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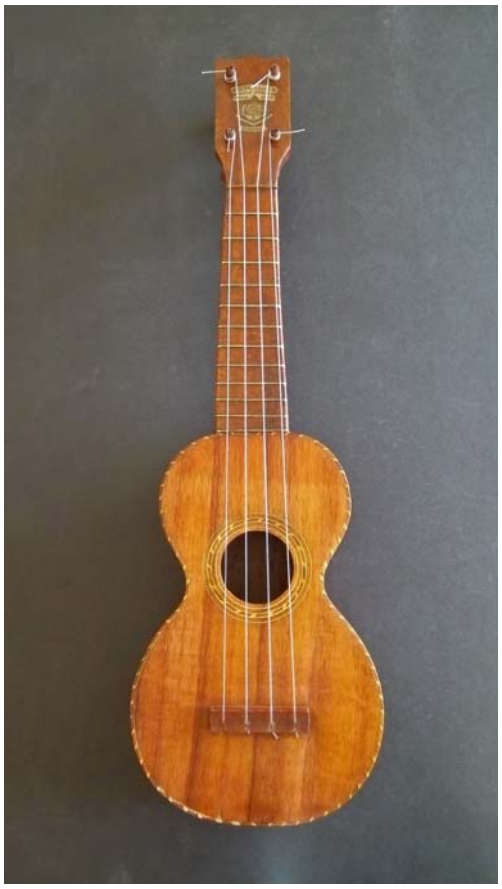
# Restoration of Circa 1920 Kumalae Ukulele



**January 2014**

**For Ginger Kramp**

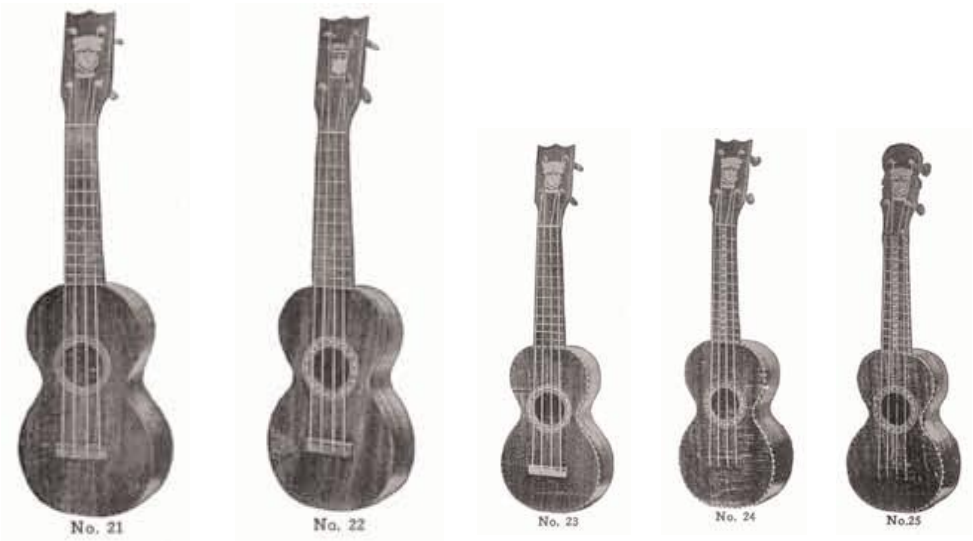
## Background

Jonah Kumalae made a decision to set up a booth at the 1915 Panama Pacific International Exposition in San Francisco and never looked back. He showcased his finely crafted ukuleles with Hawaiian musicians brought over to play them and won a "Gold Award". He proudly displayed a decal of it on all his ukulele heads from that point on.

A friend of mine and ukulele enthusiast indicated that over 600 ukuleles were produced each month in Kumalae's workshop during the 1920s and 1930s. He also mentioned that Kumalae ukuleles were often handed out to passengers on cruise ships heading to the islands and classes were given during the voyage. Some hotels are rumored to have had Kumalae ukuleles in rooms for guests to have and play. By the end of 1930, thousands of Kumalae ukuleles found their way around the world. At its height, Kumalae employed 50 people and had a 20,000 square foot factory, where he also made instruments for other companies, like Sherman, Clay & Co. (see below) and for some mail order catalog companies.

