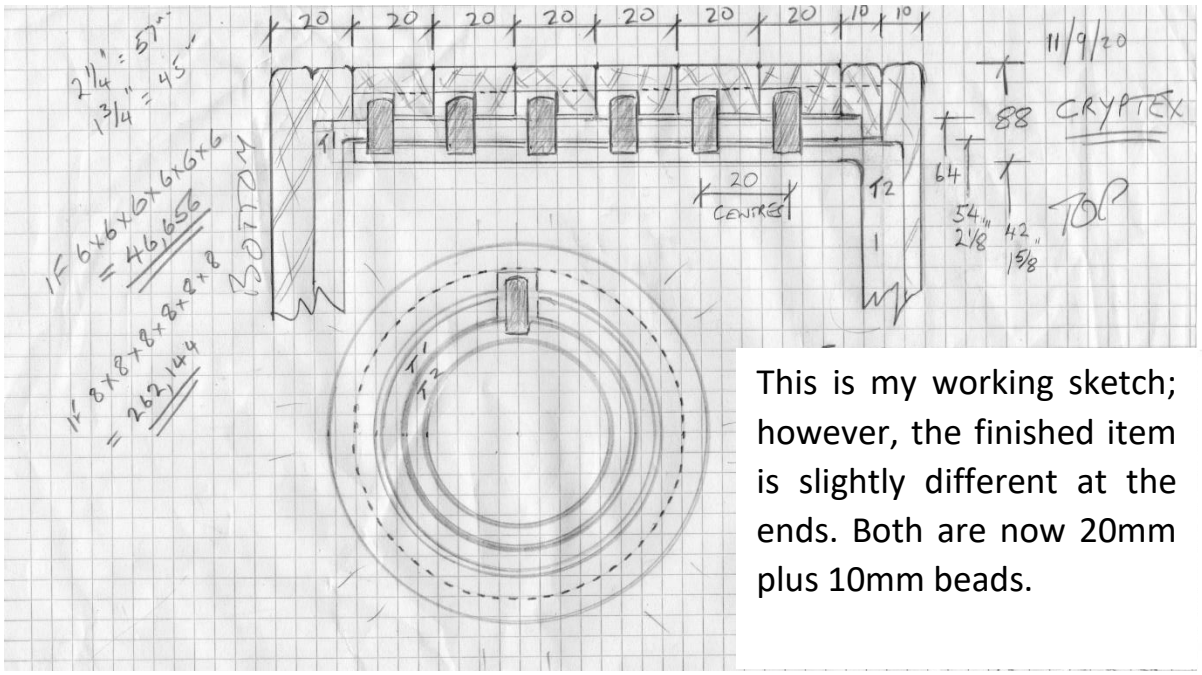
Cryptex by Ian Elliott

Richard Findley's latest "Editors Challenge" in the Woodturning Magazine (Issue 348) was to make a Cryptex. Basically, it is a wooden combination lock which is also a box. In Richards article he explains how he researched and made his box. I was intrigued by this challenge and thought I would like to give it a go myself. The article is about techniques rather than a project with plans and step by step instructions. I decided to give it my own twist; Richards had four rings with six digits on each ring giving 1,296 permutations to the combination (not 2,376 as stated in the article). I decided to see if I could up the challenge and have six rings with eight digits on each ring which would give 262,144 permutations!

Before I could start to make any sketches, I had to see what timber I had. I have not purchased any timber for turning since well before lockdown, so, choices are now limited. I needed an inner and outer tube, six rings, a fixed ring and the two ends that is a total of eleven components to be turned, plus some dowels. The timber I had would to a large extent determine the size of my piece. My goal was for my Cryptex to be a little under 100mm diameter and under 200mm long. The outer tube was my first priority as this would be the largest spindle components, I found I had a piece of clear dressed Pine 75mm square x 300mm long. Next was the inner tube which now needed to be at least 60mm square, the only thing I had was some dressed Red Chacate that was 60mm x 30mm, so two pieces bonded together would give me the required 60mm square. Both the tubes are not normally seen on the finished piece, so two different species were okay. However, all the other components are seen and in line with each other so, they need to be of the same species and a decorative timber. I had a piece of American Black Walnut about 210mm square x 50mm thick. By cutting it into four 100mm squares then cutting each square down to 23mm thick, this should give me all the other components, apart from the fixed ring! I did have more A B Walnut so that would not be a problem as that was the smallest component. I have not pyrographed A B Walnut before so, I did a sample burn on a A B Walnut cutting and was satisfied with the result.



This is my working sketch; however, the finished item is slightly different at the ends. Both are now 20mm plus 10mm beads.

Richard used Greek letters for his Cryptex, but I thought that numbers would be more in keeping. When I did my research, I discovered that the Greeks used an adaptation of their alphabet for their numbers so, what I have on each ring are the Greek numbers 1 to 8. This also fitted in with my idea of having a mathematical solution to my Cryptex, which I did achieve, but I am not giving you the solution!

I am not going to take you through each step of the making of my Cryptex, that is covered in Richards article. I will just show you photographs of all the components and the finished item.