



DECEMBER, 1989

Contributors: Walt Anderson  
Steve Bloom  
Mary Brandenburg  
Pete Brandenburg  
James Kirkland  
Clyde Payton  
Tom Younkman

# The Florida CLINKER BREAKER

Established May 18, 1985	Treasury: \$5,349.75	Membership: 155
--------------------------	----------------------	-----------------

## DECEMBER NORTHWEST REGIONAL MEETING

Clyde Payton

The Northwest Region will have a December meeting on the second Saturday of the month. This will be Saturday, December 9, 1989—our last meeting for the grand year of 1989. The meeting will be at the Junior Museum in Tallahassee, Florida. The Junior Museum is located at 3945 Museum Drive, telephone (904) 576-2531 or (904) 575-8684 in Tallahassee. Look on page 3 for a local map to this site.

On this particular day the Tallahassee Junior Museum is having a special annual event called FARM DAYS—this is one of their feature programs of the year—so, bring the kids and join up regardless of what FABA Region you are in.

The program is going to be a combination of regular old fashioned blacksmithing for the FARM DAYS event and a work day. As you know, FABA is still in the process of fixing up, refurbishing, and outfitting an 1800s style blacksmith shop for this children's museum. So, we will be demonstrating the craft by making "stuff" for the blacksmith shop and surrounding buildings.

Some of the things that are needed are a hold-down (hold fast) for the big anvil, a hardy for the big anvil, a spring fuller, pot hooks and hanger hooks for the farm house kitchen, and horse shoes and stakes for making up three stations for the game of horse shoe pitching. (If you can spare some old horse shoes, bring some.) If you have a few pieces of suitable stock for making the above items, please bring it, along with the appropriate hand tools for working it. Forge stations, anvils, vises swage blocks, etc. will be furnished; therefore, you need not bring any big, heavy equipment. Also, bring your lunch and cold drinks.

Also, on site will be Clyde the Grinder—Clyde the Grinder will have a Genuine Restored and Rebuilt old fashioned tool and knife Grinder for display with real sharpening!! So, bring your kitchen knives, your butcher knives, your cleavers, your favorite garden hoe, adz, your hedge clippers, and pocket knives—they will be sharpened FREE.

THIS GRINDER WAS TOTALLY REBUILT AND RESTORED BY KEN LEWIS OF GRAND RIDGE, FLORIDA. COME JOIN IN—and let's have fun while we work, too!

FLORIDA ARTIST BLACKSMITH ASSOCIATION - Chapter of ABANA, Inc.  
P. O. Box 5914, Tallahassee, FL 32314

President (88/89): Willard Smith, Route 1, Box 138, Blountstown, FL 32424, [h] (904) 674-8055  
 Vice-President (89/90): Jerry Grice, P. O. Box 5914, Tallahassee, FL 32314, [h] (904) 421-4788, [w] (904) 878-1977  
 Secretary (88/89): Tycee Grice, P. O. Box 5914, Tallahassee, FL 32314, [h] (904) 421-4788, [w] (904) 878-1977  
 Treasurer (acting): Clyde Payton, Route 3, Box 124D, Monticello, FL 32344, [h] (904) 997-3627, [w] (904) 488-0577  
 Newsletter Editor (89/90): Pete Brandenburg, 299 Granada Road, West Palm Beach, FL 33401, [h] (407) 833-2708, [w] (407) 640-0445  
 Program Chair (88/89): (Vacant)  
 Board Member #1 (88/89): Clyde Payton, Route 3, Box 124D, Monticello, FL 32344, [h] (904) 997-3627, [w] (904) 488-0577  
 Board Member #2 (89/90): Skeeter Prather, 2816 Terry Road, Tallahassee, FL 32312, [h] (904) 386-9246  
 Board Member #3 (88/89): Walt Anderson, 7 Soco Trail, Ormond Beach, FL 32074, [h] (904) 672-4603  
 Board Member #4 (89/90): Lewis Riggleman, P. O. Box 247, San Antonio, FL 33576, [h] (904) 521-3515  
 Board Member #5 (88/89): J. C. Hawkins, 13534 NW 160 Avenue, Morriston, FL 32668, [h] (904) 528-3348

UPCOMING MEETINGS

The regions have no boundaries—everyone is welcome everywhere. The regular regional meetings usually are held monthly, 9AM-4PM, on these Saturdays of each month: NE-1st, NW-2nd, SE-3rd, & SW-last. Actual dates and the meeting locations vary. Check below.

- Dec. 2: NORTHEAST REGION, Pioneer Art Settlement, Barberville.
- Dec. 9: NORTHWEST REGION, Tallahassee Junior Museum. Jim Lollis will host a meeting to make items for the shop. See page 1 for the meeting announcement.
- Dec. 9: SOUTHEAST REGION, Bob Ringer's shop, Fort Lauderdale (note change in date for this month because of the holidays).
- Dec. 16: Work weekend, Pioneer Art Settlement, Barberville.
- Dec. 30: SOUTHWEST REGION, Crowley Museum, Sarasota.
- Jan. 6: Northeast region, Pioneer Art Settlement, Barberville.
- Jan 20: Work weekend, Pioneer Art Settlement, Barberville.
- March 26-30: Fred Caylor's week-long Spring blacksmith class, Ocala area. Class is full—contact Fred Caylor at address below to get on the waiting list.
- June 27-July 1: ABANA Conference, Alfred, NY. Demonstrators include Floridians Alex Klahm and Ray Nager.
- Mid-Oct. Fred Caylor's week-long Fall blacksmith class, Ocala area. Contact Fred Caylor for details: 3602 S. 800 E., Zionville, IN 46077, home (317) 769-6351, shop (317) 769-6537.

