FURNITURE DESIGN MARQUETRY VENEERING CARVING MILLWORK

WOOD FORUM

Newsletter of the Sonoma County Woodworkers Association

Volume 35, Issue 5 May 2015

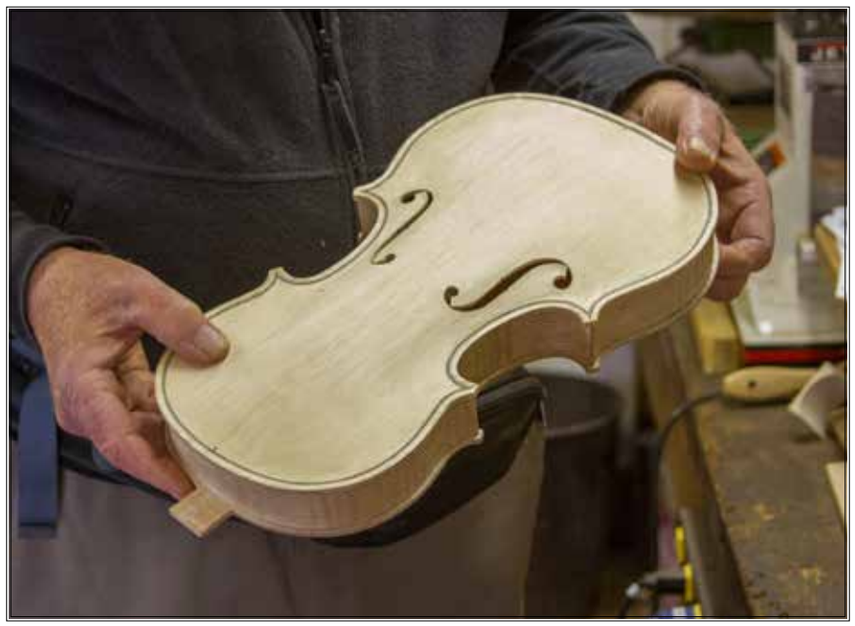
Tracing Time-Honored Footsteps

by Art Hofmann

Mark Tindley, one of our members, has a small shop near his home in Penngrove. He recently completed a very uncommon project, the reproduction of a Stradivarius violin. He took numerous photos of the process, which he will show us, and explain his effort, which is quite an achievement. We will meet at Cotati Cottages Clubhouse at 7 pm on Tuesday, May 5th .

Mark's training in the UK consisted of a "Fine Woodworking Diploma" awarded by the Building Crafts College, a trade school run by the Carpenters' Company. The Carpenters' Company is a trade guild established in the 15th century. He also studied at London Metropolitan University (formerly called the London College of Furniture) where he was awarded "City and Guilds" qualifications in Cabinet Making and Wood Machining.

Before setting up his own business he worked for several high-end furniture and cabinet companies, spending most of his time with "Kaizen Furniture Makers Limited" in London and with "Paul Scott Associates" in Petaluma.



He set up "Mark Tindley Woodworking" last year, where he makes furniture and cabinets for residential and commercial clients all over the Bay Area. He is a licensed California specialty contractor for cabinetry, millwork and finish carpentry.

"The Stradivarius violin copy was one of those things I just had to do. I always enjoy projects that bring me into uncharted territory and force me to learn new techniques.

"At the meeting I will show how I went from a set of measured photos and drawings for the famous 1721 'Kruse' Stradivarius to a fully finished instrument. I primarily adopted the traditional lutherie techniques of the Newark School of Violin Making in England, but was also heavily influenced by the furniture making skills I am more accustomed to. I insisted on making the whole violin from scratch without the aid of pre-made parts or fittings. I will bring along all the specialty tools, moulds and templates that I had to make, and give practical demonstrations of some of the specialist tasks required."

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Cotati Cottages is a townhouse development located west of the H'wy 101 and H'wy 116 interchange. Take Highway 101 to Gravenstein Highway (116 West) exit. Head west in the direction of Sebastopol about ¼ mile to Alder Avenue. Turn right on Alder and then turn right on the first street, which is Ford Lane (Cotati Cottages sign). Proceed to the end of Ford Lane and park in the gravel parking spaces. The Clubhouse is the small building on the northeast corner of Ford Lane and Starr Court. If the gravel parking area is full, please park on the east side of Alder Avenue. The address is 8050 Starr Court, should you be navigating by GPS.

Richmond Field Trip

by Art Hofmann, with assistance from
Larry Stroud, Walter Doll, Bill Taft, Joe Scannell,
Jim Heimbach and Mike Wallace

We met at 10 am on Saturday, April 11 at the gate of U.C. Global Campus, a collection of small, medium, and large buildings in Richmond, CA. Our intent was to visit the collection of wood samples housed at the Forest Products Labs, one of the many entities quartered at this extensive campus, whose history extends back at least a century. We were met by Rick Satomi, an employee of the Forest Products Lab, who explained what we were seeing around us. Drawing our attention to a tank we had just passed, he told us it was a hydrogen tank used for testing the gas as a fuel, and for fueling vehicles that the university lends to various employees, one of the few hydrogen stations in California. He pointed to a large building across the way that housed a two storey high machine visible through the windows, an earthquake simulator used to test various building components and objects for their survivability.