Kumalae ukuleles were known for their beautiful curly Hawaiian koa wood and the ornate bindings on the higher-end instruments. Like many other ukulele manufacturers, Kumalae closed his business in the early 1940s due to a falloff of business during the war. As of 2012, Kumalae branded ukuleles have re-emerged, and several models are being manufactured in Ontario, Canada. However, these are more modern with various wood types and mechanical tuners and have no relationship to the originals except by name.

The following photo is from a 1925 Sherman, Clay & Co. catalog showing five models numbered 21 through 25, which correspond with Kumalae models A through E, or 1 through 5, respectively. Described but not shown in the catalogue is a Style 20, a plain, "straight grain koa" ukulele with one inlaid ring (some had three very thin rings) around the soundhole. It sold for $9.00. This model is also known as a Kumalae Style 0. All models of Kumalae ukuleles were French polished. Celluloid and mechanical friction tuners could be ordered in place of the stock wood pegs at additional cost.



## Valuation

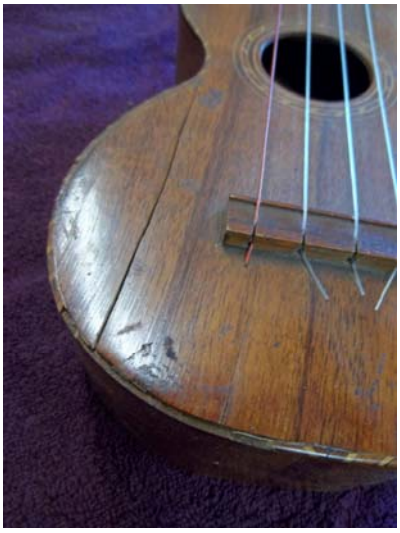
Even though Kumalae sold many thousands of ukuleles in the 1920s and 1930s, a small number have shown up for sale. More than likely, this is because of the very delicate nature of the instrument. The koa wood is very thin, and once away from Hawaii, the koa either dried out, cracked or split, or was kept in a damp environment where the hide glue softened and the instrument basically fell apart. Many were thrown away.

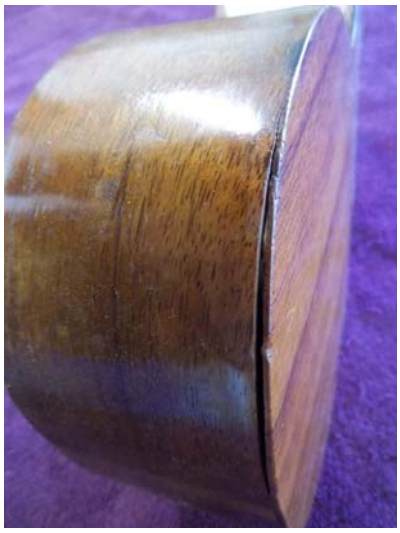
This particular ukulele is the Model D (or Model 4), which was one of the better of the Standard size ukes. Kumalae ukuleles came with wooden friction pegs, but if ordered, or purchased through a retailer, like Sherman, Clay, & Co., celluloid-style tuners could be installed. This lovely Kumalae ukulele has the original wooden friction pegs.

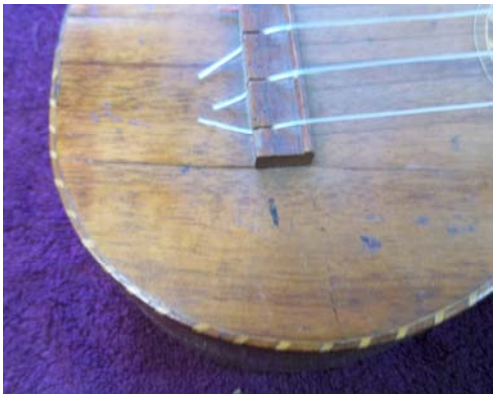
Examples of Kumalae Model D Ukuleles, in all states of repair and disrepair that I've recently found for sale on ebay have been priced from around $300 to over $1000. I also found some information about Tiny Tim's Kumalae Ukulele that sold at auction for $1600. The fancier Kumalae models, with intricate bindings and inlay, are showing up on ebay for around that same price.

