

Wurgler Instruments

Design History File #2: 2020 to April 10, 2023



Steven Wurgler Bio

In 2010, I was rummaging around in our attic and found several cases of cigar boxes that my wife had been saving. I got to thinkin' about what to do with these things; she was going to make purses. Remembering that some crafters make the boxes into guitars, I decided to give it a try. So, in these modern times of today, one starts with (drum roll here), a Google search! such as: how to make a cigar box guitar? There were, of course, countless sites. The one I selected was a guy that wanted to show that he could make a cigar box guitar in one hour! And he did it, in real time. I wasn't beautiful, but it was done, and it worked. And while the one-hour challenge was interesting, I wanted something a little more refined; I probably spent 20 hours on my first CBG, but I'm not sure it was much better than the one hour job that guy did; it always looks easy when somebody else does it, so we'll call it a learning experience. Since then, I've made about 70 stringed instruments; some from cedar boxes, some from paper-board cigar boxes, some boxes made from scratch, acoustic, acoustic electric, and solid body, guitars, bass, and ukuleles. I've used a variety of materials: Oak and Cherry I harvested from my property in Illinois and Pecan from San Antonio, Koa from Hawaii, Rosewood, Sitka spruce, Mahogany, Maple. Recently I salvaged 1908 and 1910 pianos from which I've reclaimed Spruce, Walnut, Ebony, Ivory, Poplar, and Fir.

I am one of twenty or so members of the San Antonio Luthiers Group: instrument builders, repair and restoration technicians, and hobbyists from the SA area. (I borrowed the reclaimed piano idea from Neil, who does spectacular custom acoustic guitar work).

I've displayed at fairs, markets, and stores, and maintain a site on Reverb; select "Shops" and search for "String Time Guitars" to view some of my current instruments.

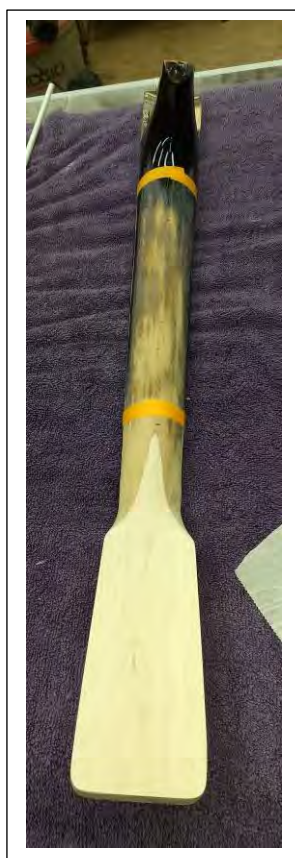
I graduated from Auburn University with a bachelor's in mechanical engineering. I had a fantastic career with Baxter Healthcare in manufacturing machine design, then product development. Now retired, I'm making or working on instruments almost every day.