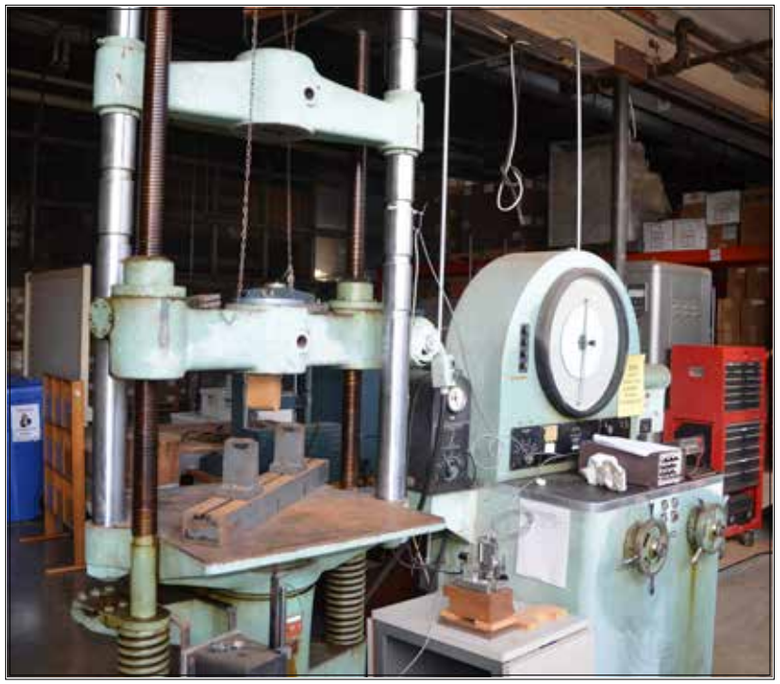


Photo by Don Naples

Rick then led us into the Lab building, and into a laboratory area, where Rick explained its workings. It was an old laboratory, and observing the equipment used for early experiments in gasification was very interesting. Rick said that the gasification was a process by which woody material (the "biomass") is heated under strong pressure in a low oxygen environment to volatilize potential fuels in the material. The "syngas" that is created is composed mainly of hydrogen, carbon monoxide and carbon dioxide and can be then used to create electricity. The process is much less polluting than just burning the biomass as is commonly done. Rick explained that collecting the biomass from our forest floor (e.g., brush piles of manzanita, etc.) not only makes the forest safer by reducing a potential fuel source in forest fires, but if gasification methods are then used on the collected biomass it can be a less polluting and more "carbon-intelligent" manner of electrical production. He pointed out on a map the various areas where non-gasification biomass plants are being utilized in the wooded areas of California. There are a surprising number of them. He alluded to a joint project in the town of North Fork where the California Energy Commission just awarded a $4.9 million dollar grant to construct one of the first forest-sourced biomass gasification plants, as well as research into the emerging field of forest biomass utilization. "The plant will utilize local forest biomass sustainably sourced from restoration and fuel reduction activities on local forest lands, including the Sierra National Forest. The biomass will be used to make electricity, heat and bio-char, a solid carbon byproduct that is used as a soil conditioner and filter media. The project will also be one of the first projects to use forest-based fuel under California's new SB 1122 bio-energy law."

Photo by Jose Cuervo

In the laboratory and shop we learned about research into creating gas fuel from waste wood. Unfortunately, we learned and saw that the University has other priorities forced upon it by large budget cuts by the state. As most of us know, California has a big forest fire problem. An enormous biomass has accumulated over the past 100 years in our forests, as the policy has been to suppress fires that otherwise would naturally remove it. This fuel accumulation presents a complex problem; we don't know what to do with it, so we endure massive forest fires every year. An economic way needs to be discovered to remove this material and convert it into usable fuel without polluting the environment, and to sequester as much carbon as possible. Small diameter limbs that can't be turned into lumber are an opportunity to create non-polluting fuel.

