Foreword

BECOMING A VIOLIN MAKER is a life-long process of experimentation and learning, and the aspiring luthier has a variety of career options to consider: maker, repairer, restorer, curator, dealer, or any combination of those.

Essential to any of these career choices are an aptitude for fine woodworking, a love of music and a firm foundation in the basic fundamentals of violin construction. The latter would include an understanding of the properties of wood, skill in the preparation and use of specialized hand tools, and an eye for the shapes and symmetries of the violin and the subtle variations therein.

The handful of violin making schools around the world offer this kind of basic instruction to those wishing to pursue the craft professionally. Brian Derber's comprehensive and meticulously detailed book will be an invaluable adjunct to such a school program.

The text is concise and well organized, and the photos are expertly framed and illuminated to clearly illustrate the steps described in the text. The instructions on making, preparing and using the tools of the trade, introduced as needed in the course of the program, will enlighten, without overwhelming, students as they progress.

As Brian modestly advises in his introduction, no one should expect to learn the craft of violin making from a book. But as a supplement to hands-on instruction, this work is a unique and welcome addition to the small body of literature on violin making, and should be recommended for any serious student of the craft. Violin school instructors should embrace it as a valuable teaching tool. I wish I'd had this book 40 years ago, but I'm grateful to Brian Derber for writing it now, and I'll be delighted to see it incorporated into violin making courses in the future!

—Tschu Ho Lee
Founder and Director Emeritus
The Chicago School of Violin Making

Nothing is new except what has been forgotten.

—Old Adage

F-holes: Fluting the Lower Wings

Objective: *The student will learn how to aesthetically alter the lower wings of the F-holes by fluting them.*

FLUTING THE LOWER WINGS of each F-hole is an aesthetic choice to alter the arch in that area. The technique goes back to some of the earliest makers. Truth be told, many makers don't do it or see the reason to. Some want to assign an acoustic importance to it, but I think that's nearly impossible to prove. I like to flute the F's for aesthetic reasons.

When viewed from overhead, the top half of the F appears balanced to the lower half. When viewed from the side, that balance disappears. The negative space or opening of the lower half appears smaller than the upper opening. **Figure 40-1**. This is the result of the relative position of the

Fig. 40-1

F-hole on the arch. Now that it's been pointed out, it may seem like an illusion, or even an irritation. It can be adjusted.

Fig. 40-2

Fig. 40-3

First, using the hand file, file the top edge more or less level on the lower wing–side of the F-hole. **Figures 40-2, 40-3, 40-4.** Try not to file beyond the notch (if it has already been cut)—unless absolutely necessary.

Next, gouge or fingerplane the arch in the wing areas to blend it and eliminate the flatness created by the filing.

Fig. 40-4

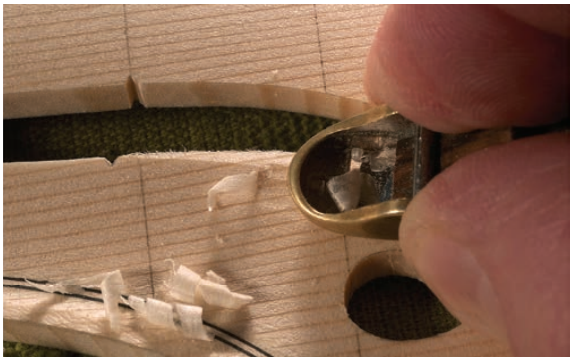

Fig. 40-5

Fig. 40-6

Fig. 40-7

Figures 40-5, 40-6, 40-7. There is no absolute correct way to shape this blended area. Some makers prefer a concavity, the shape of a fingertip, in the wing area. Over time, this area becomes darker and becomes a "highlight" on the topography of the top. Others prefer a flatter-shaped concavity, so, you see, it really gets down to taste.

Scrape the areas smooth, and blend into the existing arch above the notches. Make sure the scraping eliminates any flat spot created by the filing—right up to the edge. **Figures 40-8, 40-9.**

Use a low raked light source and rotate the top through many angles to check the quality of the blending job. Because

Lay Out, Saw and Gouge Second Turn

Objectives: *Using the skills just learned carving the first turn, the student will lay out, saw, and gouge the second turn within certain defined specifications.*

LAYOUT AND CARVING of what is termed the second turn of the volute is very similar to the first turn. Draw a series of tangent lines about 1 mm outside the shape of the second turn (as defined by the template marks). The last saw cut should end just above and in front of the eye. **Figure 62-1.**

