

SMALL FIDDLE, BIG HEART

CHISEL
RATING



WW
PROJECT

The pochette is essentially a very small violin-like wood instrument, which is designed to fit in a pocket – **Shaun Newman** makes his own version

This diminutive instrument is named a 'pochette' from the French meaning a small pocket, envelope or small sleeve, and dates back in earlier times – in more roughly made forms – to the rebec, and perhaps even the small cittern. In the mediaeval period, it was used by street musicians and buskers – then often called 'hawkers' or 'patterers' – but by the time it'd developed its true form by the early 18th century, the pochette had become the height of fashion. While the reasons for this aren't obvious, many thought this was an instrument only suitable for children or beginners, but many accomplished musicians and, above all, dance teachers, were the main users of this small, portable violin. According to musicologists, even Stradivarius made several pochettes, one of which remains in relatively good condition and is on show at the Conservatoire de Paris.

Background

So, why was this instrument so popular? Its rise to fame most probably began towards the end of the 17th century with King Louis XIV's interest in music and dance at his courts. Whenever a player was invited to the court, he or she had to present themselves with an instrument that looked worthy of an appearance before such illustrious folk, so the materials and decoration therefore became quite extravagant. It seems that the ability to dance well both at court specifically and in 'high society' generally was a most sought-after attribute. As such, many rich households would hire a travelling musician – akin nowadays to a personal trainer – to teach people the necessary skills.

Some musicians were in great demand, and they'd frequently be moving from one place to another and sometimes at short notice. Being unencumbered by a heavy musical instrument case during these trips became essential. The average violin at the time was around 57-58cm long, and the case, more often than not made of solid wood, had to be a good deal longer to accommodate the bow. So when a musician could place the violin into one coat pocket and the bow in another, a solution was found. Among the fashions of the time were long and heavy coats, called 'justaucorps', which were particularly

SUPPLIERS

www.gear4music.co.uk – for strings and bows

www.luthierssupplies.co.uk – for timbers

www.touchstonetonewoods.co.uk – for violin/viola pegs

www.hobbycraft.co.uk – for leatherette sheet

www.stewmac.com – for all manner of luthiers' supplies and specialist tools



1 The inspiration behind the build

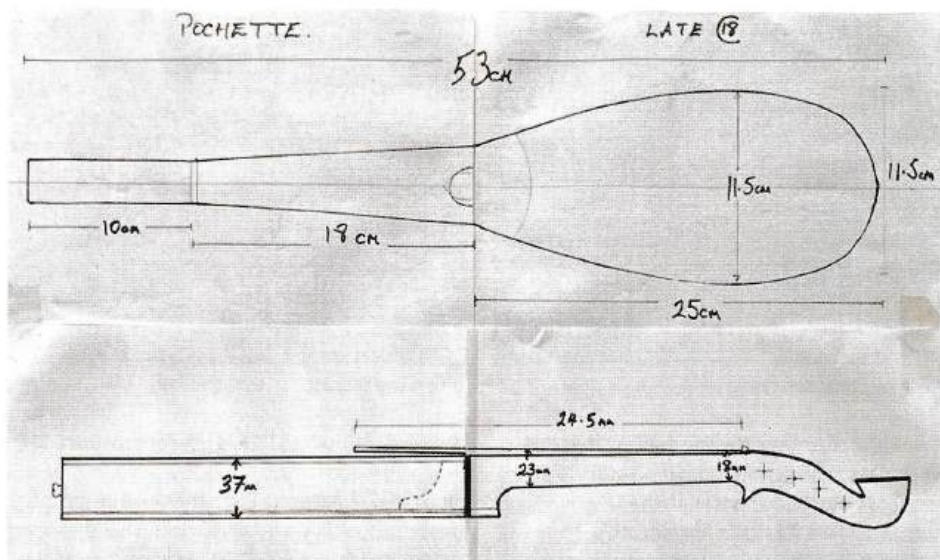
useful when using horse-drawn coach travel with no interior heating. These coats, as described earlier, would have a long, specially designed pocket sewn into the inside, both to the left and right, which would each accommodate the instrument and its bow. Occasionally, this small violin would be in a slim leather case, and certainly not in the so-called 'coffin' case that was so often used for instruments made during this time.