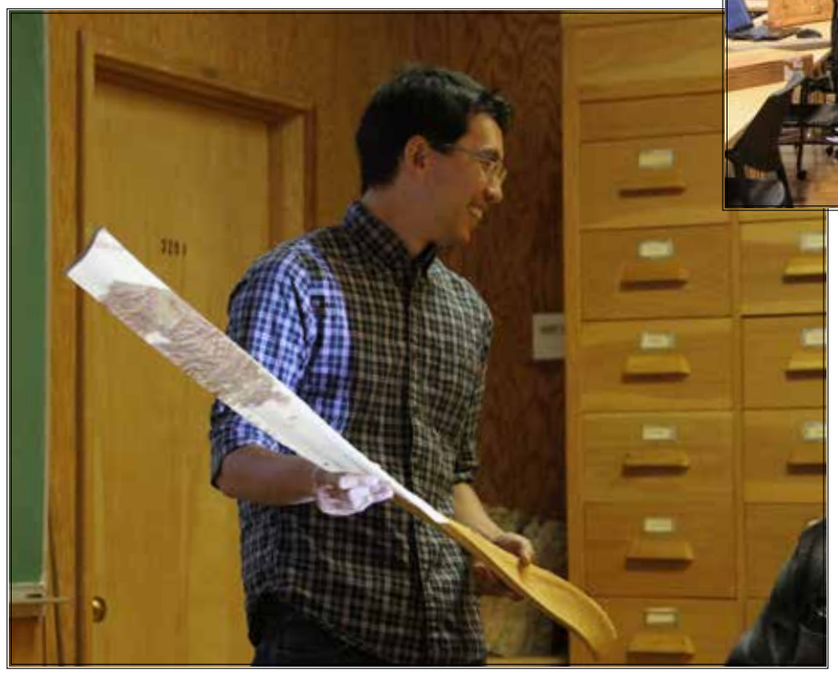
Walt Doll mentioned that he knew that most tree service wood is trucked over to a facility in Oakley, out of the Bay Area Air Quality District, unless a woodworker expresses an interest in the log and can haul it away. They are frequently free for the asking. There are about 27 facilities that create electricity this way, and they are designed to be used as "peakers," to be used to supplement the power grid on high usage days in California, because they can be ramped up quickly as needed, unlike solar collectors and wind turbines.

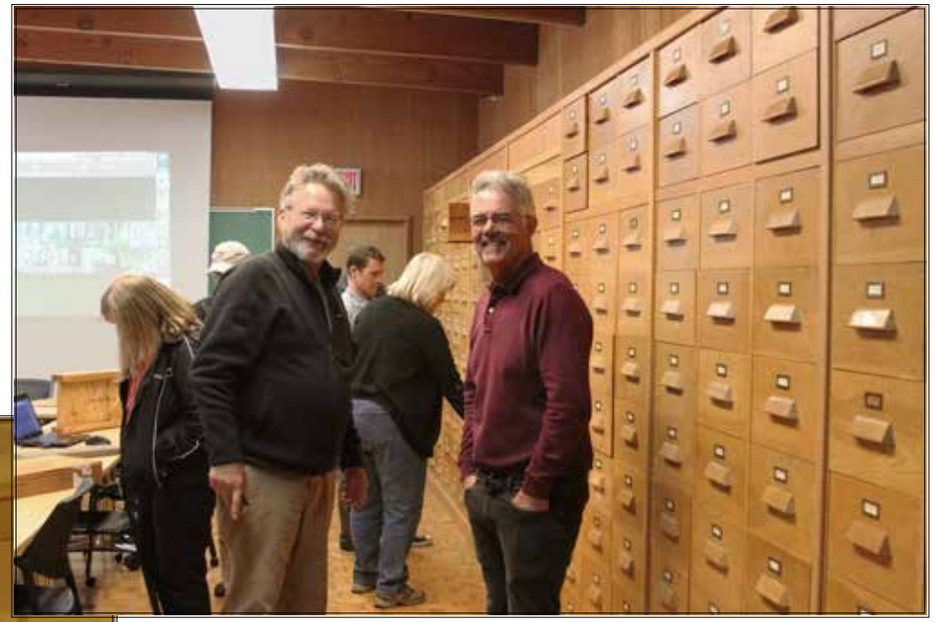
Responding to an inquiry, Rick imparted that there are two full time employees, of whom he is one. Forest Products Labs used to be an independent unit, with its own major and its own graduate program. This has disappeared for various reasons, one of which is lack of interest, another of which is that many wood products have been developed and brought to fruition, and that the era is over. The costs of the Lab were originally split between private industry, the University of California, and the federal government. The Forest Service now provides about forty percent of the funding, with the University providing the rest.

Rick pointed out a Douglas fir log (*photo, page 2*) to us that had been submerged in the Port of Oakland for about a hundred years. The log has been submitted to a testing machine's enormous stresses and it was discovered that it had still retained its integrity, allowing itself to be compressed a mere ten percent, testament to what a remarkably strong material wood is.