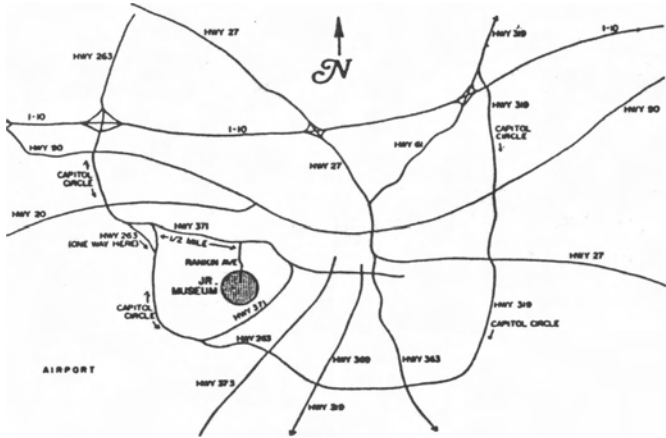
DECEMBER 1ST

St. Eloi (or Elegius) was born in France on December 1, 1588, and a contemporary writer described him as "tall, with a fresh complexion, his hair and beard curling; his hands were shapely and long-fingered, his face full of angelic kindness and its expression grave and unaffected" (this doesn't sound like the smith under Frost's spreading chestnut tree). As a young man Eloi was apprenticed to the master of the French mint. He became famous as a goldsmith, and he made many reliquaries (caskets) for known saints. His fame brought him to the attention of the French king, who made him his treasurer. The king was so impressed with his honesty that he gave him land to found a monastery, and he later became a bishop. He is the patron of blacksmiths and farriers, and is invoked on behalf of horses.

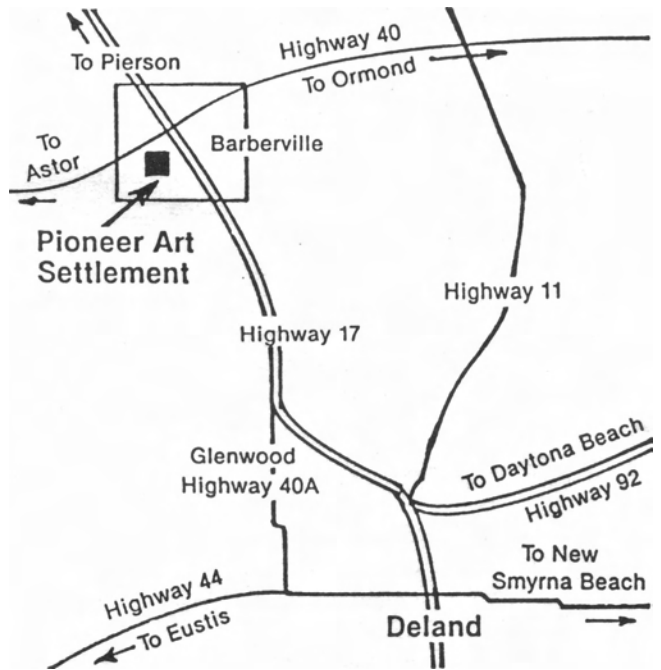
Traditionally, a saint's feast (or festival) day is especially celebrated by those whose patron he is. For instance, St. Patrick is the patron saint of Ireland, and Irishmen everywhere celebrate on March 17. December 1 would be a good day to demonstrate your craft to some school children. Later you might invite a fellow smith over to quaff some ale in honor of St. Eloi (or this newsletter editor—it's his birthday). The day seems like a good excuse for an annual publicity event of some sort to bring blacksmithing to the attention of the general public. Does anyone have ideas for next year?

The Florida Artist Blacksmith Association - Chapter of Artist Blacksmith Association of North America, Inc. (FABA) is a non-profit educational organization whose purposes are to teach, promote, and preserve the art of blacksmithing. FABA is a state chapter of the Artist Blacksmith Association of North America, Inc. (ABANA). The Florida Clinker Breaker is published monthly, and annual subscription is included with FABA membership. We solicit correspondence and unpaid articles on any subjects related to FABA's purposes. Send to: 1532 Old Okeechobee Road #103, West Palm Beach, FL 33409. Information received by the 15th of the month can be included in the next month's issue. Non-copyrighted material may be reprinted in ABANA chapter newsletters, provided it is credited to the author and to this newsletter. The author's permission is required to reprint copyrighted material unless otherwise noted—we'll put you in touch.

HOW TO FIND THIS MONTH'S MEETINGS



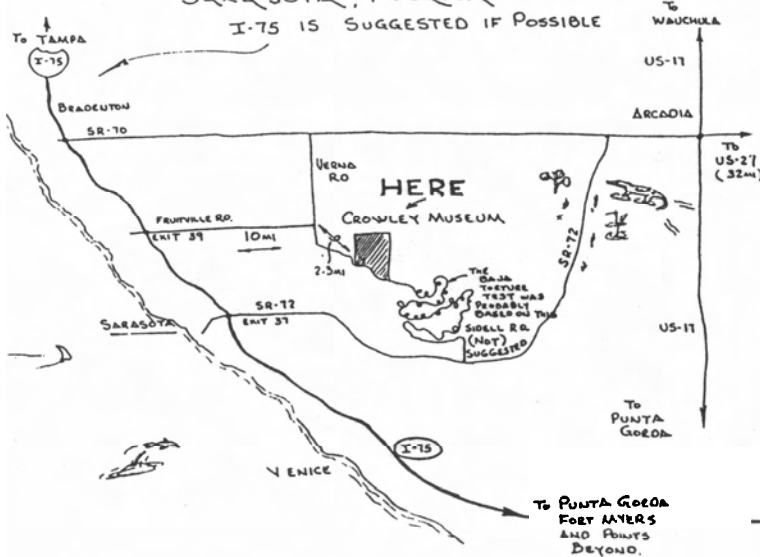
**NORTHWEST REGION**  
 Jim Lollis, (904) 576-2531  
 Tallahassee Junior Museum  
 3945 Museum Drive  
 Tallahassee



