Making a Curved Bead
two approaches to sharpening scrapers

The Old Saw
The Newsletter of the Guild of New Hampshire Woodworkers

rounding an edge • making a cabriole leg
snake oil • birds mouth joint • laser cutting • tool review

photo by Bill Truslow

Sculpting a Contemporary Leg

Brian Sargent – contemporary night stands

Calendar

Jun 2 BIG
Jun 24 Summer Trip … New Date – p3
Jul 28 GSWT
Aug 4-12 NH Craftsmen’s Fair
Sept 22 Annual Meeting … Sanborn Mills Farm
Shop Safety

It’s late spring now and we are almost into summer. While many of us will shift our focus from working in the shop to graduations, weddings, vacations and the ever present yard work, we all will try to squeeze in a little wood working time. With all of the demands on our time and the distractions around us buzzing through our heads, extra care is in order. It’s time to talk about shop safety.

We all know the message that Norm Abram gives about safety glasses: so I won’t bother with that one. ’Nuff said. But think about distraction and fatigue. These are to my mind the most subtle and yet real cause of most accidents when you get beyond the obvious technique errors. Think three or four times about going into the shop and working if you are tired, drowsy or have a lot of other things weighing on your mind. The project will still be there next time, and even if you don’t get hurt, your chances of making an error greatly increase when tired.

What follows is a list of some of the things we need to think about and check out to see if our shop itself is safe and ready for work. Some of these items are obvious but bear repeating. Others are matters of attitude and mindset.

- Alcohol or prescription drugs = no shop time.
- Is your first aid kit up to date, full and able to handle a traumatic injury?
- Fire extinguisher charged and up to date?
- Is there adequate ventilation for the finish you are using or do you have the appropriate respirator?
- Is the shop floor free of slippery saw dust and shavings and are walkways and work areas free of tripping hazards?
- Is there a dust collection or is there a respirator to protect you against wood dust inhalation?
- Are you fully alert, rested and mentally prepared to give your woodworking full attention?
- Dull tools give worse wounds and can also ruin projects. Is everything sharp?
- Have you planned tablesaw rip cuts to be out of the line of any kickbacks? Are you using feather boards, board buddies, anti-kickback pawls or some other safety device?
- Are all of your machine guards installed and working properly?
- Do you have push sticks, push blocks and other devices to keep hands away from cutters, blades, and knives?
- Do you have hearing protection, and do you use it?
- • Are your lights and outlets on separate circuits so you don’t go dark with cutters and blades still moving if a breaker trips?
- • Have you read the instruction manual along with the safety precautions page on all of your power tools?

If you can answer yes to all of the items I’ve listed, you’ve made a good start toward being safe. I like to think that the most important rule in the shop for safety is: If you are uncomfortable with an operation and the little voice in your head is talking to you – listen. Find another way, abandon the idea, but don’t go ahead as you originally planned. If you think it’s unsafe, it is, and there is probably an accident waiting to happen.

I hope you find this little discussion helpful and that it provokes some thought on your part. It’s by no means a comprehensive discussion of safety, but it’s a starting point.

Work safely, enjoy your summer and I hope to see you all at Sunapee in August.

President’s message by Dave Anderson

The Old Saw is published five times per year. To join the Guild, go to www.gnhw.org and click on “Membership” to download an application form.
Have you ever wondered if Japanese tools were right for you? Do the chisels really hold an edge better than western chisels? Does sawing on the pull stroke give you more control than pushing a western type saw? Well now these and any other questions on Japanese tools and joinery can be answered by an expert if you participate in this year’s Guild Summer Trip.

On Sunday June 24th Guild members will be going to Japanese Tools of Pepperell, MA. Harrelson Stanley with his wife Sayuri is Owner/Director of the Shizutani School. He is a graduate of the North Bennett Street School of Boston. He was a resident of Japan for 12 years (1987-1998), studying traditional Japanese crafts, especially urushi (lacquering); fluent Japanese speaker; Teacher of Kuri Mono (Japanese dug out objects) techniques. He is an avid edge tool sharpener and has demonstrated his techniques all over the US. He will be opening his shop and school for us and will give demonstrations on the proper use of Japanese tools, joinery techniques, and sharpening. As a special treat for us he will set up 10 stations where we can try our hand at sharpening blades.

This is one trip you don’t want to miss. Get your car pools set up. Plan to arrive at 10 am. Bring your lunch and a chair. You can access a map on the web at www.japanesetools.com. Click on Contact Us. – Sal Morgani

As most of you already know, the Guild of NH Woodworkers has the privilege of having one of the largest booths at the Sunapee Fair (besides the food tent) and it’s no small challenge to be able to staff such a large booth for the nine days of the fair.

Although it may seem a bit premature to solicit volunteers now, we will need almost 100 people to effectively manage the booth during the nine days of the fair.

We need volunteers willing to do demonstrations such as woodturning, dovetailing, toolmaking, furniture part making, scroll sawing, woodcarving, and almost any other wood related craft. We also need volunteers to sell raffle tickets for the items donated by some of our members, and to help answer questions about the Guild, its programs, and how to join the Guild.

Do you know what this picture shows? Are you intrigued? Then this new group is for you!

The Guild Luthiers is a new Guild subgroup that will be devoted to discussing the building of stringed instruments. Bring a guitar or a fiddle to the meeting, because we also plan to spend some time jamming and trading licks.

The organizational meeting will be on Sunday, June 10 from 1-4pm in Fremont, NH. We will decide as a group when and how often we want to meet, what topics we want to cover, and so forth. Come and get in on the ground floor (or the opening notes). To sign up, contact John Whiteside at johninfremont@comcast.net or 603-679-5443.


**EPOXY – Are there advantages and disadvantages using epoxy coatings and adhesives (West system specifically)? How about water proof glues vs standard yellow glues?** – Harvey Best

**Marty Milkovits replies:** In a nut shell, epoxy is extremely strong and water proof. It’s great for filling voids and is very versatile. Mix only what you need because they have a short pot life. However all epoxies are not created equal. They all have been engineered for specific applications. You **CANNOT use one type of epoxy in all cases. You need to do your homework before buying the stuff.**

Yellow glue (Titebond) is great for almost all indoor applications. For outdoor applications, I use Titebond III, even though they claim it is waterproof, it cannot be submerged for any length of time. I have not found any single part glue that is truly waterproof. Waterproof glue can be used in any indoor application. A Resorcinol resin glue is a generally a good choice, although it has a short pot life.

**BEST FINISH – What are the functional differences between shellac, varnish, urethane, and lacquer finishes? How do I decide which is best for any particular project?** – Peter Bloch

**Gary R. Wood replies:** I like to distinguish finishes by their solvents and resins. Alcohol solvent dissolves shellac gum resin and so shellac is never alcohol proof even when completely cured. Shellac is, however, a flexible and protective film that can be repaired by careful application of more shellac.

Modern varnishes may use alkyd resins and often have mineral spirits as their vehicle or thinner. Once the thinner is evaporated, there is a durable film that is resistant to most liquids, heat and scratching.

Urethane is similar to varnish in that its thinner is often mineral spirits and one or more synthetic resins. It is durable but is often plastic looking.

Modern lacquer is made in many formulations and with a combination of strong solvents. Like shellac, lacquer has the ability to burn in, that is, one coat dissolves into the previous coat, giving exceptional depth to the overall finish.

Traditional shellacs and lacquers have long been used for their clarity, decorative appeal and versatility. Varnish and urethane are good choices when durability is the key factor. These days, almost all the finishes, even shellac, can have formulations using water as their vehicle rather than solvents. I generally favor solvent based finishes for high end work and water base for less demanding applications such as cabinet interiors.

**TOOLS TURNING DARK – Why do my tools turn dark from my skin?** – Anon

**Bob LaCivita replies:** Tools turn dark because of acid in your skin. Everybody has this but, some people have more then others. This is always a question in a school situation when some students have nice bright tools and others are darkening and they were bought on the same day. The darkening even varies from person to person.

**HAUNCHED TENONS – When using haunched tenons to join table rails to legs, should there be a shoulder at the top and bottom or just on the sides?** – Dave Frechette

**Al Breed replies:** I align mortises with tenons by using a marking gauge set to the mortise width and referenced to the outside of the piece. Using these marks, I cut the tenons on a dado blade or by hand, and set the mortising machine to chop the mortise. This way, the outside of the joint will be flush and any difference in wood thickness will be on the inside of the piece.

In joining a table skirt to the legs I leave about a half inch shoulder at the top so the tenon isn’t exposed at the top of the leg. The bottom of the skirt has no shoulder in order to make the tenon as long as possible. Some antique work has a variable shoulder on the inside that corresponds to variations in stock thickness, but the outside shoulder is constant, having been set with a marking gauge. The driving reason in sizing tenons is maximum gluing surface – shoulders provide stability against racking, so you must balance the two.

**FINISH ON FIGURED WOOD – I am building several heavily figured maple tables. What would you recommend for the surface finish to highlight the figuring and not significantly change the color? Also what type of fill (epoxy or other) would you recommend for the knot holes and other features?** – Anon

**Harvey Best replies:** I would recommend a light sanding with 180 sandpaper as a preparation for a wash coat of shellac. The shellac I prefer is a one pound cut using super blond flakes dissolved in alcohol; a fresh mix no more than 48 hours old. Using a good China bristle brush I spread the shellac as quickly as possible in the direction of the grain. Follow up with sanding up to 220 grit and top coat with lacquer or polyurethane.

**Marty Milkovits replies:** Several coats of oil, each given sufficient time to dry and rubbed back will give a depth...
Routers – so much to know; so many variations – probably more than any other tool. I think it is the most universal tool in the shop. It has unique capabilities and can duplicate the functions of many other tools. As a drill press, a plunge router is a precision, blind hole drill. As a tablesaw, it can make dados. It can trim curved and complex edges better than a bandsaw. It's amazing!