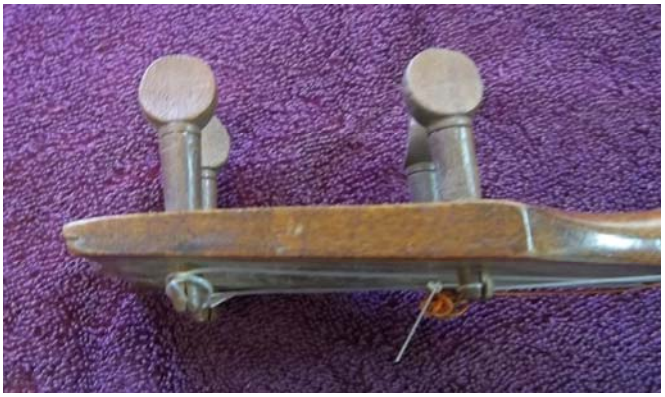
I feel that this Model D, in its restored condition, should be able to sell in the $600-$1000 range. It does fret true, producing a beautiful tone that, as my friend described, is "the real Hawaiian ukulele sound."

# Day 1: Assessment







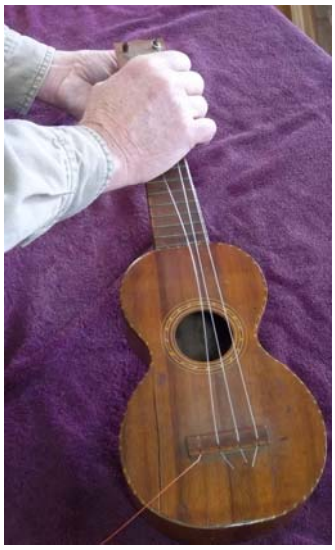


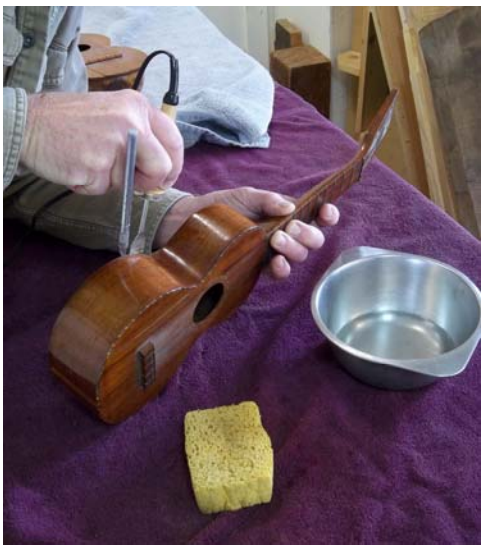
On Day 1, I made a full investigation and assessment of damages. Kumalae ukuleles are known for having almost paper-thin wood on the body, and this one, very similar to the other Kumalae ukuleles I restored, showed this to be still true. The top had two cracks on the top, a narrow one next to and below the bridge, and a longer wider crack on the left side of the lower bout of the body. Where this longer crack met the edge, a portion of the top had come loose from the side and a small section of rope binding was missing. The larger crack was a shrinkage crack, due to the wood drying out, and the smaller crack was a stress crack, probably from string tension.

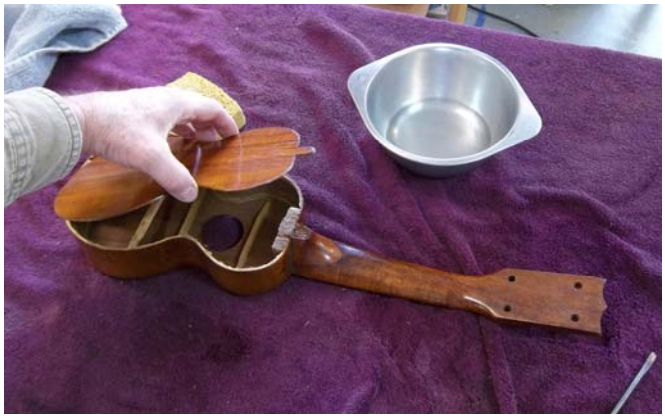
The sides were in good shape (no cracks or splits), as were the neck and head. Early Kumalae instruments were sold with friction pegs (lower right photo), but later in the 1920s and 1930s, when ordering a custom ukulele, a person could specify mechanical tuners instead of the friction pegs.

