



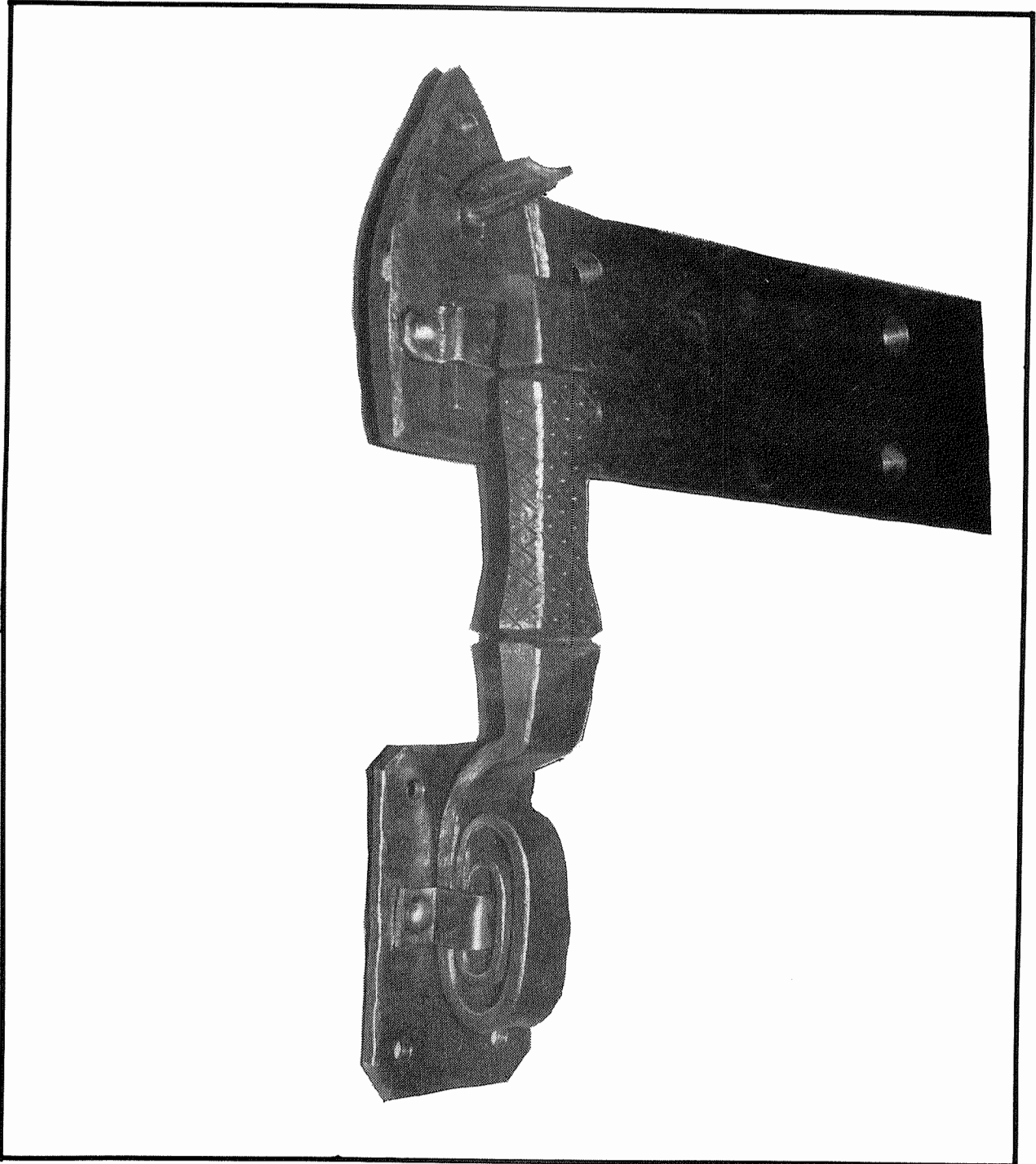
CHAPTER OF ABANA

Hot Iron News

\$4

-- Voice of the Northwest Blacksmiths Association

SEPTEMBER 1990



1989 NWBA OFFICERS AND BOARD MEMBERS

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Smokey Adams

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(206) 458-2777

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Hugh Eddy

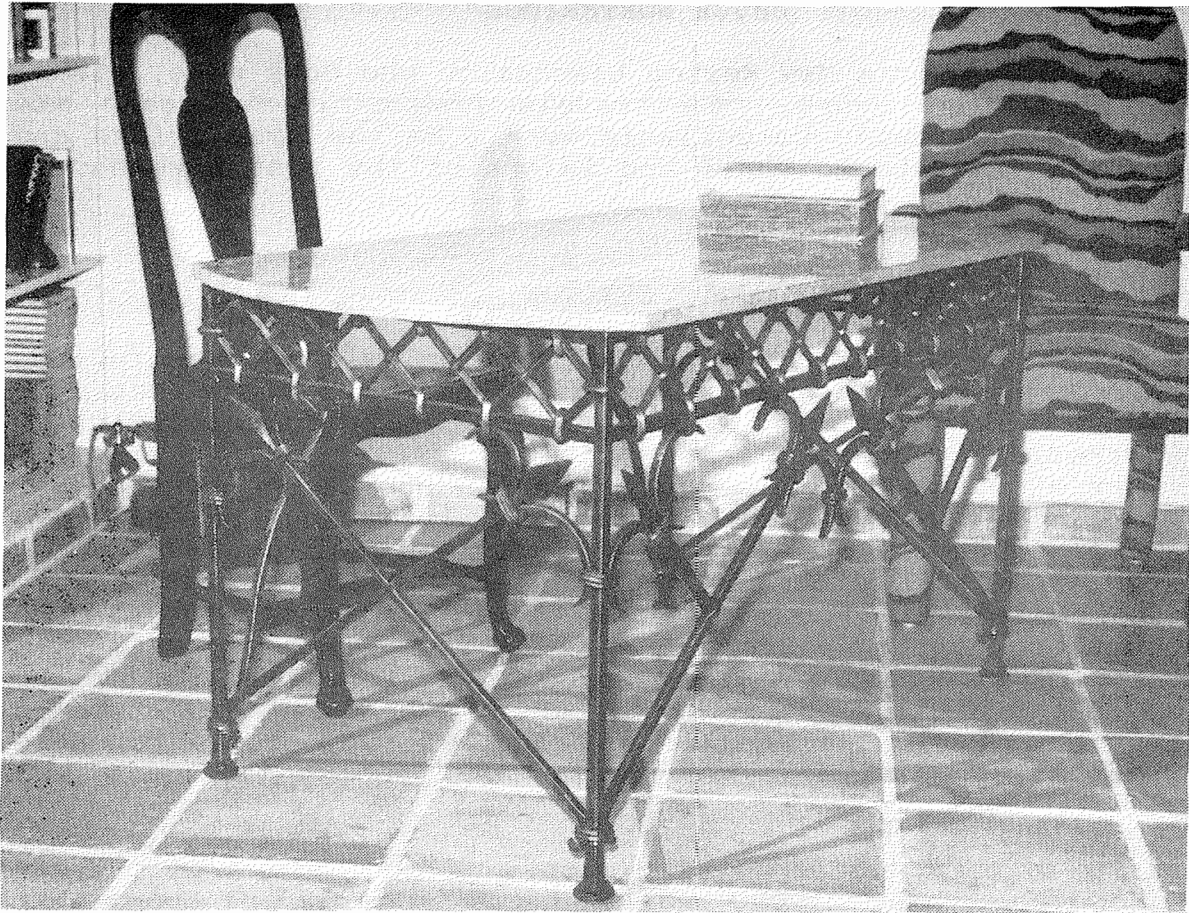
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HOT IRON NEWS is the official quarterly publication of Northwest Blacksmiths Association. Submission of materials for the magazine is eagerly encouraged. Deadlines for submission are February 15th, May 15th, August 15th and November 1st. Please send materials for the magazine, comments, requests and questions about the magazine to the editor. Other ABANA Chapters, Canadian and Australian blacksmiths associations, and non-profit educational metals oriented groups have permission to reprint material found within the covers of HOT IRON NEWS as long as credit is given to the authors, the magazine and NWBA.

COVER: Darryl Nelson. DOOR LATCH FOR SILCOX HUT, TIMBERLINE LODGE, MT. HOOD. Photo by Lloyd Hedglin.



DESK, Bruce Northridge. The ribbon is all 3/8 square stock, slit-drifted on the diamond.

THE NWBA 1990 FALL CONFERENCE

OCTOBER 12th, 13th and 14th

Our Fall Conference will be held at Bill Carrell's shop in Hobart, Washington. He has a real nice shop back in the woods, but real easy to get to.

The demonstrators will be Bruce Northridge of New Mexico and Paul Shelton of Ballard, Washington. Like the Spring Conference, the meeting will be held over three days, from 12 noon Friday to 12 noon Sunday.

Friday the 12th, 1:30 to 4:30 pm - Bruce Northridge
Saturday the 13th, 9 am to 12 noon - Bruce Northridge
Saturday the 13th, 1:30 to 4:30 pm - Paul Shelton
Sunday the 14th, 9 am to 12:30 pm - Bruce Northridge and company

BRUCE NORTHRIDGE

Bruce Northridge is a New Mexico blacksmith who does nice, clean, fairly traditional work. He travels frequently to craft and Renaissance type fairs to sell his work. He has many tricks and interesting products to share and is one of the best horseshoers around.

PAUL SHELTON

Paul Shelton runs Ballard Ornamental Iron in Ballard, Washington. He will be giving an afternoon discussion of basic business practice and demonstrating techniques that have proved ethically and aesthetically profitable.

A brief outline of possible subject matter to be covered by Paul includes bidding and estimating, "bidding philosophy", objectives of and figuring of time, costs and mark-up in bidding, planning, sales and salesmanship, techniques in working with tubing such as welding, layout of railings, figuring pitches, normal gate construction, potting posts and installation of fences, uses of a transit, the "5 math formulae every blacksmith should know", the basics of the math of spiral stair cases, scheduling and steps in fabrication. Paul also intends to bring a 3 foot protractor he's made that allows him to layout precise angles.

Its going to be a good show with plenty of good stuff to see and great food too. So get your registrations in early and bring your ironwork for the auction. Any volunteers to help with set-up, registration, food and clean-up, please call me or any board member.

Saturday night we will have our usual pot-luck with Jerry Culberson's famous vampire proof roast critter. If your name starts with A-M please bring your favorite hot dish or a salad, N-Z please bring a hot dish or a dessert. Left-overs will be Sunday's lunch. NWBA will provide coffee and donuts for morning. Other meals and soft drinks are up to you.

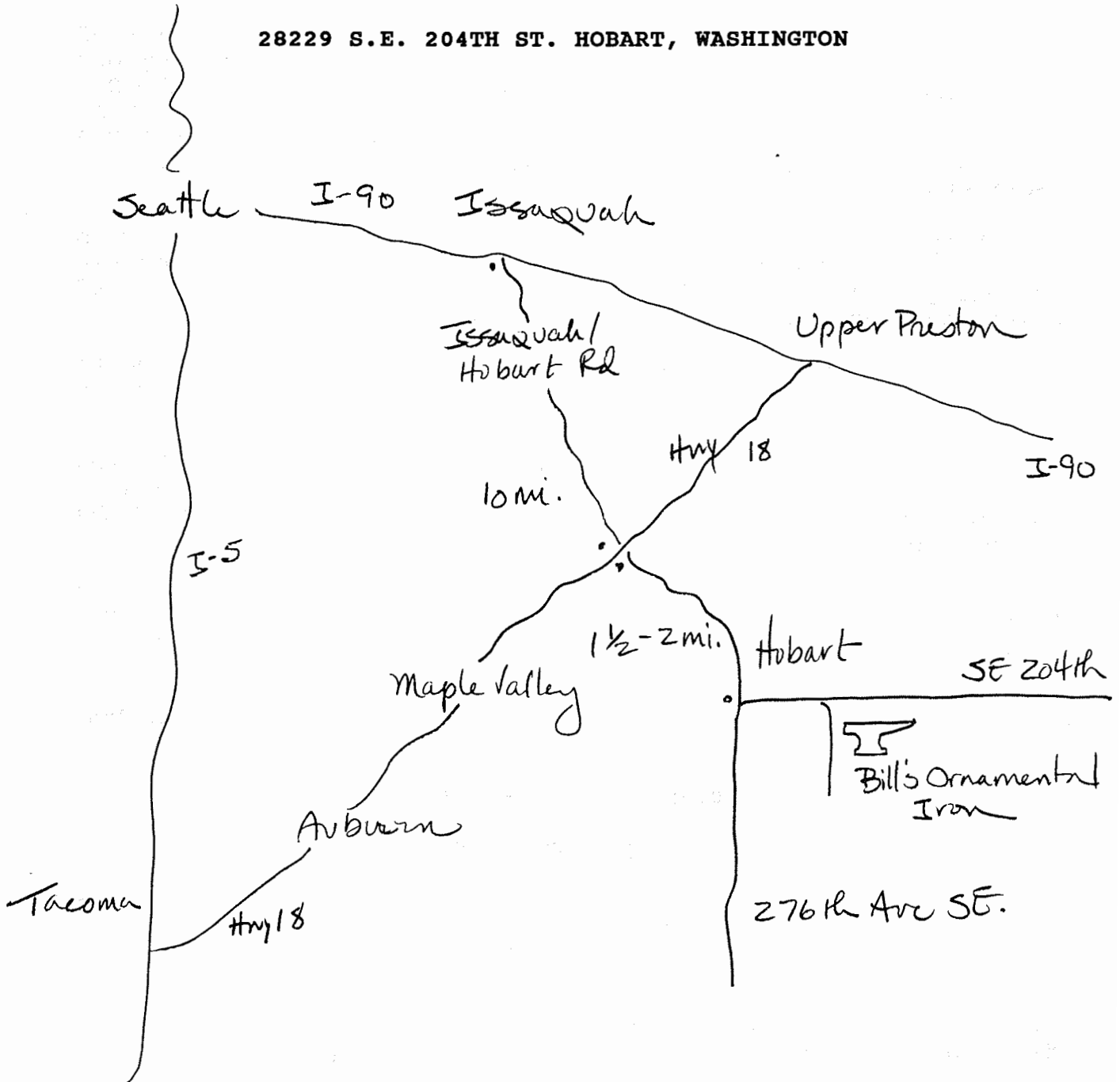
For lodging at the conference, Bill Carrell has plenty of room for pick-ups, campers and tents. About 10 miles away for the site in Issaquah at exit 15 off I-90 there are motels. (Holiday Inn at 206-392-6421 and Motel 6 at 206-392-8605)

About 4 miles south of Bill's on 276th are several restaurants as well as a Dairy Queen and a pizza place. Right in Hobart you can find a grocery store and a gas station. Just south of Maple Valley there are grocery, hardware and drug stores as well as a laundromat and restaurants. There isn't much in Maple Valley.

Bill Carrell and his neighbors all raise cattle and other stock so **PLEASE, ABSOLUTELY NO PETS - DOGS OR OTHERWISE!**

BILL'S ORNAMENTAL IRON, BILL CARRELL

28229 S.E. 204TH ST. HOBART, WASHINGTON



After you get on 276th S.E. at the Highway 18 junction, drive about 1 1/2 miles south. There is a church on the right, gas station on the left and then a grocery and post office on the left. The next street on the left is S.E. 204th. After you turn left onto 204th take the first driveway to the right. There is a black anvil sign on the tree with the number 28229 on it, and like Lafayette you have arrived!