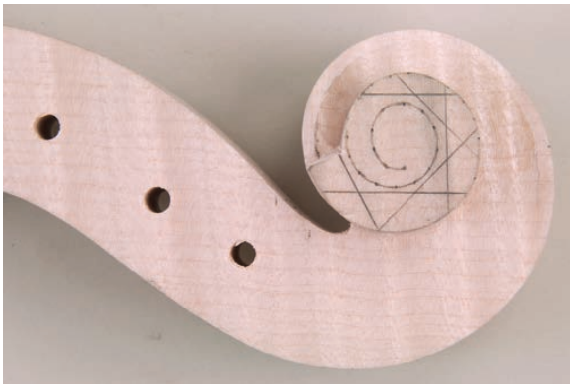

Fig. 62-1

A range of dimensions for the thin spot of the second turn is needed to complete the layout. The range is quite broad: 22–26 mm. The location is similar to the thin spot of the first turn. Layout is based on measuring from the outside surfaces of the scroll, rather than from the centerline. If I wanted the thin spot to be 26 mm wide, I would subtract that number from the total width of the scroll, then take that difference and divide it by two. So, 42 minus 26 equals 16, divided by 2 equals 8—which is what you would measure from the outside surfaces. A ruler, vernier caliper, or an uneven divider are generally used. Mark the location near the thin spot of the first turn. **Figure 62-2.**

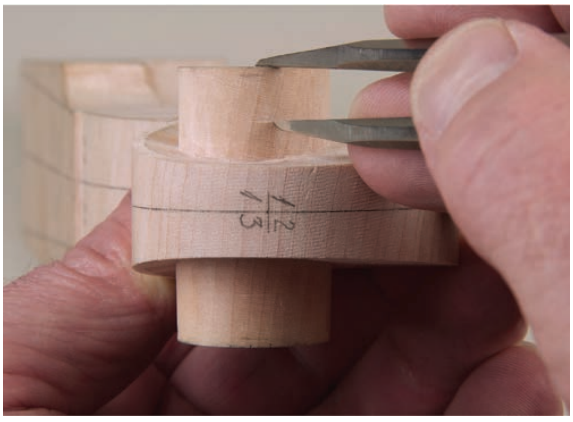

Fig. 62-2

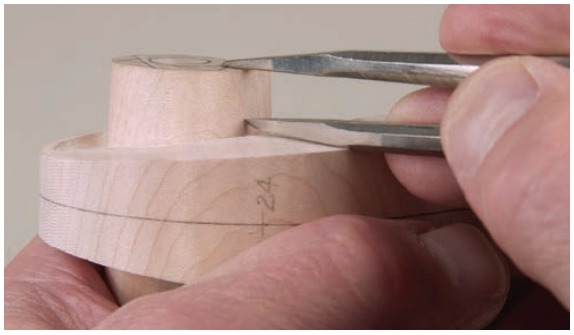

Fig. 62-3

Also, the location of the widest point of the first turn can be adjusted. It generally moves into the throat area, but sometimes remains under the eye. That should be marked in a similar fashion. Mark that width at 28 mm, because 30 is just too heavy. **Figure 62-3.**

Then a freehand pencil line can be drawn defining the wall heights of the second turn. The terminus of the line should come all the way up to the last saw cut of the second turn. **Figures 62-4, 62-5, 62-6.**

Fig. 62-4

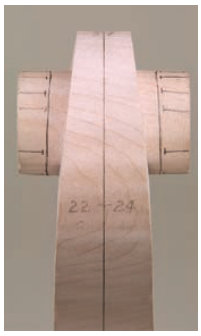

Fig. 62-5

Fig. 62-6

Clamp the scroll to a work surface and saw as before, maintaining a slight outward angle to the cut and staying above the layout lines. **Figures 62-7, 62-8.**

Fig. 62-7

You may find you have to change your tool grip several times to control the gouge as you go around the quarter turn of the volute. Obviously, the protector guards against gouge damage to the pegbox surface. **Figure 64-14.**

Fig. 64-14

Once done there, reverse direction and gouge the four shallow channels of the next quarter turn. **Figures 64-15, 64-16.** Then reverse direction again and start opposite of the throat area and finish in the last quarter. Leave the back of the pegbox untouched for now. **Figures 64-17, 64-18, 64-19.**

Fig. 64-15

Fig. 64-16

Fig. 64-17

Waste the wood between the channels by gouging, using the same gouge directions. The shape of the fluting should look like the section of a circle in the cross-section. Don't undercut or make the fluting deep by the outside edges or centerline, because it makes those areas weak, and they won't wear well over time. This is another instance where the eye of experience dictates what is considered shallow, just right, or too deep.

One gouging method uses ever larger or smaller gouges as the channel widens or narrows. This takes quite a bit of hand strength and control, but the channel shape tends to look well-graduated, because a matched set of gouges is being used. **Figures 64-20, 64-21.** Another way is to simply continue using the smaller 6–8mm gouge and nibble away. Do one side of a quarter turn, then the other. Lay a straight edge across both fluted channels to compare depth and symmetry. **Figure 64-22.** Gouge towards the throat as far as possible, and, if anything, leave the channel a bit shallower or flatter than the rest of the fluting. Then reverse direction and flute the next quarter; reverse direction again and flute the last quarter. The surface will look choppy, but it will be scraped smooth later. **Figures 64-23, 64-24.**