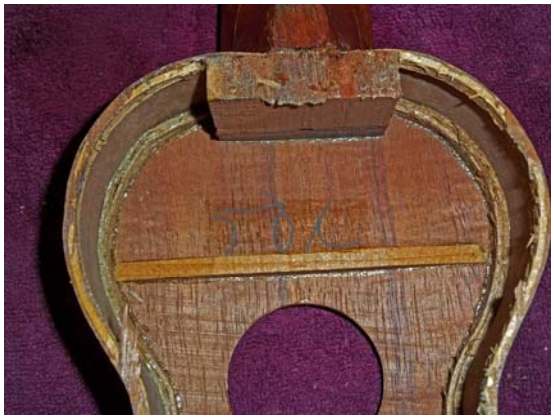
One thing I always notice with older ukuleles is that the neck's width has shrunk a little exposing the sharp ends of the frets. I'll have to file the ends down later in the restoration. The head decal was clear and unscratched. It only needed a little cleaning.

# Day 2: Back Removal







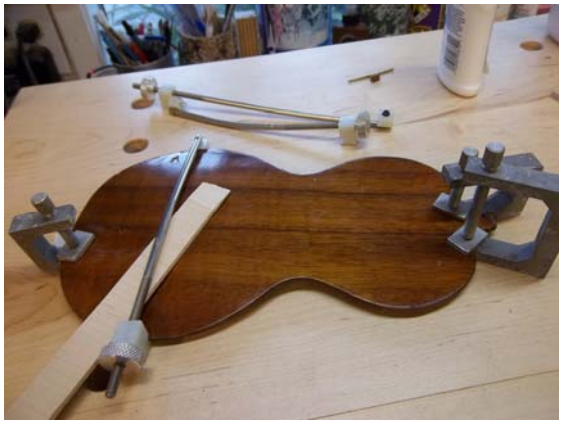


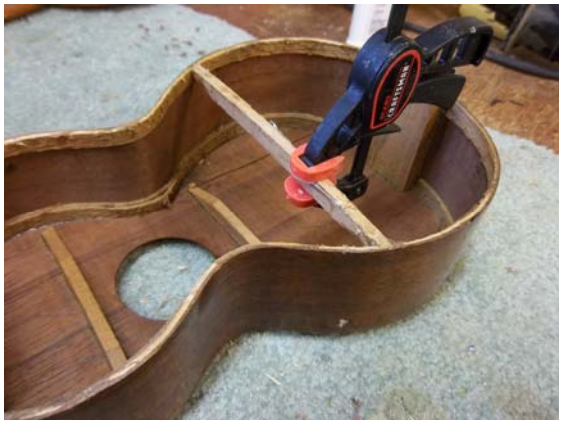
On Day 2, I removed the strings and tuning pegs and began the long process of back removal. Since the back had a couple of small areas where the glue failed, I started steaming around those to soften up the surrounding hide glue, working with both a fine-bladed X-acto blade and a thin artist's palette knife. After a couple of hours, I was able to lift the back from the body.

Having the body open makes it easier for me to repair the top cracks and apply any necessary reinforcement. I did notice that one back brace was cracked and would have to be fixed before reassembling the uke. Also, a hairline crack I hadn't notice on the back became larger after removal.

Inside on the top was the number 501. I have yet to find out the reasoning behind the numbering system Jonah Kumalae used. The last Kumalae ukulele I restored had a number 18. Another Model D, similar to this one, just arrived for restoration and in it was a number 21-d.