TO THE MEMBERSHIP

The Board of Directors met on July 28th and covered a lot of item covering the Associations By-Laws. We will be sending out some proposed amendments later on this year for your vote. The By-Laws were put together when NWBA had 35 members and with 280 or so members now, there are some updates needed. The rest of what was covered are contained in the minutes which are elsewhere in the newsletter.

Lloyd Hedglin, Vice-President of NWBA has had to step down as an officer and Board member due to a new job that will keep him traveling most of the time. Lloyd has been a long time Board member and our semi-official photographer.

Hugh Eddy has also declined re-election for the Board due to distance and business considerations. Hugh's term will be up on October, 1990. Hugh is also a longtime Board member.

On behalf of the entire membership of Nwba, I want to say "Thank-you very much" to both Lloyd and Hugh for all of your work and support of NWBA. We really appreciate your being part of the Association.

One final item, I have been appointed as Northwest Regional Editor for the Anvils Ring. So any items or news that any of you would like to see in ABANA's magazine, please send them to me.

Thanks,
Smokey Adams, President

BOARD MEETING MINUTES

July 28th, 1990

1. Meeting called to order by President Adams at 1:23, in the absence of Mr. Falk, Ike was asked to take minutes. In attendance were President Adams holding proxies for Falk and Day, Wagner, Graham and Bay.
2. Letterhead was handed out to officers and a discussion of the fall conference.
3. Elections: The president voided the last election because of errors. We need five bodies to fill the board with Falk and Day continuing in office. The president will develop a nominating list from the previous ballot. Karen will provide cut and paste labels and the association will send out ballots and count the returns. Three weeks will be given to respond and the ballots will be sent out first class.
4. Board positions: Secretary/Treasurer now two separate positions. Is the editor of the newsletter a board position?

5. Financial records: Discussion of financial record keeping ended with the Treasurer proclaiming the final work-up will be done by year end. The subject of an educational trust fund was ended when the subject was tabled until the next meeting. Also discussed was the need as a non-profit corporation to encumber our available funds.

6. Job descriptions: These are needed to better define jobs and the president led a discussion on these. Copies of materials prepared for the meeting will be attached to these minutes. These were discussed but not formally adopted. Jobs discussed: President, Vice President, Treasurer, Secretary. Event coordinator and Editor were discussed but it was felt that they were not official board positions.

7. Dues: Possible simplification of the dues collection and bookkeeping was reviewed and the subject was tabled until the next meeting. The general revenues for the organization are:

Dues - cover the cost and production of the Hot Iron News
Auctions - Provide the operating funds and reserves
Workshop fees - generally a break-even situation

Free copies of Hot Iron News are provided to other associations and schools but we should explore expanding this. Add dues payable to Treasurer (full name and address) to our publicity flyleaf and all forms.

8. Treasurer will develop a financial report to be used for all association events. Membership roster will be mailed to the entire membership as soon as ready, Karen reported this is not far off.

9. It is deemed necessary to stagger the board terms so we will not be replacing the board each election. Our existing board was elected in 1988 (five positions) and 1989 (two positions).

10. Hot Iron News: Lengthy discussion of the magazine was started out with questions about notice of events with cut off dates that arrive in members hands too late. The following publication schedule was detailed.

Submission cutoff	Mailed	Receipt
February 15th	3rd week March	last week of March
May 15th	3rd week June	last week of June
August 15th	3rd week September	last week of Sept.
November 1st	2nd week of Dec.	last of year

The board felt that all extra work should be taken from the editor so attention can be given the magazine. Secretary will do all the election and the event coordinator will do all registration forms and event packets.

Meeting adjourned.

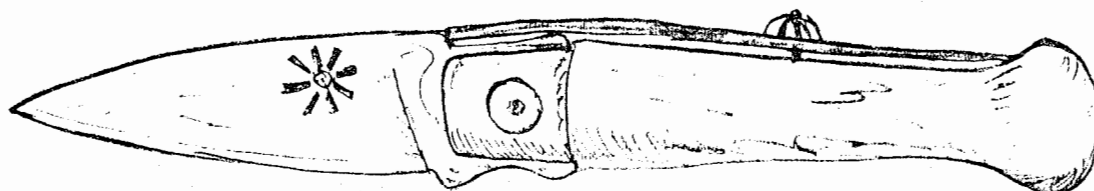
WORKSHOPS, CLASSES AND CONFERENCES

NWBA SPONSORED

For more information about the workshops and registration, please contact Ike Bay at 13105 N.W. Ridgetop, Portland, OR 97229-3639 or call (503) 645-2790.

DEADLINE FOR REGISTRATION FOR NWBA WORKSHOPS IS TWO WEEKS PRIOR TO THE EVENT.

WAYNE GODDARD AND GENE CHAPMAN December 1st and 2nd
The workshop will feature forge welding Damascus steel (wire and pattern), steel selection, gas forge operation, heat treating, forging springs and guards, mountainman folding knives, special tooling and fixtures. Fees are \$125 for members and \$140 for non-members (includes new membership dues). Fees include meals. There is plenty of camping space at Old Cedar Forge. Contact Gene Chapman at 206 297-2495 after 4 pm weekdays for registration information.



Gene Chapman © 1990

SHAKER PEG FOLDER, Bladesmith Workshop Project

VANCOUVER ISLAND BLACKSMITH'S ASSOCIATION

C/O Saanich Historical Artifacts Society
Box 134
Saanichton, B.C. CANADA V0S 1M0

DARRYL NELSON October 27th and 28th
Costs are \$60 for non-members and lunches are \$4 a day extra.
Contact VIBA for information about registration and lodging.

ARROWMONT SCHOOL OF ARTS AND CRAFTS

Box 567
Gatlinburg, Tennessee 37738 (615) 436-5860
Write for a complete list of classes.

NATIONAL ORNAMENTAL METALS MUSEUM
374 West California Avenue
Memphis, Tennessee 38106 (901) 774-6380
Write for a complete list of classes.

PENLAND SCHOOL
Pennland, North Carolina 28765
Write for a catalogue

JOHN C. CAMPBELL FOLK SCHOOL
Brasstown, North Carolina 28902
Write for a catalogue

PACIFIC NORTHWEST TOOL COLLECTORS
Meetings in Portland, Oregon September 22nd and November 17th in
Seattle, Washington. For more information contact Jim Conrad,
Secretary, 2132 N.E. 81st St., Seattle, WA 98115, 206 527-5543 or
Peter Abrahams in Oregon at 503 636-2988 or Don Good in Canada at
604 530-1900.

NORTHWEST BLACKSMITHS ASSOCIATION

PO BOX 81041 SEATTLE, WA 98108

MEMBERSHIP APPLICATION: NEW RENEWAL NEW ADDRESS?
ANNUAL DUES ARE \$15 AND INCLUDE A SUBSCRIPTION TO HOT IRON NEWS.
PLEASE MAKE YOU CHECK TO NWBA AND MAIL IT TO THE ADDRESS ABOVE.

NAME: _____ DATE: _____

FIRM: _____

ADDRESS: _____

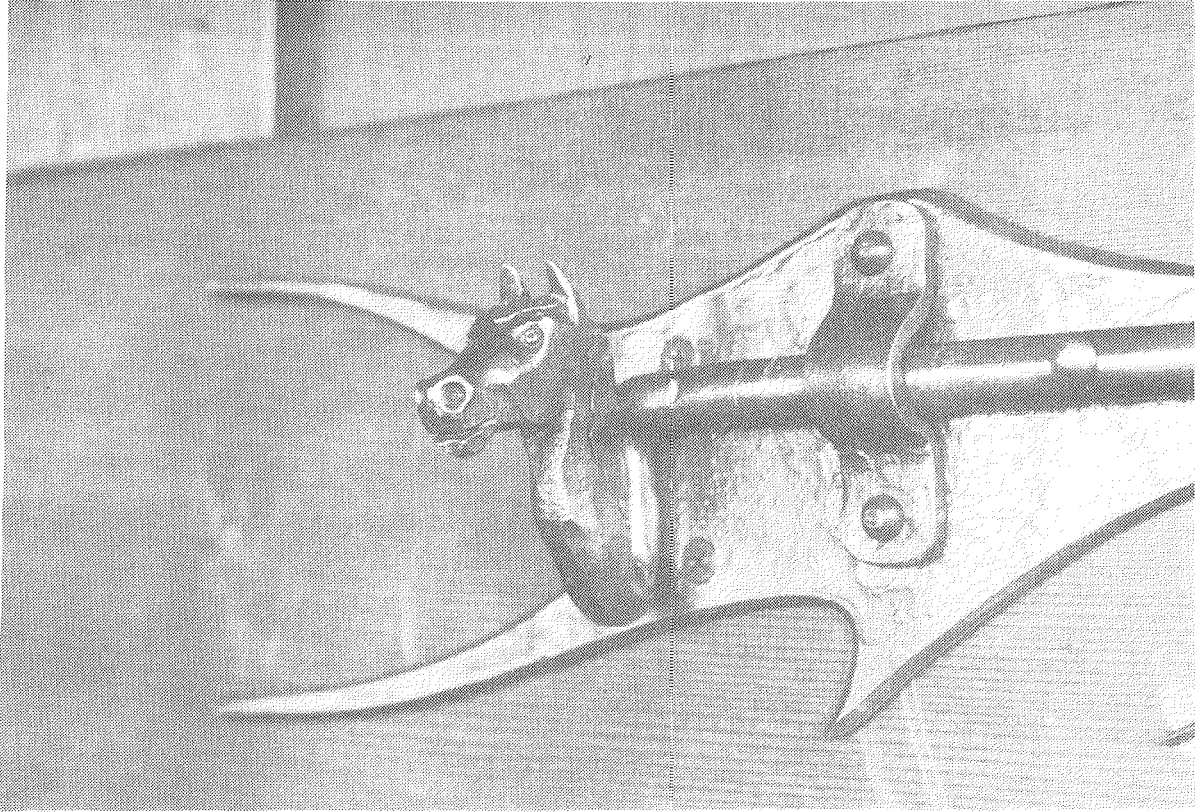
CITY: _____ STATE: _____ ZIP: _____

TELEPHONE: (_____) _____



DOOR LATCH

Exterior ring turns to draw the interior bolt

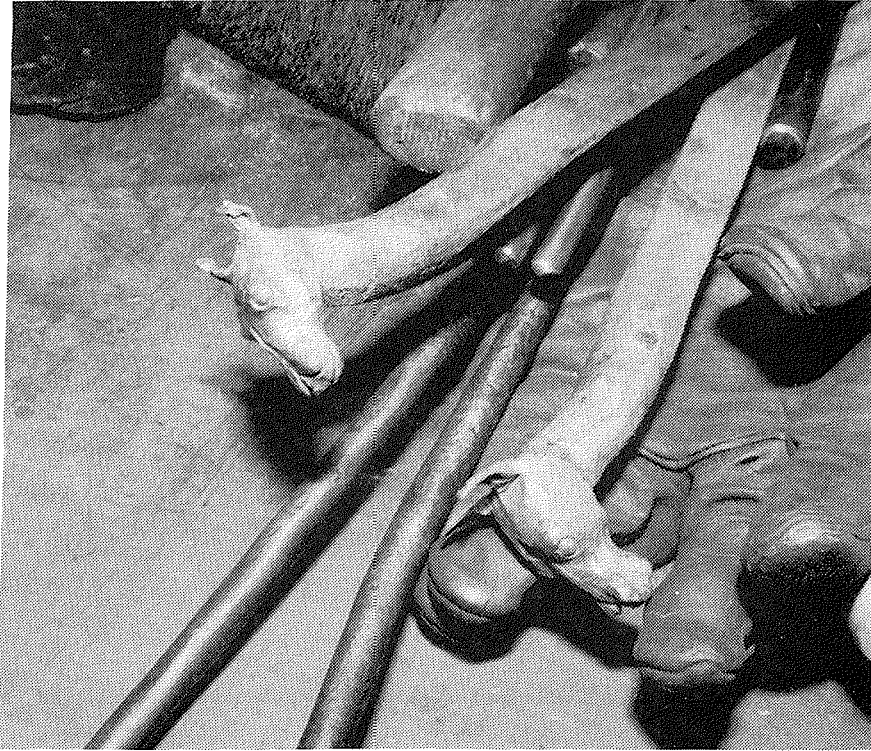


DOOR LATCH

Interior detail showing horse headed bolt

BRUCE NORTHRIDGE

NWBA Fall Conference Demonstrator



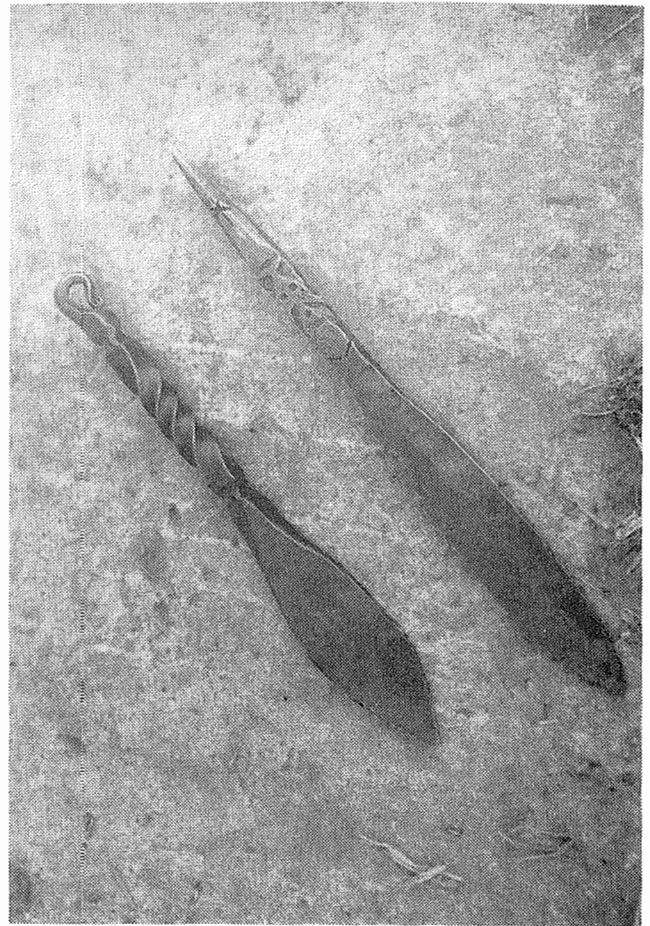
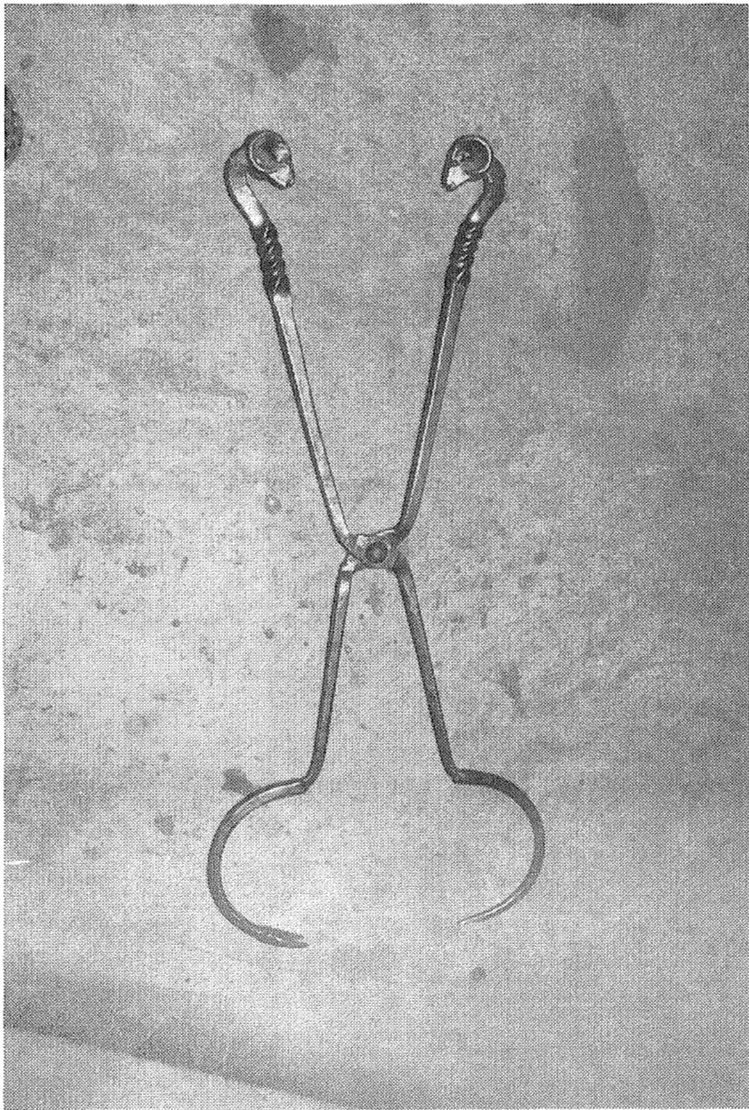
DARRYL NELSON

