New Jersey Blacksmith Association

Newsletter

Volume 2, No. 1 **June, 1997**
www.NJBlacksmiths.org

1997 NJBA Meeting Schedule

If you would like to host one of these membership meeting at your forge, please contact the editor.

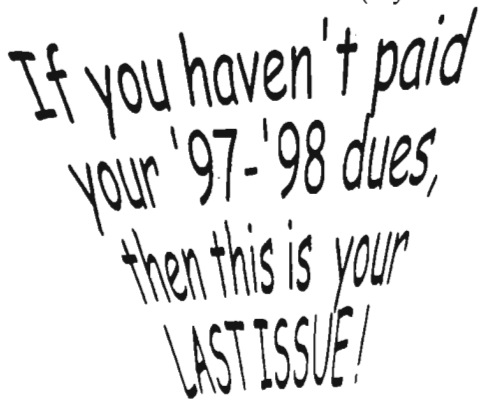
Sunday, August 17. John F. Graney Metal Design, in Garwood, NJ. (See below.)

Saturday, September 20. At the forge of David Macauley, Jackson, NJ. (See below.)

Sunday, October 19. (Location to be determined.)

Saturday, November 15. (Location to be determined.)

Sunday, December 21. Holiday Party and Meeting (Location to be determined.)



August Membership Meeting *...and Tailgate Sale*

The August NJBA meeting will be on **Sunday, Aug. 17, at 10 am, at John F. Graney Metal Design, in Garwood, NJ.** an ornamental and architectural ironwork shop. John will be presenting a discussion and demonstration of the profession of architectural ironwork.

Bring lunch. NJBA will be holding its first official **tailgate sale** at this meeting. Bring your surplus tools, etc., to sell or trade. Contributions to the iron-in-the-hat are requested and will be greatly appreciated.

John F. Graney Metal Design is located at 7 North Ave., Garwood, NJ. (Phone: **908-789-8500**.) Take the Garden State Parkway to exit 137 and exit onto Route 28. Take Route 28 (North Ave.) west through Cranford. Watch for the cross-street, Lincoln Ave. Landmarks at North and Lincoln include Dietrich Liquors and Frosty Freeze Ice Cream. Immediately after crossing Lincoln Ave., make a left turn into the driveway of Standard Nipple Works. (John F. Graney Metal Design is NOT visible from the road.)

September Membership Meeting

The September NJBA meeting will be on **Saturday, Sept. 20, at 10 am, at the forge of David Macauley**. His forge is located on the property of his friend Scott Sayer, in Jackson. The Sayers live on Farmingdale Road which is directly across Rt. 9 from Georgia Tavern Rd.

Bring lunch. Come dressed for work (goggles mandatory, ear plugs recommended). The main part of demonstration will be to finish the wrench for LaTourette Mill. If Bruce Freeman has managed by September to make any progress on he "Aussie burner"-powered propane forge, that will be demonstrated as well.

Bring your surplus tools, etc., to sell or trade. Contributions to the iron-in-the-hat are requested and will be greatly appreciated.

To get to David's forge, take I-195 to exit 22, "Jackson Mills/Georgia". If you are traveling west, exit to the right (north) onto Jackson Mills Rd. If traveling east, exit to the left. Travel about one mile on Jackson Mills road until you reach the intersection with one road (Ely Harmony Rd.) to the left and two (Ely Harmony and Farmingdale Rds.) to the right. There is a strip mall at this intersection. Take the second right, onto Farmingdale Road. Go under the big power lines, the Sayer's residence (where David's forge is) is the second house on the right past the power lines: **825 Farmingdale Rd**. The Sayer's phone number is: **(908) 370-9642.**

Report: Anvil Repair Workshop

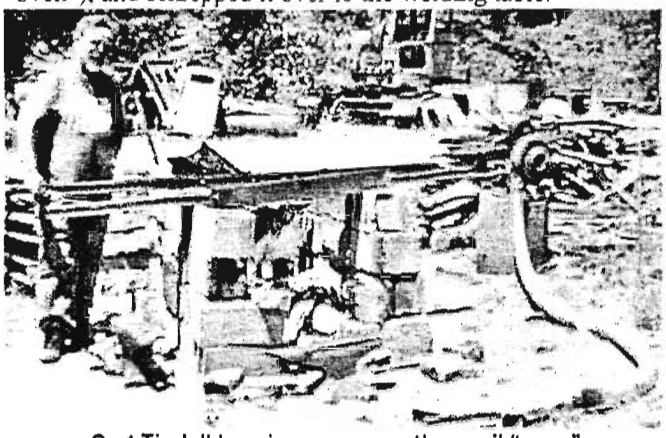
The anvil repair went very well, albeit in July, not in June, as originally scheduled. I arrived at Marshall Bienstock's shop at about 8:30 am, and David Macauley was not far behind. Andy Vida-Szucs and Curt Tindall apparently were already there and were sitting in Curt's truck shooting the bull. We got a lovely wood fire going in an "oven" built of cement block, four course high on three sides (open on top). A champion blower provided the blast, when needed. We had a pile of scrap softwood for kindling, but made coals from some oak logs.

David had previously prepped a couple of the anvils: His own, and one that we're fixing up for Peters Valley Craft Education Center. David instructed our other two "customers", Carl Davison and Curt Tindall, how to prep their anvils, grinding all edges and other spots that needed new metal.

We hung the anvils upright on chains from the middle of carriers constructed of doubled pipe (or whatever), with some sort of handles at the ends for carrying. These were perhaps 8' or 10' long, so kept the porters well away from the hot anvils. The carriers rested on the top course of cement blocks, and the anvils dangled below.

Our "oven" was sweet: We were able to heat an anvil to 400° F in no time flat (less than 30 minutes, I'm sure), and from time to time had to take an anvil away from the heat to keep it from overheating. (We were monitoring heat using welder's crayons, aiming to get an anvil to 400° F and not above 450° F.) Once hot, we'd grab the carrier from either end hoist the anvil up and over the side of the "oven" (the

hotter anvil *never* seemed to be on the open end of the "oven"), and schlepped it over to the welding table.



Curt Tindall keeping an eye on the anvil "oven"

The major hitch in the process was that Marshall had to use rod instead of MIG wire, as he couldn't find an appropriate MIG wire. This meant that the welding was perhaps half as fast as it would have been using MIG. (We had used MIG in our test run a few months ago on Andy's anvil, and it spoiled us!) We had expected that Marshall would weld and someone else would chip scale, but apparently the scale-chipping was such a minor part of the effort that Marshall found it more convenient to do it himself. Marshall ended up working virtually non-stop the whole time. The rest of us were busy enough, but not nearly as busy as Marshall.

Marshall prepares to strike an arc.

After Marshall had put a good bead on an anvil, it went back into the fire for a reheat. Then it would be cooled in air a while, then moved back into the shop for grinding. Most anvils took two or three welding sessions to finish, but even after the first session they were looking good. Carl's Peter Wright had a chunk out of the plate at the tail, and Marshall did a yeoman's job filling that in. We had been identifying Carl's anvil by that missing chunk, and we had trouble after that.... David, Curt and Carl spent much of their time grinding and sanding their anvils. I mostly tended the fire and helped carry anvils, though everybody pitched in on that.