Two typical shapes

The pochette violin is normally no longer than 44–45cm and considerably slimmer. It came in two typical shapes: the first and most often built was slender and shaped rather like a canoe. These were sometimes called 'sardinos' for obvious reasons; the other would retain the overall violin shape, though much thinner, and was called the 'kit'. Some historians say that 'kit' referred to the last three letters of 'pocket' but neither pronounced nor spelt in exactly the same way. Others say it's because a kitten is a small cat, and a pochette is a small violin! I know which name I prefer. Whatever the name, each pochette would have a fingerboard that was proportionately longer than may have been expected, which ensured that the player could preserve the melodic range of a full-sized violin; however, the pochette's general sound was never quite that of a full-sized version, and of course, the bow was quite a lot shorter, meaning the strokes were less able to offer sustain.



5 The back in a wedge and lace jig



2 Hand-drawn outline plans



3 The work board and cams

Then, because the instrument needed to be very robust in order to withstand rough treatment through excessive travel, the materials were often thicker, and sometimes the whole back and sides of the sound box, head and neck would be shaped from a single piece of timber. But to learn dance steps, most people wouldn't have felt they were in a concert hall looking forward to hearing a violin partita from Bach, and thus being disappointed by the sound.

Owing to the importance attached to social climbing in both the 17th and 18th centuries, it wouldn't have been entirely acceptable to call your personal dance trainer just a teacher, so they became commonly known as the 'dance masters', thus elevating their status.

Interestingly, one of the parts of Europe where



6 Sound holes partially cut



4 Front – soundboard – in a wedge and lace jig

the pochette really took off was Scotland. By some accounts, there was a feeling that the Scots were somehow behind in the world of music. I can't imagine why that might have been the sentiment when I hear the dulcet tones of bagpipes echoing from a street corner, but it seems that being able to impress your peers and move up in the world was equally important in Scotland as anywhere else. There's also the view that the short 'snap' notes of some folk music north of the border were particularly suited to the pochette. Whatever the reason, both pochettes and dance masters were in huge demand. But how is this instrument made? Let's move into the workshop.

First steps in the build

For my last birthday, I was gifted a small book entitled *Antiques and their Values – Musical Instruments* from my friend, Caroline. It was first published in 1977 by Lyle of Galashiels, Scotland, and compiled by Tony Curtis (photo 1). It listed hundreds of instruments with a very short description for each one, a line drawing and a price, which often by today's values cause me to smile. One of the instruments depicted was a late 18th century French pochette valued at £480. This rather small drawing – just 5cm high and barely 1cm wide – offered me the chance to roughly sketch out what the instrument could look like at full size. The length described was just over 50cm, so I had a good idea where to start.



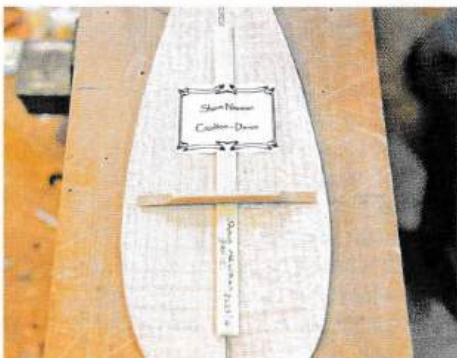
7 Completed sound holes

It was also clear from the line drawing that this particular model derived from the 'sardinos' style as opposed to the 'kit', and with the help of a short ruler, I could establish the fingerboard's length against that of the whole instrument by carrying out a simple ratio calculation. The instrument depicted wasn't heavily decorated as some, so while it represented a challenge, this wasn't a 'mission impossible'.

It seemed best to begin with a full-sized



10 Sides – ribs – held in place with work board cams



11 The back is braced and maker's label fitted



14 Drilling the peg holes



8 Bending the sides on a heated iron

working plan, which I could use for constructing templates and to help me keep an eye on the build as it progressed. From the small image in my little book, it wasn't at all clear what the view from the side might be, but it was pretty obvious that it wouldn't be far from the way a modern violin looks, so I went ahead (photo 2).

Once the working drawings had been completed, making a work board to begin the construction was straightforward. There are several ways in which luthiers put stringed instruments together, the most common being an external or internal mould around which the instrument is firmly held as it's built, or a work board, which uses cams to hold these components in place. I chose the latter of these two methods.

I constructed the work board's middle part with a shallow well to allow for any curvature in the front when the assembly began. The easiest way to achieve this was to use a top layer of 3.5mm ply with the central section cut out using a fretsaw (photo 3), leaving a narrow inside margin of around 5mm.