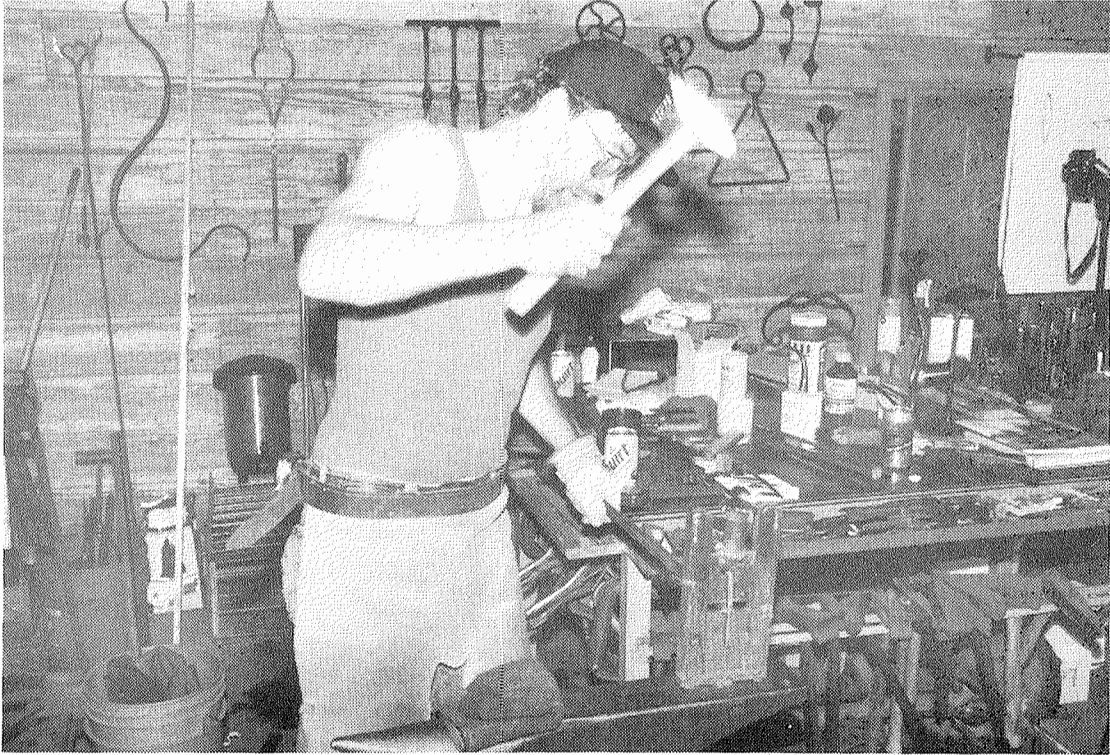
Above: LLAMA HEADS

Above right: TONGS WITH RAM'S HEADS

Right: LETTER OPENERS

Photos by Lloyd Hedglin





JIM LOVELACE

MINIATURES

Photos by Lloyd Hedglin

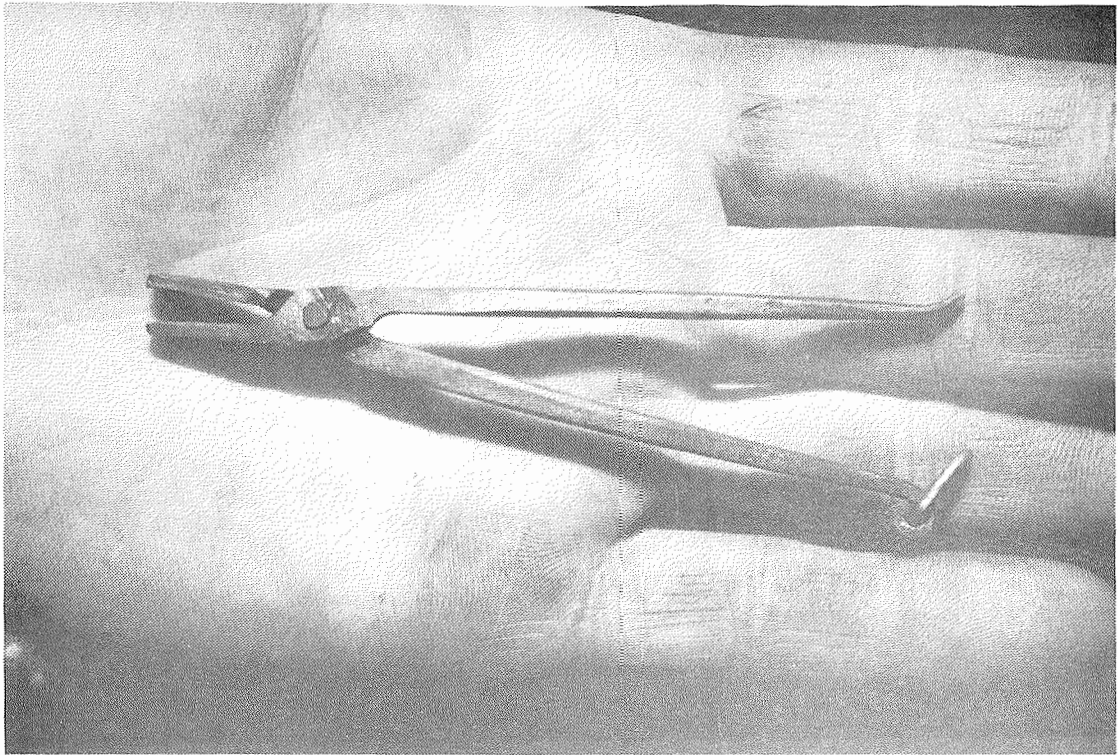
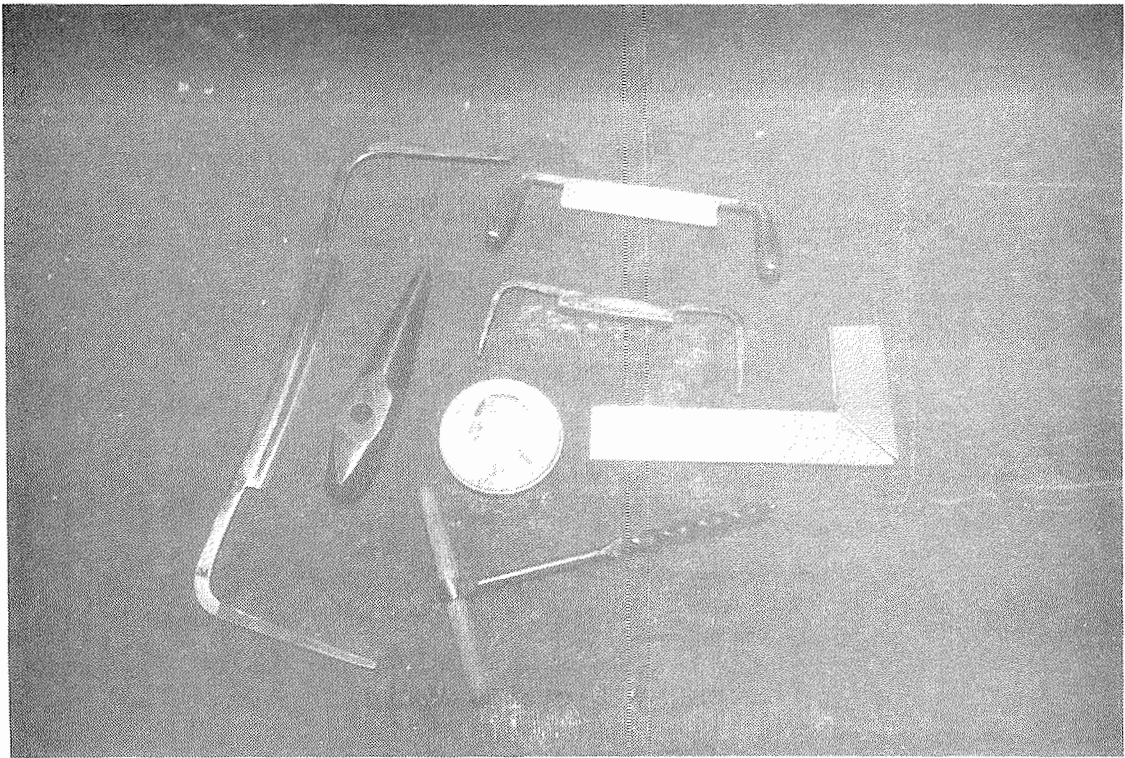
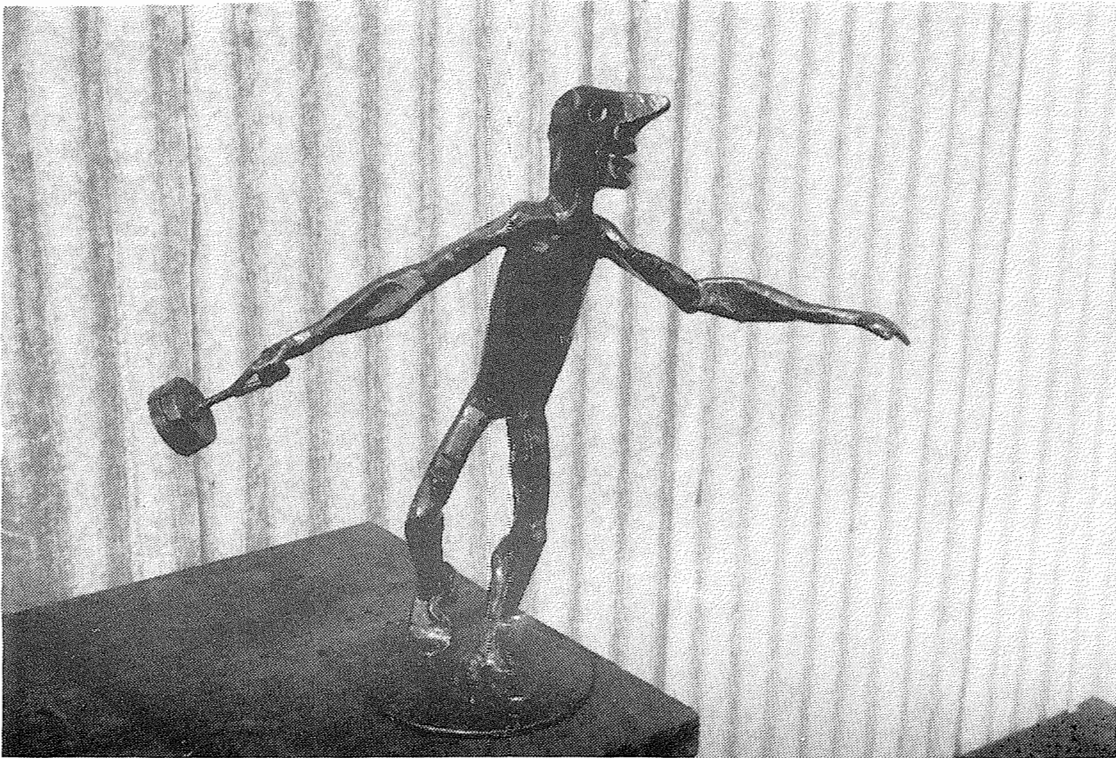


FIG. 14





THE HAMMER THROWER

PAUL HINDS

Right: WAITING FOR MAX

Photos by Lloyd Hedglin



OLD TRADITIONS NEW DIMENSIONS

ARTIST BLACKSMITHS ASSOCIATION OF NORTH AMERICA

1990

ALFRED STATE COLLEGE at ALFRED, NEW YORK

OR

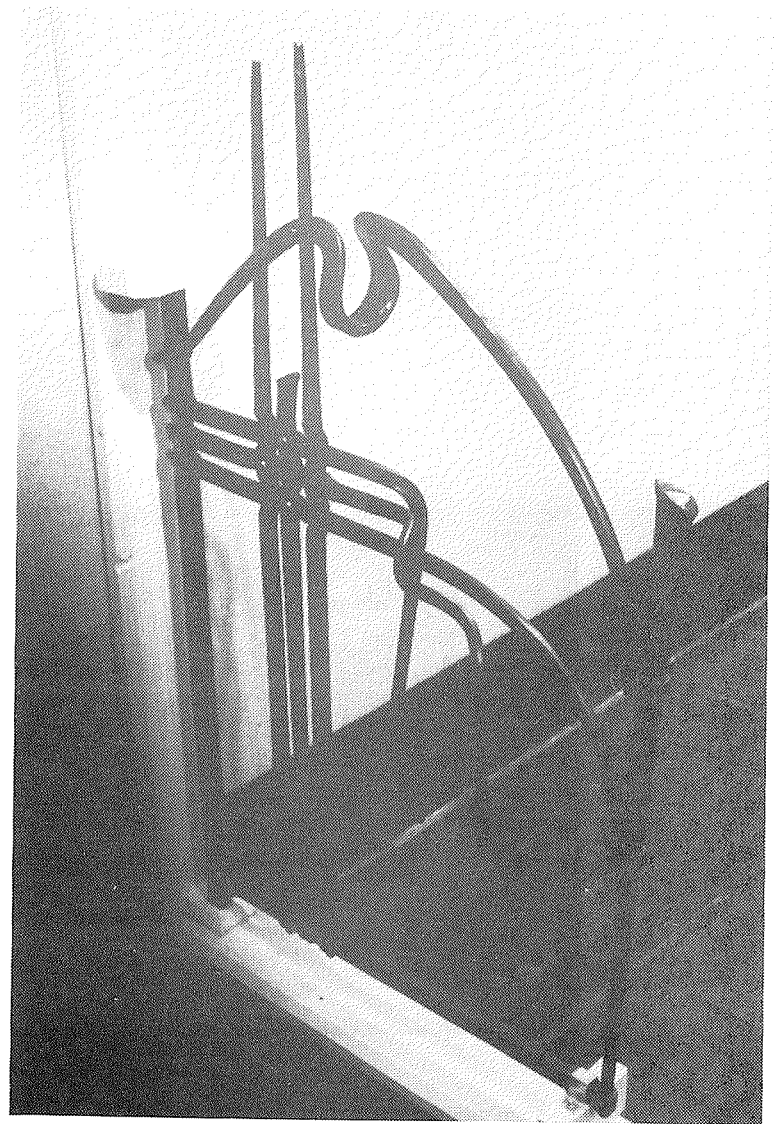
WHAT CLAYTON CARR SAW

Photos and comments by Clayton Carr

President, Inland Northwest Blacksmiths Associaton

Right: Well known local fat boy standing next to a giant copper something done by the French smiths (LCM Corporation) that helped restore the statue of Libery.