I want to put a rounded edge on a plaque I am making. I know I need a router. There are so many. Which do I buy? What else do I need? For this project, the two items you need are a router and a round-over or a beading bit.

Routers basically fall into two types – standard and plunge. Standard is the most common. It differs from the plunge router in that the plunge allows the router motor to sit above the work and when ready, push the bit into the work. But it takes a little extra coordination.

Which Router to Buy – Routers come in dozens of models in many brands from Bosch, Makita, Porter Cable, Delta, Dewalt and more. The brands and models are distinguished from each other by a number of features. Features are typically convenience items – some more important than others. They generally add to the price, so shop your way as high as you want to go. It's best to talk to a sales person, read magazines or go with what you're familiar with. The discussion of features that follow will hopefully help you in the decision making process. Router features include:

- Fixed vs plunge base. Fixed is the most common but if you can get an add-on plunge base, it's a great bonus. Plunge base allows you to start the router over the work and when ready, push the bit into the work. But it takes a little extra coordination.

- Depth adjustment – the most useful feature is being able to easily and accurately set the cutting depth. Without a good system, it's a tedious and inaccurate process to get the depth set properly.

- Pistol grip or knobs on the base – pistol grip is nicer for extended use, a lot of cutting or where you need more accurate control. Buy it if it's a bargain.

- Trigger switch or slide switch – trigger on the handle is very convenient for higher production cutting and for safety.

- Dual collet – this gives you the freedom to buy some specialty bits that may only come with a ½” shank.

- Speed control – very nice if you plan to use larger bits for projects like edging cabinet doors. The larger bits need to run slower.

- Soft start – nice, especially when hand held or with large diameter bits. It reduces the jerk at startup.

- Dual wrenches vs locking rotor – either one works. The dual wrench where one grabs the shaft is easier to locate than rotating the shaft until the lock is engaged.

If you are going to remain at the hobby level for a long time, a small ¼” router will serve you well. If you are going to cut a lot of larger pieces, furniture and cabinets, you would be better to have a more powerful ½” one as your only router.

What Else Do You Want to Do – In making your choice, you want to consider future applications to the extent that you can. I have a Bosch 1617EVS 2 ¼ Horsepower Variable-Speed Router. I like it and only mention it here to give you a starting point. It has electronic variable speed and a nice depth adjustment. Dual collet wrenches and both ¼” and ½” collets are standard. I bought a package that also included a plunge base and carrying case. Use this one to trade off the features it has against others you review.

Choosing the Bit – So you've selected the router, now you need a bit. A round over bit will make a smooth radius corner where the round comes out flush with the flat. If you want a fancier look, a
Due to weather delays in March, the much anticipated Cabriole Leg small meeting occurred instead, in April with great weather and attendance. A large crowd assembled at the Homestead School to listen and observe Dan Faia step us through the making of a cabriole leg.

Dan's wealth of knowledge comes from being a graduate of the North Bennett Street School. Dan now teaches at his alma mater and supplements his knowledge by building custom furniture. He has recently authored an article, Porringer-Top Tea Table, in Fine Woodworking's June edition. Coincidently, a portion of that article describes the steps he takes in constructing a hand-shaped cabriole leg.

According to Dan, the first known book about cabriole legs was published in France between 1769 and 1775. The cabriole leg became prominent in America during the Georgian Period and is still used today. Perhaps the versatility of the cabriole leg has been its greatest asset. Multiple feet, such as a Trifit, Slipper, Chippendale, or Queen-Anne, can be used with this leg. In addition, the knee of the leg can be supplemented with a shell carving or acanthus leaf. Students at North Bennett construct a stool which models four cabriole legs with different types of feet.

Dan stresses the importance of grain direction. One example of poor grain direction would be a bull's-eye offset from the knee of the leg. Great care must be taken in selecting the lumber. Dan recommends using 12/4 lumber that is rift sawn. Although this task to find rift sawn lumber may be time consuming, the rewards are worthwhile.

Once the lumber has been selected, the grain direction (flow lines or bull's-eyes) will determine the look of the leg. Flow lines will produce vertical lines on the leg if the end grain runs from the inside corner to the outside corner. Conversely, a bull's-eye, which has the grain direction running side to side, produces a topography type contour line pattern on the knee.

After the introduction, the fun began. Dan described the steps necessary to construct a cabriole leg with a pad foot. The basic procedure is as follows:

- Layout
- Rough cut the legs
- Turning the foot
- Cutting the mortises
- Cutting off the transition blocks from the top of the leg
- Shaping the leg
- Adding transition blocks

A paper copy of the plywood cabriole leg template was passed out during the meeting. Even though the template was for a leg that was 17” long, this template could be used for any length. Dan noted the knee and ankle areas stay the same. The distance between the knee and ankle changes the length of the cabriole leg.

The template was copied onto the inside legs of a square blank. Again, pay particular attention to the grain direction you have selected for the project. You do not want to have the grain direction on one leg a bull's-eye and flow lines on another. The template did not account for the extra length of wood that needs to be left at the top of the wood blank which will be used later for the transition blocks.
Rough Cutting the Legs

The cabriole leg used for this demonstration had already been rough cut to 2 5/8˝ square by 17˝ long from a 12/4 board. What was missing from this wood blank was the extra length needed for the transition blocks. The importance of this will be described later. Suffice to say you should add at least 3˝ for each transition block which will increase the length of this wood blank from 17˝ to 23˝.

Turning the Foot

Now that the wood blank has been prepared, a marking gauge was used to find the center on the ends of the blank. If the blank was not perfectly square using a marking gauge will find the true center of the blank. The wood blank was mounted on the lathe to turn the foot. The location of the maximum diameter of the turned foot was about 5/8˝ up from the bottom. A spindle gouge was used to make the transition from the foot’s maximum diameter point to the fillet. Dan uses a skew to create a V-cut on top of the foot to help locate the toe. The bottom of the ankle could also be turned at this stage but Dan chose to shape the bottom of the ankle with a chisel later on in the process.

Cutting the Mortises

At this stage, the mortises for the aprons should be cut while the wood blank is still square. Although Dan did not demonstrate cutting the mortises, he did stress the importance of paying attention to laying out and cutting the mortises on the inside legs.

Cutting off the Transition Blocks

With the foot turned and the mortises cut, one step remains before shaping the leg. The extra length on the wood blank that will be used for the transition blocks can now be cut off. Mark the transition blocks before you do this. Dan uses a simple line down the front of the wood blank for reference. Two transition blocks are cut from the top of the blank above the mortise. The first transition block will be cut directly above the mortise which will then be located on the side of the leg that will be most visible. This transition block will have grain direction and color that should better match the knee of the leg. Obviously, the further the transition block is cut away from the knee, the harder it may be to match the grain between the transition block and knee. The second transition block will be located on the side of the leg that will not be noticed as much such as the side view of a table. Now you can cut the legs to their final length.

Shaping the Leg

The shape of the legs has already been drawn on the wood blank. The remaining wood at the top of the post is not cut away at this time. By leaving the wood at the top post for now, it makes it easier to have a flat surface to work from in cutting out the leg profile.

The shape of the leg was cut out on the bandsaw. The pencil lines drawn for the profile of the leg are not sawn away. As you are bandsawing near the top of the knee area, more wood is left for shaping later on. Dan prefers to re-attach the scrap wood from the first side of the leg with tape to aid in cutting the second side. Some people prefer to leave a bridge at the ankle area on the first cut. You chose which method works for you. With the scraps removed, the leg reveals its rough shape.

Prior to shaping, one good way to hold the leg for hand work is to secure the leg in a pipe clamp which is secured in a bench vise. Fair the sides of the leg first to get rid of bandsaw marks. A spokeshave works well for this task. A #49 Nicholson rasp also works well especially for the tight curves.

The leg is now ready for shaping, but how do you hand shape a number of cabriole legs to look the same? A former teacher at North Bennett School, Will Neptune, developed the 5/7 rule. The basis of this rule allows the individual to layout the areas of wood to be removed by scribing pencil lines onto the leg in a systematic way.

Again, the chamfers of wood to be removed can be done with either a chisel, rasp, spokeshave or a combination thereof. The curve on the back of the
ankle was shaped with a chisel. A rasp or scraper can be used to smooth out the final finish.

With the shaping done, scribe the apron location onto the inside post. The waste blocks on the front of the leg post are now sawed off.

**Shape the Transition Blocks**

The final step was not demonstrated but the process was described in detail. The transition blocks help make the transition from the vertical leg to the apron. The grain is orientated vertically to match the leg. With the block held in place, the profile of the knee is drawn onto it. The blocks are cut to rough shape, attached with glue, and trimmed to final form. Typically, the transition blocks are added after the piece has been assembled. The final form can be shaped with a sharp chisel and finished by scraping, filing or sanding smooth.

The top of the transition block and the top of the knee are made flush by using a shoulder plane. By laying the shoulder plane body against the apron, run the plane across the top of the knee and transition block. Finally, the curves underneath the transition blocks are smoothed out with a rasp.

For a two hour class, there was a wealth of information presented. With the notes I took, and yes my hand was wore out from writing at the end, my hopes are to be able to reproduce beautiful cabriole legs on future projects in my shop.

The meeting concluded with a PowerPoint presentation about the North Bennett Street School. Thanks Dan.
This article will show how by using some of the methods used to make a cabriole leg, you can make a contemporary sculptured leg.

The process starts with designing of the leg itself. This leg evolved from an elliptical leg that I used on a chest of drawers in 2003. The sculptural element was inspired by a client that wanted me to design a pair of night stands for him. This client had some very free form sculptures throughout his home. So for the night stands to work in his home, I felt the need to have a sculptured element in them.