Steven Wurgler
StringTimeGuitars@gmail.com
210-246-3277

Wurgler Instruments

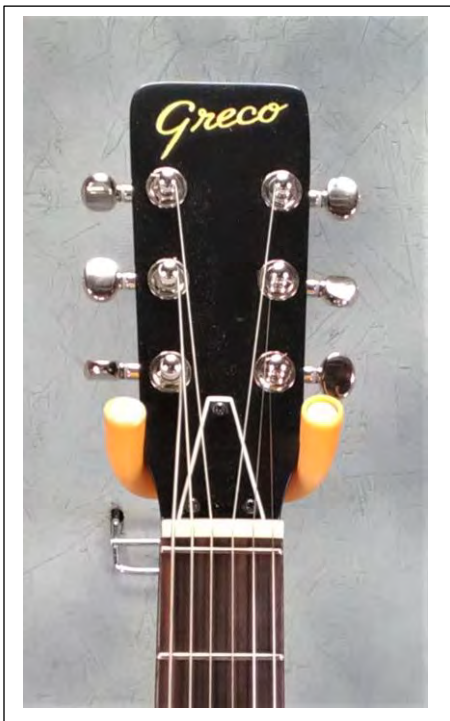
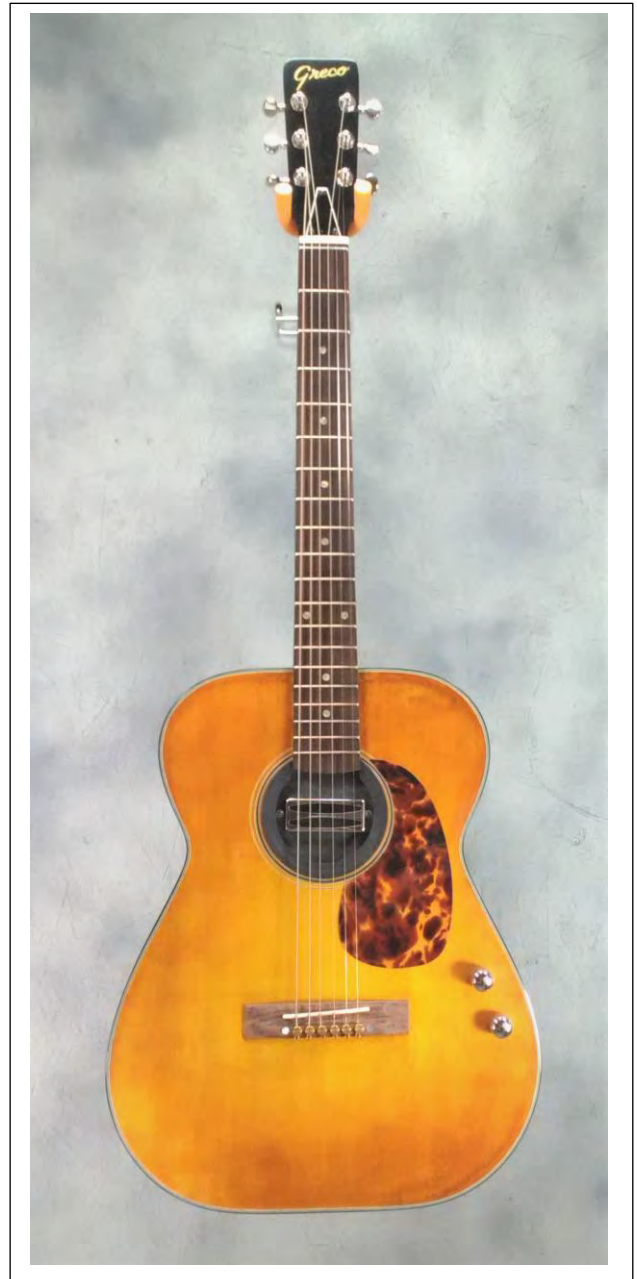
Design History File #2: 2020 to April 10, 2023

Ah, The Greco. No good deed goes unpunished. My friend Keith decided to buy a guitar for \$25 at a garage sale so that he could give it to his son so he could learn to play. But first he asked me to have a look at it and get it ready. It was in awful condition: broken headstock, broken neck, needing a neck reset, dirty, crappy fretboard and frets, and more. I paid him \$25 just so he wouldn't feel bad about getting ripped off. I used this instrument as practice for learning how to do a neck reset. James from the Luthiers Group led me through the process of fretboard and neck removal, and shimming and reforming the dovetail joint to get the neck angle just right. It worked, I did it! The back was removed and the back and top re-braced. I removed the fretboard to install carbon fiber stiffeners and a new truss rod, radiused the fretboard, new frets, levelled and dressed: perfect. I reglued the broken headstock and added a backplate and blended that into the neck to strengthen the scarf joint. Added a new bridge. I stripped the paint off the body and neck for refinishing. I attempted to stain the back and sides, black, but it turned out an ugly dark green (ugh). So I sanded off the black stain and, viola! a wonderful pattern appeared, and I went with that. I attempted a burst finish on the top but was never able to get the colors uniform, however, it had a rustic look that complemented the back and sides. Lacquer finish, hand buffed. Sometimes unintended consequences turn out OK. I gave it back to Keith to give to his kid; 300 hours work, Good training for me, I hope they appreciate it.