After that we relocated to the inner sanctum, now used largely as a conference room, the walls of which house the drawers of the wood samples collection. Rick pointed out that all of the wood that we were seeing within this room had been processed by the facilities of the Lab when it was first formed. The exquisite parquet floors, the veneer on the walls and the ceiling material were all made here at the Lab. Rick continued with a wood sample of eucalyptus which was, of course, badly warped and twisted 180 degrees. It is the classic case of an import which is essentially useless for producing utilitarian lumber, growing as it does with lots of internal stresses. With a projector, Rick showed us a slide of the number of wood gas power plants in California, 26 or 27, that contribute to the electrical grid. He expounded and answered questions on the gasification of wood and its role in modern electrical power structure, the Lab's main research occupation these days.

In concluding, Rick focused on the wood sample collection. We learned that an attempt was made in standardization of samples, so that they are mostly 3" x 5" x ½" and are hopefully a representation of long grain, sapwood and heartwood. Rick drew our attention to a card catalog which indexed the collection. An attempt had been made to digitize the collection, but this had been lost, which elicited a collective groan from the members. Rick concurred. However, currently, due to that lack of funding, it is unlikely that the effort at digitization will occur again.





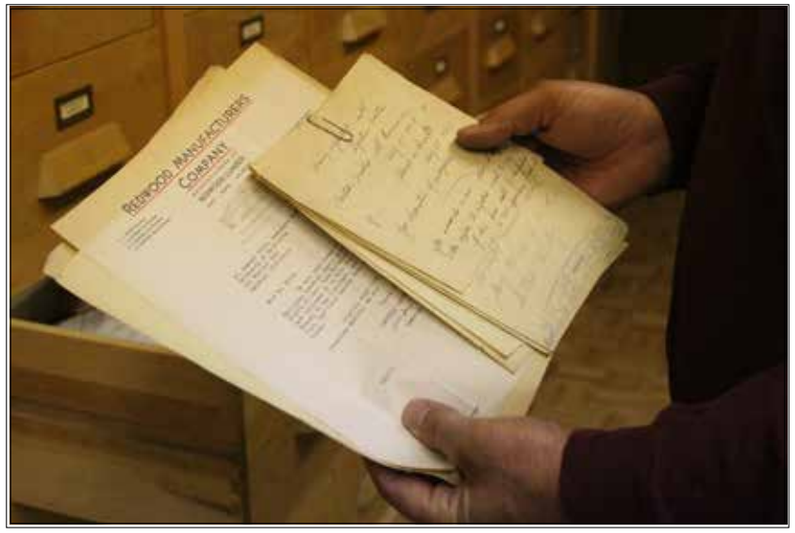
Photos by Jose Cuervo

One of our members floated the notion of scanning all the samples and putting them online with all of their pertinent information, another idea which is unlikely to see fruition. The collection, though it numbers in the thousands, lays no claim to being comprehensive in terms of representing all species of trees - there are likely many more. The Lab has no seed growing program. However, a seed bank is located at the facilities of Cal Fire at U.C. Davis, which contains an extensive collection, and is constantly being added to and tested.

We learned that the collection has become more of a museum than anything else, and not used very much since the decline of the major. In response to a question, Rick said that though his wood identification skills are not strong – he is a forester by training – the South American species seem to be really attractive and cool. At this point, we were set loose on the collection itself.

Various members had different takes on the collection. **Art Hofmann** was amazed at the extent of the collection. The aim of the collection, in its arc toward the unachieved goal of comprehensiveness, lends the whole effort an air of nobility. And of course it falls short, and is under-funded, under-used, and therefore under-appreciated. But is great fun to go rummaging through the drawers and looking at what they have. There is drawer upon drawer of wood samples from all over the world, from Africa, Burma, Japan, New Guinea, the United States, all over South America and North America; in short, the world. The colors were remarkable, too. All shades were represented, though pale varieties dominated. Astounding were some of the dark ones from South America, and sometimes grays, and subtly colored greenish ones at that. All in all the collection offered many moments of astonishment, which in some measure, I felt, compensated for the negatives we had heard. An ebony sample was impressive for its blackness and weight. Sometimes

it was a Latin name that was involved and caught the imagination, such as Ilex Vomitoria, which I learned was a holly native to the American South, where its berries were used by native peoples in fasting and purification ceremonies (used to excess, it made them puke). Sometimes it was a color, sometimes it was a strange form, such as a scoop collected by someone a long time ago, actually, an anthropological artifact. To say the least, the collection stirred the imagination.



Joe Scannell's thought it was a bit sad to see the neglect being dealt to this unique collection, and to the FPL in general. It is the reality of the times - the money only stretches just so far. On the other hand, it was heartening to see the potential of the place. The Richmond Field Station has one commodity that most other institutions lack: room to operate, and room to grow. It appears that aside from being used as a storage warehouse, the main use of the FPL building is in research into biomass exploitation for energy production. Another area that Joe would like to see studied is discovering applications for the less commonly used timbers, which includes perhaps the majority of the samples in the collection. This would alleviate some of the pressure of consumption being felt on many of the hardwoods in use today, and would bestow a market value on many "lesser" woods, such as the tanoaks currently being poisoned up in Mendocino County. (For more on this, Google "hack and squirt Mendocino").

