Lake Charles Woodworkers Club, Inc. May 2001

APRIL MEETING HIGHLIGHTS

Garden District Glass was our host this month. Joe Broussard and John Chavanne were our hosts and Joe our presenter at their wonderful shop on 7th Street. Garden District Glass has been a fixture in Lake Charles for the last 8 years, selling wonderful standard and custom decorative glass fixtures as well as giving classes and advise to would-be and professional artistic glaziers in the area. Unlike Frank Thompson of Frank Thompson Studio, Joe and John focus on glass in many applications — not just doors and windows. While many of the techniques they use are the same, some are different because of the different applications.

Joe started out by showing us various glass cutting techniques and hand tools of the trade. Several members then realized what they had been doing right or wrong as they watched a master glazier slice through different types of glass. Glass is cut by scoring — making a thin, relatively light/firm pass across the material with a glass scoring tool. They key here is to make one continuous pass from one side of the piece to the other. Various hand scorers are available from a common steel wheeled scorer (the traditional one with a small ball on one end) to professional oil-fed carbide cutters.

Glass varies a great deal in density depending on additives that give it color and texture with float (common window) glass being the softest and most forgiving for the beginner. The idea is to score with enough pressure so that an almost invisible line can be seen in the glass. Putting too much pressure on the cutter leaves a fine glass dust behind.

Once the glass is scored, putting pressure on both sides of the score and using a rolling motion snaps the glass at the score. Holding and bending is the correct action. Joe demonstrated the use of special pliers for snapping the scored pieces. These are referred to as "running" pliers. The faces of the pliers are shaped to grab the glass on either side of the score to achieve a clean break in the score run. Other types of special pliers are also useful such as nippers and breakers.

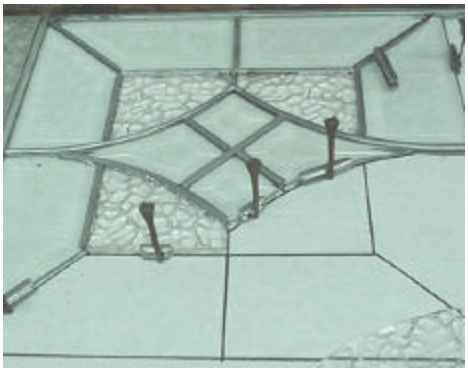
When the shapes are cut, it is time for the assembly of the pieces to a pattern. Joe makes only one pattern, takes it to a light box and traces this with a marking pen. This saves making multiple patterns and cutting one up for patterning the individual pieces.

There are two basic methods of assembling the pieces: copper foil and lead wrap . Copper foil is primarily used for decorative work as the resulting assembly cannot be sealed against the weather. Lead bar (shaped as an I-beam) is used for exterior work such as windows and doors as it can be weather sealed. Joe said that you should ask the craftsman assembling the work about how the work is assembled. If the piece is to be used in an exterior application, always require lead bar assembly.

The foil is wrapped around all sides of the individual glass pieces and then burnish down to provide a tight fit.

In both assembly methods, soider is used to attach the joints together. Foil is very forgiving in-so-far as spacing between peices while lead requires a much more exact fit. With the foil technique, the soider can be left as is or coated with a copper or black patina. Lead assembly requires that the outer rim be installed as the peice is assembled where foil does not require this as the rim (typically preformed zinc) can be added later or not at all as needed.

Once the soider is down on both sides of the peice, it is cleaned with ordinary liquid detergent and scrubbed down to bring out the luster of the metal. Lead assembly for exterior work requires that the entire peice be sealed with a compound to prevent water and air intrusion. Foil wrapped items will require that a separate peice of clear glass be mounted on the exterior side to prevent weather incursion.



Garden City Glass produces decorative items, windows and door inserts for a variety of homes in the area. Individualized one-on-one classes are also conducted in the shop. Garden City Glass has a web site at www.gardencityglass.com which shows various glass cutting techniques, stepping stone construction and more.