Wurgler Instruments

Design History File #2: 2020 to April 10, 2023



Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



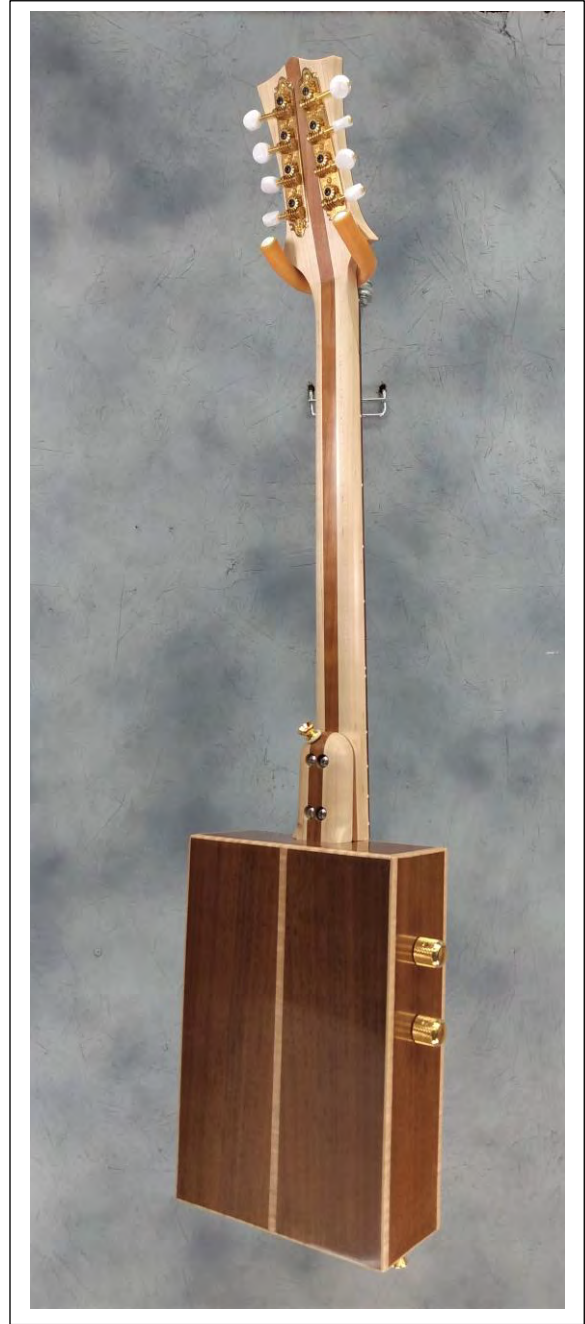
Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

OK, big project: convert a Krieter CBG to an Octave Mandolin. A client had purchased two previous CBG's and contacted me about third, however he wanted Krieter #44 converted to an Octave Mandolin. An Octave Mandolin has four paired sets of strings. Sure, I can do that (how hard could it be?). The scale length was 22.5", and the client wanted an "A" tuning, so we ended up with AA-EE-aa-c#c# using ground half-round strings: undeniably *a chorus of angles* when strummed. Most of the work was making a new, wider neck. I used bookmatched Maple with cherry stripe and two carbon fiber stiffeners. The headstock design is loosely based on an Eastman mandolin. The headstock has a rosewood headstock plate to match the rosewood fretboard. Panic #1 occurred when my neck routing jig inadvertently moved and caused a gouge on the side of the neck. After much consternation and consulting with the customer, I was able to reconfigure the neck profile, with the compromise of a slightly narrower nut width; it ended up unnoticeable and perfectly acceptable. Panic #2 happened the first time I strung it up and realized that there were now 8 strings where the original design had 3, so the top bracing was inadequate to support the additional downforce. I added a bone spacer between the top and the neck block to stop any deflection. And whoa, the projection and sustain were markedly improved. Gold hardware was installed throughout, and the final result was, especially special.



Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

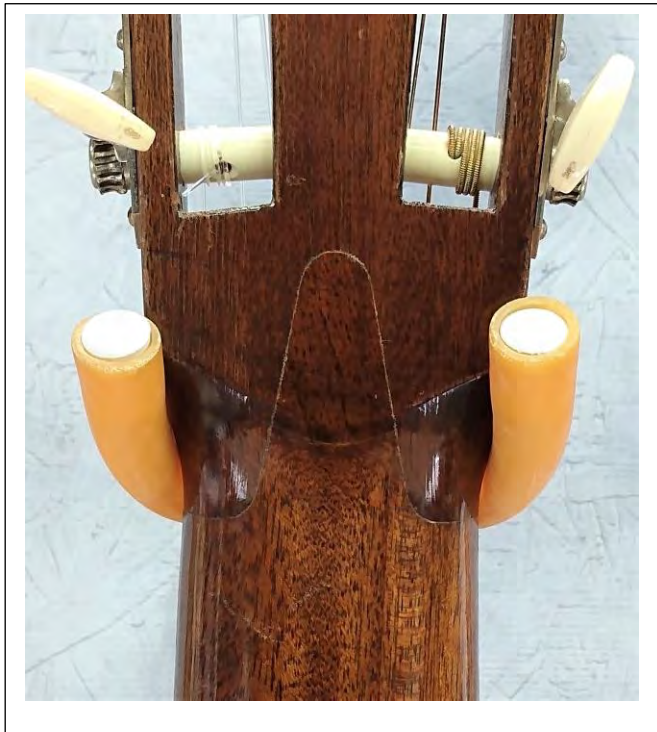
I found this Vangoa student nylon string guitar for cheap. It was interesting to me because of the $\frac{3}{4}$ size and that it had a built-in piezo pickup, pre-amp, and tuner. I thought I'd do an experiment and change to fretboard from flat to a 16" radius to see if it played more comfortably. As I was removing the frets, the plywood fretboard just shredded, and thus had to be removed. I replaced it with rosewood, installed new frets, and replaced the saddle and nut. It didn't sound great owing to the generally cheap construction and materials, however the action was low and easy to play and cleaned up real nice; a great student guitar. Plug it in, turn it up, crush it! I sold this guitar to my landscaper for his son.



Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

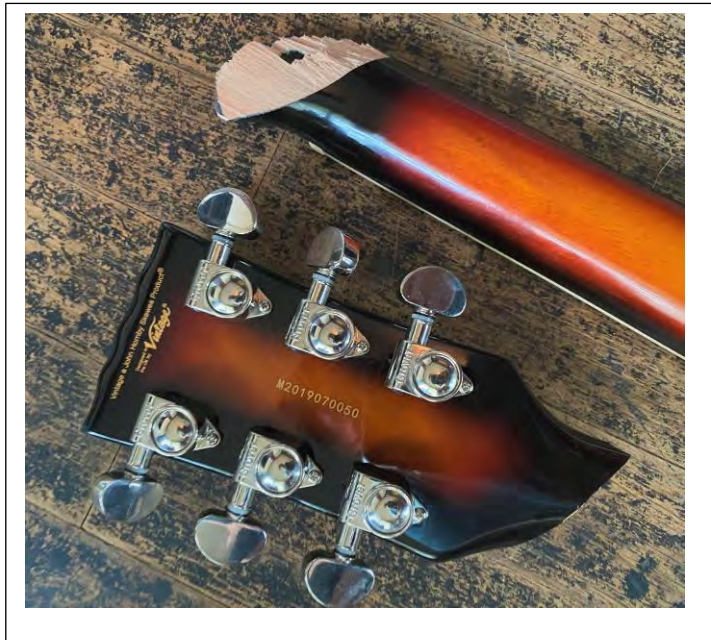
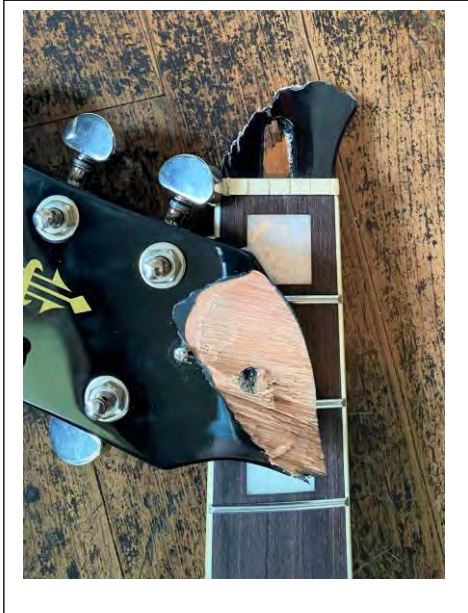
James, the leader of our San Antonio Luthiers group, is a repair specialist. He has a lot of guitars pass through his shop, from cheap to eye-popping expensive. He found this nylon string guitar at a garage sale and had the good intention to fix it up. However, good intentions weren't enough, and it sat around in his shop for way to long and the novelty subsided. So, he gave it to me and I'm sure the value of getting it out of his shop greatly exceeded any money he may have gotten from the hassle of selling it. Starry eyed, I accepted and, of course, it sat around in my shop for a while too. Eventually, I leveled the frets, replaced the saddle, installed new strings, and cleaned it up. We had our buddy Rolando play it and he pronounced it a "really nice folk guitar". It's got an interesting headstock finger-joint, and between that and the gold label, helped identify and date this Höfner 484 from 1960-1966. I'm going to keep it for a while.