Bill Taft commented: Digging through the wood samples was fun, although a little frustrating at first. I started at the card catalog file and soon found out that I didn't know enough wood species names to find anything. Then I just looked at the wood samples. The big drawers had lots of chunks of wood that were not all that interesting. Then I found the samples in the smaller drawers in the cabinet next to the window. These were the tropical hardwood samples and there were many beautiful samples all sanded and nicely finished.

Bill continues: So what did I learn on this field trip? There is a place called the Forest Products Lab that has this grand collection of wood specimens that is not used by anyone. It reminded me of the storage rooms at the Sonoma County Museum, full of items, all cataloged and sorted, and forgotten about. I wonder what the people that made this collection think about it now.

Jim Heimbach added: What does stand out in my mind were the four drawers of "Woods of Java." There must have been at least 200 samples. Apparently it was a collection that was available commercially at some point and had been purchased. Each sample of wood was in the shape of a very old leather-bound book complete with the name of the wood on the "binding" with further information on the "cover." I have this vision of the professor who owned this collection sitting in his office surrounded by his library filled with shelf upon shelf of his "books." Yes, this professor was certainly well read! The student finds an interesting volume and pulls it out to have a look. "Hey, its a block of wood!" "Why, yes, but doesn't that sample of Gaharu wood have a delightful fragrance? And observe the interesting end grain!"

The large drawers along the side of the room were filled with an assortment of samples from a single type of wood. **Debra** (Jim's wife) informed me that Rick Satomi said these drawers were used by students learning to identify the wood, and to test students in wood identification as well, when Berkeley still had a program where students learned these things. There were rounds, lengths of branches, cross-sections, etc. all from the same kind of tree.

I, personally, was pleased to find an entire drawer of mesquite (Prosopsis glandulosa), one of my favorite woods, complete with a sample with large holes chewed out by wood borers. I was reminded of the practice of woodworkers in Texas to never allow mesquite sapwood to stay overnight in their shop due to how likely borers were to infest it. I have samples of mesquite in my shop that have the same kind of borer holes as the sample in the drawer.

Debra found interesting a drawer that contained wood samples having a blue stain caused by a type of fungus. There were cross-sections of different woods around the world attacked by this same fungus. You could see how it affected the different woods in different ways; Some were speckled with the blue color, others had a more spalted pattern, others were stained solid blue from the fungus. I believe this may be the blue stain fungus that relates to infestations of the Mountain Pine Beetle. According to Wikipedia, "The blue stain fungus has evolved a relationship with mountain pine beetles that allow them to travel from tree to tree on a special structure in the beetle's heads and stops the tree from producing resin to pitch out or kill the beetle, encouraging the pine beetle infestation occurring all along the Rocky Mountains from Mexico up into Canada."

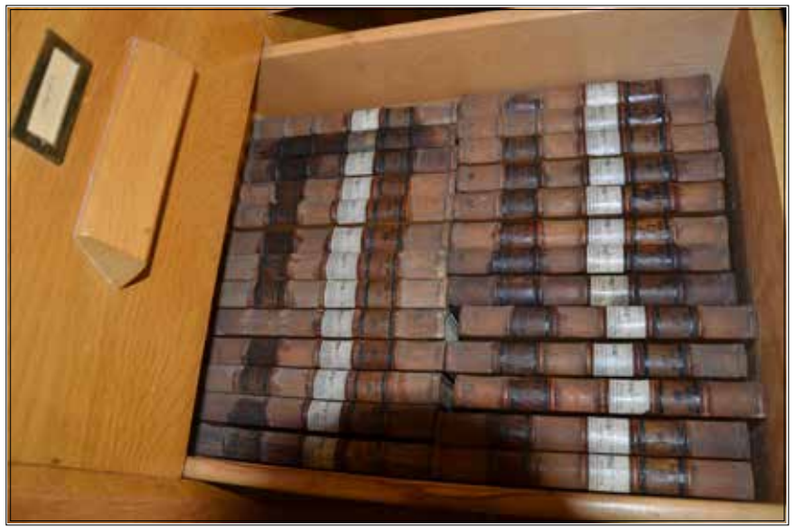


Photo by Don Naples

There was a full column of large drawers devoted to various species of oak (Quercus), because we have so many different types of oak trees in California.

The collection was made up of a number of separate collections, apparently donated by the various professors of UC Berkeley and perhaps elsewhere. I had expected the collection to be made up of samples of a standard wood sample size. However the samples were of all different sizes and shapes. The sample sizes were usually consistent within a particular collection.

I was impressed in one collection where I examined several woods having interesting colors. They were all different kinds of poplar. Poplar does exhibit a wide range of colors, all the way from brown, to blonde, to green, and everything in between.

There were a large number of samples of redwood. What I found interesting were the many samples of the various manifestations of burl figure.