Show & Tell brought us a scroll work of a wolfe head by Rod Nunally, a minature pee-row boat wall hanging by Bubba Cheramie (and photos of a similar glass topped coffee table), wonderful scroll work by Chuck Middleton and a custom curved lathe tool rest by Barry Humphus. Rick Haught brought us more glue syringes — Thanks Rick.

COMING UP.....

May 12, Saturday, 9:00 a.m. — Steve & Terri LeGrue from Houston's The Cutting Edge at the studio of John Marcon. See map.

IDENTIFYING HARDWOOD

At our last annual Christmas Show and Tell, Nemo Robinson brought out some interesting wood. He had gotten this by way of a sister-in-law from his brother. The brother had gathered this wood shortly after World War II on Sappan, boxed and sent it on. None of the members present could positively identify the wood, (we thought it might be teak) but we gave it a try. So if you can' t tell the difference between a board of white ash and one of red oak, here's some help for common hardwoods.

Field identification guides for living trees offer plenty of tips for telling one species from another. Leaves, bark, overall shape, twigs, and other characteristics give you all the clues you need.

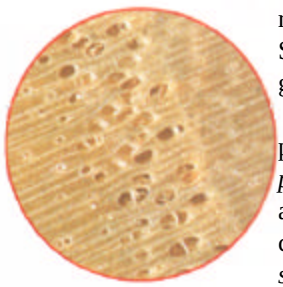
For wood of questionable identity, though, you must rely on a different set of clues. Wood technologists call them "keys". The following basic ones will help you identify unfamiliar hardwoods that you might come across.

Wood Color. Boards accumultae dust, dirt, and a dull patina of oxidation that cloud identification. Create a fresh surface about the size of you hand with a cabinet scraper, knife or razor blade on the top or bottom surface of a flatsawn board. This scraping also should give you an idea of the mystery wood' s hardness relative to wood with which you are familiar. Walnut should be instantlly recognizable. So should the pinkish tan of red oak. Grain patterns might ring a bell. Broaden your ability by studying the color and grain of wood at your supplier, and as you work differnt species in the shop.

The Nose Knows. Wet the fresh surface with water. Doing this "activates" the wood, even if it is old and dry. Now take a sniff. If it has an oder, does it smell like anything with which you' ve worked in the shop? For example, sassafras smells medicinal. Maple has a distinctive oder. Walnut often smells nutty. Gum is slightly sweet smelling.

Take a closer look. When a strange wood' s color, grain and scent fail to name it, examine it's fingerprint. Professionals turn to their microscopes for a close-up look. A hand lens of 8-10X magnification, lets anyone do practically the same thing. This type of investigation requires a look at a freshly cut section of end grain.

The Pores. Hardwoods that grow North of the Tropic of Capricorn or South of the Tropic of Cancer (the temperate, non-tropical part of the earth), display annual growth rings in the wood's end grain. These growth rings have an *earlywood* and a *latewood* portion. The wider earlywood reflects rapid growth in the Spring and early Summer months. The narrower latewood grows in the late Summer and Fall of the year.



Within the earlywood and latewood portions of the growth rings, you' ll find *pores*. It is the size of the pores and how they are distributed within the growth rings that classify a hardwood as either *ring-porous*, *semi-ring-porous*, or *diffuse-porous*.

Ring-porous wood shows a sharp distinction in the size of the pores of the earlywood when compared to those in the latewood protion of a ring. Examples are ash, elm, hickory, red oak, and white oak.

Semi-porous trees have a gradual change in pore size across the ring. Examples include black cherry, black walnut, pecan, and tanoak.

Diffuse-porous trees show little difference in pore size no matter where they appear in the growth ring. Some of these are basswood, red alder, sugar maple, sycamore, yellow birch and yellow poplar.

Rays Help. When cells join to form a flat band of tissue that extends horizontally from its origin to the bark, it's called a *ray*. If the band happens to be several cells tall and wide, it's an *aggregate ray*. When a ray connects to the pith (innermost part of the tree), it becomes a *medullary ray*.

