

## Notes on edgework and purfling

A method for creating classical forms inspired by the work of the Cremonese masters

In my view, the disciplines of edgework and purfling are deeply intertwined and often dependent on each other. The methods I have adopted cannot really be called new, but are a personal system of applying well-known techniques. I find it to be a quick, logical way of creating classical forms that I can imagine the old masters adopting in their time.

Using this method gives an even overhang, made after the box is closed. The main reason for adopting this method, however, is that it gives a natural, organic feel to many of the finer details, which echoes that of classical instruments. This can be observed in the instruments' slight asymmetries, the natural cut of the corners, the placement of the f-holes, and the edge and fluting shapes.



**1)** I begin with the outlines of the finished rib structure, with the linings in place on both sides. I transfer them to the back and front, including the desired overhang — initially this is 3.5mm, though when finished it will be 2.5mm. I try to use the middle seam as the centre line of the instrument because it plays an important part in the whole construction process.

I like to use pins that also define the length of the instrument. Since the outlines are only finalised at the end of the process, it is best to saw them accurately in the first place, before tackling the following steps.



**2)** I use a small electric saw to cut the edge to the thickness of the finished corners and button. This saw can be used very precisely, owing to its small size and the large surface that rests against the plate. The thickness of the plate will depend on the depth of the fluting and the radius of the gouge — I generally cut it to 4.7mm.



**3)** To begin the arching, I create a flat platform around 15mm from the edge for the bouts, and c.8mm for the C-bouts, using the saw cut as a guide. I then cut the provisional fluting, leaving an extra 0.2–0.3mm for security. The fluting goes all the way to the edge, leaving a margin of just 2mm. (I never need to measure this — fingertips or the presence of a good shadow are precise enough.)

For a Stradivari model, I use a 25mm no.6 sweep gouge for the flutings in the bouts. The C-bouts require a 12mm no.6 sweep. These are unsuitable for a Guarneri 'del Gesù' model, however, which has tighter curves. (The model in the pictures is a 'del Gesù'.)





**4)** I connect the arching with the preliminary fluting and finish it. This step gives the arching the look of a classical model, but requires a little practice as the outlines and purfling are not yet finished. Scraping the arching right up to the edge creates a nice fluting and connecting area, which has a (naturel or unique) look. I am convinced of the historical validity of this step.



**5)** The next step is to cut the f-holes and fit the bass-bar. Because the outlines and purfling are still missing, the centre line plays an important role in the positioning of the f-holes. I use the system described by Simone F.Sacconi in "The Secret of Stradivari", or Stewart Pollens's book The Violin Forms of Antonio Stradivari, where the position of the f-holes depends on the centre line and rib outlines, and the bass-bar's position relates to that of the mould outlines. This way, slight asymmetries can develop throughout the working process in a natural way. These give the violin a lively classical look.



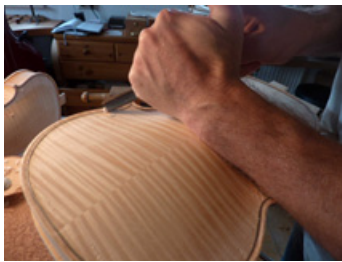
**6)** Close box, outlines and fluting edgework not finished



**7)** To finish off the outlines, I prefer to use a flat thumb plane for the bouts and a knife, plus a range of different files, for the inner curves.



**8)** Two separate cutters are used to cut the purfling channel. This allows me to make fine adjustments to the distance between the inner and outer lines — it can be changed more easily than with a double cutter. Furthermore, it is easy to make mistakes on the front, where the rings are parallel, and using a single cutter means a mistake can be avoided when cutting round for the second time. The main reason, however, is that using separate cutters gives more freedom, and a more organic look to the finished article. A very well-executed cut made with a double cutter can look too good, owing to its uniform width. I then insert the purflingser.



**9)** I cut the fluting almost all the way to the edge (leaving around 0.2mm) and cut down the purfling. Next, I work on the transitions to the arching and scrape arching. I scrape to the edge again (as described in step 4) without worrying about damage to the edge, as any mistakes will disappear when the edges are rolled over.

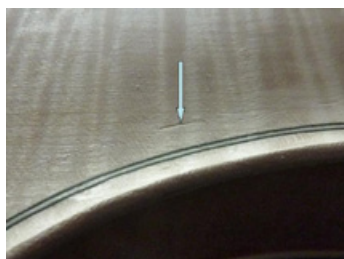


**10)** I start the edgework at the inner edges, using a light masking tape to protect the ribs. This way, I can let the flat thumb plane rest on it without damaging the ribs and maintaining a constant angle. The support also means the weaker hand can be used for the planing (with a little practice). I use a knife for the inside curves, taking care not to cut into the ribs. The same procedure can then be used for the outer edges. I make a few chamfers, then file and sand the whole edge with three different sandpapers of increasing fineness (150, 220 and 280 grit). I fold each sandpaper at least four times, starting with the end grain. This gives the paper a degree of internal support, so that when sanding, it will not affect the critical areas of soft wood along the grains.



By finishing the edges and the transition to the fluting in this fashion, the thickness of the edge is reduced to approximate 4mm. However, only the corners and button show the increased thickness. I love this method because it makes it easy to give the edge a classical profile, with clean transitions to the fluting.





**11)** Depending on how precisely the fluting is executed, there will always be (small or little?) variations in the edge thickness, which I adjust with a flat thumb plane or a file. I consider this a possible explanation for marks in the C-bout area that can be seen on instruments by Stradivari and others. This theory is supported by the fact that these marks can be seen on works throughout Stradivari's life, also on earlier del Gesu's, not so much more on late del Gesu's. This suits Stradivari's philosophy as well as the early del Gesu's, when his work was very well executed. Later he did not give importance to such 'unimportant' details. Strad always though.