The day went very long. It was disappointing that we could "only" repair four anvils in a day, but at least those seem to have come out well. The anvils didn't get their final grinding during this session, but that bothered no one. Carl, who drove three hours from New Paltz, NY, to be here, had to wait quite a while for his anvil to cool enough to carry home.

We charged only $50 per anvil for the repair, and those guys got a bargain. It was balanced, however, by the fact that they had to risk their anvils on an unknown quantity - us. I think the money will be sufficient to compensate Marshall for his expenses, but I doubt there will be any to spare. If we could have used MIG welding and processed more anvils, the story might have been different.

David and Jerry browse Carl's tailgate sale.

Thanks to Carl, NJBA had its first tailgate sale. He brought a truckload of tools. The rest of us came unprepared for this, but I think Carl converted us all. We should do more of this, and I plan to announce tailgate sales for all upcoming meetings. I picked up a couple things I could use, and Carl swapped a lot with Marshall. - Bruce Freeman

Caniron 1

by Bruce Freeman

Caniron 1 was very worthwhile. (Of course it was a good excuse for me to take off for a week in the middle of a two-week visit to in-laws in Portland, OR.) One of the best parts was just in visiting with other smiths.

I attended forge welding demos by Dorothy Stiegler and Berkley Tack. Different techniques. Both good. I've got to try it again. Dorothy mostly demonstrated making metal flowers, and since that's beyond my current skills I sat in only on part of one session. Very impressive what she does, and she's planning to co-author a book in a year or two, detailing patterns, techniques. She emphasized finishes (for indoor use) as being essential to professional uses. By the way, if you see one of her roses, be sure to smell it....

The coal they'd got their hands on was the worst I'd ever seen, and at least one of the coal forges was of a scale unsuitable for light work -- the air grid (over the tuyere) was fully 6" in diameter! Both demonstrators I saw using this forge had to have "firemen" to run the things. The first fireman was at a loss how to master it, and managed to maintain a good fire only by pulling enormous clinkers out *literally* every few minutes. The flames were like an oil fire, and eventually the tarp of the canopy roof started to develop pinholes. (The spectators notified the organizers and one of the latter cut a hole in the tarp to pass the heat.) The second fireman I watched, with the aid of demonstrator Berkley Tack, did a much better job by confining the fire to a smaller

volume. Nonetheless, that coal produced some amazing clinkers.

Sheppard's Big Lick treadle hammer was much in evidence -- he apparently hauled three or four of them across country for use and sale at Caniron. I believe he sold one at the conference. Looks like a good hammer. I like the safety feature - the hammer locks in the up position. There was some criticism about the clearance (10" if I recall correctly). It seems an excellent hammer for detail work, but I'm not sure about power: it seems non-adjustable, and delivers essentially a 1:1 blow, like stomping on the work with your foot (but with the momentum of a 90# weight). I think I'd build a hammer differently, but I'd be happy to have a Big Lick in my shop.

The Kick-Ass air hammer (No kidding! That's the name.) was also demonstrated. This hammer is impressive, but scary. It had no safety guards, except for a cover to the pedal to prevent tromping on it accidentally. It really cries out for an adjustable safety shield (and it would be very easy to make one of expanded metal and some simple slide mounting bars). It's design makes it impossible to work sheet metal (or anything wider than about 6"). It's a single-strike hammer, and I was impressed at how such a hammer can be used as a vise - a great convenience at times. One particular limitation was that the control pedal is rigidly attached to the hammer pedestal, which means that the hammer cannot be operated from a distance. However this *is* safer. This hammer could probably pay for itself in short order in a professional shop. Its price (about $4000, I think) is out of reach for me. Ear protection is definitely required.

I was both heartened and disheartened by the auction. Some beautiful ironwork went for *mucho dinero*. Completely out of the reach of my pocketbook, but it probably brought in a great deal of needed money to the organizers. It's good to see ironwork sell for so much. Maybe some day I will have the skills to make items to contribute to such an auction, and will have the pleasure of watching them sell for more than I could afford to pay for them myself....

Derry Cook demonstrated his propane burner and forge. *Very* interesting. Even I, a dedicated coal-user, may be convinced. He claims good fuel efficiency, and, even with imperfect sealing of the ends of his forge (some of the firebricks had "walked") the forge reached 2000 F in about 15 minutes. (I have purchased one of these burners, and may demonstrate it at an upcoming meeting.)

The only significant criticisms I had was of rearrangements in locations and times of the demonstrations. For some reason, demonstrators were scheduled such that they'd have to move their equipment from place to place between demos. Naturally they did not do so, and as a result the audience had to look around to find them. Worse still, on the last day of the conference, there were some swaps of time slots between morning and afternoon to accommodate demonstrators who needed to leave early. I missed a demo I wanted to attend as a result and was not happy about it. Lack of a centralized posting of the revised schedule exacerbated the problem.

With five or six demonstrations going on simultaneously, this is nowhere near a complete report of Caniron 1. Therefore I've included (with permission) an account by Fred Holder, from his *Blacksmith's Gazette*.

Caniron is said to be biennial, so I'll be looking forward to Caniron 2 in 1999.

Caniron 1 - First Canadian Biennial Blacksmith's Conference

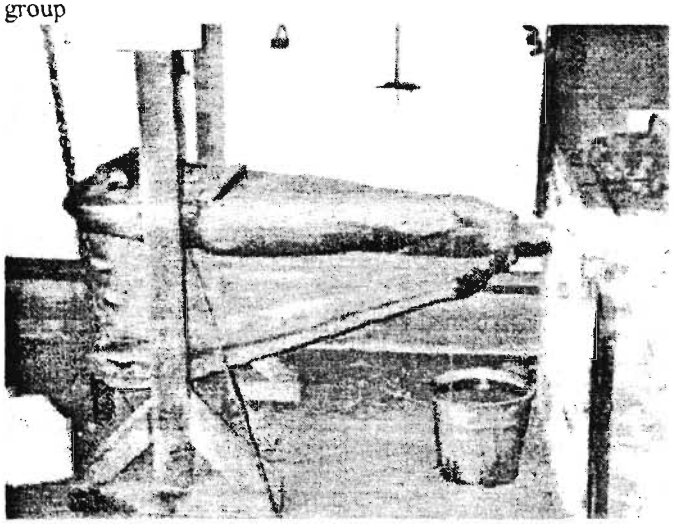
Text and photos by Fred Holder, Blacksmith's Gazette

On June 28 through 30, 1997, 219 smiths journeyed to the O'Keefe Ranch north of Vernon, British Columbia, Canada to attend what was billed as the "First Canadian Biennial Blacksmith's Conference". I first assumed that this was sponsored by the Canadian Blacksmithing Groups, but later found that it was the dream of a small group of Canadians, five people in all, who felt strongly that such a conference was due.

As I understand it, they did go to the Canadian Clubs for support, but found them not interested. They also went to the Artist Blacksmith's Association of North America (ABANA) for possible sponsorship. ABANA wanted the "hog's share" of the profits and wanted them to make sure the conference would net a profit of at least $25,000. Why should this group do all of the work and give ABANA the majority of any moneys earned? The group still felt strongly that the proposed conference's time had come, so they decided to go it alone. I think they needed 300 registrants to make money, but perhaps the success of the auction on Sunday night helped to make up for some of the shortfall. It was an excellent conference and those five people deserve a "hand". The people in attendance gave them a resounding "hand" at the major get-together on Sunday night before the auction began and considering the bidding, I believe they gave them another hand during the auction. From Blacksmith's Gazette, we say "Good Show" , hope you can do it again!