Note that a few species of trees, such as hickory, fall into more than one category. That is because a species within a genus — in the case of true hickory (shagbark and pecan, also a hickory) — are differnt in their pore size and growth-ring distribution.

In commercial trees, only beech, oak, sycamore, tanoak (not actually an oak) and red alder have large, conspicuous rays. In beech, oaks, and sycamore, you can see them without magnification.

Get Samples. To solve mysteries in wood identification, it helps to have a collection of wood samples that have been identified and labeled: Woodworkers Source (800-423-2450) and Woodcraft (800-225-1153). Both offer information on wood identification plus wood samples for about $65.

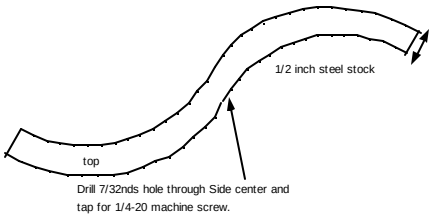
Wood identification requires some study and a bit of logic and detective work. For a really comprehensive look at the subject The Taunton Press has a book by Bruce Hoadley titled *Identifying Wood —Accuarte results with Simple Tools* for about $40. Adapted from *Wood Magazine*.

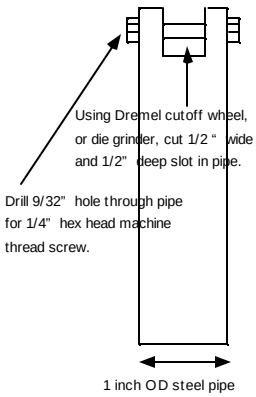
CURVED LATHE TOOLREST

Blacksmith Larry Carlin taught us a bit about cold bending steel in February, so I decided to try my hand at making a curved toolrest for my lathe. An "S" shaped curved toolrest is very useful if you turn bowls or boxes as this allows you to cut the inside of the bowl safely. There are also other possible designs such as a right-angled or even a French curve toolrest.

This was my first design and while it was easy, quick (about an hour) and cheap, there are other possible ways of making this useful tool. For example, if you braze the assembly together, it makes a strong tool. But with this design, I can change out the top to use different curved pieces as needed. You can purchase a fixed curved toolrest from your lathe supplier for $25 to $40.

Starting with a 1/2 inch square by 8 inch long mild steel bar stock (from home supply dealers), I used a 5 lb. maul to tap out the shape I wanted over the horn of an anvil. It is much better to pound this out gradually (according to Carlin) rather than try to bend it all at once in a vise. The steady pounding will not fracture the metal as much and will allow the metal to give and distort into shape slowly. I put about a 3/4 inch curve on one end of the bar and a 1-1/4" curve on the other end. In all, this process took five minutes on each end with steady blows.





Many lathes have a toolrest base that handles 1 inch round tool rests. With a 4 to 4-1/4 inch long by 1 inch OD (outside diameter) water pipe, I cut a slot on one end 1/2 inch wide and 1/2 inch deep with a cutoff wheel of a Dremel tool. A die grinder also works well (and faster). One inch OD water pipe is typically 1-1/16 inch in diameter. So a little surface grinding may have to be done to fit your toolrest base unit. You can buy round stock that is exactly 1 inch at many local suppliers but this material is typically thinner than water pipe and may not work as well. Solid bar stock would work as well but takes alot more grinding and time. The 1/2 inch slot across the middle of the pipe holds the bar stock. See the drawing.

After shaping the tool and drilling and taping the hole in the bar, insert it into the slot. Run a 1-1/2" 1/4-20 machine screw through the hole in the side of the pipe and through the bar. It helps to insert cut (compression) washers inside the pipe between it's walls and the sides of the bar, giving the assembly ridigity. Put a 1/4-20 nut on the screw and tighten down hard so the tool does not move in the slot.

After some use of the tool, I found that it was losening up a bit. To fix this, I removed the screw and slightly compressed the sides of the pipe in a vise where the cut was located then re-assembled. The final result is that I have a curved toolrest for which I can change the rest to different shapes. The total cost was about $6.00 including the bar, pipe, screw, compression washers and nut. *Barry Humphus.*