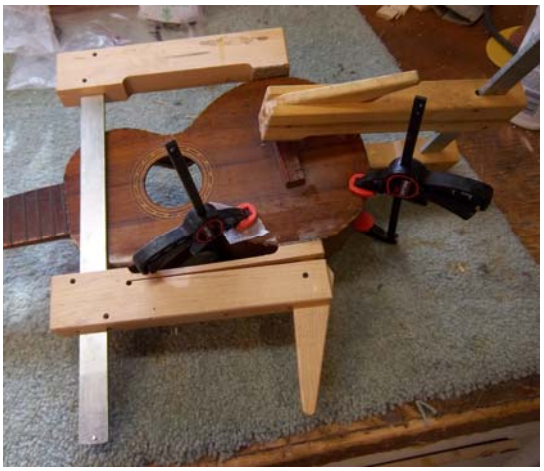
# Day 3: Back Crack and Brace Repairs

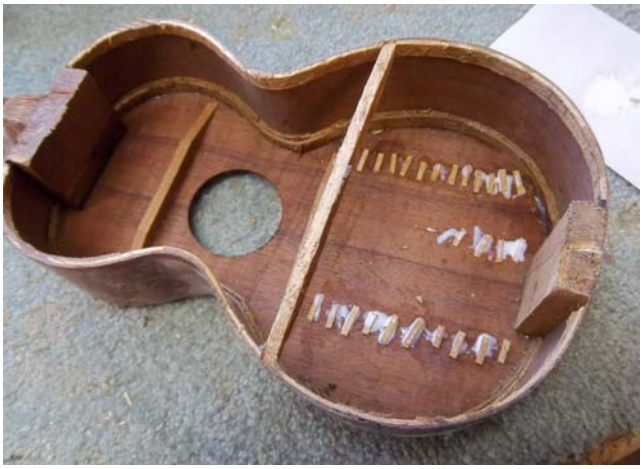


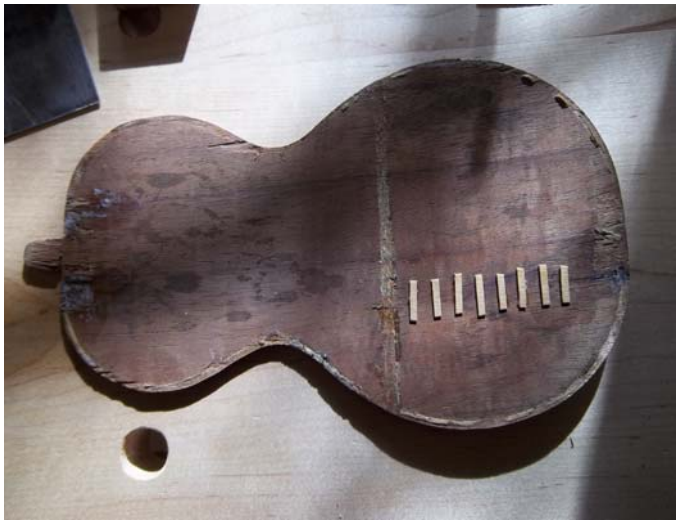


On this day I fixed the back crack. I used special curved violin clamps to pull the sides together to close the crack after applying glue. I also glued and clamped the broken back brace.

# Day 4: Closing Cracks and Adding Cleats





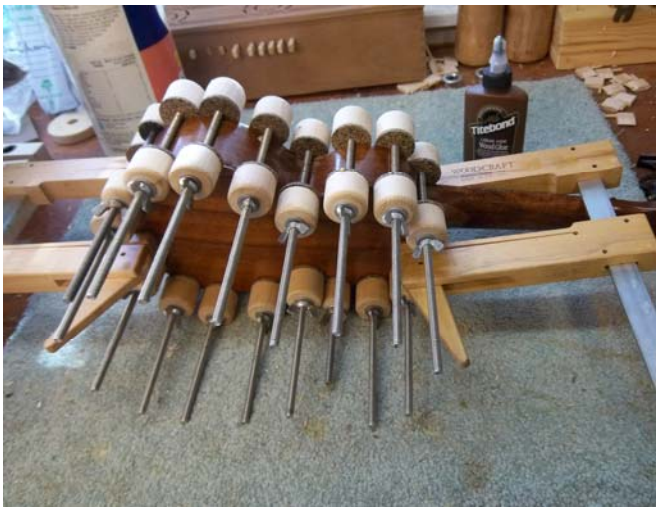


This day I did quite a bit of work on crack repairs. After injecting glue into the cracks, I put pressure on the sides of the top using a cam clamp to close them up. I used the other clamps to keep the top from buckling under pressure.

The type of glues I use take about 30 minutes to set enough to take the clamps off. Because of the size of the top crack, I waited a few hours before unclamping.