Who were these people who put this thing together? As I understand it, the idea was the brainchild of Ron Greig, Chairman of the Board of Caniron 1. He was the overseer of the event, but he could not have carried it off without the help from the others. Derry Cook was in charge of registration and also demonstrated, his wife Pat Cook served as treasurer and organized the registration at the site. Ed Parker was everywhere. He was layout person, sheriff, problem solver, run-about. He was all over the place and looked pretty tired toward the end of the event. Ed was there a week ahead of time to lay everything out. Unfortunately, the weather hadn't cooperated. The wheat that was supposed to be ripe and cut was still green when Ed arrived. Two acres of the space allotted for the Conference was in the wheat field. As a result, the plans and drawings, that Ed had carefully made at home, based on an area of 4-1/2 acres had shrunk to 2-1/2 acres. Ed had to start over in his planning just one week before the event. This trauma for Ed was not apparent to the attendees. The site looked well laid out. I thought he had

done a grand job of planning the area and told him so. The other member of the team was Ed Cushing. I'm not exactly what Ed Cushing did besides plumbing the "hook up" sites with water. I guess he was sort of a member at large with the group



The bellows in the O'Keefe Ranch blacksmith shop.

The ranch site was beautiful. For farmers and those interested in vintage machinery, this site was simply grand. There was more old farm machinery than I've ever seen in one location. There was even a steam tractor. Also a working blacksmithing shop on the premise, although I'm not sure that it is manned full time even though Joe Delisimunovic is the resident smith. It didn't look like a shop that is operational on a full time basis; however, the equipment from the shop may have been pulled out to use for the demonstrations.

The ranch also has a place where you could buy meals if you didn't bring your own food. A number of the participants dined there for breakfast and dinner, perhaps lunch too. This dining establishment also served the banquet on Saturday night. They did an outstanding job of it. The food was good and there was plenty of it. Arrangements had been made for a fellow, I didn't get his name, and his son to serve hamburgers and hot dogs, chips, and drinks for lunch. He made a good hamburger, so I made his booth my lunch stop each day.

Each day at 1:00 pm in the public demonstration area, they held a blacksmithing competition. I'm not sure whether it was the same each day or not, but on Sunday when I watched, they were doing a riveting competition with teams of two. One fellow forged the rivet from a piece of steel, looked like about 1/2" round bar. Once the rivet was formed, it was thrown to the second party who caught it in a bucket. He then riveted two pieces of steel together. The best time won.

Because of the time it was taking to make the rivet, it was decided to re-heat the rivet before tossing it to the partner. Joe Delisimunovic and one of his helpers demonstrated how to do this before any of the blacksmith's tried. They did it in one heat.

Of course, a conference is intended to be a learning experience. There was plenty of talent on site for that. Anyone who didn't learn something must have been sleeping through the demonstrations. With six areas of learning in operation and six rotations; i.e., two each day for three days, it was not possible to see everything. But by drifting about from one to the other, you could get something from each session. In addition to these regular sessions, there was a demonstration going on in a public area each morning and each afternoon. Also, John Babcock and Bill Plant had a forging station set up in the vendor area. They did regular demonstrations all day long and had a selection of forged items for sale.

Three of the demonstrators I knew from years back: Dorothy Stiegler, Darryl Nelson, and Berkley Tack, and I was familiar with Jerry Culberson. The other demonstrators were new to me. The one demonstration that I wanted to see, but didn't make it was Richard Sheppard of Morgantown, West Virginia with his Big Lick treadle hammer. I did get a run down on how it worked, sort of a personal question and answer thing, but I missed his actual demonstration for some reason. I think they had to make some schedule changes because of travel arrangements of some of the demonstrators.

Dorothy Stiegler, Jerry Culberson, Darryl Nelson and Berkley Tack are/or were all members of the North West Blacksmithing Association (NWBA) centered in and around Seattle, Washington and encompassing blacksmiths from Washington and Oregon and possibly Idaho. They are well known demonstrators and full time blacksmiths.

Dorothy Stiegler is now a resident of California and was the 1st woman president of ABANA. As a demonstrator, Dorothy is extremely skilled in all areas of blacksmithing, but is best known for her beautiful metal flowers. Dorothy has taught in the USA, Canada, and the United Kingdom. I've seen Dorothy demonstrate at various times over the years and she was my first choice at Caniron 1. Her first demo for the conference was "forge welding". Dorothy uses a unique "two heat" process to forge weld. I always remember watching Jud Nelson demonstrating forge welding several years ago, he was going back to the fire for about the third heat on his forge weld. A participant spoke up with, "How many heats does it take to make a forge weld?" Jud's answer, "As many as it takes!" Well Dorothy only takes two for most of her forge welds. But the coal supplied by the conference wasn't so awfully great, it was more "awful!"

It seemed to have about five pounds of clinkers to 10 pounds of coal, perhaps more. They had such a large fire going that they burned a hole in the canopy. That was probably an expense that the Caniron 1 group hadn't anticipated. Anyway, Dorothy (1) brings her steel to an orange heat and wirebrushes it, (2) fluxes with 20 Muleteam Borax, straight from the box, (3) back in the fire, bring it to welding heat (she says that welding heat is reached when the flux melts and runs over the surface), (4)she brings it out and slings it down to shake off the excess flux and scale, (5) then to the anvil for light taps to bond the pieces together. Dorothy doesn't let the steel cool very much before she (6)wirebrushes it again and adds flux, (7) she puts it back in the fire and brings it to a welding heat. Again, (8) she snaps

the hot metal downward to shake off the excess flux and melted scale, and (9) back to the anvil where she hits it hard to fully bond the pieces together. Dorothy says that by tapping lightly on the first weld, you bond the pieces together and they tend to stay in place when you hit them hard on the second heat.

Darryl Nelson lives in Eatonville, Washington and is a well known ABANA demonstrator and a NWBA member. He is an excellent all around blacksmith, but specializes in animal heads. This was the topic of his several demonstrations during Caniron 1. Darryl makes it look so easy. Just hold your chisel or punch here and hit it with the hammer and the cheek seems to move into the correct location. If you get a chance to see him demonstrate, it is a worthwhile adventure.

Berkley Tack is from Rainier, Oregon and is a full time smith who does a lot of tool work and architectural work. Berkley is a master smith and very knowledgeable on the subject of heat treating of steel. He demonstrated forge welding (including the making of a knife blade from logging cable), heat treating, and identification of steel, and making of door hardware. I watched Berkeley's forge welding demonstration, part of his heat treating demonstration, and part of his door hardware demonstration. He really packs a lot of information into his presentations. Apparently, Berkley does quite a bit of tool dressing and re-heat-treating for businesses in his area.

