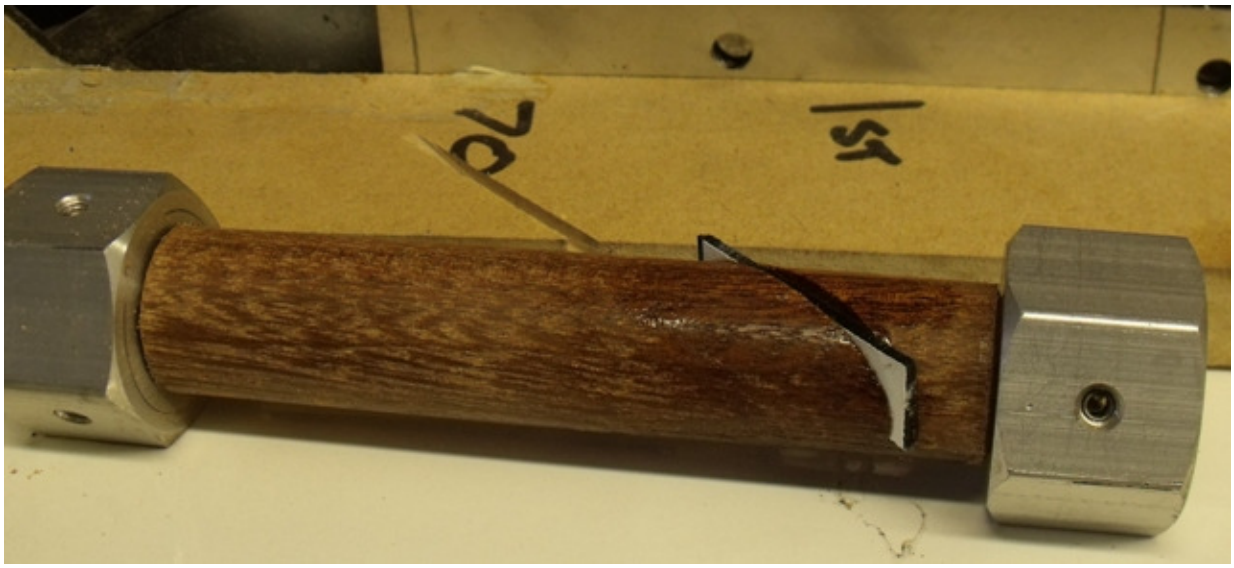
The nuts are simply hexagons with a hole through the middle. One of them in the picture is closed on one side but I have since bored the hole all the way through.
On three sides, I drilled and tapped a hole to take small grubscrews.
The hole diameter is not critical, but it is easier to use if the hole is similar to a rounded blank.
I made mine 20mm Dia.



In the above example, two blanks were rounded between centres and then the ends turned down so they fitted in the holes.

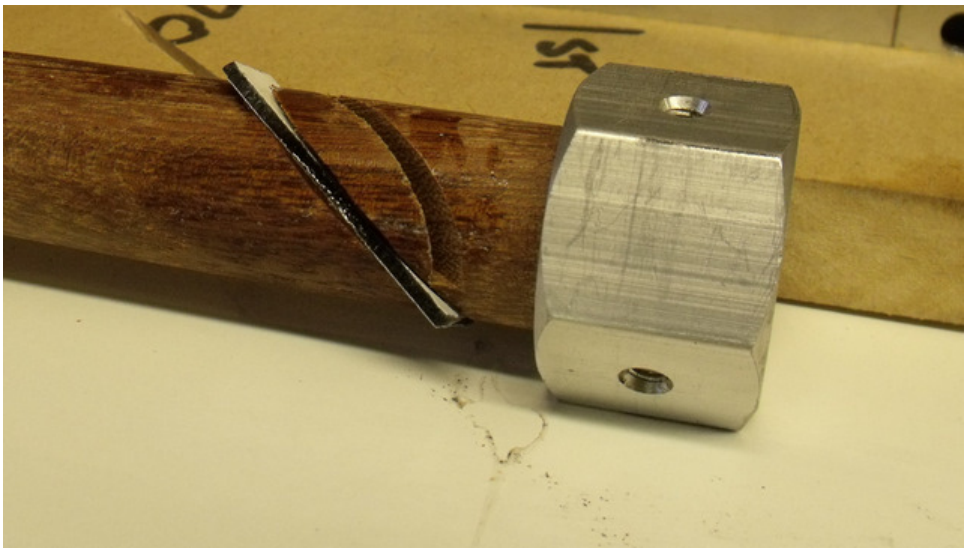
Mount one of the nuts on one end and snug up the grubscrews.
Mount the other nut and level them on a flat surface and then nip up the rest of the grubscrews.