Once I removed the clamps, I started adding small hardwood cleats on the insides of the top and back to strengthen those areas. This also keeps the cracks from reopening, with should the wood shrink a little again if humidity levels drop and the air becomes too dry. With proper storage in a case with a small ukulele humidifier, this should not be a problem. Making a gluing all these cleats took several hours.

# Day 5: Reassembling



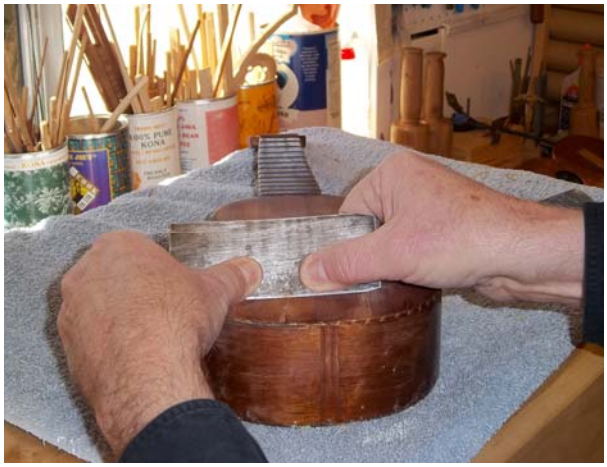

A few days later I began to reassemble the ukulele using a combination of spool and cam clamps.

I should mention here that I used mostly yellow and white glues for crack repairs. These are polyvinyl acetate glues (PVA). For gluing the body back together, I use hide glue.

Where PVA glue is permanent (it makes a bond stronger than the wood), hide glue is reversible, and only takes a little heat and moisture to make it tacky enough for disassembly. This is a perfect when repairs are needed.

Hide glue is the old traditional method of joining pieces together and has been around for thousands of years. The first written procedures on preparing and using hide glue were discovered in Egyptian hieroglyphics. By 500 BC, Greece, Rome, and, farther east, China, all used types of hide glue prepared from animal parts or fish.

# Day 6: Scraping and Sanding

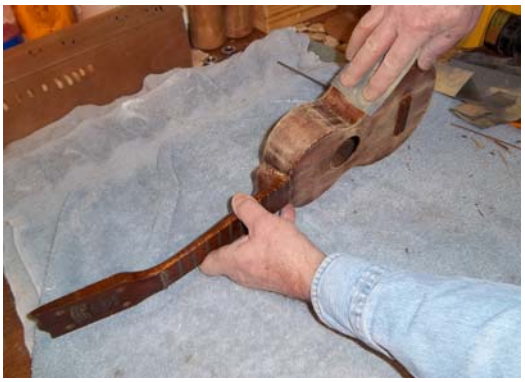


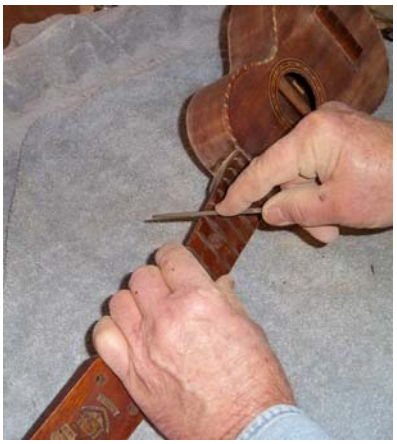
Now that the ukulele is together, I needed to scrape the instrument to take off glue that had squeezed out from the clamping process. Because scraping takes the old finish off, I needed to sand most of the uke to even out the surface so later touch-ups wouldn't look uneven and blotchy.

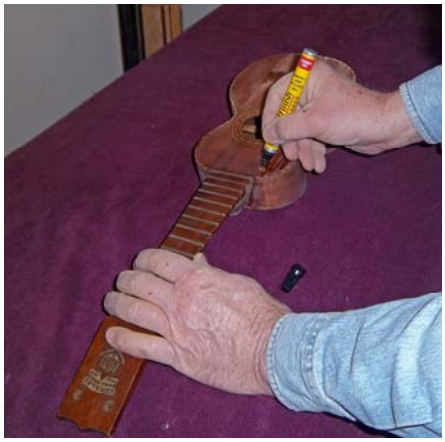
# Days 7 to 9: Repairing Rope Binding

For the next three days, I cut and glued tiny pieces of koa and maple to replace the missing section of rope binding. I could only glue one piece at a time, and wait for it to dry before adding another piece.