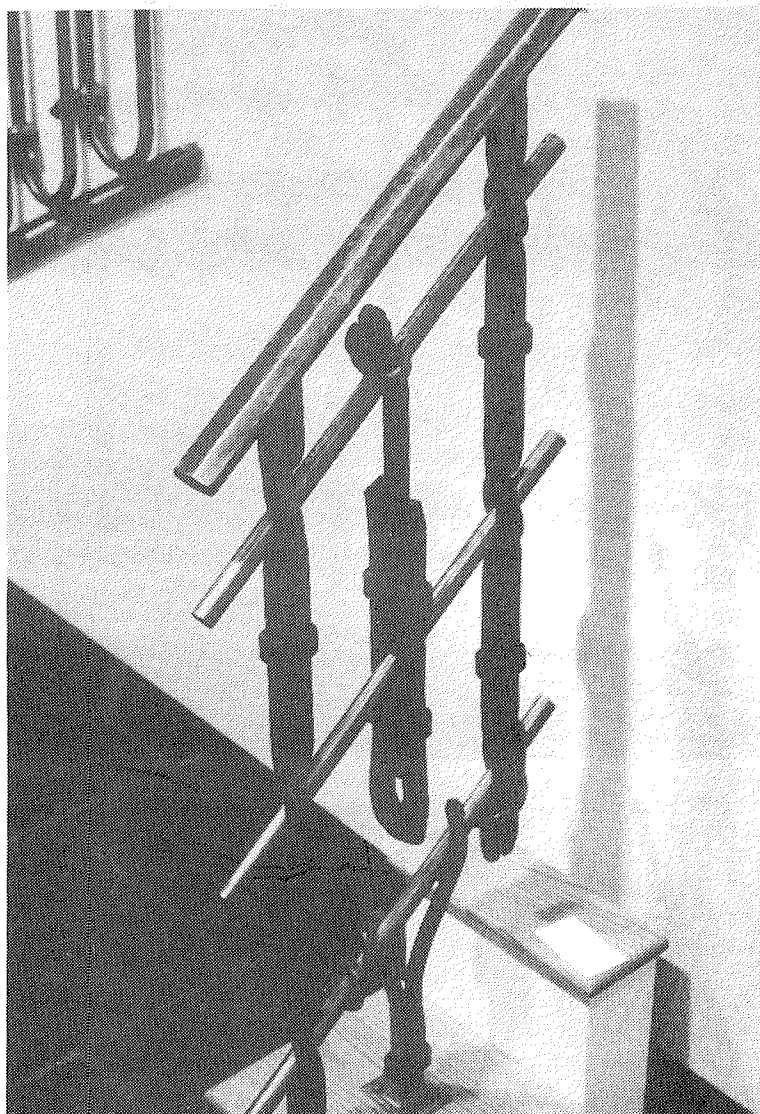


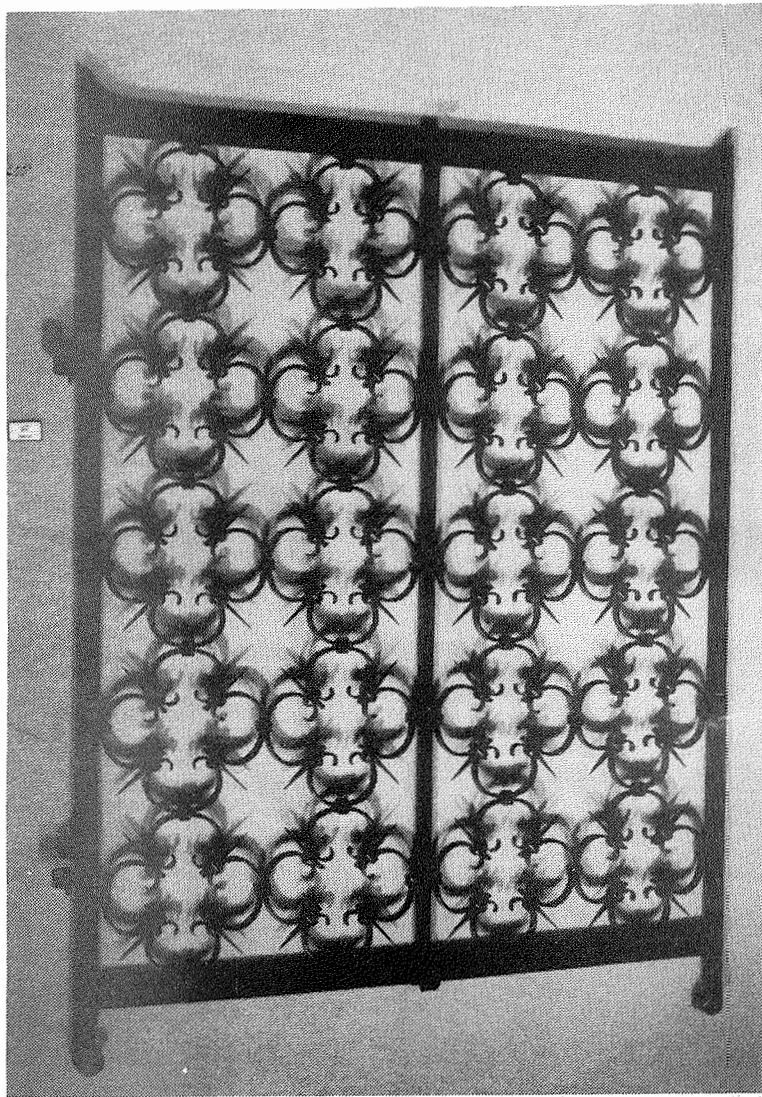


Far left: GATE WITH BRONZE
CENTER SECTION, artist
unknown

Left: GARDEN GATE, Joe
Bonafas, Best Design Award

Right: RAIL SAMPLE, artist
unknown





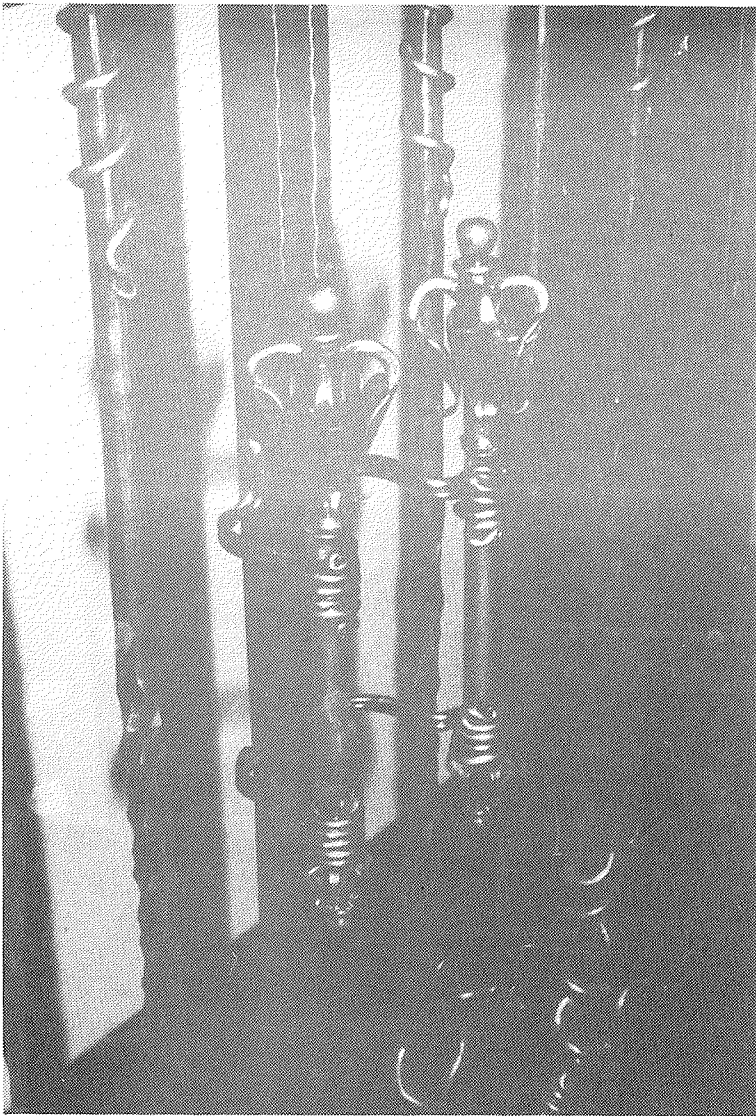
Left: WINDOW GRILL,
artist unknown

Below: RAIL SAMPLE,
artist unknown

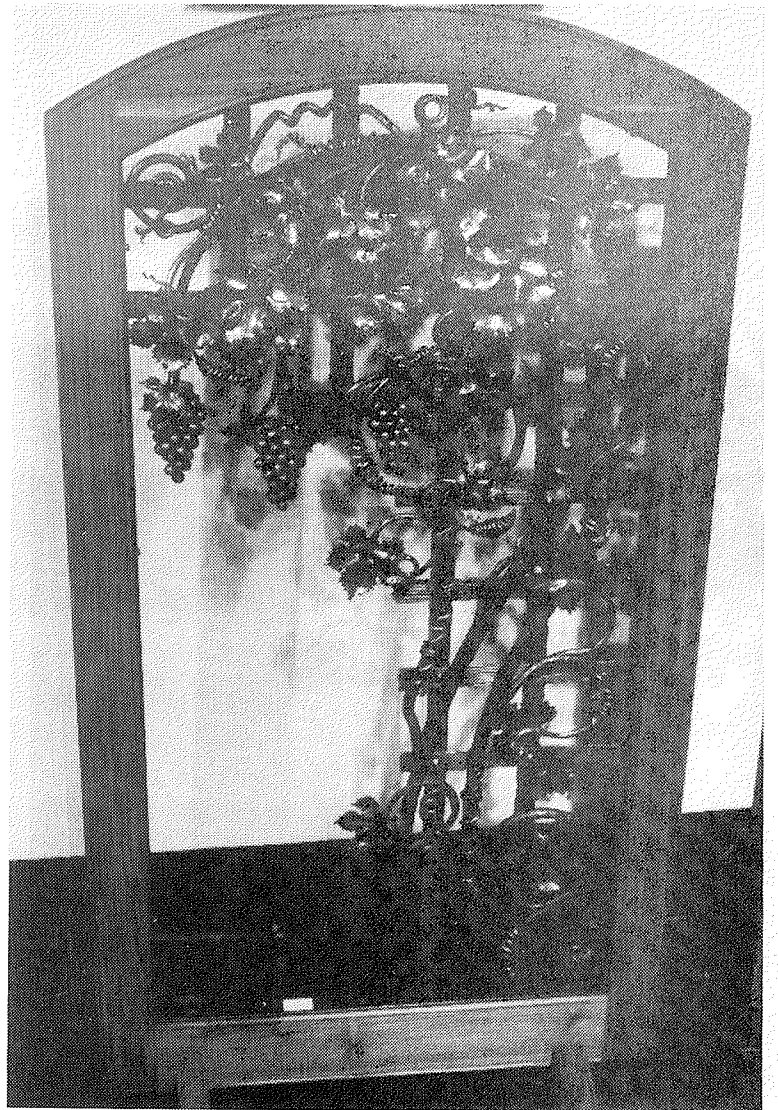


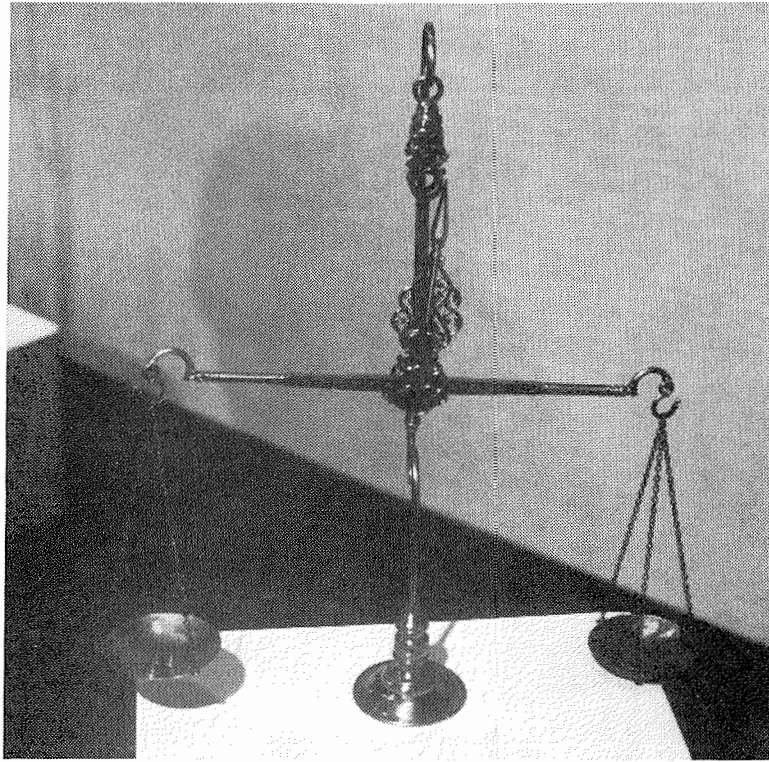


Above: GATE, artist
unknown



Left: GATE HANDLE,
detail

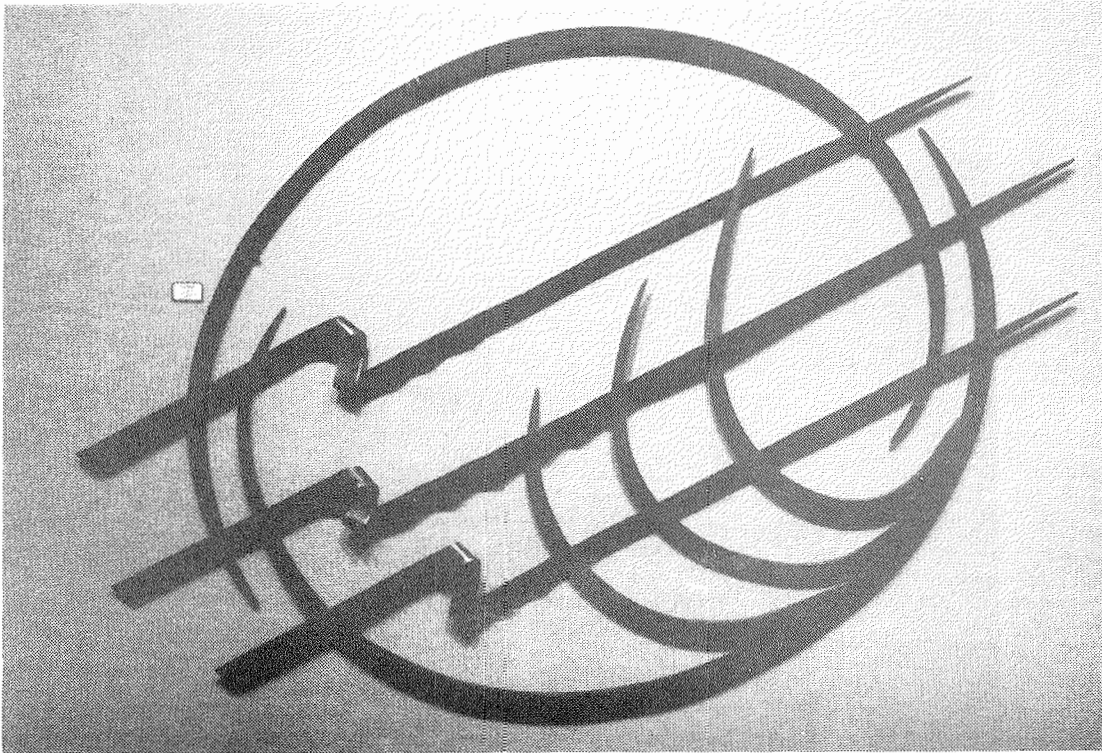




Above: SCALE, If this isn't Peter Ross's work I'll eat my hat.
But since I don't know for sure - PASS THE SALT...