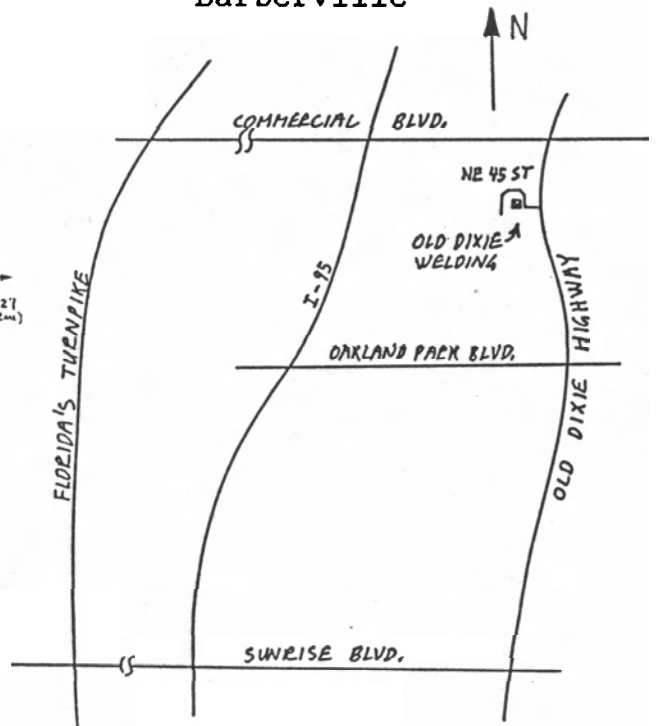
**NORTHEAST REGION**  
 Walt Anderson, (904) 672-4603  
 Pioneer Art Settlement  
 Barberville

How To: GET TO THE CROWLEY MUSEUM  
 SARASOTA, FLORIDA

I-75 IS SUGGESTED IF POSSIBLE



**SOUTHWEST REGION**  
 Lewis Riggleman (904) 521-3515  
 Crowley Museum (813) 322-1000  
 16404 Myakka Road, Sarasota



**SOUTHEAST REGION**  
 Bob Ringer (305) 772-3802  
 Old Dixie Welding  
 792 NE 45 St., Fort Lauderdale

## THE NORTHWEST REGION MEETING

Clyde Payton

Program Coordinator for the Northwest Region

. . . was held on Saturday November 11, at the home and shop of Skeeter and Lou Prather in Tallahassee. I don't believe the weather could have been any nicer or prettier. Skeeter really had an excellent setup waiting for us Saturday morning, Jim Corbet was the first to arrive—I think he must have gotten the Prathers up out of bed! I arrived at nine and Skeeter already had one fire going full blast and was busy as a skeeter could be. Altogether we had six forges going at the same time and all six forges were totally busy all day long. I have never seen a more enthusiastic group.

There were also coffee and donuts waiting for us and three tables set up for registration and display items and books and free handouts. All six stations were furnished with tools and the material for a contest which Skeeter had organized. This contest was to see who could draw out an 8" piece of 1/2" square stock the longest on ten minutes. The prize for winning this fierce contest was a brand new cold cutter that had never been used—and Jerry Grice was the lucky winner.

Also, all participants were to make a Christmas present for their spouse or loved one. I've never seen such a variety of "whatchamacallits" made in one day! They included hooks, brackets, paper weights, a paper towel holder, letter openers, and a whole bunch of "younameits." Our very youngest member made a knife from a railroad spike; this was Benjamin Threadgill who is only seven years old!

We signed up one new FABA member at this meeting and several others said they would be mailing in their applications. The new member is Jacquie Flint, who is a detective with the Leon County Sheriff's Department. This was her first experience at the forge but she sure made a handful of very beautiful hooks.

Twenty-eight people signed in on the registration book and I'm sure there were also several attendees who did not sign in. So, this meeting was very well attended.

Lou Prather and Myrtle White, Skeeter's mother, did an outstanding job with lunch served to all. We had sandwiches and the best chili you could ever eat. For dessert we had homemade brownies and blueberry cream cake that was the most scrumptious.

I vote that we do this every Saturday at the Prathers instead of just once a year—how 'bout it Skeeter and Lou???

## NEWS FROM THE SOUTHWEST

Tom Younkman

Members of the Southwest Region met at Crowley Nature Center on 10/28/89. It was Fall Pioneer Harvest Craft Festival Day at the Center.

Craft demonstrations and displays included fiber dying, spinning, quilting, weaving, basketry, wood carving, pine needle crafts, bee keeping, burlwood bowl making, and, of course, blacksmithing.

We had a large crowd moving through our shop most of the day with all types of questions which were fielded mostly by Dale Kipp with help from Lewis Riggleman. Lewis also displayed for our guests a lot of his fine work.

Dale had a request to replace some antique draw pulls that had been broken. Dale not only made new ones, he also repaired the old ones for her.

Jim Fagon produced a very nice ornamental key ring. Steve Kalb forged from a heavy piece of stock a point for a medieval shield that he has been working on. Lewis forged one of his twisted, braided handle poker for the crowd. He also made some tools for working dragon heads. Tom Younkman worked on his new work station that he calls his Willard Smith work station, patterned after Willard's, that he used at Barberville, produced an 8" scrolled trivet and some tools for basic blacksmithing. Casey Kipp displayed a very nice knife that he had made with the supervision of his dad, Dale.

Everyone was in agreement that the FABA Conference in Barberville was superb and was enjoyed by all. Thanks to all who provided input in this fine Conference.

Joe Farina and his wife, Donna, were away on vacation in the mountains of North Carolina. We missed them, but do hope they have a good time and trip. It was a pleasant surprise for all of us to look into the crowd and see Walt Anderson standing there. It's always nice to see a friend and fellow member from another region stop by and visit.