# Day 10: Sanding, Fret Filing, and Touch Up





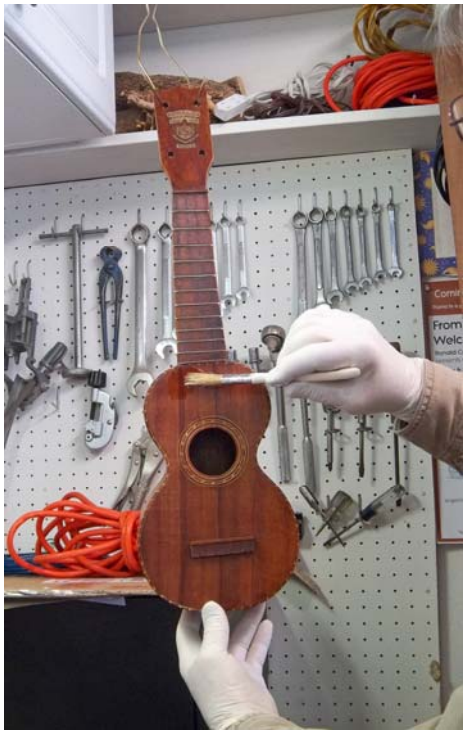


Today, I used a small rotary sander to even out the rope binding, then did a final sanding, going through several grades of sandpaper, from 180 grit to 600 grit, finishing with 0000 steel wool.

Once all sanded, I tackled the sharp ends of the frets. As I mentioned earlier, the neck wood had shrunk a little exposing the sharp ends of the frets. Using a small diamond coated fret file, I filed the ends down making the sides of the neck smooth again.

Later in the day I began touching up the finish. Here I used a light cherry stain to replicate the original finish. I applied it to a portion of the instrument, then rub it with a cotton cloth to remove excess and to spread it around.

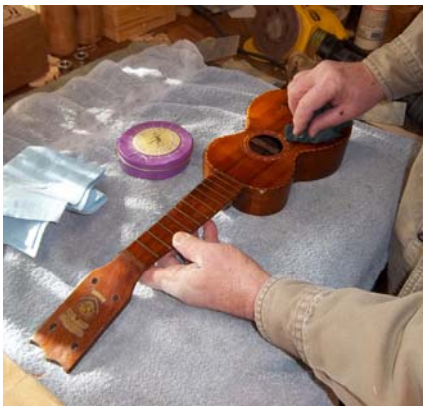
# Days 11 and 12: Varnishing

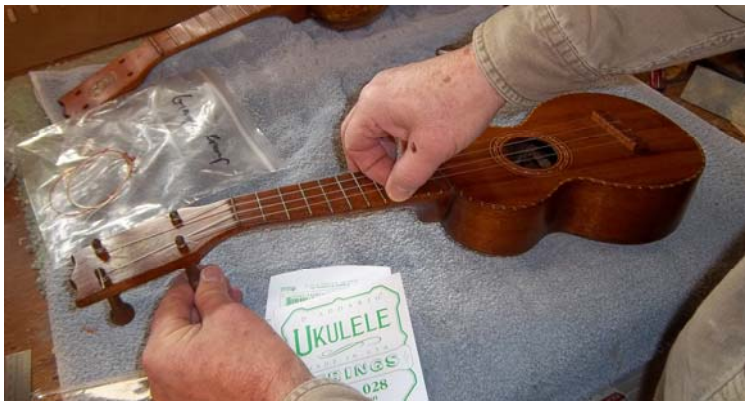


I let the stain dry for a couple of days before re-varnishing the ukulele. Originally, Jonah Kumalae's workers would French polish each instrument, which is a polishing technique consisting of applying many thin coats of shellac dissolved in alcohol using a rubbing pad lubricated with oil. My technique is similar, but I use low-gloss tung oil varnish to replicate the look of the original finish.

At least two coats are needed, with 24 hours drying time between coats.