I use 1/4˝ thick and 3/4˝ wide pieces of wood of varying length to come up with shapes that I design in my furniture. All we need to get started is a one dimensional shape or the profile of the leg in this case. The profile shape will be used to make jigs and as a template to bandsaw out the legs. This leg basically tapers in two plans, both from top to bottom. The leg has an inside and outside. The inside is concaved and the outside is convexed.

Now that we have the basic design, we have to plan out how to make the leg. Just as with the cabriole leg, there is a sequence to cutting this sculptured leg out, so one must think through the tentative process of making the leg. This is not always completed in one sitting. Sometimes one has to sleep on it.

The leg will come out of a 2¾˝ thick by 3” wide by 27” long block. The legs for the night stands are Marado, which is only available in 4/4 and 8/4, so I had to glue up two pieces of 8/4 to get my 2¾˝ thickness. It is important to select the wood for color and grain as this seam runs down the center of the leg. After the selection of stock and keeping the pairs of each leg together. I mill the two halves to 1¾” thick x 3¼” wide x 29” long.

I then glue-up the two halves as accurately as possible. I’m already at my finished thickness after the gluing-up. Now I only have to joint one edge square with the top surface and rip the width to 3” wide. Then I square one end and cut the leg to the finished length of the leg template using a stop – all the legs are the same length.

At this point, we are already to machine any joinery into the leg while everything is square.

On this leg, we need a round tenon for attaching the leg to the top and a round mortise for the stainless steel stretcher that connects the four legs together at the base.

I use a machine called a multi-router that uses templates to cut the round tenon. The placement of tenons on the top of the leg is determined by using the leg profile template.

The round mortise is done on the drill press using the bottom of the leg as a reference. The depth of this mortise is critical. So again by using the leg profile template we can see how deep to drill the mortise in the 2¾˝ wide surface using the glue seam as a center line.

Now comes the fun part. We need to trace the profile of the leg on to the 3” wide face of our leg blocks. The reference point for the profile template are the backside of the leg at the bottom and the

_templates for the shape of the leg
top. We are going to bandsaw the inside of the leg. We need to bandsaw to within a ¼” of the line.

Next we have to make a template that will help clean-up the bandsaw marks and be used as a guide for making the concave inside of the leg. This is done by cutting two pieces of scrap MDF or plywood ¾” thick by 3” wide by 27” long.

Now trace the inside leg profile only onto the two jig boards using the same reference point as you did on the leg blocks. Then bandsaw out the inside leg profile. Then screw the leg template onto one of the jig blocks and use a router and a bit with a bearing to give you a jig that matches your template exactly.

You will then use this jig to clean up the bandsaw cut on our leg blocks. To do this, you will need a router bit with a bearing that has at least 2’’ of cutter length and a router table. You must screw one of the templates that you just made to the leg block referencing the back side of the block. The screws near the edge of the backside of the leg, so the screw holes don’t end up showing in the finish leg. You should only be taking off the ½” that you left when you bandsawed out the inside of the leg. It will take two passes to clean up one leg because your leg is 2¾” thick and you only have a 2” cutter.

Now we are ready to set up our jig for convexing the inside of the leg.

Take the two jig pieces you made and a leg block and make a sandwich with the leg block in the middle. Line up the back and the bottom of the leg just like you did when you routed the inside of the leg. Lay the back side of the leg and jigs on a ¾” piece of plywood and clamp your sandwich together at the bottom only. At the top drill a small hole large enough to get a #6 screw through the round tenon and screw the top of the leg block to the ¾” piece of plywood and clamp the plywood to your bench.

Now as we said earlier, the leg is tapered in two planes so the concaved inside of the leg must be tapered from top to bottom. The finished width of the leg is 2¾” at the bottom and 1¾” at the top. So we need to lay this out on the inside face of the leg so we can see this taper.

You will need a router and a fence that mounts to your router and a 1½” diameter cove bit. The depth of the concave is ¼” at the bottom and a ½” at the top of the leg. This translates into a 4½” radius that needs to be drawn on the bottom and top of the leg so you can line up your router and fence to know the depth of the concave radius across the width of the leg.

The trick to getting the concave taper is elevating the top ends of both of the jig pieces ¾”. This setup is for roughing out the inside of the leg. You only need to reset your router fence three times and make a total of five passes per leg — once down the middle and two passes down each side. You will also have to adjust the depth three times also.

When you run the router on top of the jig, the fence runs on the outside of the jig and you press the front of the router base down as you push forward. It takes a little getting use to having the front of the router base in contact with the jig. I always make up one extra leg usually out of poplar to make sure the taper depth is right and to get comfortable with the jig.

After all of the legs are roughed out on the inside, it is time to shape the back side of the leg. I used a French curve to make the template for the shape of the back of the leg. By tracing the template onto the bottom and top of the legs, I have a guide to remove the material with my spoke shave.

The next step is to bandsaw the taper on the leg using the bandsaw. By
The finished leg

Jig for routing the inside of the leg

The routed inside of the leg

The finished leg

Clamping jig for shaping the leg

Legs roughed out & ready for shaping by hand

placing the back side of the leg on the bandsaw, the inside curve will be face up. The line that was used for the tapered concave jig should still be visible. Just leave the line when you bandsaw off the taper.

Next flip the leg on its side and trace the curve of the back of the leg onto the leg and bandsaw it out.

Now for the hand work. To hold the leg for the hand work, I use a bar clamp and a hand screw clamp. The bar clamp holds the leg and the hand screw clamp holds the bar clamp. I then clamp the hand screw to the bench.

I like to start with the inside of the leg. First, I grind a scraper to 4 1/2˝ radius – just a little smaller than I roughed the leg to. I do this because when you tip the scraper to cut, it matches the finished radius.

The secret to shaping the inside of the leg is to stay focused and keep your awareness on the outside of the leg because this is your guide.

To do the back of the leg, I use a spokeshave. The key to this is remembering that the leg is tapered and there is more stock to remove from the bottom than the top. Keep looking at the bottom of the leg where you traced the template. This will keep your mind focused on the shape of the leg. You will find that you can easily get lost in the process. When I get close to the desired shape with the spokeshave, I use 80 grit sandpaper wrapped around a ¼˝ thick piece of cork to smooth everything together. My final sand is 220 grit. Now you have a sculptured leg.

Just remember to enjoy the process.
Most of the woodworking I do isn’t very different than what has been done in shops since the late 19th Century. The machines most people use, and working by combining hand and power tools, would be recognized by earlier generations of woodworkers. But it is also true that technology continues to change. I’ve seen how CNC routing has changed kitchen cabinet shops.

A recent job prompted me to investigate laser cutting. I had heard of marquetry being cut by laser, but I didn’t realize that much thicker parts can also be cut. The chair backs for this job, designed by the Architect Ivan Bereznicki, are intricately pierced with many inside corners. I did one half of a back as a test, to see how long it would take to jig saw and then file the edges. It was clear that a set of ten required a different answer. I looked into subcontracting to a CNC routing shop, but there was a risk of chipping leaf tips and the inside corners would need to be filed sharp by hand.

This led me to laser cutting. The trade off was the burning of the edges but with all the corners cut to finished shape. I found Vadim Daskal at Boston Lasers in Woburn MA, who explained that a higher wattage laser can travel faster, reducing the depth of burning. He also provided the service of checking the CAD drawing file and adapting it to run the machine. The cost is based on cut time without a set up charge, so it can be cost effective with very small orders.

One of the main advantages of this method is that no clamping or fixture setup is needed. This was a major advantage given the design of the chair back I was making. The cutting table can handle a 4’ x 4’ and the parts are simply laid on the table using registration marks. The splats are laminated with 3/16“ mahogany on a 3/8“ baltic birch core. I also ran a test on 5/8“ solid mahogany thinking this method might be helpful for other jobs as well.

Initially, I was worried about the issue of burning, but I was able to sand past the darkened edge pretty quickly. I measured the width of sections before and after sanding, and it removed from 0.015“ to 0.025“.

My friends seem to think it’s funny that I have gone “high tech”, but I’m always looking for new tricks. Laser cutting may not be the answer in every situation, but for a job with intricate piercings, it’s worth a look.

The edges may need sanding, but the shapes are perfect, and it sure beats threading a jig saw blade through all those holes.
new ways to use the scraper and a new way to sharpen it

Several decades ago, when I became frustrated at how quickly my scraper dulled, I abandoned the traditional method of sharpening for a quicker way. I discovered that a belt sander could sharpen my scraper blade in four seconds instead of four minutes.

The Four Second Sharpening Method

The conventional method of sharpening scrapers involves several steps, and with practice most people can do it in a few minutes. For beginners it takes much longer. This gives rise to sharpening procrastination which is never a good thing with scrapers.

The goal is to produce a burr which is:

1. Extremely sharp
2. Just the right size (which includes possibly zero)
3. Even and smooth
4. Reproducible quickly (four seconds seems good)

I use a 150 or 180 grit sanding belt. I hold the blade in line with the belt (scratches are parallel with blade), and create a square edge. Thus both sides receive the same grind with the same burr, so I can use both edges before needing to sharpen again. I swipe the blade twice over the belt, turning it end-for-end. Each swipe takes about one second, and with turning the machine on and off, the total time is about four seconds. I use the blade exactly as it comes off the belt! The four-second method obviously eliminates sharpening procrastination, so you never let the scraper get dull in the first place, you are investing almost nothing in the re-sharpening effort, and sharpening becomes more of a continuous process as it should be.

If you want to be initiated into the four-second method, you have to let go of some of the old scraper myth. This might be difficult since they have been part of the scraper conventional wisdom for a long time.

Scraper Myth #1: The first and biggest myth is that a scraper needs a burr.