### News from the NorthEast

Steve Bloom

The November meeting was held at Barberville concurrently with the Pioneer Jamboree. The Jamboree is always a fine way to spend an afternoon if you like Arts & Crafts festivals, tool sales, antique motor demonstrations, portable saw-mills, music, food and craft demonstrations (including, of course, blacksmithing). On Saturday, forges under the new shop extension were being run by Tico & Maggie Rubio, Lewis Riggelman and J.C.Hawkins while Jim Corbett and Lester Hollenbeck worked on the main stations in the shop. Ronnie Fowler and I took turns getting in Lester's way. There was a quite respectable crowd in and around the shop all day and there was always a full line of wide-eyed kids at Lester's station (something to do with giving away hand-forged nails to them, I suspect).

J.C.Hawkins and I have been discussing what activities we would like to see in the next few months - and - the March meeting will be held at J.C.'s shop and will consist of a mini-course in tongs-making. If you're interested in learning how to make tongs and are willing to show up and work, mark your calender!

### NEWS FROM THE SOUTHEAST

Pete Brandenburg

Most of the members in the southeast region missed a perfect day for blacksmithing at the November meeting. It was cool, sunny, and sweat-free. Pete Brandenburg and Bob Ringer had a good time on the Hossfeld bender, but it's more interesting in a larger group. To encourage attendance at the December meeting, Bob will be giving away a handy metalworking tool to everyone who comes. We will have the December meeting on the 9th instead of on the usual third Saturday because of the holidays.

The Hossfeld bender is a joy to use. If you haven't used it before, and you have a chance to work in a shop that has one, forget about lighting the fire until you've tried bending everything in the scrap pile. It is the greatest blacksmithing tool since the hammer. Floyd Ringer, Bob's dad, keeps saying that it's the blacksmith's right arm. That's no exaggeration.

Bill Klees moved to Mississippi this month—a loss for the southeast region, but a gain for the Mississippi Forge Council. Keep in touch, Bill, and keep hammering.

Remember, **THE NEXT MEETING WILL BE ON DECEMBER 9th** at Bob Ringer's shop in Fort Lauderdale. Bob will provide coffee, donuts, and cold drinks. There are many fast food places nearby for lunch if you don't want to bring your own.

\$\$\$\$\$

"Raising Money," a four-page report, is being offered free to any artist. It is packed with helpful hints and about 50 reference sources to aid artists in raising money while they are in the process of becoming known. **It answers questions such as where to get a grant, what foundations are giving away money, which art commissions are soliciting pieces of art, and where Artist-in-Residence programs are available.** To get a copy, send a self-addressed, stamped envelope to Directors Guild Publishers, P. O. Box 369-Report #9, Renaissance, CA 97624.

[from the Handweavers Guild of America's *Shuttle, Spindle & Dyepot*]

### ANVIL HOLD-DOWN

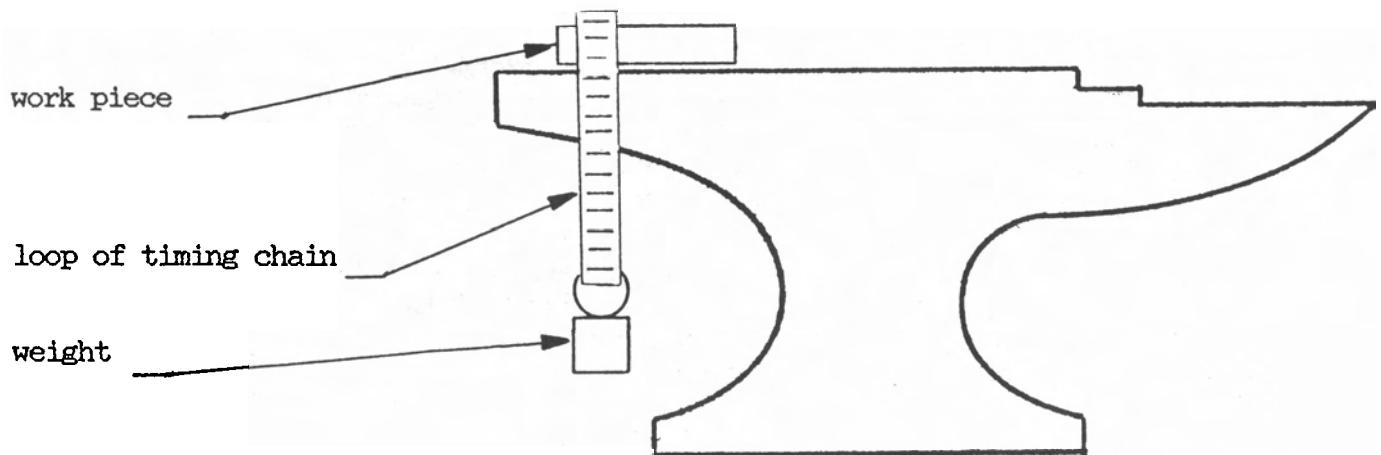
Walt Anderson

Use automotive engine timing chain in loop.

Slip loop over head of anvil on top of work.

Hang weight on bottom of loop or rig spring.

Flexibility of chain and its "teeth" will hold stock for cutting, splitting, veining, etc.



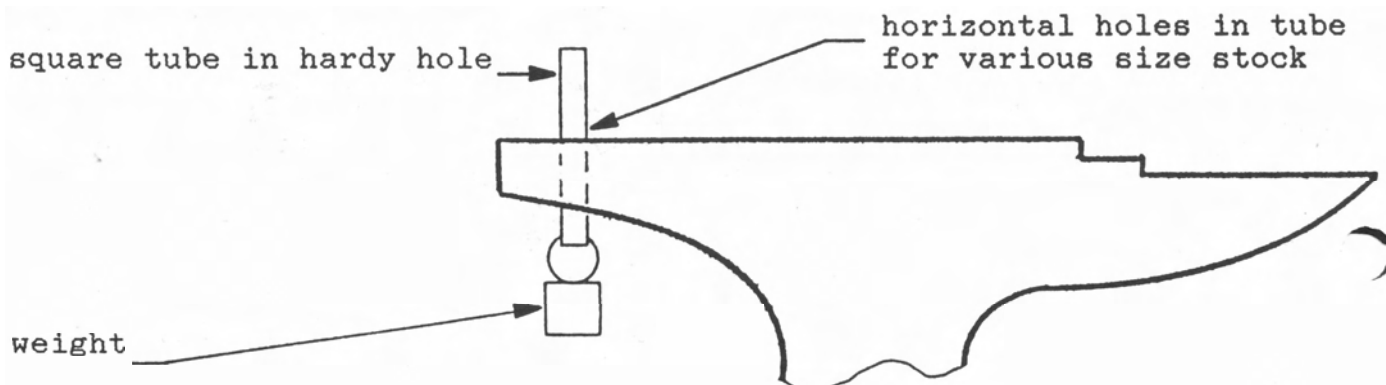
### SIMPLE HANDY WORK HOLDER

Walt Anderson

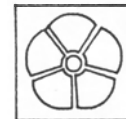
**Need:** square tube that fits your hardy hole  
drills, files, hacksaw