Shortly after, I made up the instrument's back and front from book-matched spruce,



12 The front braces are scalloped and gabled



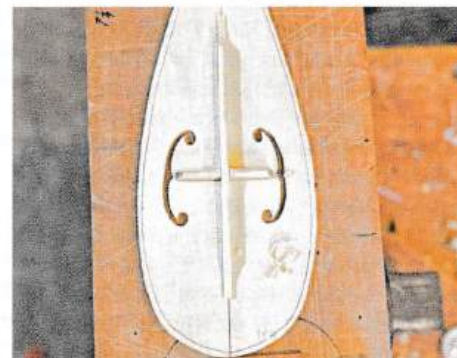
15 Reaming the peg holes



9 Tail block in place on the work board

for the soundboard, and maple for the back. These both began as thin boards, around 4mm thick. They were similarly treated with the only difference being a central decorative insert of some guitar purfling, which was left over from another job, used between the two parts that made up the back. Each of these two components was held in my old 'wedge and lace' jig (photos 4 & 5) until the adhesive had cured. Once removed, I could cut out their shapes with the bandsaw, leaving a small amount of wood at one end to have something to hold firmly when they were brought to their 2.5mm final thickness for the front and 3mm for the back. This approach – i.e. to make the back and front flat to begin with – is a major departure from standard violin making, which curves both components from joined wedges of timber, initially prepared with the thickest part at the centre. I realised that a curvature in both back and front are necessary for strength and looks, so went on to use a guitar making method to achieve this by creating arched braces. More of this process will be explained later.

I brought the spruce front to the required



13 The soundboard once braced



16 Hollowing the peg box



17 Soundboard, ribs and neck in place on the work board

thickness, then proceeded to cut the sound holes. In modern violins, violas and cellos, they're usually 'f' holes, owing to their shape; however, it took many years for this form to be eventually and universally adopted. Before then – for example, during the Renaissance period – sound holes would often look rather more like lunar crescents in outline. Some instruments had heart-shaped ones while others would often just have a circular hole cut in, or even an arrangement of small holes drilled into a symmetrical pattern. To offer this little pochette some character, I chose one of the shapes similar to a crescent, while still retaining small, circular holes cut at either end.

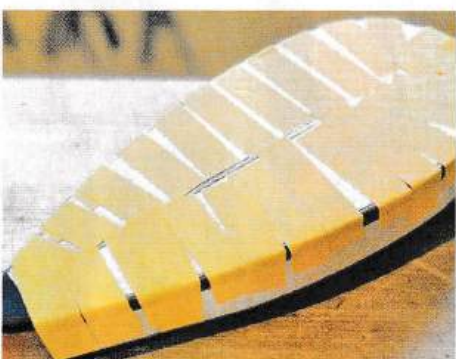
It's easy to find templates for such shapes online, and if printed out, they can be attached to the instrument's sound board with woodworking adhesive and cut out with a fret saw (photos 6 & 7). Next, I brought the back to thickness and cleaned it up.

Moving towards three dimensions

The pochette's sides are made from maple and long enough to meet at the centre of an internally



20 The fingerboard under preparation



23 The bindings and purflings held by strong masking tape



18 The back linings held in place with clamps

mounted tail block, and extend to the neck's heel sides with an overlap of around 20mm. The sides would eventually be let into the lower part of the neck with an overlap of approximately 20mm to ensure a strong but smooth join. Once the sides were the correct 2mm thickness, I bent them using the hot iron (photo 8). Such irons are commercially available but quite expensive. They're also very simple to make using a piece of cast-iron pipe mounted on a board and heated from inside with a blow torch. These can be very effective, but great care needs to be taken as they can become too hot and burn the timber. The commercially available ones usually have a temperature control.

An ebony pin that holds the tailpiece in place is usually found at the pochette's lower end, which is effectively a string guide, so a fairly thick block was required to hold the pin and to offer strength at the instrument's lower end. This was initially screwed to the work board in the exact position that it'd occupy once the back and front were put on (photo 9). The screw is of course removed before the front or back are attached! It's easy to



21 Fingerboard's lower inside section once hollowed



24 A spokeshave is useful for slimming down the neck



19 The back is pinned into place with cam clamps

go ahead when something has been in place for some time like this, and to forget that if it's sealed in when the instrument is put together, removing it can be very taxing. For the tail pin, I used an old ebony bridge pin from an acoustic guitar.