For centuries carvers and cabinetmakers used broken glass to scrape. Obviously, glass can’t have a burr, because it has no malleability. That is, if you rub a burnisher on glass, it does nothing. On a metal blade, the “turning” of a burr involves bending (literally cold forming) the metal; and this requires malleability of the metal.

So what does a scraper need if not a burr? It needs fairly blunt angle of grind (60 to 100 degrees) with an edge that is extremely sharp.
A scraper does not separate wood by wedging under it like a plane. It penetrates by pressure only. That means that if the edge is sharp enough, the pressure at the point of contact will be great enough to cut a layer of wood even if the edge is presented at a negative rake angle, as all scrapers are. Because it works by pressure, the edge is subjected to extreme wear, and a scraper does not stay sharp very long even under the best conditions. This is why the four-second method is such a great advantage by allowing sharpening to occur in a totally integrated continuous way.

Having said all that, it is clear that sometimes a scraper can benefit from a burr, as long as that burr is extremely sharp, extremely smooth, and has a controlled size and shape. The benefit of a burr is that it allows the blade to be presented at a different angle than it would be if it had no burr, and this can be advantageous. For example, if you are using the scraper in a holder such as a Stanley #80, then you have no control over the angle of presentation, but you can control the aggressiveness by using more or less burr. I use these holders for rough scraping to remove machine marks, but for the finishing strokes I hold the blade in my hand.

I no longer burnish scraper blades (or woodturning scrapers). Burnishing a scraper with hard steel produces unpredictable results, because the malleability of the metal is extremely variable from one blade to the next. Also, the grinding, filing, or whatever is used in the sharpening process produces a burr on its own. The idea of removing that burr, only to reinstate it with a burnisher is circular logic and a big waste of time. Beginners inevitably go wrong with burnishers because they operate on the principle, “If a little's good, then a lot's better.” This thinking is deadly when putting a burr on a scraper.

– Drawing 1 (next page).

**Scraper Myth #2:**
A card scraper should be flexed during use to create a slightly convex cutting edge.

**Corollary to Myth #2:**
Scraping has to be torture on your thumbs. If your thumbs have ever felt tortured from trying to flex the scraper blade for a prolonged period, then you must have wondered if there is a better way. Yes, there is a very easy solution: simply grind the edge to the curve you need (like you do with a plane iron), and then you don't need to flex the scraper. But the issue of how to hold the scraper blade is much bigger than this. Read on.

**Scraper Myth #3:**
A scraper blade must be presented to the work at a negative rake angle.

If you are used to thinking of the burr on a scraper as a little curl of metal in the shape of a hook, then you may be locked into thinking that the only way to work it is to drag the blade at a negative rake angle – Drawing 2. But a scraper with a tiny burr that points straight down will work in either direction. The advantages of the push option are huge. For one thing, it allows you to...
push and pull the scraper in a reciprocating motion (the same way you use sandpaper), and this action removes the fuzziness from the wood better than going in one direction only. Second, it allows you to lay the blade nearly flat on the work for a more accurate planing action for jobs such as removing a spot of glue – Drawing 3.

**Scraper Myth #4:**

*Sharpen a rectangular scraper on the long side of the blade.*

The problem with this method is that it requires you to hold the scraper with two hands on the tips of your fingers in an ergonomically unsatisfactory way. If you turn the scraper 90 degrees and sharpen the short side, then the blade fits into the palm of your hand! You can still use the other hand as an assist, by placing it over your right hand. It is also important to grind the top to a rounded shape and pad the top edge with tape to make it comfortable. For quick jobs, the one handed grip allows you to hold the work with one hand, and scrape with the other. The one handed grip is reversible: pull toward you using your finger tips for increased pressure, or push away using the heel of your hand for a more aggressive cut.

Finally, I’d like to describe a method which is great for getting the final finish on the wood. It’s called the flip-flop. You can use this whether you have sharpened the long side or the short side of the blade. This method goes back to the two handed fingertip grip, and is meant for light touch finishing. The great advantage of the flip-flop stroke is that the fibers of the wood are bent back and forth which breaks them off cleanly, and gives a fine finish free from fuzz.
What piqued my interest about Jon’s scraper sharpening technique was that it takes him four seconds – a few swipes against a spinning sanding belt and he’s done. Knowing his understanding of hand tools, metalworking, and cutting geometry, I expected that whatever he was doing worked. So why was I spending closer to four minutes with my more traditional honing and burnishing on a burr method?

The difference is in the finished edge. Which really comes down to the question of what you are trying to do with your scraper. I want to cut finished surfaces as close to the polish and glisten of that of a sharp plane. I don’t like to sand if I can help it. My scraper edges do this for me, but the nature of these edges being somewhat fragile, they never last long enough. That’s fine, because on flat work I don’t rely on a scraper for more than smoothing small areas of tearout anyway.

Jon’s method, as quick as it is, creates a fresh edge that cuts well, but not with the polish I aim for. I tried different grits of sandpaper, diamond stones, and a very fine jeweler’s file, all with quick results. The sharpening process creates a serrated burr, one that left dozens of tiny streaks across the surface. And it’s probably a little ragged too, since some areas of the edge cut more aggressively. The edges didn’t last any longer than the ones I create.

I had one more clue to the quality of the cut from the two different sharpening techniques – by wetting the surface to see how much the grain raised. Off a sharp plane the grain doesn’t raise at all. My scrapers when they start to dull pull up some fibers, which swell when wet and can be felt as a slightly rough surface. With Jon’s scraper, there was even more grain raising going on; I could even feel some of the streaks. But it can get the job done, leveling areas of tear out or challenging grain, followed by wetting and sanding for a beautiful surface. I see any time saved sharpening is balanced by the extra time sanding.

My sharpening method is not that tedious. A couple of things are important. A light burr will cut just as effectively as a heavier one and can be laid down and reformed a number of times with a burnisher (in seconds). And you need to prepare the edge by filing and honing to a polished and very sharp square edge first. A smoothly polished burnisher is also important and a light touch with it, to essentially roll on the burr smoothly and evenly. I’ve written about this in past Shop Shavings.

While I prefer to plane when I can, scrapers are invaluable for shaping and for reaching into tight spots such as to scrape out a tiny bead of glue. A scraper can take light even cuts without the risk of gouging the surface as a chisel gone astray might. I’m just careful to round any corners of the scraper I don’t want to cut into and mar the surface unintentionally. And a scraper will cut smoothly working across or against the grain if I have to.

I have many sizes of scrapers for these jobs, some very small, some with square corners such as for working in a rabbet, some slightly curved or angled. I cut out new shapes when I need to with tin snips, sometimes from old hand saws.

Where I have really come to rely on scrapers is for shaping. My favorites are scratch stocks, small profiled scrapers held in a wooden stock or fence, ideal for cutting delicate moldings and very precise grooves for inlays. Recently I was shaping a cove on the underside of a curved table edge in very dense and hard to work ebony. None of my planes or spokeshaves could handle the changing grain orientation. A scraper I filed to fit the cove could, and although it cut slowly, the finished shape was very consistent. A bit of Jon’s “Re-Thinking” to the edge kept it cutting well. Only for the final passes where I wanted super smooth did I take the time to hone the edge and burnish on a fine burr.
Over the years I have built many cabinets that have a cock bead molding either around the inside of the stiles and rails or applied to the door, or drawer edges. A number of these have had curved rails. I have made them either from solid stock or laminated pieces.

When using solid stock, you always end up with short grain which may break over time. When making a 180 degree arch, it most likely will break. In most cases, I laminate the curve reducing the chances of failure to a very low percentage.

I have developed a simple system for making the mold and bending the piece from the waste stock of the curved door rail.

**Step 1** – Lay out the curve on the rail. Be sure to mark your center lines. In this case it is an arch that is 180 degrees of a circle. Make sure the rail is wider by at least an inch. (See Photo 1)

**Step 2** – Set up a plunge router with a bit that is the thickness of your bead plus the cauls. I used a 3/8” straight bit. You can use a larger bit and adjust the cauls accordingly. This gives me 3/8” for the bead and 1/4” for the cauls.

Attach the router to your circle making jig and set up the jig on the rail stock. The pivot point of the jig should be in the center mark intersection and the edge of the router bit is just touching the arch line. Make several passes to rout out your arch. Do not cut through the edge of the rail (remember that extra inch). If you rout through the rail edge, the wood will move on your final pass and a few choose words might come out of your mouth.

After you have cut through, take it to the table saw and rip the inch off. Keep the arch waste. This will be your mold or form. (See Photos 2 & 3)

**Step 3** – Take the waste arch and cut a concentric circle about 2” smaller then the one that was routed using a bandsaw or jigsaw. Attach it to plywood or any other inexpensive material. I generally use scrap plywood. Then add a 4”+ straight piece to either side of the arch creating a semi-circle with two long legs. When the piece is bent, the straight section will give you a 90 degree reference to cut the miters with a miter box or tablesaw. Wax the mold and cauls with paste wax and let it dry. (See Photo 4)

**Step 4** – Select your lumber and saw it fairly close to thickness and about 1/4” wider than the depth of your bead. In this case I am using four laminates at a thickness of 0.093” or 3/32” x 1”. I saw the stock about 1/16” thicker and plane it down to 3/32”. A thickness sander is a great way to make laminate strips if you have one.
I make 1/8” thick cauls at this point. Apply glue to the proper surfaces and start clamping from the center working your way down either side until it is void of open joints. I used PVA glue in this case. The bend is small and the open time is minimal meaning the glue will not set before I finish clamping. You can use any glue you feel comfortable with. *Hide glues will not work.*

I let it dry overnight just to be safe. A note on lamination. The tighter the radius of the curve the thinner your laminate stock has to be. I usually make a test with the same species before I make my final piece. I do not have a formula for sizing stock to a curve. It is experience and art. (See Photos 5 & 6 and Figure A)

A few facts. More laminates decrease spring
back. Bending 180 degrees plus sometimes causes spring in. Figured wood with short grain may break even in very thin dimension. Do not force laminates because they are too thick.