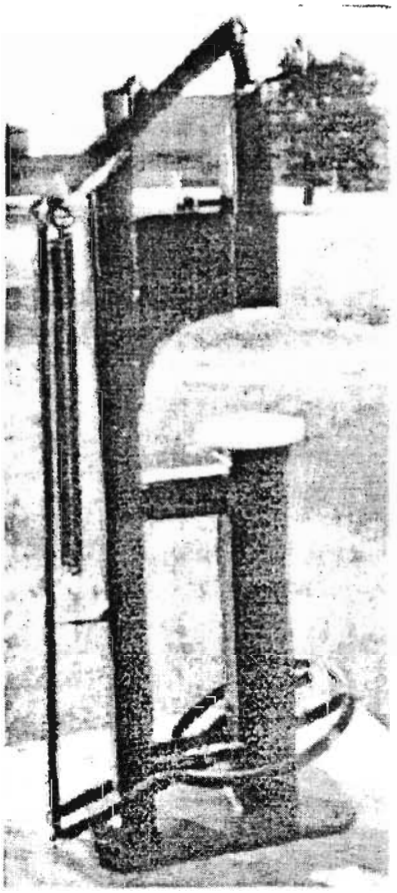
Jerry Culberson began his blacksmithing career on Michigan farms when he was 11. Now, at Allyn, Washington, he practices blacksmithing on a full time basis. His motto: "if you can imagine it, I can forge it." After watching him for awhile. I believe that he can. The demonstration I watched was devoted to Joinery and Jerry was making a tenon on a piece of 1" or 1-1/4" stock, which is not easy with just a hand hammer. But he stressed the importance of keeping that shoulder square and not banging it while forging the tenon. Jerry was also the auctioneer at the auction on Sunday night. He's excellent in that job. I'm sure that things sold for as much as they did, because of Jerry's expert auctioneer work.

I watched Joe Delisimunovic and his two helpers, Mitch Steck and Tony Krupp, forge and fit wagon hardware. I didn't get back to them towards the end of the conference to ensure that they completed the wagon they were working on for most of the conference. Joe learned blacksmithing by apprenticing in Croatia and Germany, where he worked in a wheelwrights shop to earn extra cash. He is resident blacksmith at the O'Keefe ranch, and a good one I might add.

John Adolph of Maple Ridge, British Columbia, Canada was trained as a blacksmith and welder in Germany but has spent most of his working life in Canada. Welding and weld design became his specialty, but John continued blacksmithing. I didn't watch John forge at all, but set in on his discussion of "flame straightening". I'm not sure that I fully understood all of what he had to say, but it makes sense. He gave many examples of cases where bent machinery was able to be straightened by proper application of heat and coolant (he recommends an air/water spray used close to the heat source). I found it interesting, but without a chance to actually check out his discussion it was a little hard to grasp.

Derry Cook of Saster Forge, Erickson, British Columbia, who was in charge of registration, ran a workshop on propane forges and demonstrated his "super burner", which doesn't use a blower, only normal air available and propane.

.

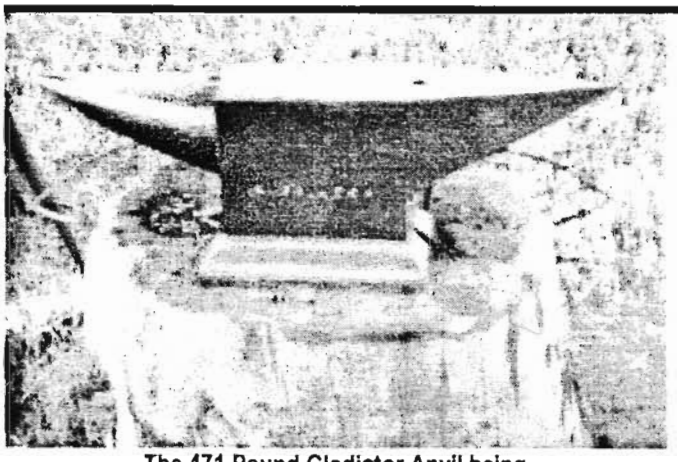


The Big Lick Treadle Hammer

Richard Sheppard of Morgantown, West Virginia demonstrated his Big Lick treadle hammer. This is a better hammer design than any others. Originally, I photographed the first of these new types of treadle hammers at the ABANA conference in Wisconsin in 1984 and published it in the pages of Blacksmith's Gazette. Although a great improvement over other forms of "Oliver" that I have seen, it still had a number of problems and it looks like Sheppard has overcome most of these with his hammer. If I were purchasing a treadle hammer for use in a blacksmith shop, I would give Sheppard's hammer a hard "look see."

I missed John Smith's presentations on "This Business of Blacksmithing", since I'm not really in the business of blacksmithing. Smith is from Kootenay Forge, Crawford Bay, British Columbia where he is owner of an exceptional blacksmithing production facility and distribution system. I just couldn't seem to work his presentation into my schedule, but it would have been interesting to hear what he had to say about the "business of blacksmithing", something that a lot of smiths forget to consider, blacksmithing is a business and must be run that way if you want to make any money from it.

Jerry Culberson brought a sample of the 471 pound "Gladiator" anvil that is being produced in Washington State. That was one big anvil that provided a lot of mass to back up your hammer blows.



The 471 Pound Gladiator Anvil being manufactured in Washington State, USA.

Not really a part of the conference demonstration scheme because they were set up in the vendor area, but were demonstrators anyway, were the team of John Babcock and Bill Plant. Both of these guys have been mentioned or had material in the pages of Blacksmith's Gazette in the past. You may remember John Babcock's poetry and Bill Plant's flatter made from oil field parts. John was using an anvil that he had made by welding five pieces of steel together, a good looking anvil it was too. He also had a post vice that he had made, about as fine a vice as I've seen. Both of these fellows demonstrated making tongs and other things during the conference. They also had a significant number of items on display and for sale.

Finally, we must not over look Norm Larson, book seller from Lompoc, California, who brought his "book mobile." Norm has about as complete an offering of blacksmithing books as you'll find anywhere. I've provided book reviews on three books that I picked up from Norm during the conference. You can get his address and telephone number from our list of suppliers at this site.

That pretty well wraps up the overview of the conference. I hope the people involved managed to break even or even make a little to compensate for the great amount of effort they put forth to make this event a real success for the attendees. I really didn't have much negative to say about the conference. It was well put together and well run. I had only two comments on the negative side: (1) the coal was real bad and (2) the lack of forge tools (shovel, poker, etc.) and anvil tools (hardy, fuller, etc.). The coal was an accident, they thought it was good. The other stuff they simply supplied for the demonstrations what the demonstrators had asked for. Apparently, the demonstrators didn't think to ask for tools to tend the fire and hardies to cut off steel. I always think of these tools as being a part of the forge and anvil station. But when you consider the overall, these tiny negative bits, which only slowed the demonstrators up a bit, had little to detract from an overall well run conference.

About Blacksmith's Gazette

Blacksmith's Gazette is a monthly, tabloid publication for blacksmiths. The coverage is basic blacksmithing information; i.e., techniques, news, etc. Cost is $30.00 per year. Subscriptions may be obtained from: Blacksmith's Gazette, 950 S. Falcon Road, Camano Island, WA 98292. We accept Visa and Mastercard. For more information about the publication, have a look at our web page at: http://www.skagit.com/blacksmith.

The "Aussie" Burner

by Derry Cook

[Editor's note: In my article (above) on Caniron 1, I discuss Derry Cook's forge and burner. I have since purchased one of these burners and will be constructing a forge to take it. (My burner cost me $88 CAN, which is roughly $66 US, including postage and customs duties.) As soon as I have some successful results, I'll demonstrate the forge at a meeting. I have invited Derry to give us a little background on his burner.]