Having attached the block, the cams could then be positioned both inside and outside of the instrument's outer line in such a way that when the sides were fitted, the cams would trap them, but it'd also be possible to move them slightly in or out to obtain a perfect shape (photo 10).

Bracing the front & back

As mentioned earlier, to give the back and front a slight curve, I used braces. These are normally made from spruce for the soundboard and mahogany or a similar hardwood for the back. The back simply had one brace running horizontally across the widest part of the sound box – 5mm



22 Channels for the purflings and bindings are routed out



25 A razor file completes the neck profile



26 String holes are drilled into the pegs

wide × 11mm deep with a very slight curve that pushes the back outwards once in place. The brace was gabled and the ends scalloped to reduce bulk while maintaining strength. In addition, I fitted a strip of very thin cross-banded spruce along the centre join, offering reinforcement to the inlaid strip. The strip – just 1.5mm thick × 14mm wide – stopped short at the heel inside and at the tail block's front edge. At this point, the maker's label could now be put in (photo 11).

The front had a more complex arrangement with a centre brace in addition to a horizontal one – sometimes called a 'ladder brace'. Each measuring 5 × 11mm, gabled and scalloped (photo 12), but attached once a cross-halving joint had been cut at the point at which they meet. The ladder brace's position on the front's underside is critical as it must sit directly under where the bridge would be placed; this helps to prevent the soundboard from buckling as the strings are brought to tension. On a modern violin, the bridge normally sits just across an imaginary line that'd be drawn between the 'f' holes' mid points, and in this case, those points are made obvious by small 'V' cuts in the spruce (photo 13).

The neck & peg box

Here I used a single billet of quartersawn mahogany, measuring 32 × 4 × 5cm, though it's possible to use maple or a similar hardwood. If the timber isn't hard enough, then the peg box will quickly wear and it'll be difficult to keep the instrument in tune. Following the working drawing's outline, I cut out the shape on a bandsaw. I then drilled the holes right through the pegbox for the four tuning pegs (photo 14) to 7mm each. These holes then had to be



28 The bridge ready to install



27 The tail piece shortened by almost a third

reamed (photo 15) with the two on one side of the pegbox being reamed in the opposite direction to those on the other side. The tapers created by the reamer, which has a 30:1 ratio, help to produce a tight fit, which keeps the strings in tune.

As the strings needed to be rolled up through a line from tail to heel, the peg box was hollowed out to allow for clearance. This task required great care as if the sides were made too thin, the box would be weak. Here, the sides were 5mm thick. A similar thickness was also required along the peg box's bottom. If this is allowed to become too thin, not only will it lose strength, but it's also possible for the chisel to burst through (photo 16). Having completed the peg box, the top part of the head's curved shape was later cut off square and at a slight angle to allow for the abalone and rosewood overlay. This motif was very common on older instruments and is still a feature of the Portuguese guitar, made in the Coimbra region.

At this point in the build, things were really starting to take shape. Next, the sides and neck were joined and the front put into place onto the work board. These components were held in place with the cams locking them into position, this time only from the outside. The soundboard was joined to the sides with 'tentellones' – small right-angled triangles made from spruce – which measure just 14mm high × 6mm wide × 5.5mm deep at the widest point, tapering to zero. I passed two small screws with felt washers between the underside of the heads and spruce's reverse, through the 'f' holes in the soundboard down into the work board, to prevent any unwanted movement (photo 17). Note that the pochette's front overlaps the sides by a few millimetres, in order for them to sit tightly on the soundboard's reverse.



29 The nut under preparation

The back wasn't fitted by using tentellones, but instead held in place with a kerfed lining, which has similar dimensions to the profile of their tiny spruce counterparts. The linings were held in place with small cramps while the adhesive cured (photo 18). Once the linings had been levelled with the top edges of the sides and linings, the back could be attached using cam clamps (photo 19).

The next job was making the fingerboard. This was produced from a billet of ebony measuring 6.5mm thick × 37mm wide × 245mm long. The sides were planed to the working drawing's outline and the top of the ebony given a slight curve across its width. If the fingerboard were left flat, it'd be difficult to play individual notes with a bow (photo 20). From the point that the soundboard meets the neck's heel, the fingerboard is usually raised from the front to leave a gap of just a few millimetres, which allows as much of the soundboard to play an active role in sound production as possible. The lift was made by sawing then chiselling away 3mm of material from the underside of that end of the fingerboard. It's also customary to hollow out the lower part, which is best done with a sharp gouge (photo 21).