Wurgler Instruments

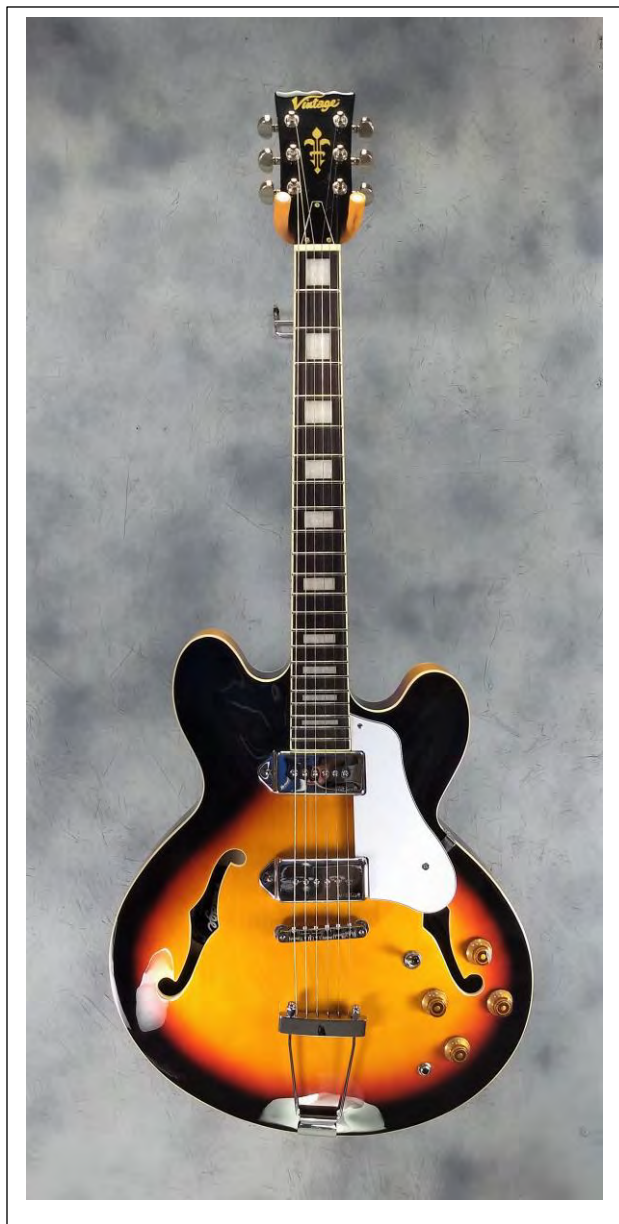
Design History File #2: 2020 to April 10, 2023

This Vintage VSA500 was offered on Craigslist for cheap because the headstock was completely broken off due to a Labrador tail wagging incident. Well, I bought it for another good learning “opportunity”. With guidance from James, the repair glued up and repainted not perfect, but real nice; no shame here. I leveled the frets, replaced strings, reset the intonation and pickup heights and it sounded and looked great. Cool guitar. I sold this to the AC repair technician’s buddy.



Steven Wurgler
StringTimeGuitars@gmail.com
210-246-3277

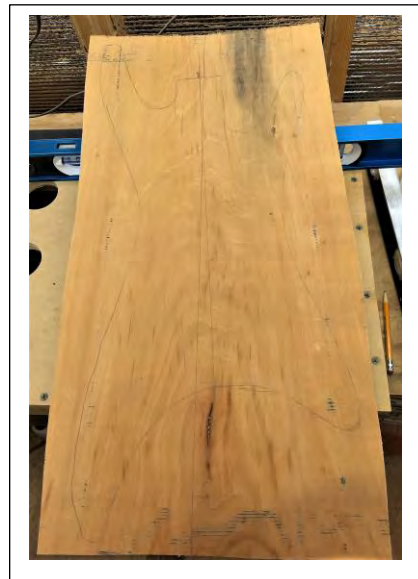
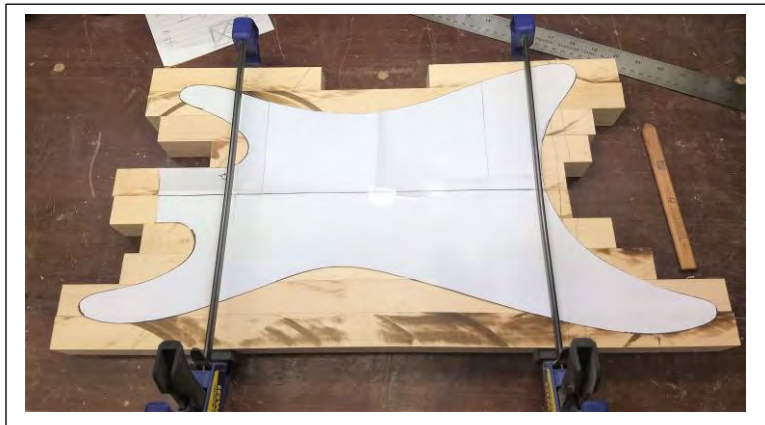
Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