The "Aussie" atmospheric burner was developed for a number of reasons: 1) to achieve greater economy by maximizing the efficiency through better insulation and the optimum propane/air mixture. 2) To eliminate the need for electricity, thereby making the forge/burner - unit completely portable. 3) Reduce the weight to increase portability and flexibility. 4) Simplify the design to bring it within the reach of any and all aspiring 'smiths. 5) In most cases the "Aussie" atmospheric burner can be used in existing "North West Racer" type gas forges, and uses a 20 lb barbecue tank in 8 hours without freezing.

Greater economy is achieved by using a small orifice at a higher pressure, in a smaller burner tube. 3/4" schedule 40 pipe is reamed inside to give it a smooth finish, and a 7 1/2" piece of it is butt welded to a weld-on 1 1/2" - 3/4" pressed steel reducer. A pair of lugs are added to hold the orifice pipe which is 1/4" schedule 40 black steel, threaded one end and sealed off at the other. The dimensions and configuration of the burner are critical to the satisfactory operation, i.e. air to propane mixture, in order to give a hot neutral flame. Horizontal and vertical adjustment of the orifice are critical and can be set after the forge is lit.

A temperature of 2400 degree F. can be reached in say 10-15 minutes in a forge that has a steel housing 12" in dia. and 12" long with two layers of 8 lb density Kaowool and a firebrick to form a flat floor. The burner tube is set inside a slightly larger tube that is welded into the wall of the forge.

Position the tube in the forge as high as will clear the insulation horizontally. The burner tube should be an easy sliding fit inside the forge tube, which protrudes approximately 4" outside the forge housing and just inside the line of the insulation on the inside of the firebox. Firebricks are stacked as doors to both ends of the forge, giving maximum flexibility of use.

A shut-off valve is attached to the lower end of the orifice tube and 10' of propane hose (not air hose) goes to a gauge and regulator onto the propane tank. Light the forge with a small propane burner at about 30 lb sq. in. and forge at 20 lb - 45 lb depending on size and type of work.

Derry Cook, PO. Box 136, Erickson, B.C. V0B 1K0, Canada. pcook@kootenay.awinc.com

Blacksmithing Classes

Below is the schedule of the remaining 1977 blacksmith classes at the Carroll County Farm Museum. Presented by the Blacksmith Guild of Central Maryland, Inc. For full details, see Newsletter Vol. 2, No. 1. All classes are scheduled from **8 am to 4 pm on Saturday and Sunday**. The **cost** for a two-day weekend class is **$80.** To enroll in a class call the Farm Museum at (410) 848-7775 or toll free 1-800-654-4645.

August 9 & 10 (Level 1) ***Beginners Class*** The student will learn how to start and control a fire in a coal forge, hammer control, using the anvil to draw out, bend, twist, and upset steel. Throughout the class, emphasis will be on safety and hammer control. Discussions will include where to acquire tools, steel and literature for the blacksmith of today. The student will make several items to take home from the class. **Instructor**: Albin Drzewianowski

August 23 & 24 (Level 2) ***Making Bending Jigs & Scroll Jigs*** The student will learn to design and make jigs to assist in production work. **Instructor**: Nick Vincent

Sept. 13 & 14 (Level 2) ***Making Nail Headers, Nails, Bolts & Rivets*** The student will make a nail header and a rivet header for making both items as needed for production. He will also learn to make bolt heads and form the threads for bolts and nuts. **Instructor**: to be determined

Sept. 27 & 28 (Level 2) ***Making Tongs*** The student will learn to make tongs and to modify existing tongs for special job requirements. **Instructor**: to be determined

Oct 25 & 26 (Level 1) ***Beginners Class*** (See class description above, Aug. 9 & 10.) **Instructor**: Albin Drzewianowski

Nov. 8 & 9 (Level 2) ***Making Christmas Items*** The student will learn to make seasonal items such as mantel hooks, candy canes, candle holders, and Christmas tree ornaments. **Instructor**: to be determined

Nov. 22 & 23 (Level 2) ***Making Garden Equipment*** The student will learn to make plant holders, beverage holders, hose hangers and other items useful in the yard or garden. **Instructor**: To Be Determined.

Books from Norm Larson

People sometimes call and ask what books I would recommend for someone who is just starting. I would consider the books below as good suggestions for a beginning library -- just learning about blacksmithing and the basic techniques, etc. I don't consider Schmirler's book a beginning book, but there is still enough in there for the beginning smith and still will have plenty in it as one progresses in their ability.

These are the descriptions that will be in my new catalog. This new catalog will have a little over 300 books on blacksmithing and decorative ironwork, 30 on knives, 20 on casting & foundry work, 20 on carriages, 50 miscellaneous titles. Also, have about 20 videos now.

Norm Larson (larbooks@impulse.net)

NEW EDGE OF THE ANVIL, Andrews, 243 pp., 8" x 10", fully illustrated with drawings & photos. If there is ever an award given for the best book ever written, I think Jack Andrew's New Edge of the Anvil should receive the award. This book is a complete revision of the Edge of the Anvil that has been the standard since 1977. The book tells how to work metal: heating it, cutting it, upsetting it, drawing it out, twisting it, welding it, and shaping and assembling it, and a whole lot more. To make it even better the works of Martin Rose have been added to the revised section on the work of Samuel Yellin as well as works of modern metalworkers Elizabeth Brim, Fred Crist, Tom Joyce, Nol Putnam, Brad Silberberg, and Enrique Vega. B128 (P) $24.50

PRACTICAL PROJECTS FOR THE BLACKSMITH, Tucker, 248 pp.., 7 1/4 x 9", 109 photos, 100's drawings. Really great to see this fantastic book back in print--first printed in the early 80's. Over 50 projects are fully illustrated and explained in detailed step-by-step instructions. Projects include many types of trivets, tongs, hinges, door bolts, a harpoon, wall lamps, music stand, fireplace tools, nails, plant stands, a wine rack. pipe tongs, branding iron, kitchen utensils, and much more! This book should be on every blacksmiths shelf. B233 (P) $18.95

PLAIN AND ORNAMENTAL FORGING, Schwarzkopf, 267 pp.., 228 drawings., 8½x11". Most would agree that this reprint book is one of the very best on forging and art smithing. The book was used originally as a text and has over three dozen exercises in beginning forging and ranging from making nails to tongs to hammers to lathe tools. The section on art smithing alone is worth the price of the book and covers such things as scrolls, twists, making a rose, repousse, making leaves and leaf development and much more. Also shown are the tools and techniques to making these items. B182 (P) $14.95

THE WORK METHODS AND TOOLS OF THE ARTIST-BLACKSMITH, Schmirler, 128 pp.., 224 photos, 85 drawings, 37 in color. This book is published with the German title "WERK UND WERKZEUG DES KUNSTSCHMIEDS", and the text is printed in English, German, and French. More than 600 tools and techniques are shown in the photos and drawings. Basically the book shows the myriad of tools used by the artist-blacksmith and the motifs that can be created using the appropriate tools and techniques. Some of the tools shown include special dies for decorative rivet heads, special splitting tools, decorative punches and dies and the items made with these tools there is even shown the details necessary to make a very interesting looking foot-operated Oliver hammer. The tools and techniques shown in this book will have great value for all levels of blacksmiths. B148 $43.95

THE BLACKSMITH'S CRAFT, RDC (was CoSIRA), 104 pp.., 248 photos, 47 illustrations, 5-3/4" x 8-3/4". After an explanation of the blacksmith's equipment, tools, and the steels used, the book explains the building and maintaining of a fire. This is followed by a very detailed explanation of 37

"lessons" in making and completing forged items. All the lessons are profusely accompanied by detailed photos. B258 $22.95

THE COMPLETE MODERN BLACKSMITH - Weygers - $19.95

Postage for the first book is $1.35 + $.45 for each additional book.