**Step 5** – Remove your stock from the mold. Scrap off the excess glue and plane or joint one edge, make sure it is square to the face. I saw the remaining edge off with a tablesaw to the desired thickness \( \frac{3}{16} \)”. Check and make sure it fits in the arch. Now you are ready to start the bead shape.

**Step 6** – Set up a straight router bit in a router table and have it protrude \( \frac{3}{16} \)” above the table. Using a V fence rout a rabbit \( \frac{1}{16} \)” deep in the outside curve. Then set up a \( \frac{3}{8} \)” quarter round bit and round over the inside edge (Whiteside makes this router bit). I finish the outside edge with a block plane and sandpaper. (See Photos 8 & 9 and Figures B & C)

**Step 7** – Using the straight sections as a reference, I cut my miters and fit the bead to the case.

This is a nice simple detail I think you will find easy to make. With a little forethought and creativity, you can adapt this method to suit your needs.
The mortise and tenon joint has a history as long as joinery. It is a substantial joint. The birds mouth joint also has a long history. It is seen frequently in Asian joinery, both modern and antique.

While the birds mouth is primarily a decorative joint, it does add strength when compared with the butt joint that it replaces. That strength derives from an increase glue surface between two side grained pieces as opposed to an end grain to side grain joint.

To illustrate the joints, we will consider the joining of a shelf to the sides of a four board table (the boards consisting of two legs, a top and a shelf). The top is attached with a wedged through mortise and tenon.

Our concern is the attachment of the shelf to the legs. This could be done with a butt joint, a dado, a sliding dovetail or a mortise and tenon joint to name but a few possible methods. All have advantages and disadvantages.

In this case, we will use the through mortise and tenon with wedges for it’s mechanical strength and the birds mouth for it’s decorative enhancement of the joint. We will proceed through the project in stepwise fashion as one would actually do it. This means that we will switch between the joints as we go along.

**Design**

The first step is to make a measured drawing of the entire project or, at the least, of the joinery. There are a few design decisions to make. The first is what size table you wish to make and the materials you wish to use. The second is the size and spacing of the tenons. I used ½” stock and made the tenons square. The tenons may be flush or left proud which should affect the length of the sides and the shelf. This is purely a matter of taste. The birds mouths can be on the front of the table or front and back.

When doing the drawing remember that the tenons will be wedged so you need to allow room for the wood to expand. The two edges of the mortise will have to be beveled with the wider opening on the outside of the board.

You can calculate the width of the outside hole by first deciding how many wedges you will have for each tenon (one or two). Let us assume two. The extra added to each side of the mortise will be the width of the wedge on the outer end and should be about twice the thickness of the saw blade used to cut the kerf in the end of the tenon. So if you have a saw blade that is ½” thick, the extra width of one side of the mortise would be ¼” and the wedge would taper from ¼” to ½”. You also must account for the grain of the mortise because you want to wedge against the end grain of the mortise, not the side grain. Otherwise you might split the mortise board.

Next you must design your birds mouth. I use a 45° angle from each side of the shelf but any angle would be acceptable. It is a matter of taste. Using a 45° angle, the birds mouth on a ½” piece of stock will be ¼” deep. There is no reason that you could not get fancy in your design as long as the male end will slide straight into the female end in the same fashion the tenons go into the mortises.
Transfer Design

Once the design is done, the joinery is transferred to your flattened and squared boards. On each side and the top, lay out the location of the mortises and the birds mouths. When laying out the mortises, you must lay them out on both sides of the board. This will allow you to begin cuts from both sides and reduce chipping. Make sure you know which side is inside and which side is outside because the mortise openings are different sizes. The birds mouth must be on the inside. I usually make the birds mouth opening about a \( \frac{1}{2} \)" long.

Mortises & Birds Mouths

Finally, you can cut out the mortises and the birds mouths. The traditional way to do the cutting is to chop everything out with a chisel and this will work well. Remember to start from each side.

Alternatively most of the waste can be removed with the drill press. To do this, mark the center of each mortise on each side. Since I have little courage and a great capacity for error, I then take a very small bit and drill all the way through from one side in the center of each mortise. This serves to confirm that I have put my markings in the correct place on both sides and gives me a place to start the larger bit.

Once my confidence is restored, take a brad point or forstner bit just slightly smaller then the mortise and drill all the mortises about half way down. Flip the boards and repeat. The holes should line up. Now all you have to do is clean up the remaining waste with your nicely sharpened chisel. Again do not forget that you are making beveled edges on two sides of the mortises so you will not be cutting straight down as you are used to.

Once the mortises are completed, chop out the birds mouths with a chisel.

Tenons

Now mark both shelf ends and the top of the side board ends for the tenons and the birds beaks. Lay them against the corresponding mortises and make sure up is up and everything lines up true. Remove the waste. There are at least three ways to do this. I used them all and found manual to be satisfying but routing gives the best result in the shortest time.

Manually – Rip saw down the sides of the tenons and the birds beak.

Crosscut the end of the boards without birds beak to the tenons.

Remove most of the waste between tenons with the drill press or a coping saw.

Finish the joint with your chisels. Or, chop all the waste out with chisels and forget the saws and drills.

Tablesaw – Using a dado blade or a blade that leaves a flat base in the groove, set the height of the blade to the depth of the tenon.

Using a backer board and a support adequate for the length of the sides, cut away the waste using a cross cut sled or sliding table.

Router table – Using a bit with a flat top, set the height of the blade to the depth of the tenon.

Using a backer board and a support adequate for the length of the sides, cut away the waste.

Create the birds beak by sawing away the waste. Cut a hair outside the line to leave a little for final fitting. Too big is a nuisance. Too small is a real problem.

Test fit the boards and trim to get a good fit. Do the tenons first. Once they are going in smoothly, you can refine the birds beak. There should be room on the beveled side because you will close this space with wedging.

Now cut kerfs in the tenons to accept the wedges. These should be parallel with the top so the wedging is against the side grain in the side board mortise. They should extend nearly to the bottom of the tenon. Some people drill a small hole at the bottom of the cut to prevent splitting. Since I have not split a board yet, I do not do this.

Wedges

Cut the wedges. You may have considered using a contrasting wood to highlight the wedges. Plane the wedge board to the width of the tenon. The wedge grain should go with the length of the wood so you are hammering on end grain. Draw a line across the board at the depth of the wedge (a little longer then the tenon).

Draw a line on an angle from the end of the board to the depth line to outline the first wedge. Move over the width of a saw kerf and the width of the end of the wedge and draw a vertical line to the depth line. Repeat across the board making sure you have extra wedges (some will deform and some will hide when you are ready to use them).

Using a hand or bandsaw, cut out the wedges. This is great practice for cutting straight. The last cut should be across the depth line and should free the wedges from the board. Trim as needed with a chisel.
Glue Up

The next step is to glue up. Do your dry fit and get all your clamps, etc. out. Do not drive the wedges in during the dry fit as you will never get them out. Move fast and glue all the boards in place. When clamped together, cover the wedges in glue and drive them home.

Clean up the excess glue and let the whole thing dry. Saw off any wedge ends that protrude beyond the tenon ends. Smooth the ends of the tenons with a block plane.

Admire your work.
can’t live without these! The older I get, the more I worry about losing my hearing with all the noise from the machines in a small basement shop. I must have tried at least six different kinds of hearing protection, but the new ZEM headset is really a big step above the rest for several reasons.

First and foremost, they are very good at reducing noise with 26 dB noise reduction. They are extremely light (2 oz!) and very comfortable. They slip on and off easily, and rest on the neck almost unnoticed (until my wife complains at dinner about that silly orange necklace). The foam cuffs are replaceable, and lastly, they are not too expensive ($20. at Woodcraft). I have used mine for a year now and don’t start anything in the shop until they are on.

Now, for those of you, who like me, work on a concrete floor all day, here is a product I got out of the horse barn. You have all seen rubber floor mats in various shapes, sizes and prices. Last year at a horse show I bought a set of mats that are substantially better. They are solid black rubber with interlocking edges. I put them around my bench and couldn’t be happier. I had previously used mats with holes, but they were more expensive and the holes filled with shavings and were hard to clean. A broom or shop vac makes quick work of cleanup with the horse stall mats. They are thick enough to be very comfortable without being too soft. They stay put since they are locked together (but come apart easily). And this specific mat is quite light so you can pick them up and move them around as you need.

Contact www.therubberman.com and ask about their “Tru-Light” flooring if you are interested. They were about $25 for a 3’ x 4’ mat at the show. Shipped to your door will be more due to their weight. If you can wait until November and the next horse show, I’ll pick some up for you!

Peter Breu 603- 647-2327.

Rounding an Edge – continued

little step at the edge and at the surface as shown in the picture is done with a beading bit.

Typically, you can achieve the result with one bit by changing the diameter of the bearing which is available in kits of several sizes. A roundover bit comes in different radius cuts, from 1/8” to larger than 1/2”.

When adjusted properly, the bit will cut a rounded edge on the board, both on the end grain and on the straight grain sides. A roundover bit will be available with a 1/4” or 1/2” shank.

If you already have a router, you would buy the shank size to match the router. It’s the fashion today to use 1/2” bits. They are sturdier, produce less vibration and have more cutting power when driven by a heavier router.

I strongly recommend carbide bits. They last many times longer and their extra price is well justified by their extended life.

Adjusting the Bit – With the bit firmly clamped into the router collet, the depth of cut needs to be adjusted. With the correct bearing on the bit, it will be properly set for a flush cut on the depth of the edge. To set the bit for a flush cut on the surface of the board, you adjust the depth of the router. Lay the router on the board and adjust the height so the bit is as close to flush as you can.