**Fabrication:** use about 8" of square tube drill and file holes through opposite sides of tube to fit various size stock

**Use:** put tube in hardy hole  
lay work piece on anvil and insert end in proper size hole in square tube in hardy hole, and fit of stock in hole in square tube will keep work from skidding around while punching, cutting, veining, etc.  
also will hold end of stock for twisting or bending  
rig spring or have weight on bottom of square tube to hold tighter



# Kettle Pourer



The original item is in the Littleton Museum in Denver & the measurements here are approximations only. The proportions should be adjusted to the individual kettle & taste of the user.

Attach the forward handle holder to the lever arm with 2 rivets & bend so as to prevent the kettle handle from rising out of the front eye.

Form the lever arm by making an open eye (3/4" diam.), arcing the stock to the left, twisting 90 degrees beyond the pivot zone, curling the end into a comfortable handle & finish with a finial.

Punch 1/8" holes, rivet, and twist handle 90 degrees. Separate lower limbs so it will fit over handle lever & lower bar.

Punch a 1/8" pivot hole

Fasten the lower limb to the lever arm with a square rivet (this prevents rotation around this point)

Stock 30" for the handle  
16" for the lever arm  
10" for the lower limb  
8" for the retaining spring

Form an open eye (3/4" diameter) with a fish-tail finial 2" above the eye, bend the bar through 90 degrees. Punch a 1/8" hole for the pivot point half way along the horizontal bar & punch a square hole on the end of the horizontal bar.

Copyright (C) 1989 - S.A. Bloom (IronFlower Forge)

ABANA chapter newsletters may reprint this article, provided the author's copyright is reproduced with the article and *The Florida Clinker Breaker* is credited as the source.

## TOOLS AND TECHNIQUES OF THE CUTLER IN FRANCE IN THE EARLY 1800s.

James L. Kirkland

By 1800 high quality carbon steels were being used to manufacture a wide variety of products (see the accompanying figures). These bore a remarkable resemblance to today's cutlery products. The shop facilities to produce these had changed little since the 1500s, and were nearly identical to those used for general blacksmithing and locksmithing: the traditional forge and bellows, anvil, vise, grinding wheels, and hand tools. Power was supplied either manually or by a water wheel.

Aside from the regular day-to-day products being produced, there was considerable research being conducted, both practically and scientifically, in reproducing the method for producing Damascus steel, the "figured steel" named for the place where it was first encountered (Syria).

The Persians produced Damascus blades as early as 540 A.D. These blades were renowned for their elasticity, texture, and cutting ability, and the process for producing them was kept a secret. Their success was attributed to the special steel used. One unusual piece of Damascus cutlery was the saber of Ali, preserved in the treasury of Ispahan, the ancient capital of Persia:

This astonishing saber is a steel blade thirty feet long and six inches wide and not very thick; a strong man would have trouble carrying it. On the tenth of the sacred month of Moharam, we carry the saber in a great ceremony, for the solemn procession of E'yd-a'chour, the anniversary of the massacre of Ali and his children [1].

In 1800 the process for making Damascus blades was still unknown; it was suspected that their high quality was due to the use of wootz, a steel from India having a density of 7,200 and containing, according to an analysis by Faraday, silicon and aluminum, rendering the steel more crystallizable. Experiments by Faraday, Stodart, and others tended to demonstrate that the Damascus steel was a cast steel with more carbon than European steel and that the Persians employed a tempering process that produced crystallizations of two distinct combinations of iron and carbon steel (two distinct materials were present).

Aristotle provided this brief description of the manufacture of wootz:

It is produced by heating on a charcoal hearth about one pound weight of malleable iron, cut into small pieces, with about 10 per cent of dried wood, in clay crucibles, the covers of which are luted with clay. [p. 8]

By 1835 the art of producing Damascus blades had been lost and Damascus blades of that time were fragile and otherwise inferior to the older blades.

Clout, in his *Art of Making Figured Blades*, gives these instructions for making Damascus steel [2]:

1. To make figured blades we draw the steel in very thin laminations or in thin rods of different shapes. These rods are united in a bundle and welded together using a wood-charcoal fire. The steel must be protected from overheating by a coating of clay or sand. Otherwise the characteristics of the steel will be altered and possibly the desired design will be destroyed.
2. To make figured blades it is necessary to use the best quality steels. We may also incorporate iron provided it has been well-compressed under the hammer and has elongated filaments and tenacity. If the blades are to be very elastic and tough we use only steel in their fabrication. We are able, in the meantime, without degrading their quality, to use iron in the part near the hilt, which need not be springy, but also in the rest of the blade. We can also augment its hardness if we always use, sparingly, excellent iron that has been well-compressed, and if we work it carefully, we retain the characteristics of the individual materials. This multiplicity of metals, iron and steel, also makes the design more apparent. In any case, we must not overheat the materials. The final use for the blade determines whether we use such-and-such types of steel and the portion of the iron that may be used with the steels.
3. The iron for figured blades must not only be first quality but it must have been worked well and have tenacity and a filamentary structure. Then the portion of the iron that is introduced gives body to the steel that forms the cutting edge of the blade. In this case we make the blade from three pieces: two pieces of iron with one piece of steel between them. We may use steel alone for the entire blade. If this is the case, it is better to use fine steel for the cutting edge and lesser quality steel for the outer layers. All of the steels used for the blades must be well-compressed except cast steel.
4. We see that for figured blades it is necessary to use steels of different qualities, for example, fine steel or spring steel, or of well-compressed iron. We could use only high-quality steels but it requires great attention to their welding. To prepare the materials, it is necessary to draw some very thin laminations not over two millimeters thick by