Books

by Albin Drzewianowski

The books that I recommend to beginners in order of value to a beginner are the following (my personal opinion, based on remembering back when I was first learning to "heat & beat"):

THE NEW EDGE OF THE ANVIL, Andrews THE COMPLETE MODERN BLACKSMITH, Weygers

BLACKSMITHS AND FARRIERS' TOOLS AT SHELBOURNE MUSEUM, Smith (I recommend this one because it helps them identify blacksmith tools when they see them. It has many pictures and lots of useful text.)

101 METAL PROJECTS FOR THE NOVICE BLACKSMITH, Al Cannella, Editor Appalachian Area Chapter of ABANA. (This book is perfect for the beginner who has mastered making hooks and now asks, "What's next??" This book is especially good in that it gives sizes of stock to use and lengths to start with. Too often, when plans and drawings are shared between newsletters, the very critical stock size and starting length are left out, not a problem for the more advanced smiths but usually leave the beginner frustrated and scratching his/her head. The other strong point for this book (actually it is in 3 ring binder format) is that Al provides plans for making many useful jigs, and then shows a project which uses the jig.

THE ART OF BLACKSMITHING, Alex Bealers. This book gives the beginner an idea of the fraternity that they are joining, a lot history and background.

Once the "wanabee" has turned the corner and become a "gottabe" smith, the first book I recommend is Jerry Hoffmann's "BLACKSMITH'S JOURNAL". There are now over 1000 pages of practical blacksmith knowledge. Most can not buy up the back issues all in one purchase, but they can subscribe and little by little get the back issues so that they have a full set.

To the list of books for the committed smith I would take the rest of Norm's list and add Donald Streeter's PROFESSIONAL SMITHING and Francis Whitaker's BLACKSMITHS COOKBOOK.

After that you start to get into books that cater to various specialties such as Sonn's book for period hardware or THE IRON MENAGERIE for doing animal heads.

Albin Drzewianowski, Editor BGCM Beginners Class Instructor/Coordinator Westminster, MD

Samuel Yellin

by George Dixon

Samuel Yellin's Shop. Samuel Yellin immigrated to the US during the end of the first decade of this century. The original shop went on until the last building on Arch Street, Philadelphia PA closed in 1992. Samuel Yellin died in the early 1940's. Jack Andrews has an excellent biography of Samuel Yellin, it also has an impressive gallery of pictures. The work from Samuel Yellin's period that was housed in the old Arch Street [Philadelphia] shop, two rooms worth, was open to view by appointment until that shop was closed in 1992. To my knowledge its status is still undetermined and it is no longer open to viewing.

For what it is worth, I worked at the much reduced shop from 1988 to 1992 as the Head Blacksmith. When the Arch Street shop closed, I was offered the opportunity to enter a purchase agreement to acquire the original tools. They now reside 30' from this keyboard (near a large assortment of original blueprints and very large original photographs given to me by Samuel Yellin's grand daughter), in Swannanoa, North Carolina. Many will be displayed at the 1998 ABANA Conference in Asheville, NC. (June 17-20, 1998. University of North Carolina campus). A selection will also be on display at Tannehill, Alabama, later this summer for several months

Francis Whitaker underwrote the photography of a portion of that collection which I am compiling into several volumes. Some of the photographs are posted on the ABANA Internet site, others have appeared in recent editions of ABANA's The Hammers' Blow along with articles on how there were made and used.

Samuel Yellin's Work. The vast majority of Yellin's work was forged. It was extensively chased and chiseled in many cases. There is some file work but mostly as an adjunct to traditional European blacksmith process, rarely as the only process in an effect. There are many examples of cold and hot chased work, that is where various chisels and fullers, flatters and other formed tools (very large to very small) were used to delineate, define and incise effects.

In some cases blueprint layouts were pasted to sheet metal and layout with tools was worked directly through the print. In other cases the layout was direct or 'comparative' by eye. Much of the visual complexity comes from a layering and combining of basic processes (done real well), such as forge welding followed by chisel work. Leaves were done in every manner, from heavy forgings to light repousse'. joinery was as varied. Aside from the aforementioned forge welding, there are rivets, folds, slit & drifts, inlay and examples where the loose components in a grille are held by being fitted into opposing pockets before the frame was joined.

The scale of work ranged from letter openers through furniture and light fixtures to architectural rails. There were garden gates to gates weighing over 10 tons, all richly embellished. The motifs are almost all variants or exact copies of period European motifs from the middle ages forward. Gothic was a personal favorite of his. The majority of the work depicted as "Samuel Yellin" was in fact done by European and American trained smiths and helpers in the shop of Samuel Yellin Metalworkers. Samuel Yellin oversaw, directed and set the standard for all of it. At its peak it employed over 200 artisans working 5 1/2 days a week producing art metalwork of the highest standards in unbelievable amounts.

Jack Andrews has published a hyper-card list of existing sites that have Yellin work in them so if there is one near you there is a chance to see some examples. The National Cathedral in Washington DC has a selection of architectural work on site.

Samuel Yellin's Library - Books, Drawings and Photographs. The extensive library of Samuel Yellin was comprised of books, most from the 19th century and a few that were much older. These books were almost all about blacksmithing, written in Europe and collected as a resource for design and education. There were books on patterns in general, on metalwork of various nations and then-famous smiths.

The drawings, shop and presentation drawings done by draftsmen who did exceptional renderings, many shaded so that they jump off of the paper visually, included almost every job done in the shop from the early 2nd decade through the time of his death. They are numbered by job and show plan and elevation, components, complete work. In most cases they are drawn full scale and also show the interface to the architectural surroundings, they were drawings that had to work for a living so to speak. Door hardware, for example, is usually shown with a section of the door and moldings included so that the architectural setting, which is very relevant to making the metalwork fit the site, is shown in perfect detail. Driveway gates are 16' wide drawings if the gate was 16' wide and so on, and on, and on.....

The books were boxed and several of us moved them to the home of Samuel Yellin's grand daughter. The drawings were in either file or architectural drawing cabinets and they were moved to her basement. I have been told that the drawings are to be donated to the University of Pennsylvania School of Architecture, but I do not know if the plan came to pass.

There was also a large collection of photographs, 8x10, of the finished work. This was usually shot in the shop by Yellin's in-house photographer. While I worked there I was given permission to photocopy drawings and photos, which I did for an hour before work on many, many mornings. This photocopy collection contains about 10,000 sheets and that was a small percentage, mostly of details of interest and pictures of finished jobs. Some of these have illustrated handouts at workshops I have given. I hope that the originals are moved to an institution for preservation and review, it is an amazing historic reference.