Right: GATE, Eric Moebius, Peoples' Choice Award

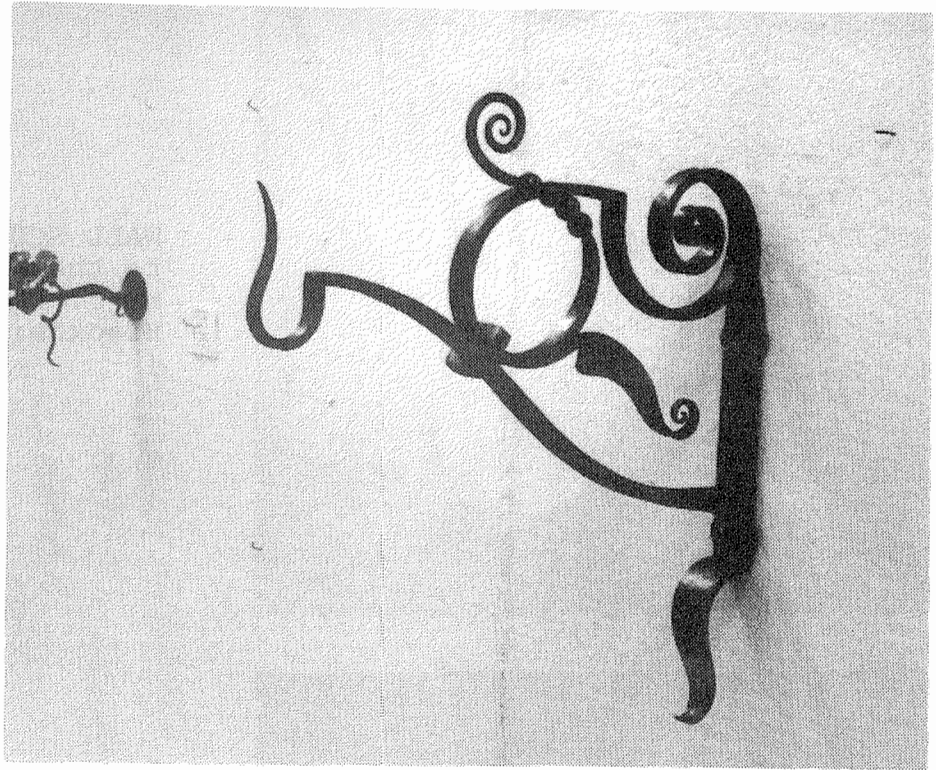
Far right: SHELF BRACKET, artist unknown



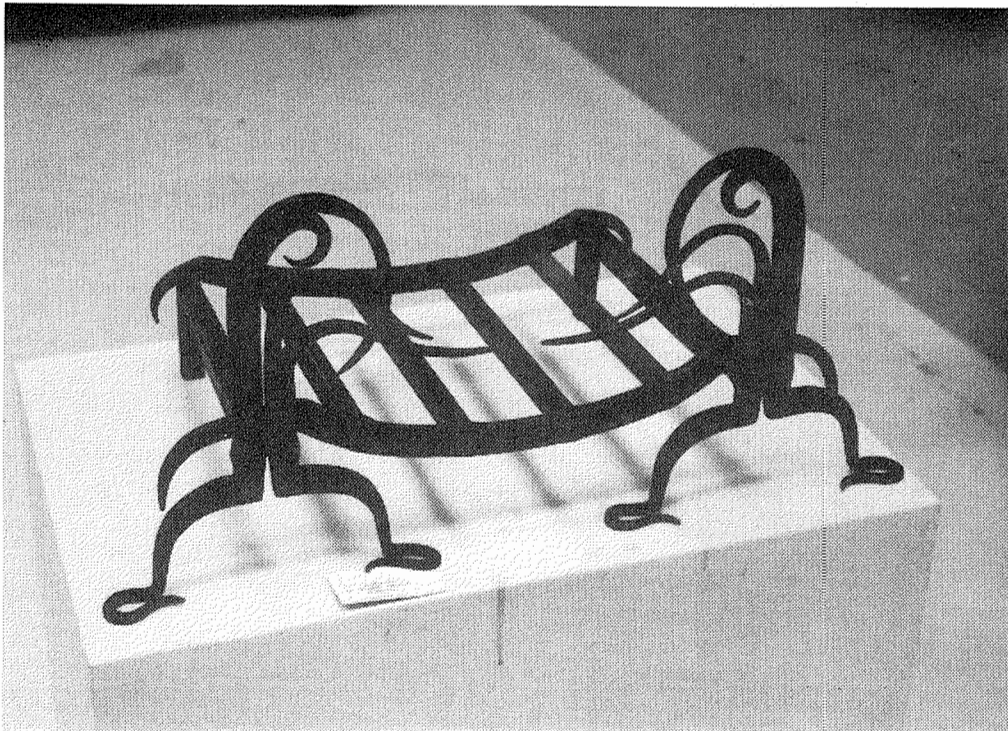
Above: WALL SCULPTURE, about 3 1/2 - 4 feet wide, artist unknown

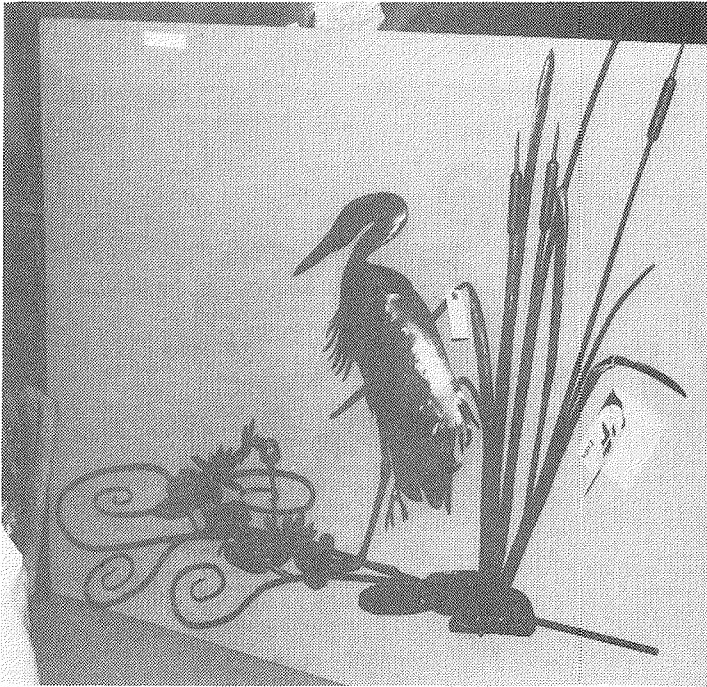
Right: FIREPLACE GRATE, artist unknown

Above right: WALL BRACKET, artist unknown

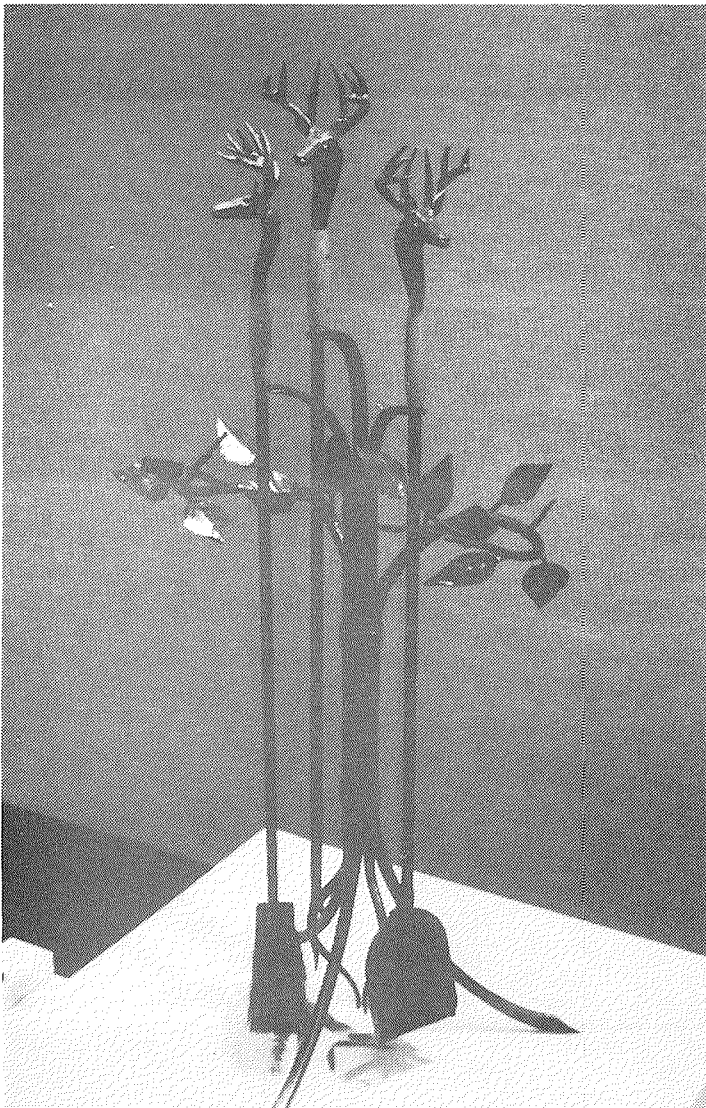


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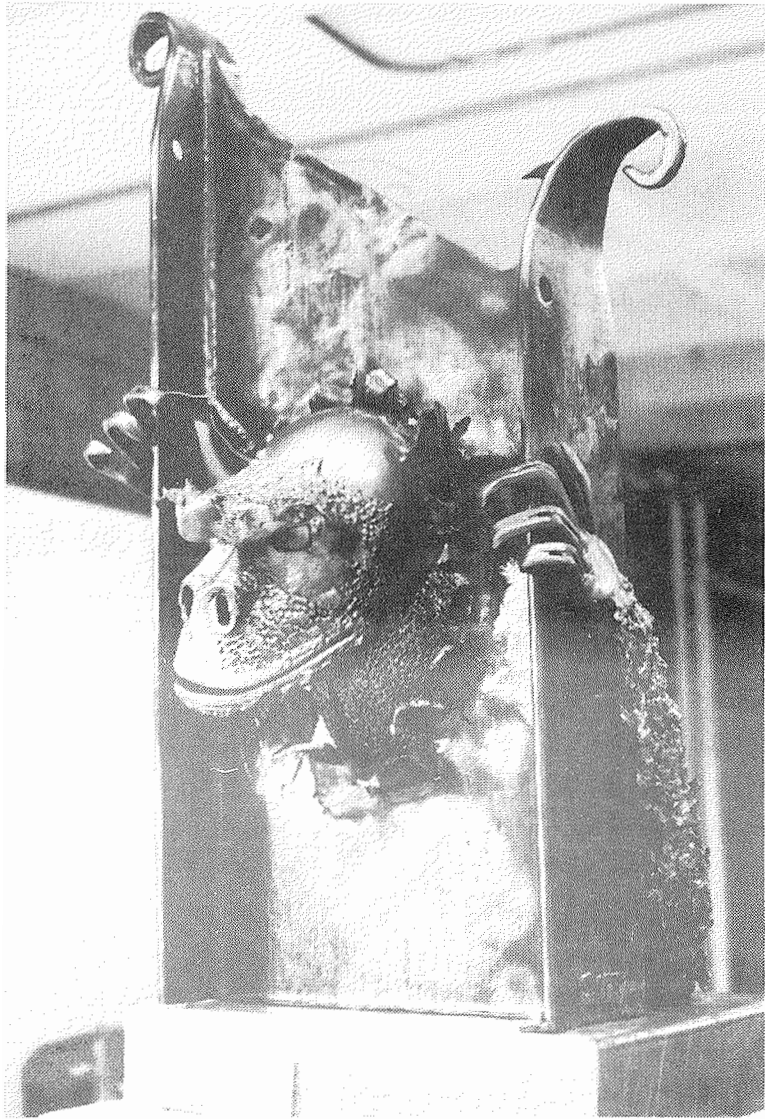




WALL SCULPTURE, donated
to the ABANA auction by
Michigan Artist
Blacksmiths Association