The Stretch Cadillac projects were fun, so why not do a full size guitar based on the same shape? Welcome to the Big Cat design. The body is laminated Maple, and the top is one piece of Pecan with a nice grain pattern. The neck is Maple with a Maple fretboard. The neck was part of a Luthiers Group project where each member started with a block of wood and for each monthly meeting for several months, we performed one step in the neck forming process. I chambered the body to reduce some weight. The staining process resulted in a nice cherry-burst, then lacquer finished. Sometimes, one cannot see the forest for the trees. It wasn't until the entire project was finished and I hung the guitar to admire my work, that I realized that the neck was not aligned with the axis of the body. However, mistakes become features. Because of the narrow bout, the upraised bridge position arguably makes the playing position more comfortable (if you believe that rationalization, I have a guitar for you). It plays and sounds nice. The neck is a little chunky, so better for bigger hands.



Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Big Red Cat #61

Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Steven Wurgler
StringTimeGuitars@gmail.com
210-246-3277

Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

If a Big Cat was good, how about a Skinny Cat? Let's make a very thin body, and use it as an art project. It just did not work in every way. The neck I bought used, and ultimately found that the truss rod was broken, the paint job was not as I fantasized, the neck support was weak, the electronics mounting was too complicated. Looks OK in photos. Ultimately disassembled.



Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

In contrast, the Gourmet Chocolate Box guitar turned out really great. A friend gave me this chocolate box to make into a guitar. Ultimately, she changed her mind. The box was a plain white wood and not too interesting, so..... another art project! I hand painted thin striped lines in multiple colors in a random manner then did a blue burst on the back. I also routed slots for thru-strings and as a sound hole. I thought that adding some yellow around the sound hole would provide a kind of sun-burst effect. When I showed my wife, she said it looked more like a pee stain. So I did some touch-ups and it just looks great, plays great, sounds great. Somebody is going to love this instrument. Gourmet #63.



Steven Wurgler
StringTimeGuitars@gmail.com
210-246-3277

Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

This Sutter Home wine sample box was given to me by the same lady as the chocolate box. For this build, I decided to use a tremolo bridge that I'd had for years. I bought a new spring to compensate for only using three strings vs. the six as was intended. I cut out the top and mounted directly to the neck support block for rigidity. The neck was repurposed from the octave mandolin build. Great project, sold immediately. Sutter Home #64.



Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

My friend Jerry from the band Hellgrimm wanted to build a custom guitar based on the Dean Vengeance design. He had some particular features to incorporate, however, when we found that his donor neck was not functioning and too expensive to replace, the project was put on hold. Meanwhile, from the 8511 days, my friend Bob was asking for a three-string guitar with a flying-V design. At the time I contended that the design would not work on an 8.5x11 inch sheet of paper and declined the project. But my courage of conviction has changed over time and I decided to take some of Jerry's ideas, some of Bob's ideas, and some of my ideas and create a three-string shredder loosely based on the Vengeance: The REVENGEANCE. Particular features that I included were an ultra-black paint called BLK3.0, and an overwound super distortion humbucker called a GittyBomb. Sweet Revengeance.



Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

My friend Bryan decided to live the movie “Lost in America”, travelling America in his Recreational Vehicle. In preparation, he was selling and giving away most of his stuff. I was the fortunate recipient of some nice Cocobolo and a bunch of interesting cigar boxes. I chose ten and set to work and build some inventory. I wanted to address three clunky design elements of my prior three-string instruments: the bridge, the nut, the headstock. For the bridge, I wanted to make a three-string specific, floating bridge, with adjustable height, from 3/8” to 3/4”. For the nut, I’ve always liked the idea of the zero-fret, with the ability for the player to select their own string spacing and I finally sourced an inexpensive string-retainer-bar that looked sleek and enabled the headstock to change from an angled scarf joint (e.g. Gibson) to a flat design (e.g. Fender).