NJBA Directors

Marshall Bienstock (director until June 1999)
663 Casino Dr., Howell, NJ 07731
H: 908-780-0871

Grant Clark (director until June 1999)
P.O. Box 158 (Millstone Rd), Perrineville, NJ 08535
H: 908-446-2638

Pete Engle (director until June 1998)
47 Center St., Rumson, NJ 07760
H: 908-219-6560; pgengle@aol.com

Bruce Freeman (director until June 1998)
222 Laurel Place, Neptune, NJ 07753
H: 908-922-8408; W: 609-716-2827
freeman@monmouth.com, freemanb@pt.cyanamid.com

Bill Gerhauser (director until June 1998)
415 Hutchinson St., Hamilton, NJ 08610
H: 609-394-1817 FAX: 609-394-7283

Bill Ker (director until June 1999)
Box 14, Allenwood, NJ 08720
H: 908-223-4188

Joe Lyons (director until June 1998)
15 Sunrise Rd., Old Bridge, NJ 08857
H: 908-238-9131

David Macauley (director until June 1998)
4 Patricia Ct., Howell, NJ 07731
H: 908-206-1568; W: 908-949-8422
drm@anchor.ho.att.com

Elizabeth Manzella (director until June 1999)
1 Powelson Drive, Belle Mead, NJ 08502
H: 908-359-1684, lizmanz@aol.com

Andy Vida-Szucs (director until June 1999)
13 Old Monmouth Rd., Freehold, NJ 07728
H: 908-308-9039; osan@netlabs.net

New Member

Bruce Ringier
618 Mazur Ave., Paramus NJ 07652
Phone: 201-875-5200 or 201-652-4526

Tool Handles

by Don Plummer

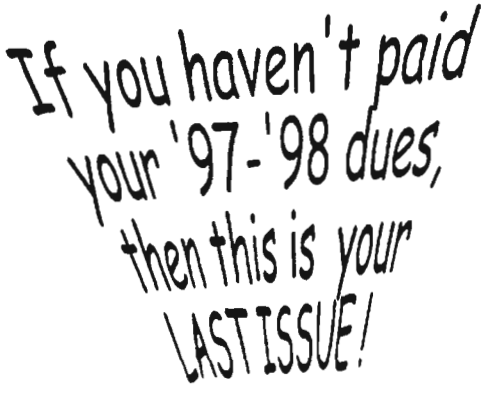
I usually make many of the handles for my blacksmithing tools. Although I have tried many woods I believe only hickory or white ash suitable. And as far as hickory is concerned, I prefer it to the ash for hammer things and I think the Shagbark hickory is the better variety. I like the white ash best for the long handled tools. Any other woods such as oak, maple, dogwood, locust, etc. will eventually cause problems. They are either too stiff and there is no spring, the head will eventually collapse under the pressures of pounding, grain will constantly curl up, it will break suddenly or it splits easily.

I like to get the wood from about an 8-10" tree. In this instance the younger, more rapid growing tree is best. I have gone up to 16" and the handles still seem to be okay but it gets more difficult to work with a larger tree. I cut the tree into two size boles (segments): One for hammer type stuff at about 20" and the other for handled tools like shovels, rakes, etc. at about 6'. Then, I split these up with a froe and club

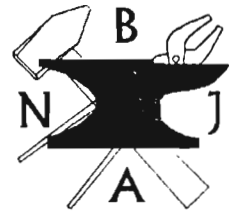
or wedges into handle sized splits. About 3" square for the 6' boles and 2" square for the hammer type tools (includes, flatters, cut-offs, fullers, etc.) Do not use any of the pith. Use that to throw on your outdoor grill to add some excellent flavor. One tree will give you dozens of each size. Throw these pieces in a dark dry place to dry for the next year or ten.

When I need a new handle I shape it on a shaving horse but you could use a good solid bench vise also. Something about waist height. Not nearly as much traditional fun, however. I also do a little shaping for the head with a big wood rasp. Somehow that seems a little like cheating but it is rapid and accurate. I also have a 1x42 belt sander that I sometime use for getting the head to shape quickly. That is definitely cheating. I always finish the handle with a spokeshave. I agree, as someone just mentioned, never sandpaper. The spokeshave leave nice little longitudinal ridges that help the grip. To finish I rub in a bit of linseed oil with my hands. Occasionally, and for no really good reason, I stain it first. Just to get a little darker color. Hickory is almost bone white when dried. Takes me about an hour to do a handle from raw stock. When I mount the head I put a wood wedge in lengthwise (running with the hammer) and a soft steel wedge cross-wise. To put in the wood wedge I saw down to a depth just short of the bottom of the hammer. I have been making the wood wedges out of locust but I suspect something else might be a bit better. But we are really talking nits here.

It is a lot of work getting the tree, cutting it up and splitting but once done it is likely you will have enough handle material for the rest of your life. Other than firewood, hickory is not much used. (Except, of course, for handles). I get most of my hickory from developers clearing for housing. I always offer them 10-20 bucks if I can have the tree and (so far) they have always said "Just take it". One time one developer asked me to make a handle for a fiberglass handled hammer of his that just broke. I have plenty of hickory handled tools that are still going strong after 25 years. It appears they will easily outlast my arm.



If you haven't paid your 1997-1998 dues, then this is a grace issue. NJBA has delivered on its promises: We've held monthly meetings since April, 1997. We've supported Historic Allaire Village and the Washington Township Land Trust with period costume demonstration of the forging of millstone crane hardware. We've held a successful anvil repair workshop. And, through this newsletter, we keep you informed of activities and events both locally and nationwide. Please support NJBA's continuing efforts to support blacksmithing in the New Jersey area.



Calendar of Events

Saturday August 2 and Sunday August 3, 1997. Doon Heritage Crossroads, R.R. #2 Kitchener, Ontario, Canada. Telephone: (519)748-1914 Fax: (519) 748-0009. Doon will host members of the Ontario Artist Blacksmith Association as they present the traditional craft of blacksmithing and artistic ironwork.

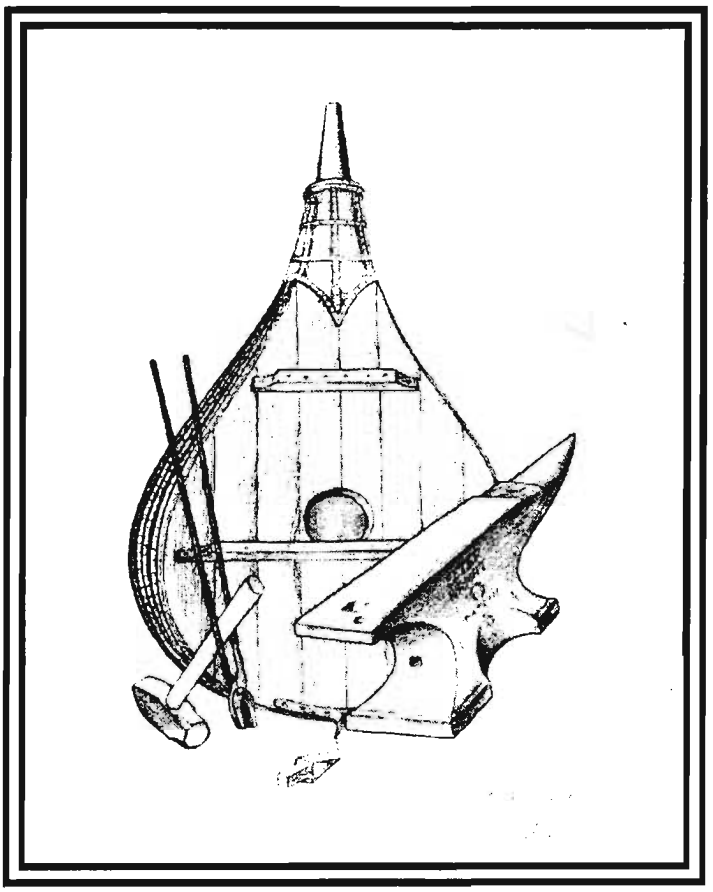
August 8, 9 and 10, 1997. Saskatchewan, Canada the Saskatchewan Blacksmith Guild weekend symposium . For information call Murray Stachura at 306-373-3110 or Al Bakke at 306-343-1355 / 427-2065 or send an email to rebecca.kennel@sk.sympatico.ca. To learn more about the Shell Lake area, see http://www3.sk.sympatico.ca/kennr/shellake/.