twenty-five millimeters, at least, wide. We form bundles of these laminations, twelve laminations at least, placing alternately a layer of spring steel or of iron, then a layer of fine steel. The outer laminations should be of the lesser grade of steel or of iron to make the design sufficiently clear. For this method it is necessary that at least eight laminations are welded together. This is easy to perform in two operations. The first operation can produce a bar of twelve laminations. In cutting this bar in three pieces, and welding these three bars together, we produce a single bar of thirty-six doubles or thirty-six parallel laminations. We may also compose these bundles of little square bars or of rods fashioned in swages and having different shapes following the design that we wish to produce on the finished blade.

5. We fasten together all of these laminations or little rods having different shapes, by means of square or cylindrical rings, following the shape of the bundle that we wish to weld, and then grip them with wedges, to bind them together solidly. Then, we heat the end carefully and coat it with a layer of clay to weld it; we manage the fire carefully giving the heat time to penetrate. When the end is sufficiently hot, we weld it, then we go to the opposite end and perform the same operation. The middle then becomes easier to treat, the two ends being securely fastened.

Above all it is necessary not to overheat the work. The beauty and quality of these blades consists principally in this: it is necessary that each of the materials retain its natural properties. It is necessary that the steel retain its own quality and the iron its own; if the temperature is too high they blend together.

6. The general method to obtain figured steel, and to give it the desired solidity, is to perform the welds along the lengths of the laminations. Laminations welded obliquely will not be solid particularly if we encounter some poor welds. We know in general that iron and steel resist less across their width than along their length; also we are not able, with confidence, to take advantage of a method similar to that which we employ for the mosaic, to make the blades. Otherwise the work would be difficult and long. But we can reach this same end and produce this same or a more beautiful effect in following the ordinary method of forging the iron and steel along their length and to weld them likewise. In this manner we compose the bundles that are to produce the designs, form prisms or cylinders fastened against each other, which is easy to do. When the bundle is formed or welded, we twist it around its axis a certain number of times to produce the desired design that we wish to produce on the blade.
7. It is not always necessary to twist the bars of prepared material to produce certain designs. The bars composed of parallel laminations are able to give a great variety of figures formed by lines by which the outline is bounded and which are enclosed one inside the others. These figures are obtained easily by engraving, with an engraving chisel, hollow groves across the blade. We cut thus a certain number that will show up in the place engraved, when we forge the bar to thin it and for the blade. We are careful not to perform this operation on a bar that is too thin, and we engrave the design smaller than it is to appear on the finished blade.
8. This method, engraving, although capable of producing a great number of designs, does not give all those that we would like; but we are able to produce them by the following method that consists of twisting, a certain amount, some bars composed of several rods of different shapes determined by the design that we wish to produce on the blade, and to divide in two this bar, along its length, by a section, a plane, that passes through its axis of twist. It is in this plane that we find the desired design. This is in the middle of the bar and this plane must pass through the axis of twist. This is the place where we find the most space to place the designs. Meanwhile, although the plane of these figures passes through the axis of twist, it is necessary to take care that the figures are not cut by this axis. If the figures are too near or too far, they disappear. In taking them not too far from the axis they will have more regularity and will be easy to fabricate.

The method to twist and to split the twisted cylinder or prism will make to disappear, in the section that passes through the axis of twist, all of the veins and nuances of iron and steel that we are able to encounter there, in the fashion that a bundle composed by chance of steels of different qualities, will give a design more or less streaked and mottled, according to the thinness of the veins that we encounter there. To split, after twisting the cylinder or bundle of rods, it is necessary to flatten it and give it a width of at least twice its thickness. Then, with a thin chisel, divide it while hot along its length following this twist axis. Meanwhile, it is necessary to observe that if we want to obtain the exact design that we have planned, it is necessary to make one of the halves a little broader than the other. This excess thickness can be removed by the fire, the file, or by grinding. As for the piece of lessor width, it will serve to make a blade with a design that is less precise.

Clouet goes on to say that these two methods—stacks of laminations or bundles of rods welded together—can produce very good blades provided that the steels used are well-compressed under the hammer. This hammering process could be performed cheaply in shops powered by water wheels, which was the case in most of France in the early 1800s.

We should also note that Clouet warns against the necessity to compress cast steel by hammering (see step 3 above). Crucible steel, cast steel and wootz were produced by melting the steels thereby forming a compact structure not ordinarily enhanced by hammering. To the contrary, cementation steels, or others having a coarse structure, might be enhanced by the hammering that Clouet refers to.