One particular collection included all the statistics for the particular wood sample on a label attached to the wood. What was amazing were the uses included for each sample of wood. Sometimes there were dozens of uses for a single type of wood! It reminded me of what an amazingly useful thing is wood and also how the uses have changed over the years.

What I found quite poignant is that these were valued collections of those that donated them and this is the most extensive collection of wood west of the Mississippi, yet it is almost forgotten and rarely seen. Almost nobody even knows that it is there! It seems that none of the professors who were experts in trees were replaced, so that Rick Satomi, the research assistant who kindly spoke to us, knew less about trees and wood than many of us in the SCWA! Pretty sad. All that remains at Berkeley are those who are seeking to find ways to obtain energy from wood - to burn it. I was saddened by where things have descended to at UC Berkeley when it comes to tree expertise and research, not to mention a love and appreciation for the amazing material, wood.

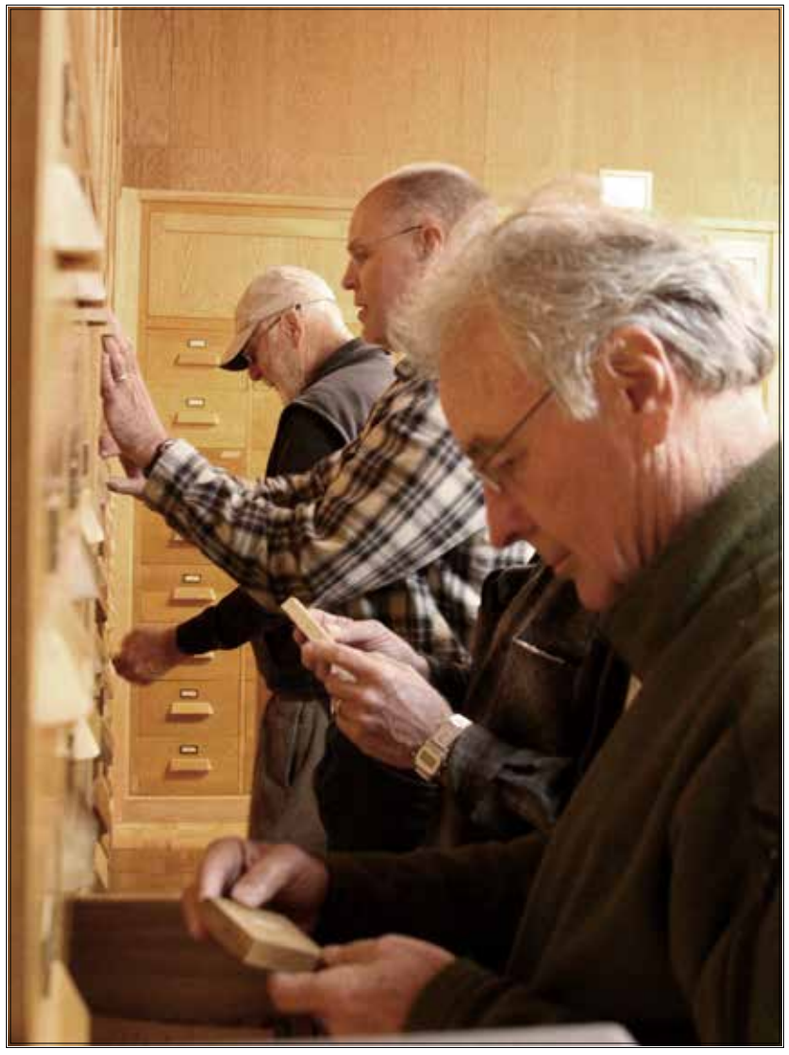


Photo by Jose Cuervo

I was pleased that they were open to making their collection available to someone who might create an exhaustive online wood database using the samples they have. I have dreamed of embarking on such a project, which is why I asked the question.

Rick Satomi was helpful and interesting in the area of his expertise and interest, obtaining energy from wood.

Mike Wallace had this to say: A wonderful collection, but having no purpose other than to be. Samples range from chunks of wood to pieces with menus to carved blocks. Oh, where, oh where does this collection go?