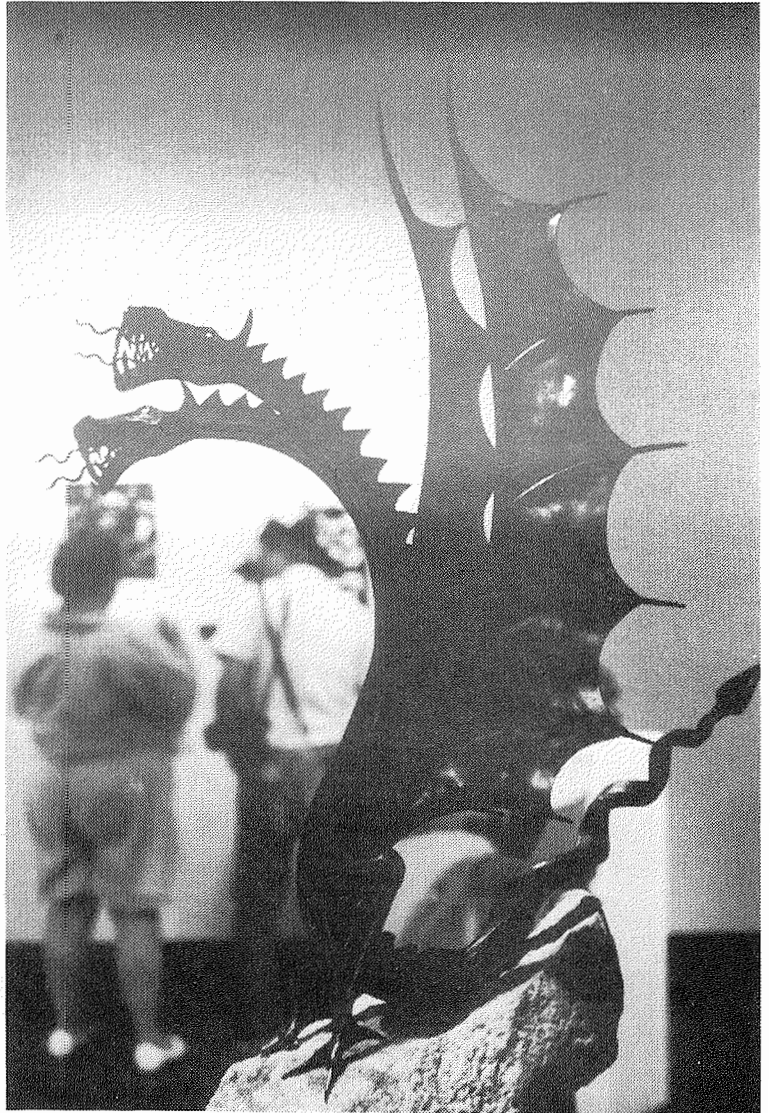


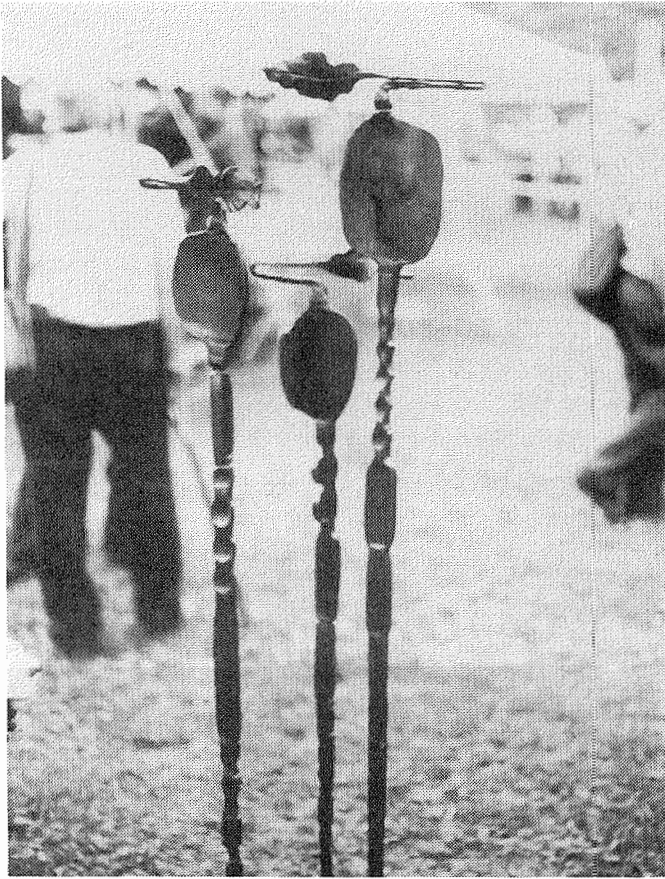
FIREPLACE SET, artist
unknown



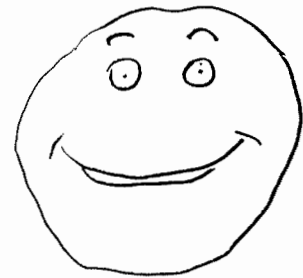
"SIC ED", artist unknown

TWO HEADED DRAGON, Mitch
Fitzgibbons

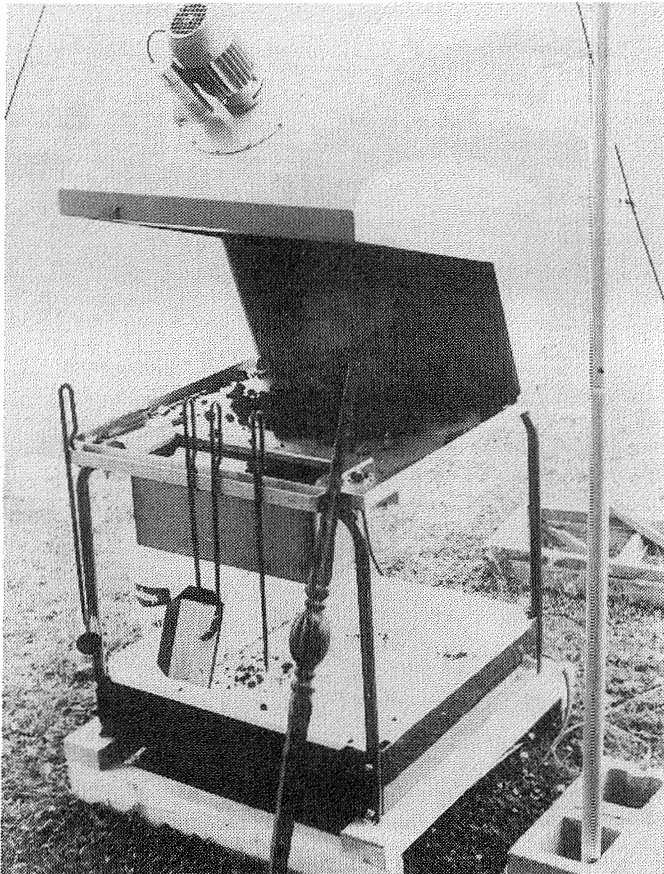




Left:

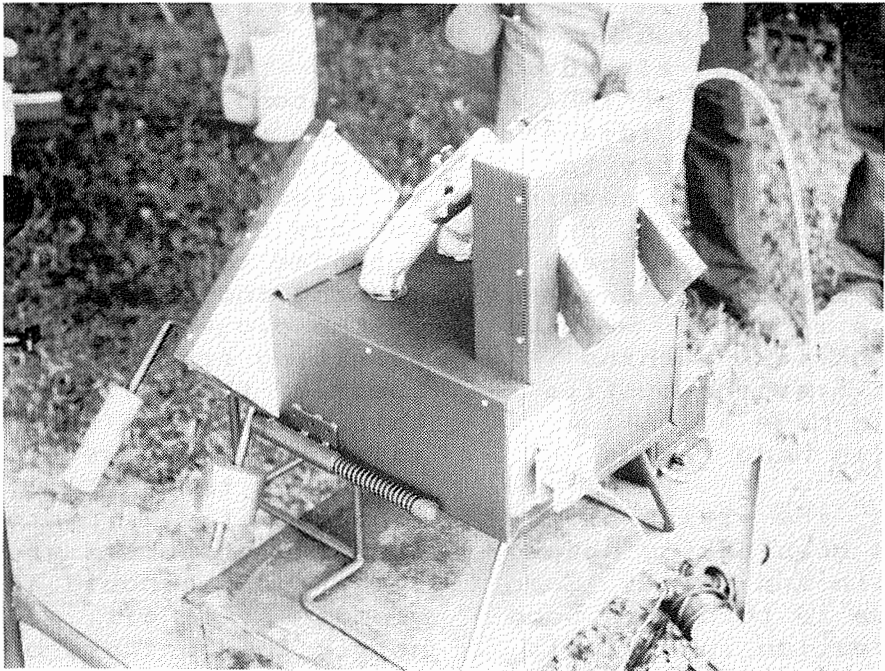
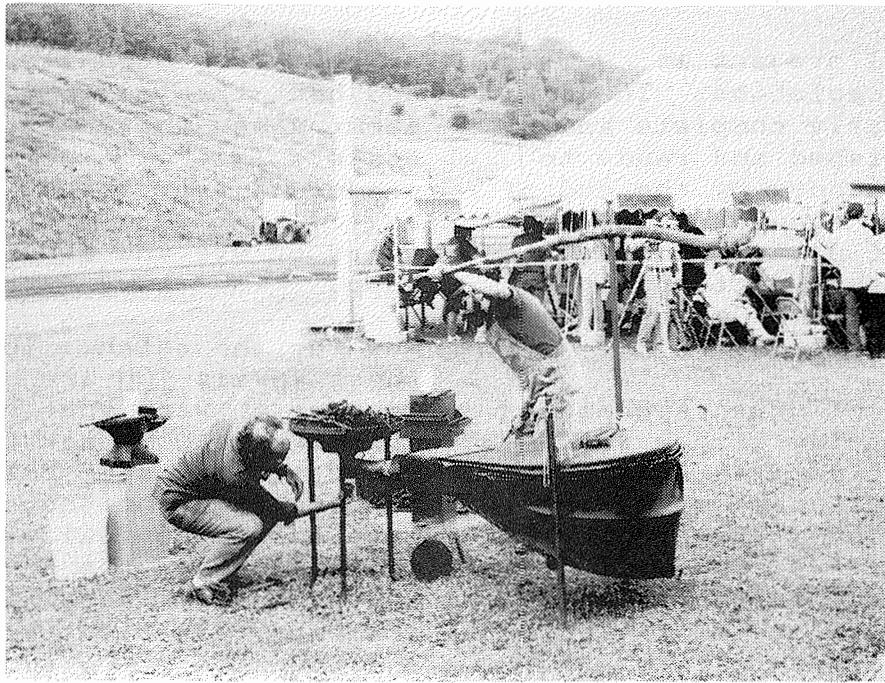


Right: Oh, sure, and
my Grandfather was
one, too.



Left: COAL FORGE

Right: BACK END OF A
ROB GUNTER, SANDIA,
ABANA FORGE



THE INBA ANVIL PROJECT

by Richard Karnesky

The INBA anvil project is approaching completion. The anvil pattern is nearly complete and should be finished and ready to take to the foundry by the end of April or early May. In fact a small group of us are planning to take the finished pattern to the foundry in Portland, as soon as the pattern is ready.

As the moment of truth approaches YOU need to decide if you would like to participate in this group purchase of custom made anvils. This is a one time opportunity for you to get what we feel will be a good anvil at a reasonable price. But, YOU need to decide if you want to participate in the purchase and YOU have to be ready to send us your money when we ask for it.

At the risk of telling you for the umpteenth time what you already know; last year a group of INBA members came up with the idea of pooling our talents and try to come up with a way to get several good anvils at a reasonable price. Over the last year we have been working toward making the dream of an INBA anvil a reality. We have contacted: foundries, machine shops and heat treating outfits to see if we could have a small number of anvils made for us.

Since November, the vision of the INBA anvil has been taking shape in wood, plastic and paint. Soon it will be time to turn this wood and plastic creation into steel, and YOU have the opportunity to have one or more of these anvils for your very own.

The finished anvil is expected to weigh in at somewhere between 175 and 200 pounds. The anvils will

be cast from 8630 steel, machined and heat treated to a hardness of about 40 on the Rockwell "C" scale. This is expected to produce a very tough, very strong anvil; that should stand up to years of use and abuse in your shop.

Now for the catch. To get one of these anvils YOU are going to have to come up with your money quickly, when we ask for it. While we have some "Ball Park" numbers from the shops that we have chosen to deal with, the actual cost of the anvils will not be known until we take the pattern down and talk with them in person, and then the price quotes will only be good for a short time. So we will have to get the money for the anvil from you as soon as possible, so we can get the work done.

The second catch is that we plan to make you an equal partner in the purchase and ask that you sign a "release form" of some sort when you buy the anvil. This is intended to release both the INBA and the individual members working on the project from any liability resulting from: the use, misuse or abuse of the anvils. In addition, this will let us avoid paying sales tax since we will all have purchased the anvils in Oregon. Finally, it will protect the individual members who worked on the project, should something go wrong. After all, we are really not in the business of making and selling anvils.

By the way, I plan to get at least two of these anvils for myself and maybe an extra one to sell later, so you know what I think about the quality of the INBA Anvils.



Above: **FORM TO BE USED IN CASTING THE INBA ANVILS**
photo by Clayton Carr

If you are interested in purchasing an INBA Project Anvil, contact Smokie Adams as soon as possible. Clayton says the anvil should weigh in at about 175 pounds and the INBA logo will grace its side. Don't worry, the anvils won't be dress white like the form above. They will look and feel like the real anvils they are to be. The cost of the anvils is estimated to be about \$400 a piece.

CONTACT Smokie Adams at P.O. Box 311, McKenna, WA 98558

SADLY, HISTORY REPEATS ITSELF

For centuries blacksmithing was a highly competitive business. In days gone by design ideas and techniques were closely guarded secrets. The idea of letting another blacksmith inside your shop was unheard of, and to share your ideas on the matter of design with them was considered insanity, not to mention professional suicide. It was that type of thinking, along with the dawn of the Industrial Revolution that caused the near death of the blacksmith trade in this country. The Industrial Revolution caused people to think there was no longer a need for independent forge shops that produced one of a kind or even limited production items. The smiths for the most part knew better but found that young people were not interested in taking upon what they thought to be an obsolete trade.

With the common practice of showing your tricks of the trade to no one but your apprentices, many smiths took their secrets to the grave with them. Not until there was but a handful left in the country did they realize that unless they began to tell anyone who wished to know, their craft was going to die. Thus was the beginning of blacksmith associations. For the past few decades it has taken a complete turn around. Most professional smiths now welcome anyone wishing to learn blacksmithing, and other professionals, into their shops to share how they did one thing or another. They also take time out of their always hectic schedule to travel great distances in order to show large groups the whys and wherefores of blacksmithing. These unselfish acts have caused a great resurgence of the trade, but not without serious consequences.

Without exception these professionals point out to the would be blacksmith that with the tools and techniques mastered, the only limit to what they can produce is their imagination. Using your imagination to design a product that is uniquely your own is the true challenge and often the only reward of smithing. The feeling of pride and satisfaction one gets from developing a sellable product with a design which is truly their own can be matched only by the hate and discontent felt when said product is plagiarized (a fancy word for stealing). I am not referring to a beginner who challenges his or her skills by attempting to replicate someone else's work they admire. This is not only acceptable but necessary to become a skilled smith, as restoration and replication is work the professional is often called upon to do. I am referring to mass production of items which are clearly someone else's designs. Scrolling a piece to the right instead of the left, using three more or two less veins on a leaf, or using 1/2" in place of 7/16" material does not make the design yours! In a silhouette situation they look and are the same. Architects refer to this as "designed by xerox". This type of practice not only shows a great lack of respect for the originator of the product but also no self pride

in producing your own work. Such activity can be looked upon only as monetarily inspired and if monetary inspiration is what you're getting into blacksmithing for, you have made a terrible mistake! Ask any professional if they make a good living at smithing. The reply will be "It's a poor living but a good life". This philosophy can only be understood by someone who has felt the inner rewards of designing and producing their own work.

Producing work that is clearly yours, building a style that is truly your own, is what gains you a national and international reputation. Being able to see a piece and identify whether it's a Russ Jaqua, Dave Thompson or Jim Garrett item is how success is measured in this trade. All of the above named have, through countless hours of research and development of their own ideas, emerged with heads held high and styles that are uniquely their own. Anyone who has seen their work has little trouble identifying other works of theirs and need not search for the signature, as their signature is all over the piece.

Now imagine if you can the depressing feeling a professional smith gets when an unknowing person says to them "Oh, I see you're copying some of so and so's work".

I have been placed on the receiving end of that statement several times in my 17 year career as a smith, and I can tell you it hurts. It hurts more than the worst burn I have ever received or the heaviest thing dropped on my foot. Aside from that it breeds a feeling of mistrust and foolishness - foolishness for having shared my skills and ideas in the first place. Is this our reward for trying to breath new life into a dying art? I was recently approached about supplying a retail iron shop with my products, only to find they were already carrying them - but they weren't made by me. This act is not just stealing a design, but food from the mouths and clothes from the backs of my family who supported my efforts through the years of trial and error of product development.

This was the straw, or old growth log as the case may be, which broke this camel's back. History has repeated itself with me and my shop. No longer will I welcome aspiring smiths into my shop or share with them my knowledge of the trade. I am not the first professional to take this course of action, but I can hope to be the last. That is up to you, the novice, and if you are not producing your own work you are a novice, whether your income is from forge work or not. Treat the few remaining open armed professionals with the respect they have earned and deserve. Don't plagiarize them and don't accept any excuses for it by those who do.

Very truly yours,
Former Instructor, Demonstrator and Friendly Smith,

Darryl Nelson

GLORY

Once upon a time, long, long ago, I was taught a great Truth about Blacksmithing. This is a story about the philosophy behind the practice, hence the capitals "T" and "B" in the preceeding sentence.