Make a test cut on a scrap of wood and fine tune it. I usually set the depth a tiny bit shallower than flush so you don’t have a ridge that has to be sanded out. You will never notice the round over being slightly less than perfectly aligned if you do this.

Making the Cut – Tear out is a significant issue when cutting across the end grain. I cut the side grain first and then the end grain. The side cut gives some relief to the end grain cut where the router terminates. However you can still get tearout so as you approach the end of the first side cut. Continue around the corner into the end grain at least a little bit. If you stop the side cut and then restart the end cut, there is a good chance of splintering.
Often times when wandering around flea markets and used tool sales, we see a really nice hand plane or chisel, only it is caked in rust. I have picked these up and sometimes purchased them because the price was right, but then wonder how to clean this up without removing all the original paint or japanning.

Last summer while attending a tractor show, I came across a vendor selling a product called “Evaporust”. Now, normally I would have written this off as just another snake oil salesman, except that I have purchased various products from this gentleman over a period of about twenty years and they have always lived up to his hype.

I purchased a gallon and brought it home to try. The product works by the method of chelation. Chelation in this case, for those of us who are not chemists, is some sort of magic that pulls the rust from the iron or steel, but leaves the solid metal and does not damage the paint. It does not appear to remove plating. This product eliminates the use of some of the harsher chemicals and acid solutions. I have tried it on several items and it does work. Take a look at the before and after photos.

I took the plane apart and soaked it for about two hours in the solution and as you can see, the results are amazing. I did not do any scrubbing other than to use an acid brush to work some dirt out of the corners. After removing from the bath, clean with alcohol to remove the remaining solution. A good coat of wax will prevent rust from forming again.

The product is available locally from:

Eventors
PO Box 83
195 Silver St.
Dover, NH 03821

603-742-2262
email: eventors@webtv.net

Or you can order direct from Evaporust at: www.evaporust.com.

I will end by saying that I have no affiliation with anyone involved in manufacturing or selling the product described above. I was really skeptical about it until an atomic physicist friend in Tennessee said that he uses it and recommends it.

In my next article, I will lay out directions for electrolysis using a common battery charger and washing soda available at the grocery store.
Carl Mahlstedt has run Goosebay Sawmill & Lumber for 30 years. If you haven’t been there, it is an excellent source for domestic and exotic hardwoods, especially birds-eye and curly maple. If you need a 25 foot mahogany board or maybe a 4 inch slab of mahogany about 3 by 6 feet, this is the place to get it. Turning stock is another specialty. He also had a huge pile of spalted maple when we visited.

Carl gave us the history of his mill, starting from when it was a production mill doing 15 to 20 thousand board feet of mostly oak lumber per day to its current incarnation as a specialty mill sawing much smaller amounts of high value wood. The production circular mill equipment was recently sold and has been replaced by a modern bandsaw mill capable of sawing boards up to 28 inches wide. He currently concentrates on birds-eye and curly maple along with slabs for table tops and other specialized products. His mill handles longer logs than most high volume operations, thus making him popular with boat builders who need keels and other long timbers. Carl also has a vacuum kiln which can dry his work much more quickly than a traditional oven while treating the wood more gently. The kiln contains aluminum plates between the layers of lumber. Steam circulates through the plates to heat the wood while a vacuum pump draws out the moisture. On the day we visited, it contained walnut slabs along with some maple.

Carl and his assistant gave us a lesson in lumber grading – both plywood and hardwoods. While you may be familiar with grades as a retail customer, you probably haven’t heard about them from the perspective of a sawmill operator who must start by grading logs and gambling on the lumber grades that result. Carl showed us logs and told us stories of both good and bad gambles. These included logs bought as high value that turned out to be worth far less. On the other side, he showed us the initial cutoffs from the most highly figured wood he had ever seen. That log was quickly resold for a very high price. Carl also benefits from other’s mistakes since much of his birds-eye maple logs are “rejects” bought from veneer mills who find an expensive log isn’t really suitable for veneer but still can make beautiful lumber.

In case you dream of stumbling over beautiful lumber while buying cord wood, Carl showed us how to spot birds-eye figure from the outside of the log. It is usually necessary to have some bark removed, but the figure is amazingly clear. It looks as though the log has been lightly pecked by woodpeckers. The odds are probably a thousand to one, but you could get lucky. No one knows exactly what stress or other condition causes the birds-eye figure to occur.

Carl’s property includes a log yard used by other brokers. This gave us the opportunity to see many species and grades of logs. It gives him the option of picking and choosing his logs, especially the large ones that can otherwise be difficult to acquire, and makes a small operation much more feasible.

Carl gave us many insights into the businesses of logging and of running a sawmill. If you think it might be a welcome change from an office job, first examine the pile of paperwork necessary to import lumber from South America and then export it to Canada. At the end of a fascinating two hours, we had a much better appreciation for everything that goes into getting lumber from the forest to the workshop.
On the first Monday in March, Seth Knight presented a hand carved “Ball Field” sign to Mary Lord, Chair of the Acworth Recreation Committee.

Earlier last winter the Acworth Rec Committee had asked local woodcarver, Grant Taylor, if he knew of anyone who might be interested in making a sign to direct out-of-towners to the ball field in South Acworth. Grant posed the question to the Acworth Carving Club and Seth volunteered his services so he could get more practice carving signs.

The Acworth Carving Club meets every Monday night in the stone studio Grant built next to his house on Tucker Road in South Acworth. The Carving Club is affiliated with the Guild of New Hampshire Woodworkers, of which Grant is a founding member.

Grant instructs members of the carving club in a wide array of individualized woodcarving projects from signs, plaques and clocks, to more complicated endeavors such as a trunk with carved panels that Matt Robinson is making, and a dulcimer that Daniel Sanville has spent numerous hours carefully carving and constructing.

Make sure to keep an eye out for Seth’s original sign carved in the shape of a hand that points the way to the ball field in South Acworth.

On behalf of the Rec Committee, Mary Lord thanked Seth for his fabulous sign that she described as “pure Acworth”. Mary said, “When you see a sign like this, you know you’re not in Walpole anymore!”

by Gretchen Abendschein

Acworth Carving Club
meetings and events

March 24th, 2007

Granite State Woodturners

meeting at Peter Block’s shop in New London, NH

photos by Jim Seroskie

by Jim Forbes

The March meeting of the Granite State Woodturners was once again held in the spacious workshop of Peter Bloch in New London; although with the big draw that these meetings have been getting of late, there was standing room only.

The meeting began with a moment of silence to recognize the loss of long time GNHW member and fellow woodturner Roland Hok.

The presentation “Making Woodturning Chisels” was in two parts – the first by G SWT President Jon Siegel and the second by Guild President Dave Anderson.

Jon started the presentation by restating the subject – how you can make woodturning chisels with materials and equipment you probably have in your own shop now. The practical maximum size of the chisel is limited only by the heat source available to you. A single propane torch (blue bottle) will work up to about 3/16” diameter. Two torches will cut the heating time in half. And MAPP gas (yellow bottle) in half again. To make chisels in 1/2” diameter or larger, Jon recommended using an oxyacetylene torch.

The technique Jon demonstrated uses high carbon steel formulated for water quenching and designated as “W-1” or drill rod (also known as AISI 1095). He brought stock to the meeting so we all could leave the demonstration with material to practice on. Later Dave would demonstrate his technique using oil quenched high carbon steel designated “O-1”. Both steels are readily available and low cost. Also these two alloys have well known and predictable properties to lend themselves to this simple process.

Jon’s skill as a teacher shown brilliantly as he succinctly took the class on a (history-physics-economics-astronomy-cultural evolution and metallurgy) lesson of iron and steel from the Big Bang, bronze and iron ages, through the Darby and Bessemer processes even including an explanation of why there are no native woodturners on the moon (“just a theory”). His models of crystals made from Styrofoam balls were helpful in understanding the structural change that iron undergoes when heated and the absorption of carbon into the iron crystal.

Jon demonstrated that by heating the end of the rod to cherry red (about 1450°F) the alloy would change its crystal structure from body centered cubic to face centered cubic and become non magnetic. Thus Jon recommended using a magnet as a temperature indicator until you get used to “reading the colors”. Jon drew an IT (isothermal transformation) curve to show the need to very quickly drop the temperature to trap the carbon in the crystal structure known as Martensite, rather than slow cooling it and allowing the reformation of softer crystal forms of the steel. Jon showed that by cooling the rod from red hot to room temperature in about two or three seconds in a tin of water, the resultant rod would be too hard to cut with a file. Jon then took us through the tempering procedure for those occasions that the tool is too brittle and needs to be softened slightly to relieve some of this brittleness. Time limitation prevented much discussion of handle

Continued on Page 32
Ten of us gathered in Bob LaCivita’s shop to continue work on the cabinet.

The cabinet already had one-piece sliding dovetails and sockets. The sides (stiles) are held to the top and bottom (rails) with the sliding dovetails. The sockets (on rails) start out about \( \frac{1}{32} \)\( \text{˝} \) wider at the back to allow dry fitting and removal.

This session’s design goal was to soften the look of the cabinet by cutting curves on the both of the stiles (on the width and depth) and on the rail fronts and sides.

We did the stiles with jointer (jack) planes. First Bob showed us how to find the direction of the gain by petting the dog. We looked at the board to see how the angle of the gain was running, then imagined what would happen to a dog hair when we petted it based how we would plane the board. Would it stick up (wrong direction) or lay down (correct direction.)