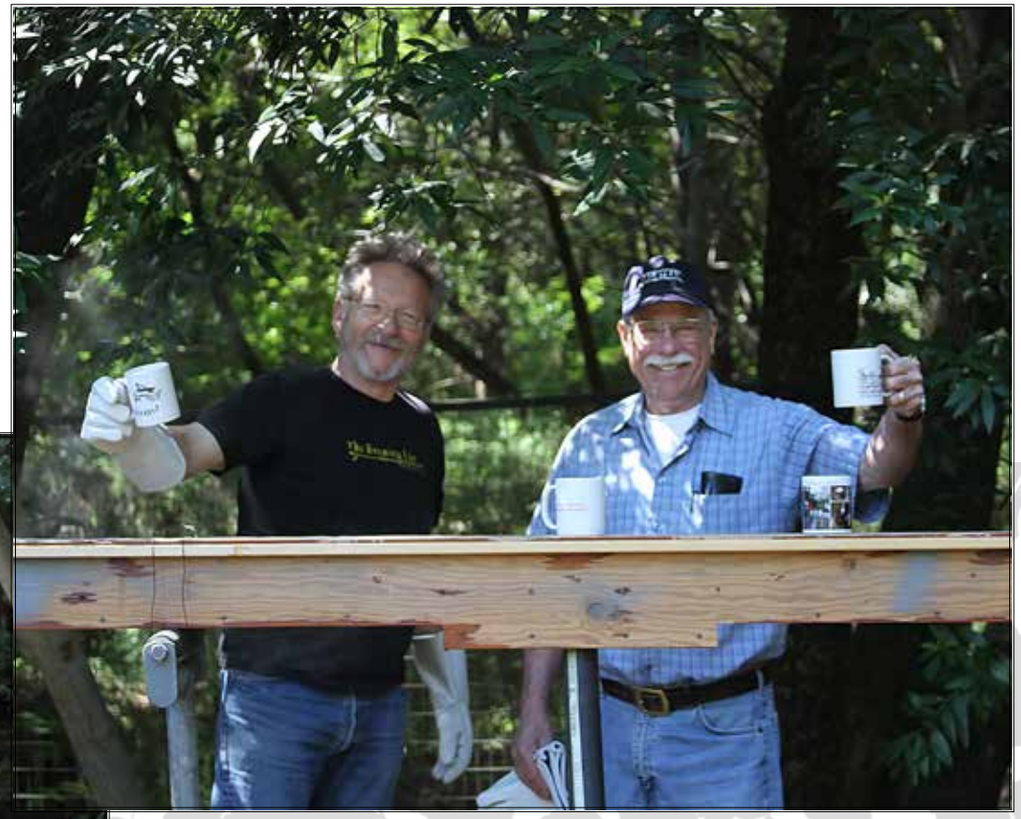
Art Hofmann, in conclusion: At the end of the presentation, I talked with Rick Satomi briefly to thank him. He told me that he had found the whole experience very positive, because of our enthusiasm and eager, intelligent questions. It gave him something to think over in terms of the future of the collection, and how it might reach more people.

Afterwards, about ten of us headed out to Assemble, the restaurant on the waterfront a couple of miles away. We discovered it at the old Ford Assembly plant, which is an enormous facility, of which the restaurant, Assemble occupies only a tiny part. We had a very adequate and pleasant lunch there and explored the walkway and park and the Rosie the Riveter Museum. Fun to discover a new spot on the water, dedicated to the pleasure of walking or biking and taking the air, and viewing San Francisco from the north side of the Bay. All in all, it was a fine outing.