Now we choose the machine to make the cuts. Obviously we need the 'slot' in the blank to match the thickness of the insert we will use. A slot cut by a blade is called the kerf.

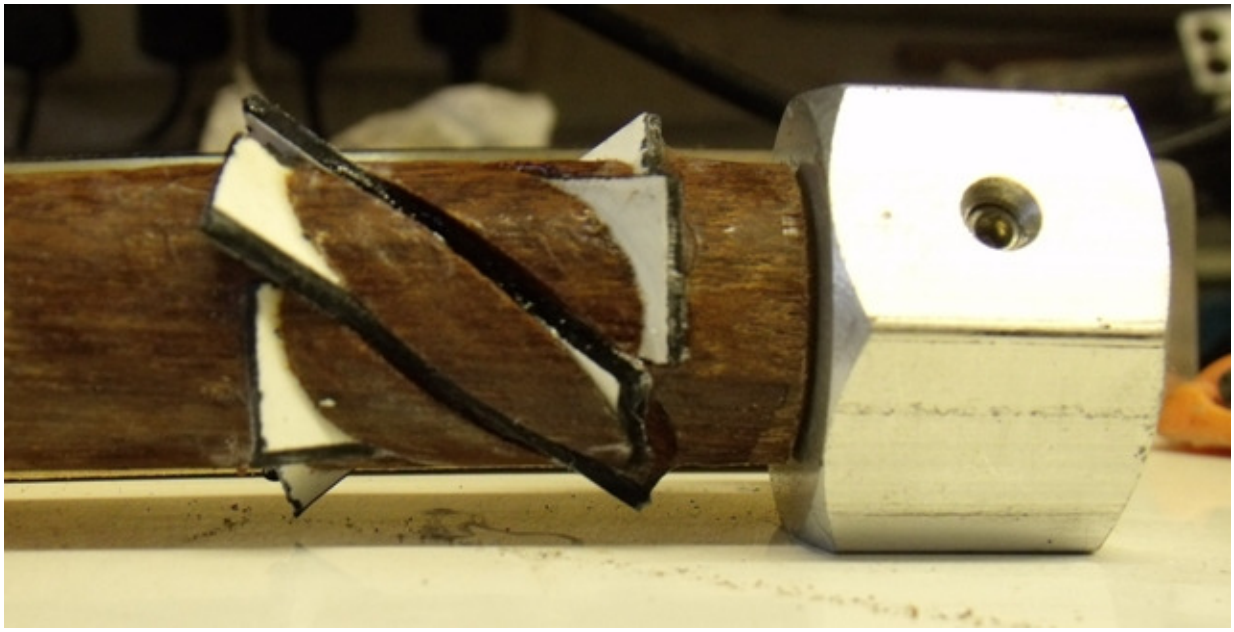


Above is the first cut with an insert already glued in. You will need to make sure that the insert isn't wider than the nuts or the flats of the nuts won't sit flat on the cutting tool table.

Here the blank has been rotated by one flat surface of the nuts and the second slot cut. The angle and the depth are only limited by your imagination.



To keep all my cuts uniform around the blank I just used an end stop on the chopsaw.



You can see that I made sure that the inserts didn't protrude past the sides of the nuts.

Both examples done. They are now returned to the lathe and rounded smooth.

They have only been put back in the Rat Nuts for the demo.

Here are some pens that can be made by using different cutting tools with different blade kerfs. The angle, depth and position of the inserts can be random or fixed.