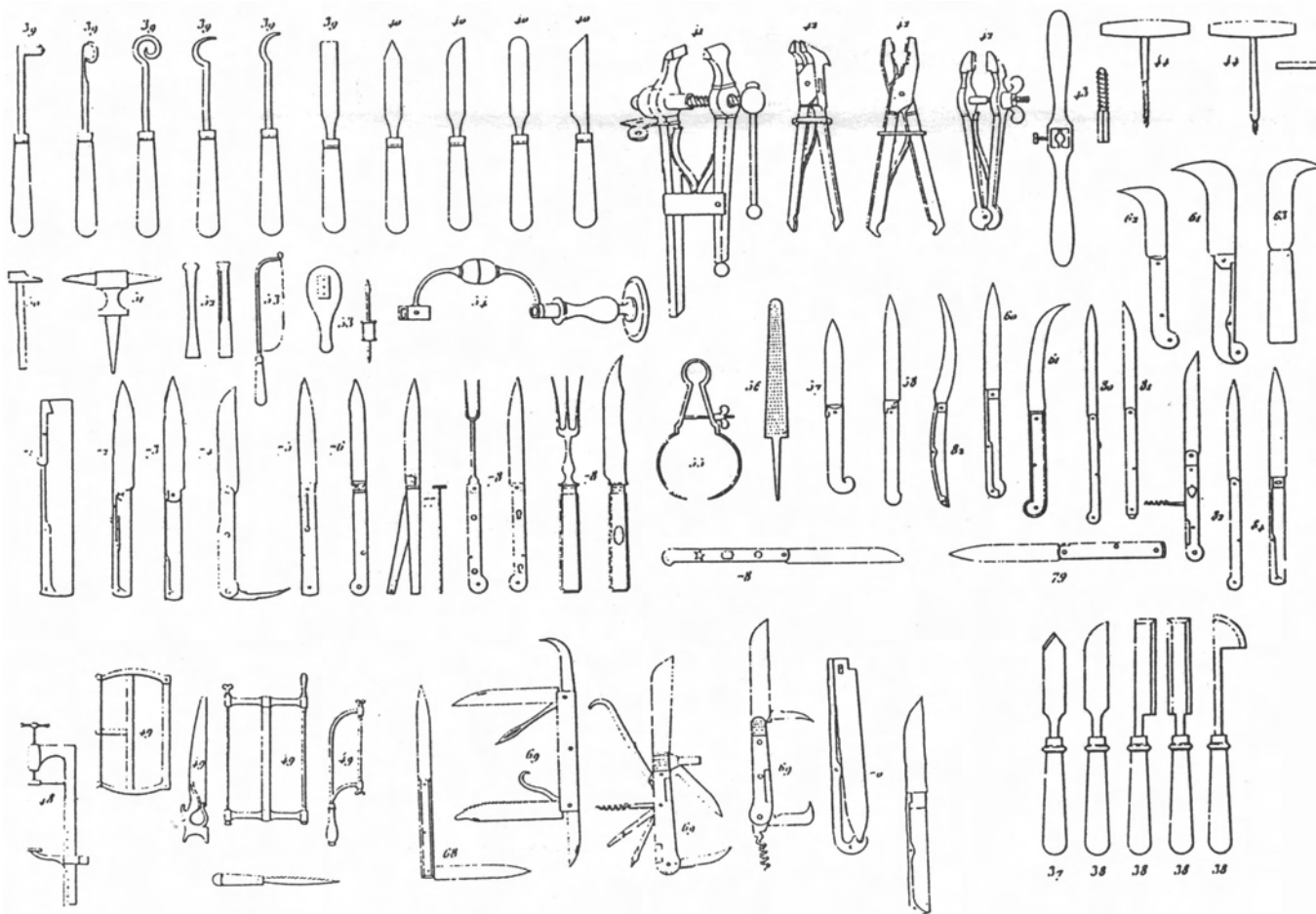
The "iron" referred to is wrought iron. The "spring steel" referred to is probably that produced by cementation.

The early 1800s is an era of transition between the water-powered and steam-powered furnaces and factories. At the same time, the studies by Reaumur and others provided a better understanding of metallurgy particularly of iron and steel. After 1850 the work of Siemens, Bessemer, Kelly and Thomas led to the large-scale production of mild steel. The process did not immediately replace crucible steel, which was still used for tools and armaments, but mild steel replaced wrought iron. Mild steel is, after all, approximately wrought iron with the slag removed.

Today, highly uniform steels are available and heat treatment methods are well established for them. To reproduce Clouet's method for laminated blades (see step 3 above) I recommend a low-carbon hot-rolled sheet steel (carbon 0.4%-0.5%) for the outer laminations. The cutting edge could be AISI W1 or W2, carbon about 1.00%. These grades can be oil or water hardened at approximately 1425 degrees F. These materials are easy to obtain.

Copyright 1989 by James L. Kirkland

- [1] J. S. Jeans, *Steel: Its History, Manufacture, Properties and Uses*, London, 1880.
- [2] J-F. Clouet, "Instructions sur la fabrication des lames figured, ou des lames dites Damas," *Journal des Mines*, Ann. 12, 1803/4, 15, 421-435. (The author, Jean-Francois Clouet [1751-1801], was a French chemist who developed a method for producing cast steel for use by the French arsenals.)



FROM CUTLER'S MANUAL

PARIS 1835

### DAVID PONSLER WORKSHOP

[by Joe Harris, reprinted from the November, 1989, newsletter of the Appalachian Blacksmiths Association]

"I attended the first David Ponsler Workshop." That is a statement that can be made by a dozen ABA members and it will, I believe, take on more meaning as time goes by. Some folks will tell you David is an up and coming blacksmith. I think he is already there.

The workshop got underway Friday evening at the Cedar Lakes Crafthouse. David showed slides of finished railing jobs and of several sculptures that he had done early in his career.

We got under way at the shop right after breakfast Saturday morning. Much to the delight of those attending, this turned out to be a "hands on" workshop. Everyone in attendance made an English water leaf and as time permitted people worked on steel roses. Those who did not finish left with the parts needed for a rose and the knowledge to complete it at their own shop.

Everyone was able to get a copy of the pattern for the English water leaf and David gave us the jig, needed to properly form the leaf, to be sold at auction Sunday morning.

The time seemed to pass quickly Saturday with all the activity of everyone trying their skill at making an English water leaf and some working on the steel roses. Also on Saturday

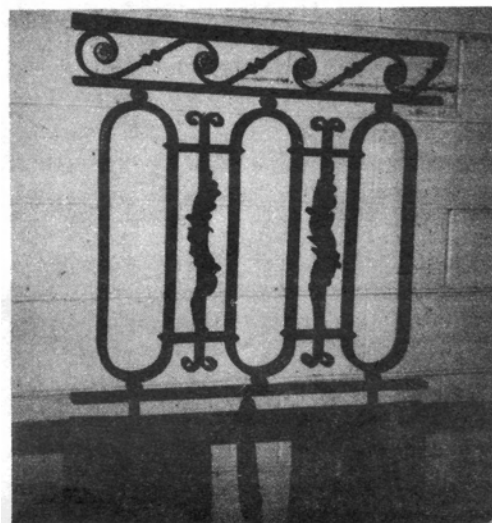
we saw a demonstration of jigs that can be made in your own shop for making curved railings. These jigs are portable and are used on the job site mostly to make adjustments.