I was being overpaid for a job I hated. Don't get me wrong, I like my profession, but the working conditions on this particular job were the awful personnel type, and the only reason I was staying around was for the cash. With personal problems adding to the pressure, I no longer thought I had any time to create anything. What few tools I had left were gathering dust and rust. I was angry, frustrated and hurting. I decided that the only way I could keep my sanity was to get back into smithing.

I approached one of the more illustrious members of our fraternity to ask if I could help in his shop for nothing. I had no smithy, no forge or anvil of my own. I would do his bidding just for the satisfaction of it, learn the new and relearn the old, and maybe go into smithing professionally. Well, he was busy getting ready for a show somewhere, making all sorts of fire tools and other fine ironwork. He looked me up and down, one eye squinted almost shut against the smoke, an expression I took for skepticism was on his face.

"There's no glory in smithin'", he said. "Just hard work and dirt. You don't even get out what you put into it most of the time, not by half."

The Little Guy inside me (you know who I mean, the one who watches and tells us right from wrong) jumped up and down and said,

" No glory??!!! What do you mean there's no glory??? The ability to take a chunk of iron and shape it any way you want, to create beauty and utility where none existed before, that's not glorious? It only made the modern industrial age possible, is all! It's one of the best sides of mankind, to let his creativity make life better for himself and for all others. If that isn't glory, what is????"

"I know", I said. "It's just something I've wanted to get back into. I thought it might give me some satisfaction." Of course, I wanted to be agreeable and I said what I thought that smith wanted to hear. I wanted the oportunity. So I put what I wanted ahead of what I suddenly knew to be right. The Little Guy was practically hysterical, yelling something about lying to myself. I didn't even know I felt that strongly about smithing, or anything else, for that matter. Something changed in the smith's face, just a slight change in his eye.

"Don't have time for amateurs. I gotta get busy now, if you don't mind. I leave for California in the mornin." With that he turned back to his work. I stood back and watched for a while, invisible. Finally I asked him if he knew how I could join the local blacksmith's association. He smiled kindly and left the forge long enough to get me an application to the NWBA. I left without much more adeau than a thanks for his time and a wish for good luck at the show.

I got busy and joined up the next week. I had made a decision and that seemed to make things better. I soon had an anvil and a homemade gas forge and was pounding iron. One divorce and a new employer later things began to look up. No, I don't think blacksmithing had anything directly to do with my personal life, but Blacksmithing did. That creative time at the forge gave me the peace of mind to make some good decisions.

Years later, I look back and I'm sure of the look on our worthy smith's face: disappointment. He knew the secret, you see, and he was testing me. I didn't measure up that time, but if anyone says there's no glory in smithing, this time he's in for some argument!

But all that is really beside the point. What the story is about is what smithing really is. It's what the Little Guy said it is: One manifestation of our better side. Glorious!

JT Simmons

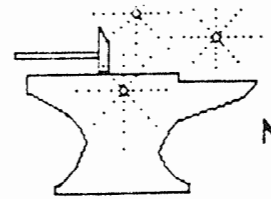


GABRIEL II

Bill Carrell

photo by Llyod Hedglin

The Hot Iron Sparkle



March/APRIL
1990

Newsletter of the North Carolina Chapter of ABANA

HOT IRON SPARKLE'S INFORMATION

Those of us who are relative newcomers to blacksmithing are sometimes confused by the references to steel as "1018" and such. The following tables taken from Welding: Principles and Practices by Raymond Sacks will help explain the terminology used in naming types of steel and steel alloys. Table 3.5 gives the numbering system, and Table 3.18 indicates the common uses for different types of steel.

Table 3-18

Uses for steel by carbon content.

Carbon class	Carbon range %	Typical uses
Low	0.05-0.15	Chain, nails, pipe, rivets, screws, sheets for pressing and stamping, wire
	0.15-0.30	Bars, plates, structural shapes
Medium	0.30-0.45	Axles, connecting rods, shafting
	0.45-0.60	Crankshafts, scraper blades
High	0.60-0.75	Automobile springs, anvils, bandsaws, drop hammer dies
	0.75-0.90	Chisels, punches, sand tools
Very high	0.90-1.00	Knives, shear blades, springs
	1.00-1.10	Milling cutters, dies, taps
	1.10-1.20	Lathe tools, woodworking tools
	1.20-1.30	Files, reamers
	1.30-1.40	Dies for wire drawing
	1.40-1.50	Metal cutting saws

The James F. Lincoln Arc Welding Foundation

Table 3-5

SAE / AISI classification system. Note that the prefixes and numbers are in the first and second places. The xs in the table represent the numbers indicating alloy percentages. The range of these percentages for each classification is given in tables 3-6 through 3-16.

Type of steel	Numerals
Carbon steels	1xxx
Plain carbon	10xx
Free cutting, (screw stock)	11xx
Free cutting, manganese	X13xx
High manganese	T13xx
Nickel steels	2xxx
0.50 percent nickel	20xx
1.50 percent nickel	21xx
3.50 percent nickel	23xx
5.00 percent nickel	25xx
Nickel chromium steels	3xxx
1.25 percent nickel, 0.60 percent chromium	31xx
1.75 percent nickel, 1.00 percent chromium	32xx
3.50 percent nickel, 1.50 percent chromium	33xx
3.00 percent nickel, 0.80 percent chromium	34xx
Corrosion- and heat-resisting steels	30xxx
Molybdenum steels	4xxx
Chromium	41xx
Chromium nickel	43xx
Nickel	46xx and 48xx
Chromium steels	5xxx
Low chromium	51xx
Medium chromium	52xxx
Corrosion- and heat-resisting	51xxx
Chromium vanadium steels	6xxx
Tungsten steels	7xxx and 7xxxx
Silicon manganese steels	9xxx

Welding: Principles and Practices is an excellent book not only for welding but as a general reference on iron and steel. Chapter 3 gives a history of steel and interesting information on different smelting processes.

Speaking of steel, many of you are aware of a special steel alloy called Atlantic 33, which is recommended by Danny Boone for making hot cut tools. Chisels made from Atlantic 33 hold their edge even when quite hot, minimizing the need to cool the tool frequently when making a cut. Atlantic will cut a 20 foot bar into five foot lengths and ship it by UPS. But remember, it's pretty expensive. Atlantic Steel Corporation is at 35-27 36th St., Astoria, NY 11106. The phone number is 718-729-4800.

Bert Smith

centered cubic, BCC (an atom at each corner of a cube and one in the middle). Above about 1330 Fahrenheit (cherry red), the crystal structure starts to change to face centered cubic, FCC, (an atom at each corner of a cube and one in the middle of each of the 6 sides). At temperatures above the Curie point, about 1418 Fahrenheit, steel is no longer magnetic. Above 1430 Fahrenheit, (depending on carbon content) (bright cherry or dark orange), the transformation to FCC is complete.

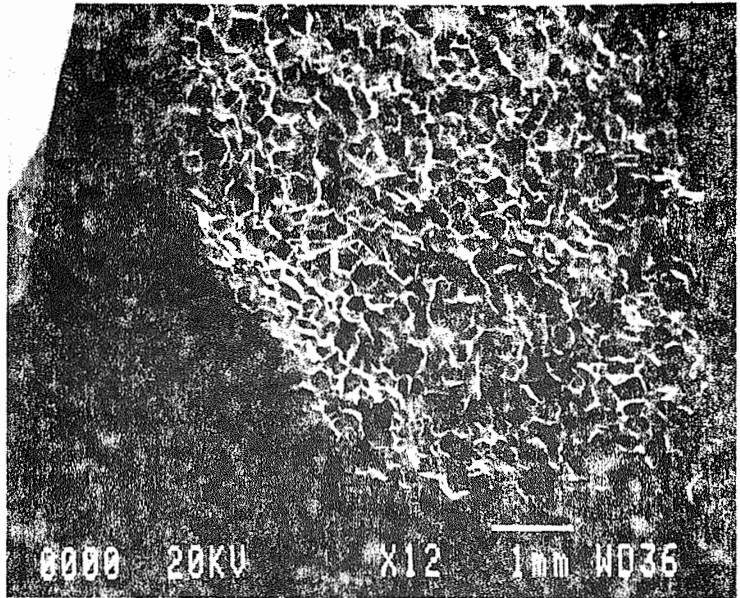
This FCC structure is called austenite. Carbon dissolves into the iron at this temperature. Quenching (rapid cooling) from this temperature forms martensite which is very hard (can be as hard as Rockwell C 65, same as Rc65 or HRC65). If the cooling is not fast enough, the transformation is not complete. This means other products will form also, resulting in a lower hardness, lower strength, and higher toughness.

The higher the hardness (more martensite) the more brittle the steel. This will result in brittle (not ductile) appearing fracture faces. They will look shiny and under a magnifying glass, appear as sharp crystals like salt.

Hardness is the resistance to penetration by a pointed indenter under a specific load. A 150 kilograms load and a diamond tipped cone indenter were used for this scale, Rockwell C. Hardness is a predictor of strength. Parallel flats were ground on opposite sides of each of the six pieces. Hardness was done on one of the flats, the other flat providing the support. (Cracks, which extended into the depth, were found in many of the ground surfaces.)

In this demonstration, pieces 1 through 5 had similar hardness from 55 to 65. Part 6 was softer at HRC 25. At this lower hardness, steel will do some bending before it fractures.

PIECE	ROCKWELL C HARDNESS (AVERAGE)			
1.	55,	56,	59,	57
2.	65,	64,	64,	64
3.	65,	60,	64,	63
4.	64,	63,	63,	63
5.	60,			60
6.	25,	26,	25,	25



A quick scanning electron microscope scan indicated the sample contained sulfur, manganese, and silicon which suggest a 1340 type carbon steel alloy.

TEMPERATURE	COLOR
1000	DULL RED (FIRST COLOR)
1100	DULL RED
1200	DULL RED, BRIGHTER
1300	DULL RED STILL BRIGHTER
1400	RED
1500	DEEP RED
1600	ORANGE RED
1700	ORANGE YELLOW
1800	BRIGHT ORANGE YELLOW
1900	YELLOW ORANGE
2000	LIGHT YELLOW

CONCLUSION Craftspeople are fully aware of buying the best tools available for particular jobs at hand but there are occasions when a modification of the tool is needed or a new tool is called for and for carbon steel tool it may be a workshop such as Paul's that can help you enjoy the pleasures of making some of your own unique tools - your own cutting edge!

The fracture photo shows sharp facets or grain faces. These small flat regions are planes of aligned atoms. The break is intergranular which means it took place between grains or along grain boundaries. During long time at elevated temperatures, there also may have been migration of an element toward the grain boundaries which made them weaker (possibilities sulfur, manganese, silicon).

From HOT IRON SPARKLE
North Carolina Chapter
of ABANA, March/April
1990

Reprinted as found in
METALSMITH, Guild of
Metalsmiths, June 1990

ABANA

Artist-Blacksmiths' Association of North America



P.O. Box 1181, Nashville, Indiana 47448
Executive Secretary, Janelle Gilbert

Office Hours: 7:30-11:30am & 1:30-4:30pm
Phone: (812) 988-6919

PRESIDENT'S MESSAGE

September 1990

Dear Friends,

Fall is upon us and "The Anvil's Ring" for this quarter (Vol.18, #2) should reach our ABANA members by the last week in September. Look for the ABANA Board of Directors Election materials included with your magazine. Please return the election ballot right away since the postal deadline for voting will be shortly after you get the materials. We have extended the deadlines in order to utilize this method of mailing with the magazine. It is important that you exercise your ability to vote as an ABANA member even though you may not have met the candidates.

The ABANA Office received several letters of thanks and enthusiasm about the conference in Alfred, New York this year. We are glad to know there are so many of you who share our sentiments exactly. We can all look forward to another satisfying event for 1992 being planned for San Louis Obispo, California.

There are souvenirs left from this year's conference at Alfred, New York. We have ordered more conference lapel pins which may be purchased through the ABANA Office for \$6.50. We also had some brass belt buckles (\$30.00) and engineer hats (\$9.00) left over. Don't forget to include \$2.00 for shipping and handling for any sales order.

New articles and tips are being accepted for "The Anvil's Ring" Winter issue. If you have anything you would like to submit for publication, please contact our Editor, Albert Anderson, Pennsylvania State University, 268 Chambers Building, University Park, PA 16802.

Warm regards,

A handwritten signature in cursive script, appearing to read "Dorothy Stigler".

Dorothy Stigler
ABANA President

DES/jgf

ABANA

Artist-Blacksmiths' Association of North America



P.O. Box 1181, Nashville, Indiana 47448
Executive Secretary, Janelle Gilbert

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PRESIDENT'S MESSAGE August 1990

Dear ABANA Chapters,

ABANA wants to thank the New York ABANA Chapter for hosting a very successful conference at Alfred State College. Charlie Orlando and his very efficient crew really pulled off an international event to be proud of. They have even extended an invitation to return to Alfred State College in the future if we wish to do so. A great time was truly had by all. Thank you New York.

In the next issue of the Anvil's Ring you will find your Board Election Ballot. We really need your vote so we can know who you want to represent you on the ABANA Board. Don't let the minority run the organization. Cast your vote please.

The annual Budget meeting will be held in November at the Studebaker Homestead, Tipp City, Ohio. Thank you Emmert and Jane. Dates are November 9, 10, and 11. Contact the ABANA Board member nearest you to get something on the agenda. You may also drop a line to me and I will see it is on the list for discussion.

Please respond to the update on demonstrators for the Chapter Liaison Committee. We need new and current information on demonstrators. Contact Clayton Carr to update -- RFD #2 Box 2911, Kennewick, WA 99337 -- eve. phone: (509) 586-9278.

Have a great summer!

Warm regards,

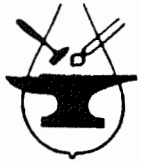
A handwritten signature in cursive script that reads "Dorothy Stiegler".

Dorothy Stiegler
ABANA President

DES/jgf

ABANA

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PRESIDENT'S MESSAGE

June 1990

Dear Friends,

This month's message to the chapters is devoted to an issue concerning the reprinting of Anvil's Ring articles --a discussion that may address future questions and that has most recently come to our attention via the Appalachian Area Chapter.

The controversy concerns the decision by the ABANA Board not to allow Mr. Albert Cannella of the Appalachian Area Chapter to use articles from 10 years of the Anvil's Rings for the purpose of producing a booklet for sale. Mr. Cannella has already compiled excerpts from his chapter newsletter and sold the booklet entitled "Blacksmiths Helper, Vol. 1" for \$8.00 each. \$2.00 went to the Appalachian Area Chapter and \$6.00 was retained to cover his out of pocket expenses. Mr. Cannella contacted me to request using articles from the Anvil's Ring for a second volume using "Tips & Techniques" and "Building Blocks" which after his publishing would entitle him to copyrights. Enclosed is a copy of Mr. Cannella's initial letter which I answered by telephone conversation.

I am very surprised by the misunderstanding that came about after I went to great lengths to explain ABANA's position on the issue to Mr. Cannella. Letters to the editor published in the Appalachian Area Chapter newsletter from Mr. Joe Humble and Mr. Cannella question the educational objectives of ABANA. It is evident that the direction of the ABANA Board on this issue was misinterpreted and I find it necessary to outline the background on the decision in this mailing. I think you will find that there are many facets to this seemingly simple request.

