

A Cittern

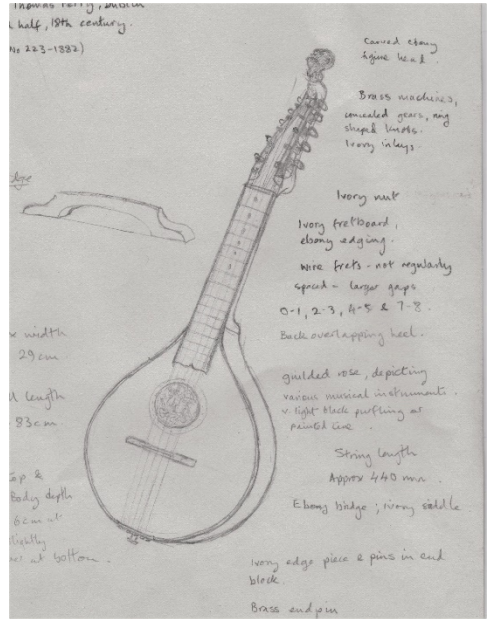
The making of an instrument



a pictorial account by
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Origin

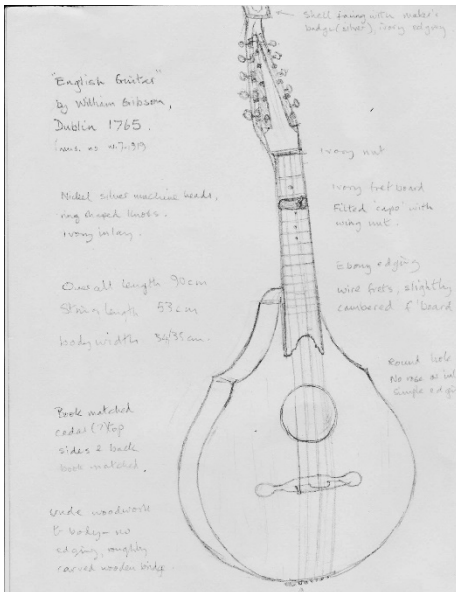
Old stringed instruments always fascinated me, the early members of the guitar family especially. Back in the 1980s I had made sketches of a few of the citterns and "English guitars" in the Victoria and Albert Museum. They were apparently used for accompanying songs rather than for solo playing. In the 1960s some guitar makers coined the name "cittern" for similar modern instruments they were making. It is mainly the five pairs of strings that distinguishes them from a bouzouki or mandola. I liked the sound of citterns I had heard and it looked an interesting idea to make one, instead of another guitar or mandolin.

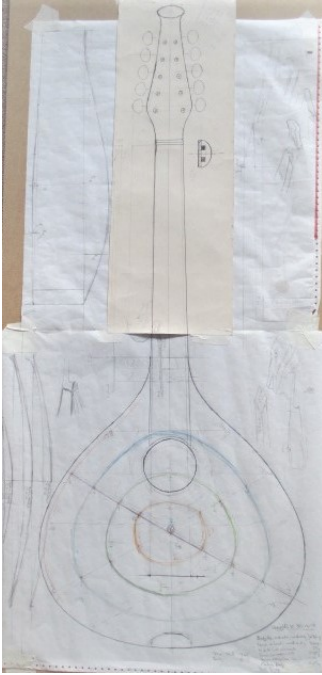


Design

The design suggested itself from my earlier sketches together with some critical dimensions and adaptations to modern materials and methods. The working drawings were very basic, with many details evolving as it went along.

The body was to be quite large, and I figured a wide, flattish shape would help to produce notes across the whole range without the "boxy" sound that can come from a deep body. It also suited the shape of





the piece of spruce I had for the soundboard. While most citterns tend to have a "flatback" design, I settled on a shallow bowl back for a little more volume. This also suited the narrow pieces of cherry and laburnum that I wanted to use. Apart from the obvious straight lines necessary to any stringed instrument, I wanted the design to be rich in curves that reflect the style of the old instruments. The eventual dimensions are: overall length: 1000mm; string length: 660mm; max width of body: 400mm; max body depth 120mm, depth of sides: 70mm at neck, 80mm at base. I found I had various pieces of wood for instrument making, probably sufficient to make a cittern without buying any new wood.



First steps

As with any instrument, it began with making a mould and preparing timber for the top, back and sides. All were planed to approx. 2mm thickness. The picture shows the maple sides already bent to shape with one lining fitted and the soundboard planed to thickness.

The soundhole inlay was bought for a Spanish guitar I never made. All standard guitar making techniques so far, using bandsaw, bending iron and hand tools.

The Back

This was the most interesting part. The side ribs were kept in the mould, with temporary formers to the shape of the back. The strips were glued on one at a time, each one being cut to shape and bent on the bending iron (wetted first but not soaked or steamed) then trimmed to match its neighbour when the



latter was in situ. Although the wood was fairly flexible I wanted the pieces bent to retain the shape so as to minimise stress on the joints between them, bearing in mind they are edge-to-edge joints between pieces only 2mm thick.



My iron's thermostat doesn't work, so I have to beware of scorching. Some burn marks are visible, but fortunately only on the inside. The wider strips are cherry and the dark narrower pieces laburnum, both surplus from a harp I made 30 years before. The pale fillets between the strips are of spruce.



The Neck

The joint between the head and the neck was interesting - a splice with a central tongue for strength. It was complicated by the slots for the carbon fibre reinforcing rods. These are lighter than a steel truss rod.



Though not adjustable they give strength and rigidity to the neck.

After being joined the neck was roughly shaped, to be finished once joined to the body. The joint is a simple straight dovetail. Also in the picture is the wooden spokeshave which is still the best thing for shaping necks. It belonged to my father, and possibly his father, and must be over 80 years old.



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Assembly

The electrics were fitted before assembly - a K & K Trinity Mini consisting of a small condenser microphone and 3 piezo pads. These were fixed under the soundboard before the two parts were joined. Also visible is a carbon fibre



strut between the top and bottom blocks. This is to resist the pull of the strings along the body, enabling the structure to be as light as possible.



The struts across the back are mahogany while those on the soundboard are spruce. The soundboard is slightly arched and fairly lightly braced; the central X braces do not touch where they cross. The short braces around the soundboard are of a stout "T" section as this is the area most prone to distortion. With hindsight the elliptical bridge plate could have been made stouter against the downward

pressure of the bridge. For the closure of the body "luthiers clamps", made years ago from broomstick dowel and threaded rod with wingnuts, came in handy once again. After that glueing the neck dovetail was straightforward, to bring the instrument finally into one piece.



Detail

The rest of the construction followed fairly standard guitar making practice, although the pursuit of harmonious curves led to some interesting details.



head has a slight upturn and is flared into an ellipse, in a



tuned DD, AA, DD, GG, DD, the lowest three being in octave pairs.



The edging strip matches the soundhole rosette, and is separated by a thin boxwood strip from the rosewood edge band. The straight sided heel was curved to meet a large rosewood heel-cap bearing the strap button. The top of the tapered



reference to the finials that adorned the C18th instruments. The floating bridge is "temporary", adapted from a guitar bridge with a rosewood base-plate. The tailpiece is carved out of a piece of ebony, again on a rosewood plate, permanently fixed to accommodate the endpin jack and strap button. Still not applied are a maker's label or logo. Strings and tuning are subject to experiment, but initially the five pairs are

Conclusion

The cittern has a full, resonant sound, sweet and harmonious when played gently with the fingers but loud and assertive when played hard or strummed with a plectrum. Though smaller than a guitar the bass notes are strong, while the treble pairs ring long.