Bob hand drew the arch on each of the end grains using a pencil and down the length using a wooden marking guage. We used these lines to cut the curves. We started with a wooden bodied plane and learned how to adjust it using a hammer to tap on the knocker (a metal rivet at the front of the plane body). Bob likes this plane because it is light in weight and removes lots of waste. No fine adjustment are available! The metal bodied plane has the fine adjustment to “Just” reach the lines. To be successful, you need to check your marks at both ends and the side – often. We tended to put much more pressure on the plane at the far end of the stroke! To correct, we had to take shorter strokes at the starting or end closest to us. Bob showed how to use a finger on the side of the plane as a fence to keep our strokes uniform and consistent.

We leaned to be very gentle around knots and unusual grain changes to avoid chipping and tear out. We were able to remove all the band saw marks and come close to a “finished surface” (still needs some sanding). We used sand paper on the surface to create a visual indication (it looked white) of where to apply a card scraper or plane to clean up some rough spots.

To create a smooth surface in and around the knots, we used “burn sticks” or solid shellac to fill the voids. Bob had a small flat iron similar to an electric soldering iron that heated the shellac. Once in liquid state it was applied to the voids. Save your old sand paper! Here is a use for it! Sanding the filled area fills the paper.

We used a router to create the rabbet that will accept the back of the cabinet. We used a rabbeting bit with a bottom bearing. Bob’s set came with different size bearing so we could have adjusted the width of the cut by changing it. We were careful to route the insides of the rails and stiles! We used a chisel to square the ends of router cuts. To find out what to remove, we dry fitted the cabinet and marked the corners were the router entered/exited. It left a round section that needed to be removed to create the square corner.

With the cabinet assembled, we could see where to put the three curves on the rails (base and top). One curve is at the front and two others for each of the curved stiles. We plan to put a cove shape on the outside of the curves, so we measured and planned for this as a part of making our marks. We found the center of the bottom rail – this is our maximum radius. Then we measured out the width of our cove router bit at the center of each stile to get the end
With the barn doors opened wide, and the warm morning sun hinting the rainy season had passed, Guild members gathered for the March meeting in Jim Robinson’s recently completed workshop. The weather seemed to set the mood as members socialized, exchanging stories of recent projects.

After a few short discussions about the business of the Guild and a break for lunch, Jim began his presentation with a little history of his woodworking past. He went back through three generations of woodworkers to talk about his great grandfather who he credited for introducing the craft into the Robinson bloodline.

Jim, himself, has been a woodworker for over 25 years. He proved to be a quick study when he began to follow his passion for violinmaking in 1995. In 1999 he took up formal training under Karl Roy at the UNH Violin Craftsmanship Institute. Since, he has served as a teacher at the institute, and focused his business on repairing and producing world class, award winning, stringed instruments.

Like his business, the Renaissance Strings workshop has been set up for the specific work Jim does. The meeting was held on the ground floor, in the machine room, which is spacious given the moderate machines the craft requires. On the lower level Jim also partitioned a space to serve as his showroom.

The area upstairs would seem to be Jim’s haven. The bench room is where he does the detailed hand work. The space also lends itself to the rigorous finishing process Jim uses.

With a majority of the members slightly mystified, but very intrigued by the luthier’s craft, Jim gave an overview of the process. He started by talking about the materials he uses. Holding up a quarter sawn wedge of European figured maple which couldn’t have totaled more than two board feet, he talked about the wood’s attributes, its beauty (which was apparent to all in the room) and then told that the small piece cost upwards of $180.

With the shock I think most of us experienced came an added appreciation of how much goes into his work at every level.

Figured maple is used for the back panel, the skin on the contoured rib assembly and the beautifully carved neck. The belly or top panel of the instrument is quartersawn Canadian spruce, used for its acoustic qualities. Hand split spruce is also used in the rib assembly, and ebony or rosewood is used for the fingerboard and other components.

Jim’s process begins with detailed drawings. He then fabricates an aluminum half-template used in the construction of the rib assembly. The spruce belly and maple back are made of two thin, tapered and book-matched pieces. The glued panels are fitted to slightly overhang the rib assembly. They are then worked extensively by hand, thinned and formed until the individual pieces are tuned, like a drum, to the ideal note of F sharp.

After covering the construction of the instrument Continued on Page 33
The PFG finished off the 2006-2007 Guild season in fine form with a meeting, attended by 20 members, at Marty Milkovitz’s shop in Mason, NH. Our topic was stains and finishes and to our delight, President Dave Anderson announced that next year there will be a large all-Guild finishing symposium on the scale of the Guild Turning and Joinery symposia of recent years.

At our meeting first we got to inspect Marty’s explosion proof finishing booth. Instead of drawing air out, Marty has a huge fan in the attic that blows air in through the large hole behind Dave Macrae in the photo.

We also heard about and saw samples of Marty’s favorite finish for his commercial work, which is a two-part conversion varnish. He finished a large sample board with conversion varnish and in different places, lacquer and shellac. Then he treated the different finishes with common household spills such as water, alcohol, ammonia, and (maybe not so common) lacquer thinner. The conversion varnish certainly seems to hold up well.

Many members brought sample boards of their favorite finishes. It appears that everyone has their own opinion – perhaps next year’s Finishing Symposium will resolve all the issues. Meanwhile, some say linseed oil enhances figure while others say it is not necessary. Some feel tung oil dries better than linseed oil and some say no. Some prefer long varnishes – some short.

One area of agreement was that more dramatic staining results can be had by overlaying multiple coats of different stains, with the first being a dye stain such as NGR or analine. More interesting, deep, and three-dimensional effects can be thus achieved than simply using a can of one of the popular pre-mixed hardware store stains.

Near the end, the discussion turned to mordants, which are stains produced by chemical reactions, such as ammonia. One such technique involves mixing iron filings with nitric acid. It turns out that is an old and still popular technique with gunstock makers. At this, Marty pulled out a musket he had made during his previous career as a gunsmith, and on which he treated the stock in exactly this way. Sal Morgani was very excited as his next project is a musket. Marty did mention that there is even less money in custom gunmaking than there is in furnituremaking!

The 2007-2008 PFG season starts on Saturday, September 8. GSWT President Jon Siegel has offered to give a demonstration on turning period furniture parts. He asks that we give him some idea of what we would most like to learn. My vote is turning footpads on Queen Anne legs. Let me know what yours is!

To receive meeting locations and directions to PFG meetings, contact John Whiteside at johninfremont@comcast.net or 603-679-5443. Meetings are held on the second Saturday of September, November, January, March, and May.
Guild scholarships were awarded in March to Ted Blachly, Ned Gelinas and Lou Yelgin. Ted’s scholarship will go towards attending The Furniture Society conference in Victoria British Columbia in June and Ned will be taking a wood turning class at The Homestead Woodworking School. Lou Yelgin was awarded a Bloch/Noyes Grant. He will spend seven days working with David Sawyer at his shop in East Calais, VT making a windsor rocking chair. David Sawyer is known as one of the premier windsor chair makers in the world and this is a terrific opportunity for Lou to work with one of the true masters of his craft.

A little bit of New Hampshire woodworking history – Dave Sawyer began his woodworking career in New Hampshire making wood rakes, pitchforks, apple ladders, firewood totes and ladder back chairs from green wood harvested from his land in Quaker City. In the late 1960’s and early 1970’s, he demonstrated and displayed his work at the Mt. Sunapee Craftsmen’s Fair. Over time, as his skills developed, he has become a true master craftsman specializing in making windsor chairs. The point of my history lesson is that with hard work and determination Guild members can become excellent woodworking craftsmen.

I would like to appeal to all former and current scholarship recipients to donate a piece of their work to the Guild’s raffle at the Sunapee Fair. The raffle is an important component in raising money for the Scholarship program. The scholarship committee would also like to see scholarship recipients step forward and volunteer their time working at the guild booth either as a demonstrator or as someone to meet and greet the public and answer questions about the Guild and woodworking in general. Guild members will find this to be a very rewarding and educational experience. The Guild Sunapee Fair Coordinator is Wendy Mullett. Wendy’s phone number is 603-332-1039 and her email is doradexplorer@metrocast.net.

The Sunapee Raffle Coordinator is Jim Dimick and Jim’s phone number is 603-228-1131. His email is ejdimick8@gmail.com. Please get in touch with Wendy and Jim and try to give something back to your wood guild.

As the current scholarship selection committee chair, I would like to ask members for their ideas on how the scholarship committee might better serve the membership? If anyone has any thoughts on how the program might better serve Guild members, please let me know either by email or USPS mail. The next deadline for Scholarship applications is November 1. Applications are available from me at johnmcalevey@adelphia.net.

Woodturners – continued
making or setting the blank into the handle, but we did review the shaping and sharpening of the flute and bevels with recommended sources for grinding wheels, including grit sizes, and arbors for lathe set-up.

Dave Anderson took over the discussion to explain his process for using “O-1” steel to make his marking knives and awls. He buys fully annealed stock, heats it the same as Jon with propane but then oil quenches in 120°F to 140°F oil (peanut or walnut) - maintaining the oil temperature in a mini-crockpot. After hardening (in the 66 - 68 Rc range) he draws back the brittleness by tempering at about 350°F to 400°F in the electric kitchen oven for half to one hour depending on the cross section. This will bring the hardness back down to the 61 to 64 Rc range. Dave referred us the temperature-hardness charts available on line at MSCDirect.com and McMaster.com. Both sites have detail time and temperature information on heat treating, tempering and full annealing as well as a full range of sizes available in both “W-1” and “O-1”.

We had a lengthy question and answer period particularly on High Speed Steel and powdered metal, but were eventually drawn back to the premise of the meeting – tools that you can make tonight in your own shop.
points of our arch. For the stile arches, we used a grade school compass. We set the width needed, then used the pivot point to follow the arch of the stiles. This was important to the uniform look we want in the final product. Remember we hand created and cut the curves using a plane. We took the cabinet apart — remember the tapered sockets? They allow us to take it apart without breaking anything. To mark the curve on the front we need three hands to hold an “Adjustable Spline” in place at the three points we had marked. The spline was made by Hoyle Product, Fillmore, CA (www.hoylegrips.com).

