

Outline of Classic Guitar Construction

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1 Introduction

The purpose of this note is to give an exceedingly short outline of guitar making. There are many details about guitar making in various standard references. These details may be compared to the practicing of scales. They are important, but there is more to music than that. Here are some references:

- Classical Guitar Construction, I. Sloane
- Making Master Guitars, R. Courtnall
- the web pages of many luthiers and wood suppliers

but do not believe everything you read. It is difficult to create a mental image of the whole process when focusing on these details, so perhaps this outline will be a useful addition.

Guitars are mostly made of wood, which grows in trees and is nothing like a guitar. One has to know things about wood that can only be learned by working with it, as well as developing a clear idea what sounds you want to get from the wood. The first step in guitar construction is to select the wood. This process is very enjoyable, requires judgement, and is not described much in the references.

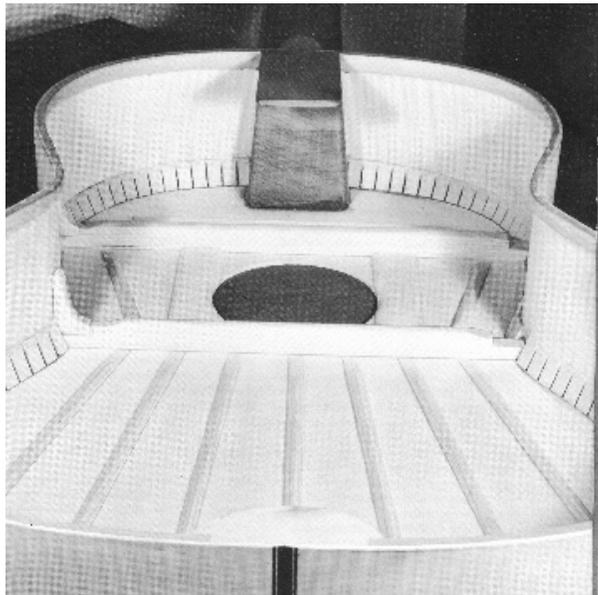
2 Second Step: from wood to guitar shape

After selecting your wood you make four parts, and this is described rather completely in the references:

- the soundboard (braced and with rosette)
- the neck
- the back (braced)
- the sides (bent)

There are a lot more than four pieces of wood in that, but I'm calling it four parts in order to simplify the description.

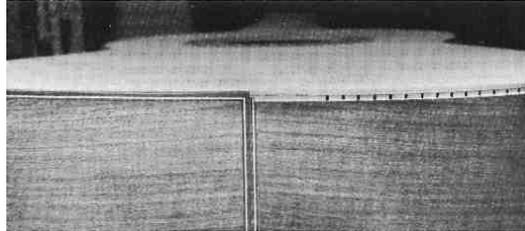
The guitar is then assembled by gluing the neck to the soundboard, then the sides to the soundboard and neck, finally the back to all the rest.



This takes place in a fixture which helps align the parts. You now have a rather rough object which is in the approximate shape of a guitar. It doesn't sound very good if you tap it now.

3 Third Step: from shape to sound

Next you are going to refine the instrument by adding the binding, fretboard, and bridge, and smoothing the surfaces in preparation for finishing. At this stage it should sound nice when you tap on it. The sound can be adjusted by light selective sanding of the top.



4 Fourth Step: finishing

The last big step consists of things other than woodworking. You apply the finish to the instrument, and make all of the points which contact the strings: the nut, the bridge saddle, polish the frets, and install tuning machines.

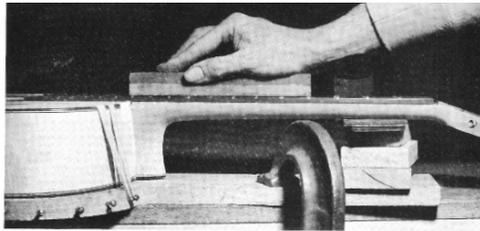
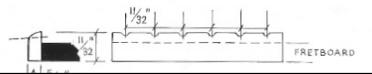


Fig. 101 Leveling frets with carborundum stone



5 Play It

The Second Step can be done in about a solid week of woodworking. The Third Step is a little shorter, or you could say a little easier. The Fourth Step takes around three weeks of part-time work, most of that spent waiting for the finish layers to dry and harden. Once all that is done, finally you install the strings in great anticipation, and bring the first notes out from the woods. What will it sound like? What can you do better the next time?