September 6 & 7, 1997, Dover, Delaware. Early American Wrought Iron Conference held at the Delaware Agricultural Museum in Dover, DE. Demonstrators: Bill Calloway of Arizona, and Al Stephens, Paradise, PA. There will be an iron contest with cash prizes, iron in the hat, auction, and tailgate sales. Donations are urged for both the auction and the iron in the hat. Tables will be set up for any items you would like to display. Registration fee $45 for both days (before 1 September - after 1 September, $55). Saturday fee is $30 and Sunday alone is $25. Make checks out to the Delaware Agricultural Museum and Village. Send the registration to: Delaware Agricultural Museum and Village 866 North DuPont Highway, Dover, DE 19901 Phone contacts: Ray Noble 800-220-3015 (w) or 410-651-0987 (h) or the museum 302-734-1618 Blocks of rooms are available. Information is available by calling one of the above numbers.

September 13-14, 1997, Bridgeport, Texas. North Texas Blacksmiths Association - Hammerfest 1997. For information contact Verl Underwood, 613 N. BaileyAve., Fort Worth, Texas 76107-1005. Phone 817-626-5909. Or by email, DavidWilson at dwwilson@flash.net

September 26, 27, & 28th, near St Paul, Minnesota. The Guild of Metalsmiths annual fall conference. Contact: DaveMariette at dlmariette@aol.com.

September 27 & 28, Troy, Ohio. The annual Quad State Blacksmith round up. For more information contact either Brian Thompson at 937-878-7084 or Larry Gindlespurger at 937-237-2200.



BELLOWS by D. Fulwood

(© D. Fulwood. Reproduced with permission.)
PO Box 3346, Macon, Georgia 31205-3346
A few prints left for sale from a limited edition of 250, numbered and signed for $10 each plus $2 shipping . Size is 8" by 10".

Car Parts for the Shop

by Ron Reil

At least in the US, almost all cars and trucks have some parts that may be of use in your shop. The most useful to me has been the axial vane air pump that blows air into your exhaust system for a secondary burn. They can be had for almost nothing, and if you put a pulley on the end and drive it with a 1/2 hp electric motor, you will have a pretty powerful blower for forges or what ever else. The only down side is that they put out the air in a series of pulses. You can overcome this by having the air path include a surge chamber to even out the pressure. There is enough pressure from one that I use, for odd jobs, that I can barely stop the air flow with my finger over the output. I mostly use it as a dry air source to blow out sand molds prior to casting. I use a garden hose for the air line.

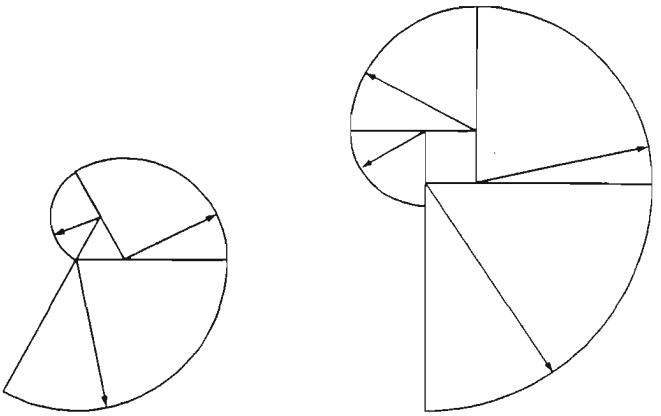
The second useful item is the car's air conditioner compressor. They can be hooked up to run off a motor also, and can compress air up to about 200 psi. You will have to put a drop of Marvel Mystery Oil into the intake once in awhile to keep it from burning itself up, but otherwise these are very useful. They too can be had for next to nothing at junk yards. You will have to set up a pressure switch, etc., to use it.

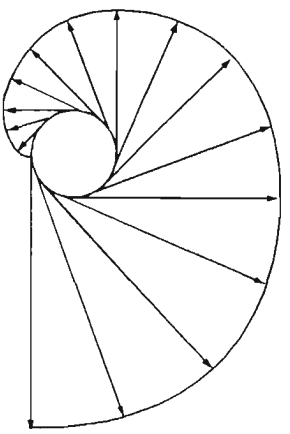
Laying out a Scroll

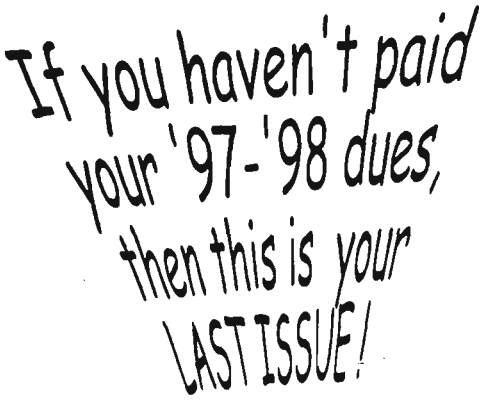
by Tim Suter

Here's a tip for anyone who has puzzled over laying out a scroll. A scroll is called a spiral of Archimedes, or, in geometry, an involute. To simply its understanding, a scroll is just an arc of regularly increasing radius. To accomplish this, draw a triangle or square and use its sides as the increment for increasing radius. The illustrations should be self-explanatory.

With a little experimenting with the size of the starting points used, the more refined the shape will be. I find the square to be very suitable to most work. Generally I make my layouts on heavy poster paper which I cut out and use as a pattern. This can be traced on your full sized layout or layout table. If you want to use it to check shape as a hot scroll is bent, make a template of sheet metal. Save all your templates. They are very handy for comparison when contemplating a layout as you are developing a new design. Your scroll patterns can be adapted to fill various area dimensions with just a little rotation. When working your pattern, don't neglect to consider the thickness of the stock you are working with.







Check Your Mailing Label

Check your mailing label on this issue to see whether your dues are due now ("June, 1997") or whether you've been credited with this year's dues ("June, 1998").

How to Join, Re-Join or Remain a Member of NJBA...

NJBA dues are $15 per year. Please make out your check to William Gerhauser (NJBA Treasurer). Note on the "memo" line that the check is for NJBA dues. **Please mail checks to Bruce Freeman, 222 Laurel Place, Neptune, NJ 07753**. You will receive the most recent newsletter as an acknowledgement of your membership. Annual dues are due on June 1. (Persons joining after April 1 are members for the year beginning the following June 1.)

(This information will be listed in a roster available to other members, unless you request otherwise.)

Name_____ Home Phone_____

Address, City, State, Zip_____

Electronic Mail Address_____

New Jersey Blacksmith Association

Newsletter

222 Laurel Place
Neptune, NJ 07753