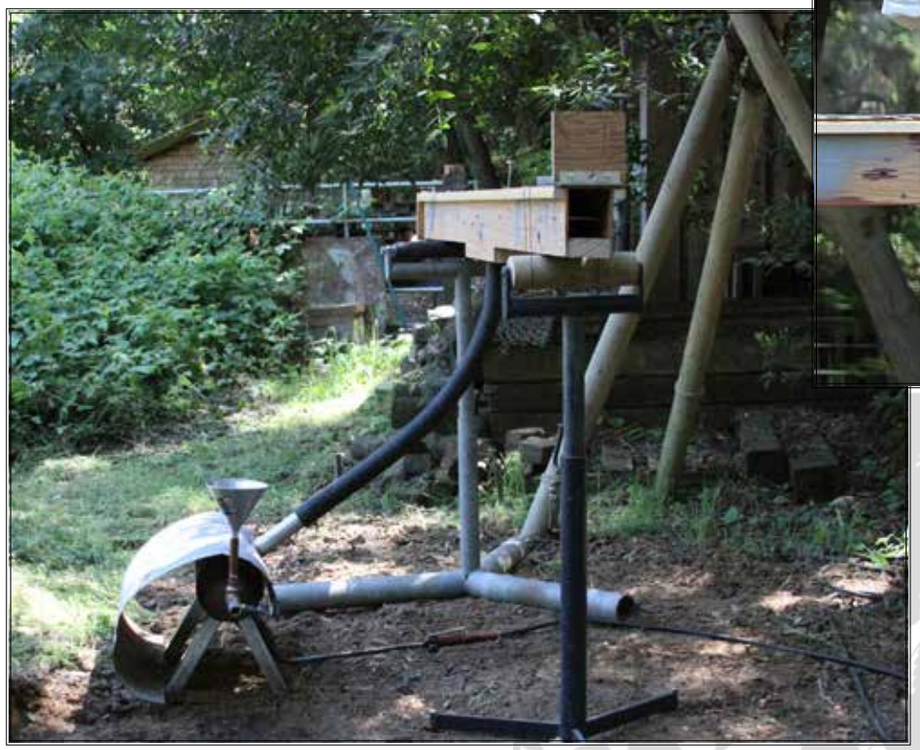
Full Steam Ahead

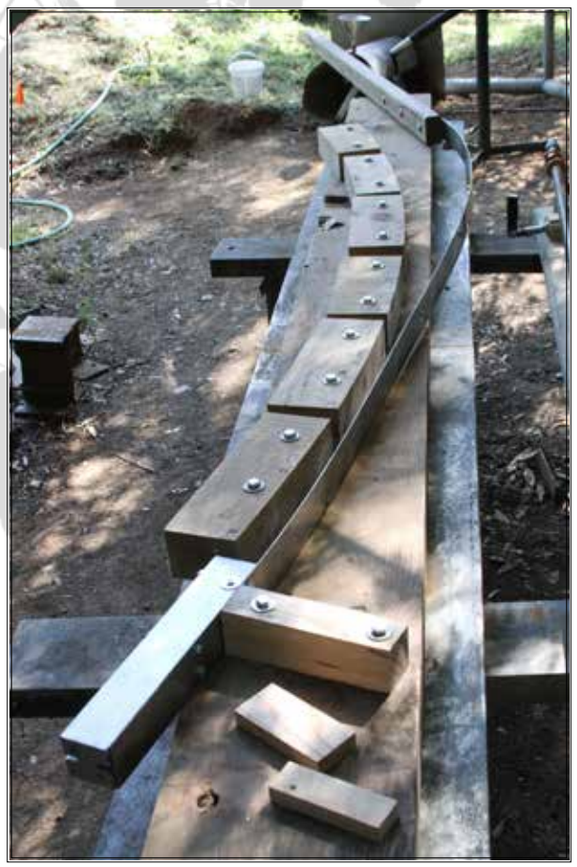
by Jose Cuervo

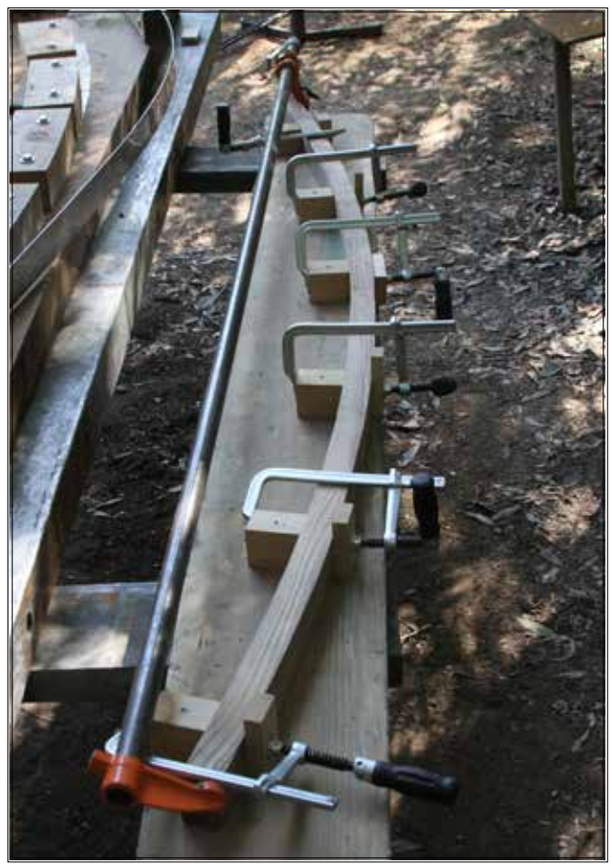
Last Friday three of the members got together in Novato for a steam bending party. **Joe Scannell** is building a bed, and needed a couple of arched rails for the head and footboards, so **Walt Doll** and **Bob Roudman** jumped into the project, and the three had a very rewarding day, topped off by a firehouse style lunch. None of them had any prior experience, but the project went off without a hitch, and the two rails are now biding time in drying forms, as suggested by **Don Naples**.



The steam generator was fabricated from a CO_2 fire extinguisher, a few plumbing fittings, and some radiator hose, with a roofer's torch for a heat source. The steam box was a simple thing, built with plywood around a 2x4, with hinged doors at each end. The whole thing worked better than anticipated, producing an abundance of steam in just 10 minutes. The wood was air-dried elm, 1-1/4"x 2-1/4" about 6 feet long. The actual steaming time was 1 hour 15 minutes, and seemed to be just right.







All photos by Jose Cuervo

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Membership Application

I would like to join the SCWA to meet other people interested in the craft, the art and the business of fine woodworking. Enclosed is my check in the amount of $35 for the annual dues. I understand that this fee entitles me to attend monthly meetings and to receive the Wood Forum newsletter by email or via the SCWA's website.

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