- String-Retainer-Bar with adjustable width zero-fret
- Flat headstock
- Three-string floating bridge

Wurgler Instruments

Design History File #2: 2020 to April 10, 2023



Stillwell CGB #70

Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



La Instructora CBG #66



Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Where for art thou Romeo?
Romeo CBG #67

Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Jake CBG #71



Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



MICALLEF CBG #72

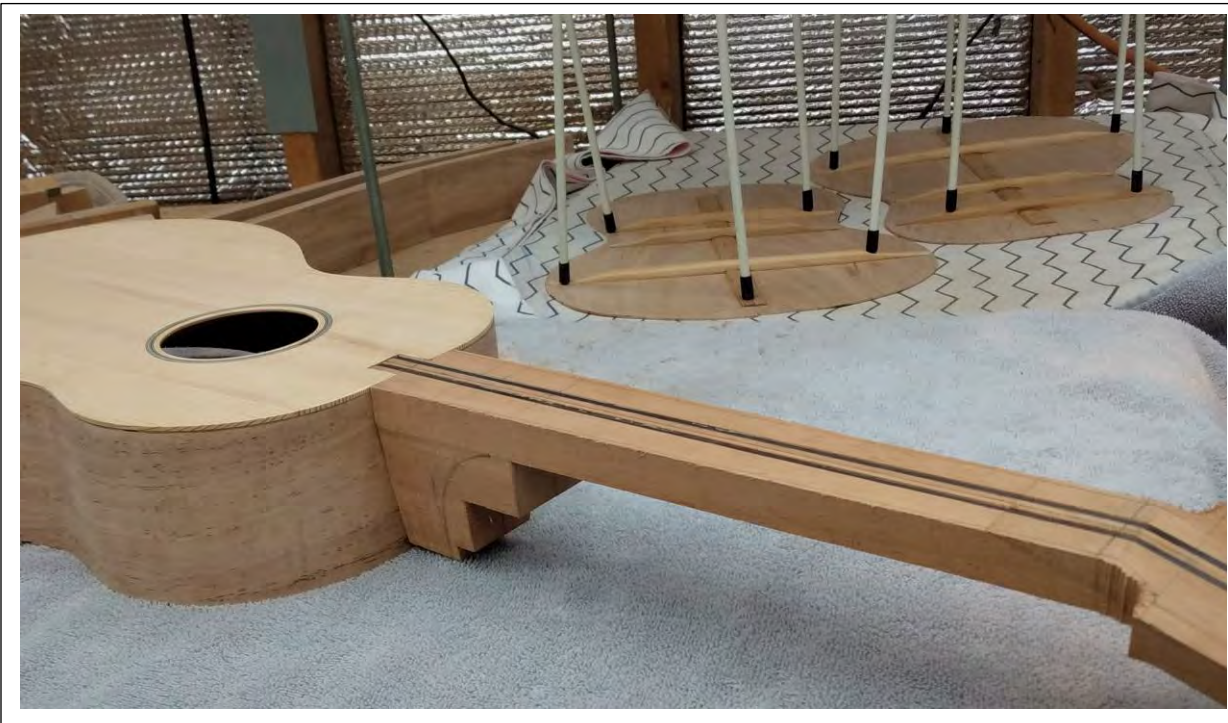
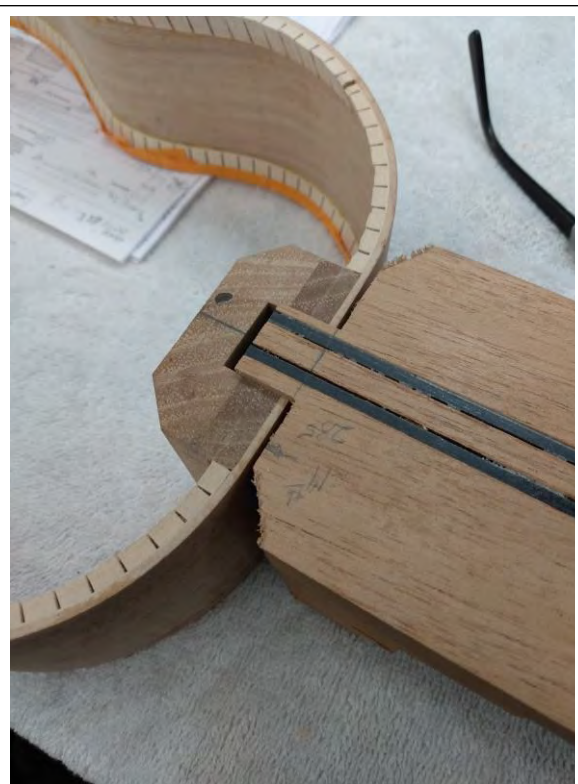
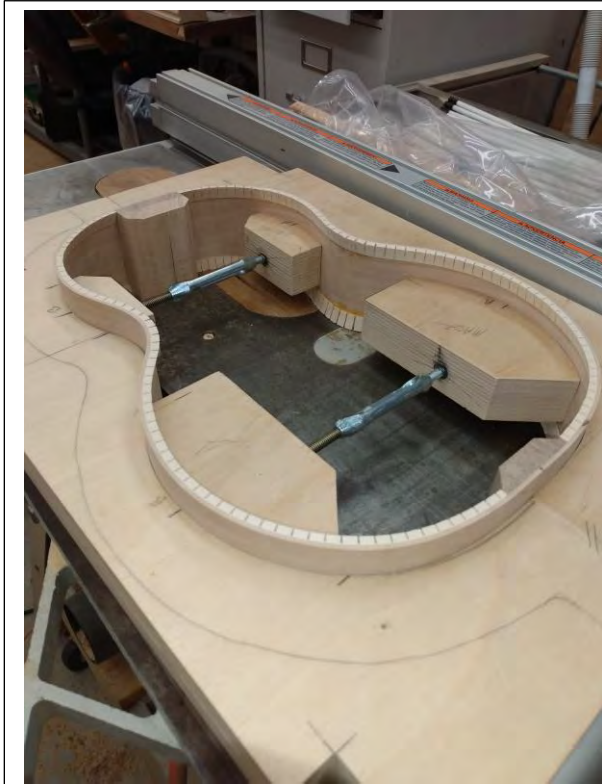
Wurgler Instruments