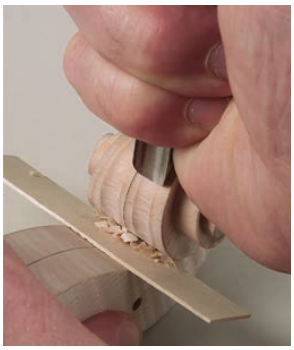

Fig. 64-20

Fig. 64-21

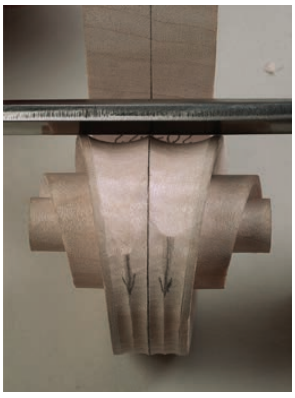

Fig. 64-22

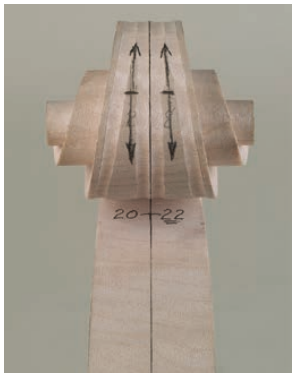

Fig. 64-18

Fig. 64-19

Fig. 64-23

Fig. 64-24

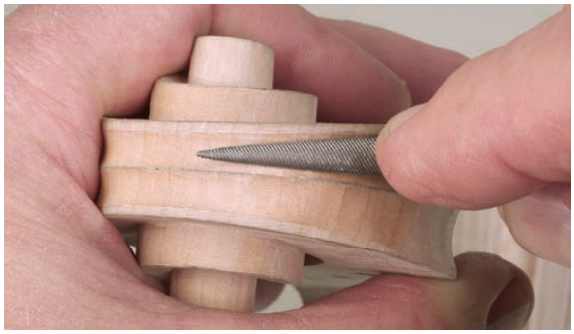

Fig. 67-4

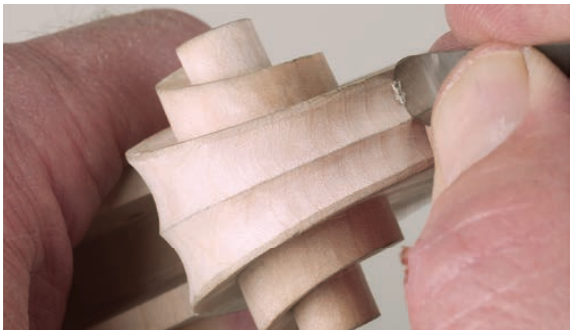

Fig. 67-7

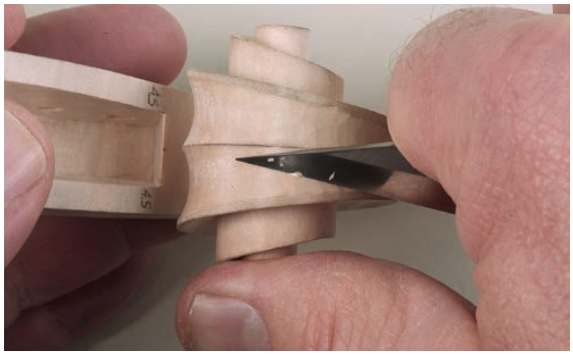

Fig. 67-5

Fig. 67-8

Fig. 67-9

back of the pegbox can be filed only so far. This is where I like to start scraping.

Scrape the Outer Surface of the Volute

Using the arching scrapers, scrape across the grain on the back of the pegbox, eliminating bumps and hollows. Scrape from the outside edge towards the centerline, then switch directions. Again, don't obliterate the flat spot or the centerline. **Figure 67-6.**

Fig. 67-6

Then switch to the scraper that has its ends ground to a semicircular shape. Scrape with the grain, going more or less "downhill," or with the grain. In addition to bumps and hollows, concentrate on the flat spots and centerline. The width of the flat spots should be reduced to just under 1 mm, and appear parallel to the outside walls. The centerline should appear thin and straight as an arrow when sighted. Try to not undercut or overly hollow the curves by the flats or centerline, because it weakens the surfaces, and they won't wear well over time. **Figures 67-7, 67-8, 67-9.** Check the symmetry and depth of the fluting. **Figure 67-10.**

Once finished, a fingertip run over the outside fluting should not detect any bumps or hollows. The curves of the fluting should appear uniform right up to the flat spots and centerline. Likewise, shadow from a low raked light should confirm the uniformity. **Figures 67-11, 67-12, 67-13.**

Fig. 67-10

Fig. 67-11

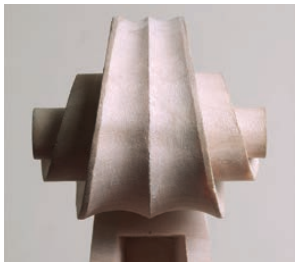

Fig. 67-12

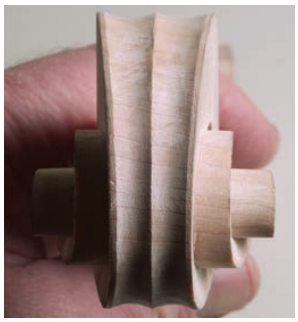

Fig. 67-13