# Day 13: Polishing and Stringing

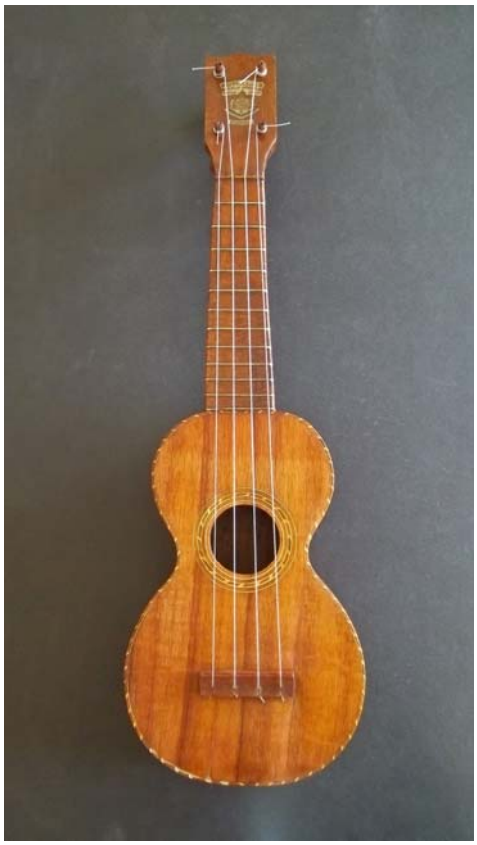


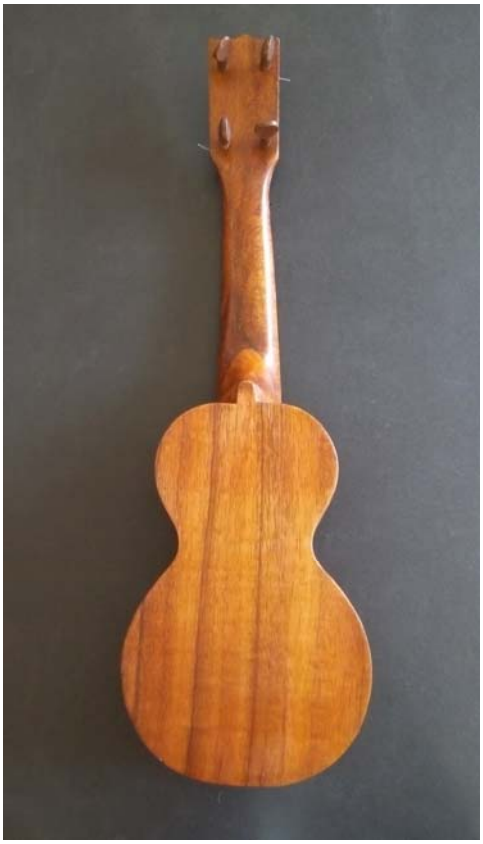



A few days later, after the varnish dried fully, I added a little extra protection with a non-abrasive paste wax. I applied it using very fine 0000 steel wool soaked in the wax. Using steel wool instead of a cloth keeps the original matte look and doesn't polish the uke to a high gloss.

Once polished, it was ready to string up.

# Day 14: Completion





On the last day, I strung the ukulele and tried it out with the old song, “Has Anybody Seen My Gal.” The uke sounded lovely.

Several years ago I spoke a local internationally known ukulele builder. I was just building my first ukulele, and he told me the old story that when building a ukulele, you make the wood so thin it fails, then make another piece just a tiny bit thicker to use on the instrument. I tried that with varying degrees of success. The Kumalae ukuleles are very, very thin. That is why they are so light and sound so good. But their lightness and thin wood is also why so many haven’t survived. It is fortunate that this one was cared for enough to make it through its first hundred years. Now, it should be able to go for several hundred more.

Note: Martin Guitar Company started making ukuleles a year after Jonah Kumalae demonstrated his at the Panama Pacific International Exposition in San Francisco. In the 1920s and 1930s, the Martin styles and models were very similar to the Kumalae instruments and soon became more popular because of the Martin name and reputation. The Martins have also survived better, because the wood was a little thicker. Martins have a good tone, but the Kumalae Ukulele has that “real Hawaiian sound.”