Now we need to make a jig! Scrap plywood was sized to be identical to the length and width of the rail. The three front curve marks were transferred to the jig and the spline was used to mark the curve on the jig. The curve was cut on the bandsaw and smoothed using a block plane. Bob felt a belt sander would be difficult to handle and too easy to take off too much.

The next step was to cut the rails close on the bandsaw (remember the curve we drew on them?) and clamp them to the jig. Then clamp the set to the workbench leaving the edge to be cut in front and off the bench. We used the router with a straight bit and a bottom bearing for the cut. The jig was on the bottom and the bearing rode on the jig to give an accurate and smooth curve.

There is more to come at the next meeting on June 2 from 9:30 am to about noon. Please email or phone Bob if you plan to attend.

Jim has developed methods to achieve the “dark” sound he prefers though every instrument will have a little of its own personality, its own distinct sound. With the instrument almost completely assembled, scraped, and lightly sanded, Jim begins the lengthy finishing process by giving the instrument a tan. If the weather cooperates, the instrument will spend days out yellowing in the sunshine. If not, it is tanned in a cabinet under artificial sunlight. If necessary, Jim will also use diluted yellow food coloring to further the process.

At this point, Jim begins applying the many coats of varnish that give his instruments a rich, aged look. He uses very light coats, wiping the initial few with pumice, mineral oil and a rag to give a worn look. From there, he sets a pace of three coats a day, polishing between each. He continues for at least a week. At that point they are well on their way to final assembly and music making.

The guild members who visited Renaissance Strings were able to see Jim’s fine work up close. For those who were unable to attend and anyone still curious, pictures and more information are available at www.renstrings.com.
NH Furniture Masters Association
There will be an interactive preview of the Masters’ 2007 auction pieces. This is an opportunity to see the Masters’ newest creations and meet the makers in person.

August 1-30, 2007
New Hampshire Historical Society Library
30 Park St., Concord, NH 03301
www.nhhistory.org
Hours: Tuesday-Saturday, 9:30-5:00 p.m.
Admission is free.

There will be a silent auction and an opening reception.

Thursday, August 2, 2007
Doors open, 5:30 p.m. (Please note: time subject to change; please call (603) 898-0242 or go to www.furnituremasters.org to confirm.)

The Annual Auction will take place Sunday, October 21, 2007.

Wentworth-by-the-Sea Hotel
588 Wentworth Rd., New Castle, NH 03854
www.wentworth.com

NEW TIME!! Doors open at 3:30 p.m. for a “Meet the Masters” preview. Silent auction begins at 4:30 p.m.

Tickets to the event are $75 per person and entitle the holder to attend the gala reception and auction and receive a 2007 four-color commemorative auction catalogue.

To purchase tickets or obtain additional information, visit the Association’s website at www.furnituremasters.org or telephone 603-898-0242.

NH Institute of Furniture Making
The New Hampshire Institute of Furniture Making (NHIFM) is currently seeking applicants for its Studio-Based Learning Program, a three-year, intensive program designed to educate serious furniture designers and craftsmen in the art of fine furniture making.

The Studio-Based Learning Program offers students a unique opportunity to expand and refine their furniture making skills, beginning with foundational structural studies and continuing through personal design expression. Individuals in the program are provided with a flexible program of study that allows them to explore specific areas of interest through intensive one-on-one experiences with New Hampshire Furniture Masters, right in their studios. As a result, students gain not only valuable technical knowledge but also firsthand experience with the day-to-day structure of a working studio.

In addition to offering students a flexible curriculum and intimate access to established masters, the Studio-Based Learning Program also offers students the opportunity to develop an understanding of what it means to work at the highest level of mastery in furniture making, refine their design appreciation and experience, gain a greater understanding of materials, construction principles and finishing techniques.

“As in an apprenticeship, the student has the advantage of using the master’s studio as a classroom, working in a one-on-one learning environment,” notes Furniture Master Jon Brooks. “The Studio-Based Learning Program provides students with a wide variety of stylistic choices while passing on time-honored information in a personal and unique setting that is unavailable in today’s educational institutions.”

“The Studio-Based Learning Program provides students with a rare opportunity to learn from a very talented group of furniture makers,” notes current program participant Andrea Young. “The masters work in many different styles, so as a student, you have the opportunity to study with the makers whose creations speak most personally to you. When I started in the program, I purposefully chose to work with two masters whose styles are dramatically different: Jon Brooks and David Lamb. Because I’m from New England, David’s classic forms were more familiar to me, while Jon’s sculptural approach was quite different. Jon has really pushed me to think in sculptural terms and opened my eyes to new possibilities. David, on the other hand, has taken me much deeper into his style. As a result, I’ve increased my understanding of his techniques and processes. Working with each of them has been a tremendously rewarding process. Since beginning my studies, I’ve gained a much greater appreciation for the complexities of the entire furniture making process. Who knows what else lies ahead?”

The New Hampshire Furniture Masters currently teaching in the Studio-Based Learning Program are: Jon Brooks, Tim Coleman, Jeffrey Cooper, Garrett Hack, David Lamb, Marty Milkovits, Terry Moore, Jere Osgood, Brian Sargent, Jon Siegel, and Bill Thomas.

The New Hampshire Institute of Furniture Making was established to promote the growth of fine furniture making through public education and Studio-Based Learning Programs and to preserve and extend three centuries of tradition in fine furniture making in New Hampshire. Additional information on the Studio-Based Learning Program may be obtained by calling 603-229-5907 or by visiting the NH Furniture Masters Association website at www.furnituremasters.org.

Beginner & Intermediate Group
This year, Bob LaCivita is taking BIG participants through an entire project. The project is a small cabinet with a drawer and two doors.

The next BIG meeting is June 2. The meeting location is at Bob LaCivita’s shop at 365 Stage Road (Rt 152) in Nottingham, NH from 9:30 am to noon. Please email or telephone (before 9 pm) if you plan to attend.

Bob LaCivita
603-942-1240 or rlacivita@comcast.net

Granite State Woodturners
The next meeting of the Granite State Woodturners will be July 28 from 9 am to noon. The location and topic is TBA. Contact DJ Delorie to be added to the e-mail notification list.

DJ Delorie: dji@delorie.com
Personal Notes

Guild member, Roland Hok of Concord died Feb. 15, 2007, while traveling in Bijapur, India, of an apparent heart attack at age 74. He was an ophthalmologist with wide interests in farming, evolutionary biology and life sciences, music, woodworking, alternative energy, and politics.

Born in Brooklyn, NY, to Anton and Rose Hok, immigrants from Bohemia and Slovakia, Roland attended P.S. 102 and Fort Hamilton High School. As a teenager, he went to Camp Rising Sun, which shifted his view of the world by focusing on a service ethic, intercultural understanding, and opportunity outside of New York. He graduated from Harvard College in 1955, and McGill Medical School in 1959. Roland interned at St. Vincent’s Hospital in New York City, then worked in a mobile medical clinic for the African Research Foundation in Kenya.

Roland loved working with his hands, and his broad curiosity led him to try many different projects. He experimented with pottery, carpentry, wood turning, milling lumber, brewing hard cider, raising cows and sheep, building wood-fired saunas and bread ovens, and growing shitake mushrooms on logs. He took as much satisfaction from learning how to do new things as from the results of his endeavors.

Roland took pleasure in hard work. With help from his wife Kitty and other farming friends, he cultivated an abundant organic garden and would often come in covered from head to toe with sweat and dirt. He grew beds of raspberries and blueberries, and found joy in picking and sharing them with neighbors and friends. He loved to dig potatoes and stack firewood with his grandchildren, Ben, Russell and Sam O’Donnell.

A local old-time Yankee farmer, Martin White, taught Roland about traditional farming and contributed to his enduring interest in tools and machinery. Roland, neighboring farmers, and friends came together in the seasonal gathering of hay. Relying on his experience with an ever-growing collection of farm equipment, he provided mechanical support to a network of friends living close to the earth.

Roland was a man of enormous generosity, curiosity, and humility who brought magic and joy to family and friends with his loving heart, his music, his tractor hayrides, his wooden hot tub, his ridiculously huge bonfires, his homemade Christmas punch, his wisdom, his endless jokes and laughter, and his smile. He taught us well.

Period Furniture

Meetings are held on the second Saturday of September, November, January, March, and May. The next Period Furniture Group meeting is scheduled for September 8. GSWT President Jon Siegel has offered to give a demonstration on turning period furniture parts. To get on the email (or phone) list to receive meeting notifications, contact: John Whiteside: 603-679-5443 or johninfremont@comcast.net.

Suppliers offering discounts to Guild members

<table>
<thead>
<tr>
<th>Tools &amp; Supplies</th>
<th>Wood Products</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Big Tree Tools</td>
<td><a href="http://www.bigtree.com">www.bigtree.com</a></td>
<td><a href="http://www.bigtree.com">www.bigtree.com</a></td>
</tr>
<tr>
<td>Williams &amp; Hussey</td>
<td><a href="http://www.williamshussey.com">www.williamshussey.com</a></td>
<td><a href="http://www.williamshussey.com">www.williamshussey.com</a></td>
</tr>
<tr>
<td>Western Tool Supply</td>
<td><a href="http://www.westerntool.com">www.westerntool.com</a></td>
<td><a href="http://www.westerntool.com">www.westerntool.com</a></td>
</tr>
</tbody>
</table>

Each supplier offers a minimum 10% discount to current GNHW members – some restrictions may apply. Ads are displayed in “The Old Saw” on a rotating basis.
Each supplier offers a minimum 10% discount to current GNHW members – some restrictions may apply. Ads are displayed in “The Old Saw” on a rotating basis. See page 31 for a complete listing.