Design History File #2: 2020 to April 10, 2023

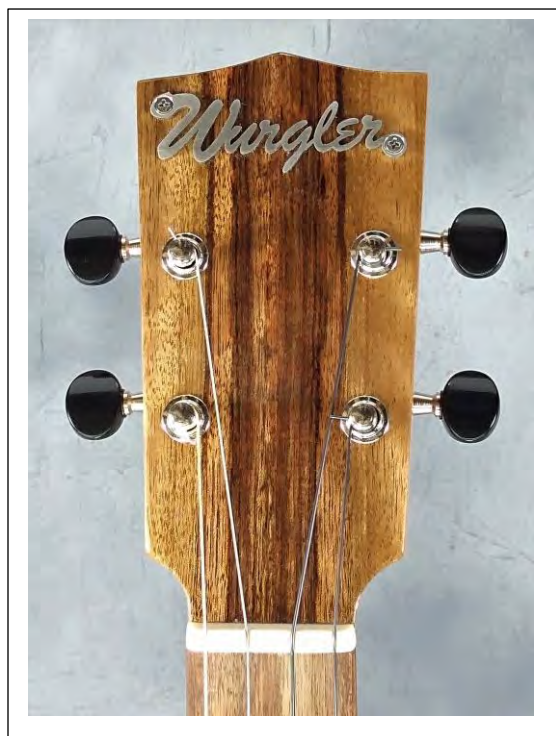


My brother Brian called me and asked for a Baritone Ukulele. OK. So three seemed like a good idea. I decided to use the Pecan I harvested, along with spruce from a 1910 Elburn piano. Uke #1 and #3 have spruce tops while #2 has a Pecan top. My colleague Neil, offered to let me use his bending tools and train me how to form the sides. These ukes are my first attempt at bent-sides instruments. With his tools and guidance, it was easier than expected. I made up my own holding fixtures to store the bent sides prior to assembly, and a forming frame with turnbuckle clamping blocks for glue-up. James let me borrow his Go-Bar for clamping during assembly. Bookmatched Mahogany was used for the neck and heel with two carbon fiber stiffeners. I shaped the neck by hand. Fretboard is Rosewood as is the headstock plate. Bindings are Maple. The neck joint is a mortise and tenon bolted on with the fretboard glued to the soundboard. The finish is nitrocellulose lacquer, hand sanded and hand buffed. The original waterslide headstock logo delaminated and bubbled, so the headstock had to be stripped and re-lacquered. I decided to replace the waterslide with a laser cut stainless steel logo. The scale is 20.5" and tuning is GDBE (standard guitar tuning). My friend Roland came over and played instrument #1 and #2 for me so I could hear it and I thought they sounded great but obviously different; #1 is brighter, #2 is more mid-range. He said the finish, playability, and the tone were excellent. I'm proud.

Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Pecan Ukulele #1 - #68

Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Steven Wurgler
StringTimeGuitars@gmail.com
210-246-3277

Wurgler Instruments
Design History File #2: 2020 to April 10, 2023



Steven Wurgler
StringTimeGuitars@gmail.com
210-246-3277

Visit my shop on Reverb at “String Time Guitars”

<https://reverb.com/shop/string-time-guitars>

Contact me directly at:

210-246-3277

StringTimeGuitars@gmail.com