Bindings & purflings

The bindings in a stringed instrument offer protection to the outer edges and aren't common in all violins, but almost always there in guitars. As I had some scraps left from previous work, I felt it'd help to keep the instrument in good condition if I fitted these around all edges of the sound box. Purflings are, however, normally placed into the inner part of violins' edges for decorative purposes. I similarly had some decorative 'crows foot' purflings for the front and simple white/



30 A small toggle is turned on the lathe



31 The completed leatherette case

black ones for the back, so went ahead and fitted these. Before these could be put in place, however, it's necessary to rout a narrow rebate, which corresponds to both the depth and width of bindings and purflings to be inserted (photo 22). Once the bindings and purflings had been put into place using masking tape to hold them firm while the adhesive cured (photo 23), I was able to shape the neck and heel to its final form. A spokeshave was used to remove the bulk of the wood (photo 24) and clean-up achieved with a curved razor file (photo 25).

As the finishing post was nearing, it was now time to work on the pegs. Luckily I had half a dozen dark boxwood viola pegs from a repair I'd carried out some 25 years ago, which since then, had been sitting in my tin full of various pegs and odds and ends, but now I'd found a use for them.



33 The completed pochette and leather case



All I needed to do was cut them to length and drill the string holes (photo 26). Once completed, I put some peg paste on those points at which they'd make contact with the peg box's sides and turned them in place several hundred times using a hand-held string winder to ensure a snug and smooth fit. Such an operation reminds me of grinding a set of valves, by hand, into my 1952 Morris Minor some years ago. To go to such lengths may sound a little over the top, as they say, but a slipping peg can be very frustrating.

The ebony pin also had to be reamed into the tail block centre so that the tailpiece could be put in place with a gut loop, then it was time to make a nut and bridge to hold the strings off the fingerboard. The pochette requires a much smaller tailpiece than a full-sized violin, but has the same width at the point from which the strings go up to the top nut. Luckily I had a tailpiece from a previous repair, which was modified simply by cutting off the lower end, then reducing the length by some 15mm (photo 27). The small rosewood wedge just under the tail pieces' end helps to lift it away from the soundboard's surface, which avoids the risk of buzzing.

Getting ready to 'string up'

The few remaining tasks involved ensuring the strings would sit at the correct height along the fingerboard's length and were correctly spaced. To ensure the correct height, a bridge was necessary, and this was made from a small billet of maple measuring 55mm long x 6mm wide x 17mm high. The top was slightly curved to match the fingerboard's profile and the height determined by allowing 4mm clearance at the end of the fingerboard for each of the four strings while having 10mm spacing between them. To help reduce the bridge's weight, some wood was cut away from the lower part, and for decorative purposes, I chose to give it a simple shape.

Furthermore, to ensure the bridge's top wasn't cut into by the steel strings, a piece of guitar fret wire was inserted along the top centreline with a fine cut, made using a dovetail saw. Just before

fitting the fret wire, I slightly reduced the bridge's upper half in thickness with a gradual taper from 6-4mm (photo 28).

At the peg box end, I made a small bone top nut, 26mm long



32 The playing position isn't the same as for a violin

x 6mm high x 4.5mm wide. I cut four grooves into the nut's top – one for each string – and the back end sloped downwards to allow the strings to drop into the peg box interior (photo 29). Once everything was in place, the strings could be put on and the pochette brought into tune.

A full-sized violin is usually tuned to 'GDAE' and this also applies to the pochette, but to an octave higher. The extra string tension has the effect of making the sound similar to that of a cat whose tail has just been squashed by a careless boot. Another reason why the pochette was sometimes named a 'kit', I wonder? The reason, however, is more likely the need for the notes to spread across a noisy dance floor. Either way, the sound is truly astonishing for such a small instrument. It makes me think of the amazing volumes sometimes produced by the tiniest of songbirds.

A pocket for the pochette?

As I don't own a long coat with a specially designed pochette pocket, I commissioned my daughter Kim to make me one out of leatherette. She's a very competent seamstress and the result is just perfect. I had fun turning a small toggle on the lathe (photo 30), which sets off the traditional look very well (photo 31).

Now to find a royal court ballroom where an anxious group of budding dancers need a pochette player who's mastered the correct playing position (photo 32)! ✂



34 Instrument reverse