FIRST AND FOREMOST, it is absolutely imperative that ABANA retain a Not-For-Profit status with strictest guidance to disapprove any activities that would jeopardize the organization's qualification with the IRS. While ABANA does not OWN the contents of the Anvil's Ring it falls within the IRS code 501-C3 for the Board of ABANA to oversee and control the use of articles. This means that even a small amount of "reimbursement" for out of pocket expenses by an individual from the sale of a publication does not fall within the IRS guidelines to retain the organization's Not-For-Profit status.

SECONDLY, proceeds from any sale of a publication such as the booklet proposed must be returned to benefit the ABANA membership as a whole since the source of the content is donated to ABANA as shared educational material (i.e. Anvil's Ring articles).

Hans Peot, Secretary of ABANA, as many of you know is currently compiling tips and techniques to have ready for our members. This volume will be targeted for the beginner blacksmith. Hans has been working on this for almost a year now. Proceeds from this project will be put back into our educational funding to benefit ALL the membership and ALL the ABANA Chapters. There are other people who have donated articles to the Anvil's

Ring that would like them put into a book. Bud Oggier's "Foundations" and Dorothy Stiegler's "Building Blocks" are to name a few. All proceeds, if any, from these booklets will be used to promote the art of blacksmithing through the perpetuation of funds for ABANA services and projects.

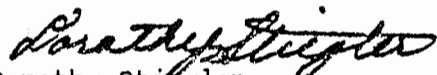
FINALLY, I have asked Mr. Cannella to abandon the idea of using these articles from the Anvil's Ring for the contents of his book for the reasons listed here. We understand that he is interested in the spirit of sharing information and helping beginners. With this in mind, the opportunity to do just that is open if Mr. Cannella would like to assist Hans Peot in the writing of the beginner techniques booklet. I'm sure that if Mr. Cannella's intentions are purely to achieve this spirited goal as stated in his editor's letter --and we have no reason to believe otherwise-- we could all benefit by his input. Leonard Masters of the ABANA Board of Directors has already suggested this and I think it's a fine idea. Mr. Cannella...?

IN SUMMARY, the ABANA Board of Directors has tried to be very careful to keep the organization on the right track by promoting the art of blacksmithing within the guidelines of the by-laws and the legal system. I do hope that past ABANA president, Joe Humble, of the Appalachian Area Chapter --and any other past board member-- will be better informed in the future so as to support the Board's efforts in keeping with IRS regulations; realizing how detrimental it can be to jump too quickly to conclusions. I did not respond immediately to Mr. Cannella's request because the ABANA Board was working to consider all the ramifications involved. It is our duty as stewards of the property of ABANA to make decisions for the benefit of the organization as a WHOLE.

We are sorry to hear that Mr. Cannella stated "I see no value in remaining a subscriber to it (The Anvil's Ring)," after receiving the board's decision. We feel there is far more value to being an ABANA member than for the resource of reprinting articles from our magazine. Instead we hope that Mr. Cannella will re-direct his energies with the same goal in mind by assisting with the organization's beginner technique booklet to achieve a more global spirit of sharing.

I look forward to seeing many of you at the upcoming ABANA Conference at Alfred, New York on June 27th. Many thanks to Charlie Orlando and his Conference Committee for being attentive to so many important details!

Warm regards,


Dorothy Stiegler
ABANA President

DES/jrg



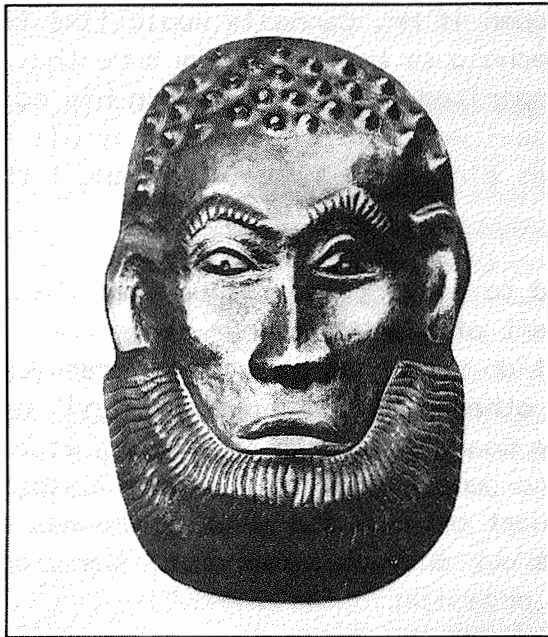
National Ornamental Metal Museum

A RETROSPECTIVE EXHIBITION OF WORK BY

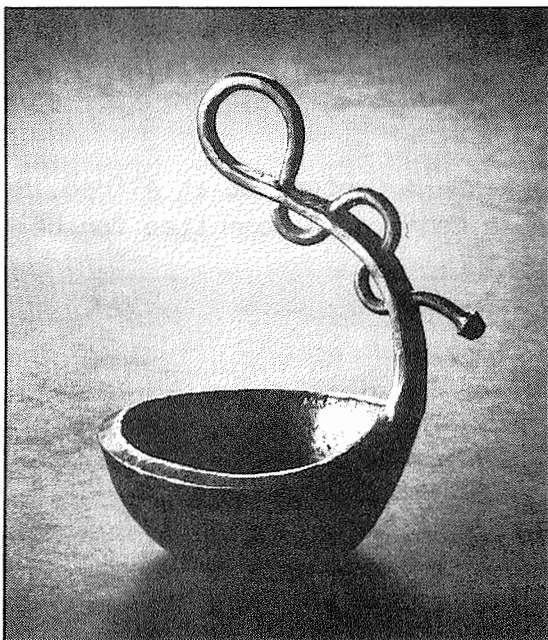
C. CARL JENNINGS

September 2 - October 28, 1990

NATIONAL ORNAMENTAL METAL MUSEUM
Memphis, Tennessee



MASK - 1988
steel - repoussé
3" x 12" x 18"



VESSEL - 1989
steel - sunk and forged
8" x 6" x 6"

C. Carl Jennings

C. Carl Jennings, born April 10, 1910 in Marion, Illinois, is a third generation metal craftsman who has been working in iron for sixty-two years. A graduate of the California School of Arts and Crafts, Jennings worked in a number of shops before opening his own, El Diablo Forge in Lafayette, California, specializing in architectural wrought metal products.

Among his works in the Bay area are signs for the Christian Brothers Winery in St. Helena and railings and light fixtures for the Chapel of the Chimes in Oakland. In 1969 he moved his shop to Sonoma where he has worked for the past twenty-one years, executing commissions for clients, building and furnishing his own home, and exploring sculptural forms such as masks, animal heads, and vessels in forged steel.

During his long and distinguished career, Jennings has been the recipient of numerous honors and awards, including life memberships in the Metal Arts Guild and in the California Blacksmith Association. In 1988 he was inducted into the College of Fellows of the American Craft Council and was presented the Alex Bealer Award for Lifetime Achievement by the Artist-Blacksmiths' Association of North America.

Each fall, the National Ornamental Metal Museum selects the work of an American craftsman whose contributions to the field have earned the recognition of the public and peers alike. This retrospective exhibition of work by C. Carl Jennings continues the Museum's contemporary "masters" series, and demonstrates the versatility of the medium and the time-honored traditions of the craft.



P.O. Box 842 • Mount Vernon, Washington 98273

Black Powder Times

February 20, 1990

Northwest Blacksmiths Association
P.O. Box 81041
Seattle, WA 98108

About Blacksmiths Gazette

To give you a little background, *Black Powder Times* was started in December 1974 as a monthly tabloid newspaper. In mid-1980 a second tabloid newspaper the *Blacksmith's Gazette* was started by the same publisher. In 1982, *Black Powder Times* was changed to magazine format and *Blacksmith's Gazette* followed about a year later. Because of problems from other black powder magazines with similar names, *Black Powder Times* was renamed "*Then and Now*". About a year ago, *Blacksmith's Gazette* and *Then and Now* were merged, then published on a quarterly basis under the name *Then and Now*.

Now, are you completely confused!

Beginning in January 1990, *Then and Now* was discontinued and *Black Powder Times* is being published as a monthly, tabloid newspaper. The publication is covering black powder shooting, guns, and crafts related to the black powder era (including blacksmithing). Subscription price is \$15.00 for one year, \$25.00 for two years, and \$36.00 for three years. A sample copy costs \$1.25.

Sincerely,

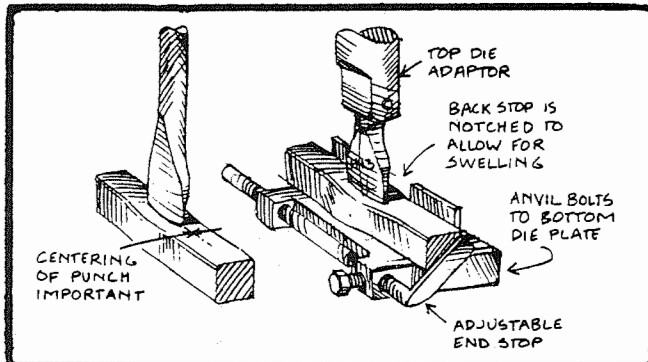
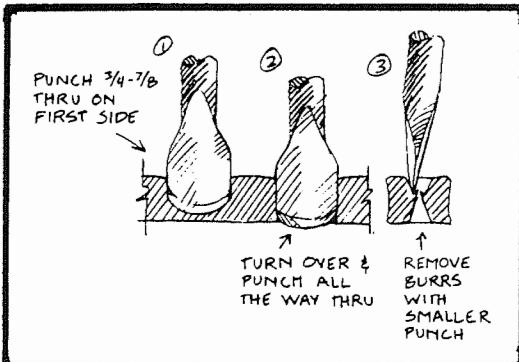
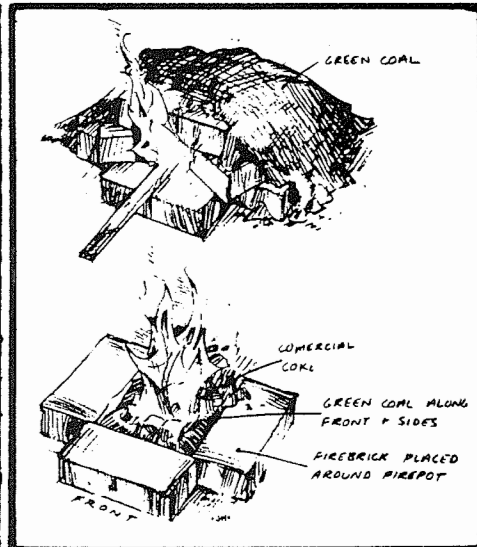
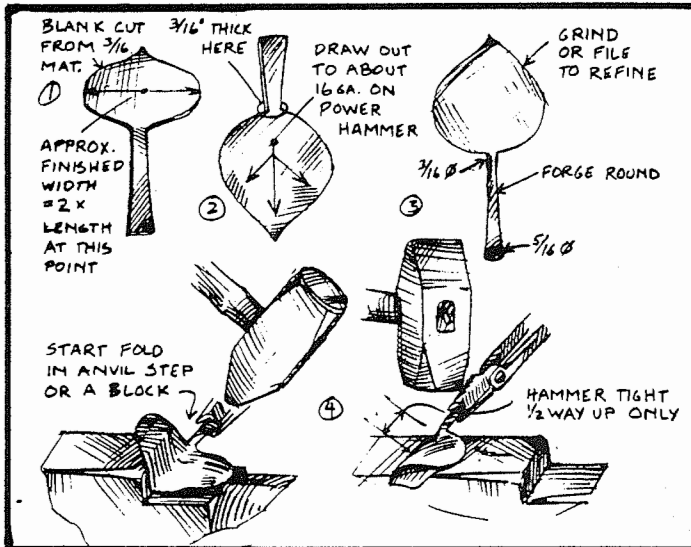


Fred W. Holder
Editor & Publisher

P.S. Please pass this information along to your membership and your newsletter editor. Thank you. FWH

• NEW PUBLICATION •

THE
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 A MONTHLY JOURNAL of ILLUSTRATED TECHNIQUES



The BLACKSMITH'S JOURNAL is an information oriented publication, presented in illustrated form, focusing on blacksmithing techniques. New and old techniques are shown in accurate detail and distributed monthly in supplemental form to provide you with a continually growing resource. 1 yr, \$28. 2 yrs, \$50. Canada 1 yr, \$35.

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FOR SALE:

Kao-wool, \$1.45 per square foot. Contact Jerry Henderson at (503) 397-4537. Jerry also has a new product similar to Kao-wool but better available.

WANTED:

Tire bender and bolt header (free standing). Contact Ike Bay at 13085 N.W. Ridgetop, Portland, OR 97229 or call (503) 645-2790.

WANTED:

Articles, announcements, pot luck recipes, photographs, drawings and advertisements (free to all NWBA members). Send them to the Hot Iron News Editor, Karen Wagner at 711 Taylor St., Port Townsend, WA 98368 or call (206) 385-0256 after 7pm or leave a message on the machine.

FOR SALE:

2 Champion No. 101 post drills in near factory condition. Complete and unused in preservative with 98+ paint. \$400 each plus shipping (weight, 80 pounds each). Contact Glen Winterbottom, Box W, Naalehu, Hawaii 96772 or call (808) 929-9080.

TRADE:

Kalamazoo Abrasive Cut-off Saw for blacksmith's leg vise in workable condition. Nearly new saw can cut mitres and has a 10" blade, 3 HP motor and aturtable. Contact Neil Winikoff at 17124 S.E. Cougar Mt. Dr., Issaquah, WA 98027 or call (206) 746-5637.

FOR SALE:

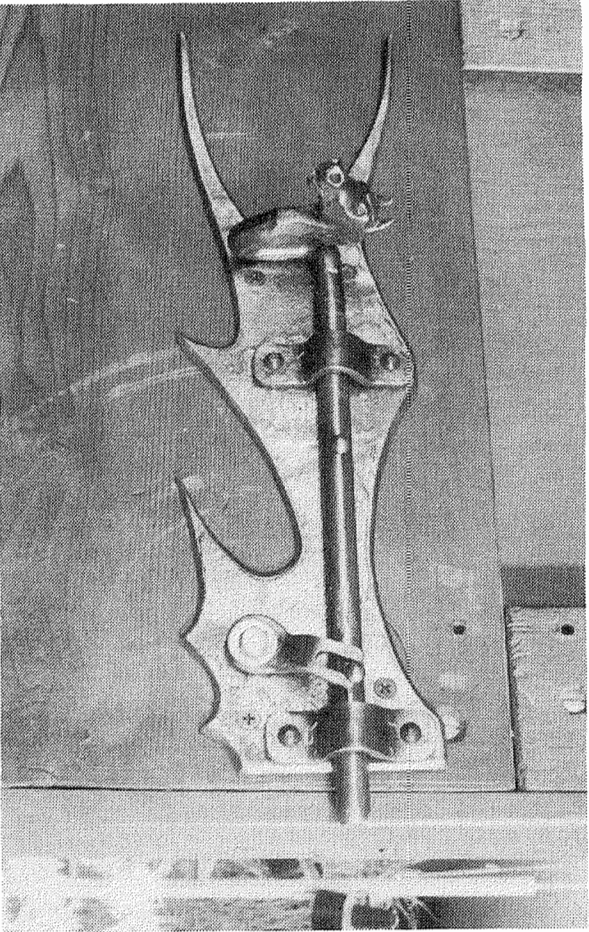
Cast iron forge with tuyere in good shape. Contact Ben Nesbitt at 24811 145th Lane S.W., Kent, WA 98042 or call (206) 631-1158.

HOT IRON NEWS

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DOOR LATCH

Bruce Northridge
Demonstrator Fall Conference