David brought a sample of one of his railings for us to look over and photograph. David explained that he makes a sample for every major railing prospect. It gives the prospective customer a much better idea of the finished product than a shop drawing possibly could. It also saves a lot of grief in way of a customer misinterpreting a drawing or saying after the job is completed "It just doesn't look the way I thought it would." David firmly believes that making a sample is time well spent.

After dinner Saturday Paul Lacy showed a video dealing with the National Ornamental Metal Museum, Memphis, Tennessee. David showed slides of railing jobs in progress and explained layout techniques. After the slide show we all went back to the shop to get in more forging time.

Sunday morning David showed us how to gild small items. David says the gold leaf will last for years even when exposed to weather. Just before lunch we had an auction of all the things David had made including the gilded pieces and the water leaf jig. We raised nearly a hundred dollars.

This article does not do justice to the quality of the workshop, it was first class. I would have never even suspected it was David's first workshop had he not told me. I wish all of you could have been there. Thanks David.



Sample of a Railing by David Ponsler

### NEW MEMBERS

Jacque Flint  
Route 17, Box 1345  
Tallahassee, FL 32308  
Home: (904) 877-3327  
Work: (904) 222-4740

Lewis Hughey  
P. O. Box 700  
Osteen, FL 32764  
Home: (407) 322-8827  
Work: (407) 322-8766

Lynn & Kathy Stokes  
1220 Southways  
Delray Beach, FL 33483  
Home: (407) 278-7724

Jacque Flint is new to blacksmithing. She could use an anvil, forge, blower, and hand tools. She is interested in hardware, tools, and horseshoes. Jacque is a detective with the Leon County Sheriff's Department.

Lewis Hughey also is a beginning blacksmith. He is interested in knives, gate hinges & bolts, and general blacksmithing. Lewis is a member of the Pioneer Settlement in Barberville.

Lynn Stokes has long been interested in blacksmithing, and he's addicted to good demonstrations of traditional blacksmithing techniques. He also is a science fiction writer, interested in the history and economic impact of blacksmithing in village economics. Kathy is a serious and experienced rug hooker.

### ADDRESS CHANGE—Mark your membership list!

Bill and Val Klees, 12305 Kipling Place, Ocean Springs, MS 39564, (601) 875-8967. Keep in touch, Bill & Val. Come to Alfred in June.

MEMBERSHIP APPLICATION FABAA

Name \_\_\_\_\_ Date \_\_\_\_\_  
 Address \_\_\_\_\_ Telephone ( ) \_\_\_\_\_ HOME  
 \_\_\_\_\_ ( ) \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_ BUSINESS  
 Blacksmith Experience \_\_\_\_\_  
 Areas of Interest \_\_\_\_\_

Spouse Name: \_\_\_\_\_ Are you interested in procuring ( ) coal

( ) anvils, ( ) forge ( ) post vise, ( ) blower, ( ) hand tools

Membership Fee: \$15.00  
 Renewal May of each year

Send membership fee with this application to:

Florida Artist Blacksmith Association  
 Attn: Clyde Payton  
 Route 3, Box 124-D, Payton Road  
 Monticello, FL 32344

ABANA

Membership Application

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_  
 Phone: ( ) \_\_\_\_\_ Zip: \_\_\_\_\_  
 New Member  Renewing Member  
 How did you learn about ABANA?  
 \_\_\_\_\_

Regular Member	\$15.00 yr
Family Membership (one @ one)	\$40.00 yr
Senior Citizen (age 65)	\$25.00 yr
Overseas Membership	\$45.00 yr
Contributory	\$100.00 yr
Library	\$25.00 yr

I \_\_\_\_\_ hereby apply for membership in the Artist-Blacksmith Association of North America and enclose \$ \_\_\_\_\_ as my annual membership dues for one year.

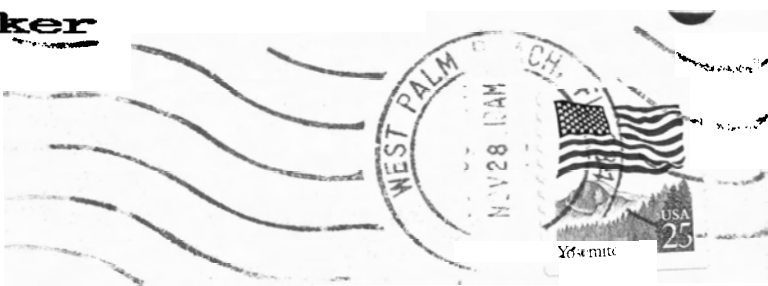
MasterCard  VISA  Check/Money Order   
 Card Number \_\_\_\_\_  
 Exp. Date (Required) \_\_\_\_\_ / \_\_\_\_\_

Checks must be in U.S. currency.  
 SEND RENEWAL TO:

ABANA (812) 988-6919  
 P.O. Box 1181 Nashville, TN 37248

Dues: Regular \$15.00, Family \$40.00, Senior \$25.00, Overseas \$45.00, Contributory \$100.00, Library \$25.00

**The Florida Clinker Breaker**  
 Florida Artist Blacksmith Association  
 1532 Old Okeechobee Road #103  
 West Palm Beach, FL 33409-5226  
 (407) 640-0445



THIS MONTH'S MEETINGS

- 12/2: Barberville
- 12/9: Tallahassee
- 12/9: Fort Lauderdale
- 12/30: Sarasota

Details on page 2.