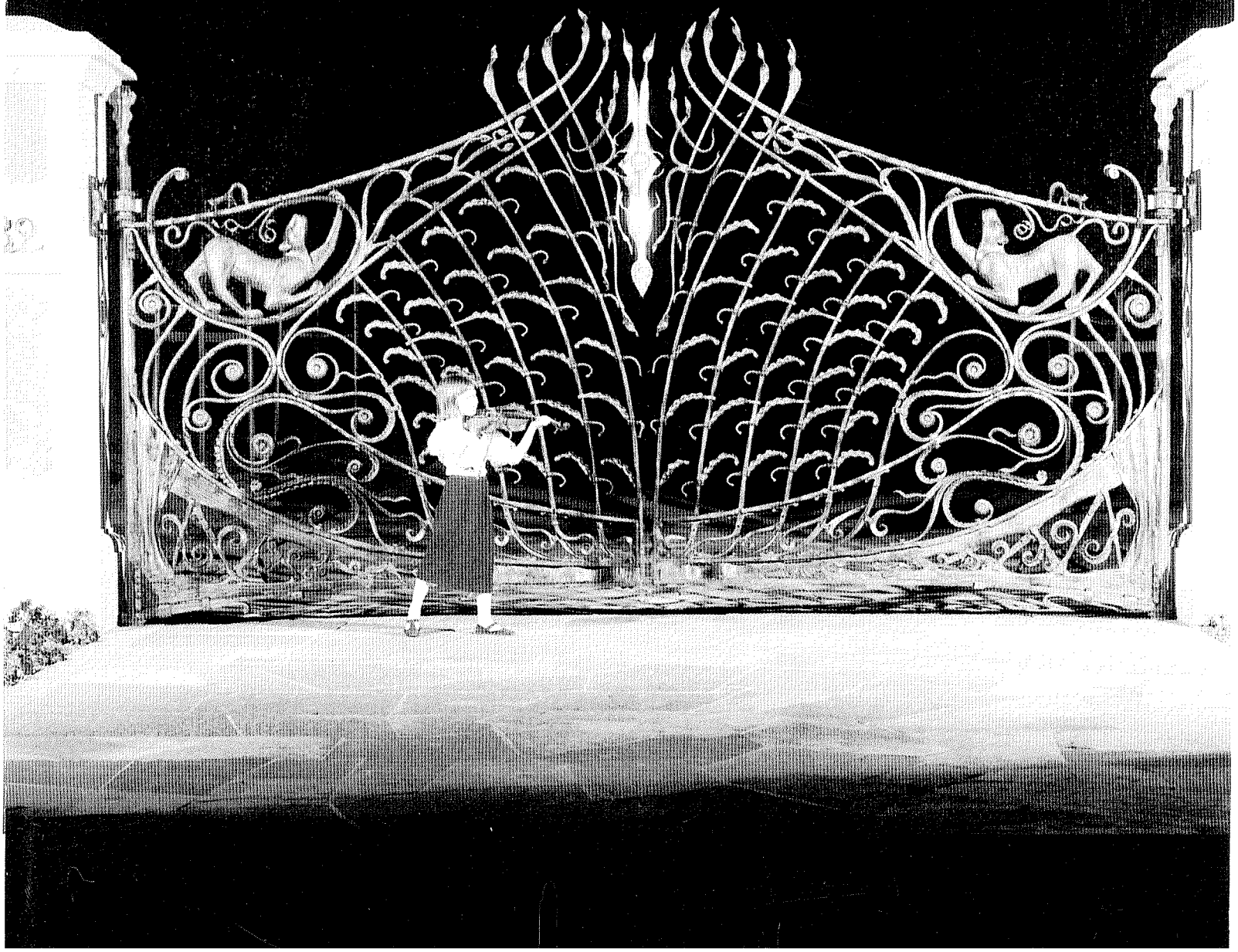
Winter 2000

HOT IRON NEWS

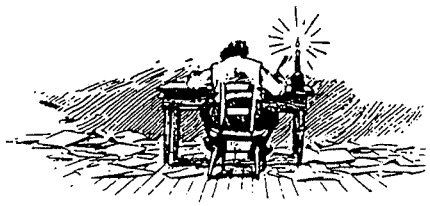
VOICE OF THE NORTH WEST BLACKSMITH ASSOCIATION



Inside

Cover: Gate by E.A. Chase

HOT IRON NEWS is the official quarterly of the North West Blacksmith Association. Submission of materials is eagerly encouraged. Deadlines for submissions are February 1, May 1, August 1 and November 1.



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Annual Dues are $35 ($39 Foreign) and include a quarterly subscription to ***HOT IRON NEWS.***

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Membership includes a subscription to the **Anvil's Ring** and **The Hammer's Blow** magazines. Regular membership is $45, Senior (65+) $40, Student $35.

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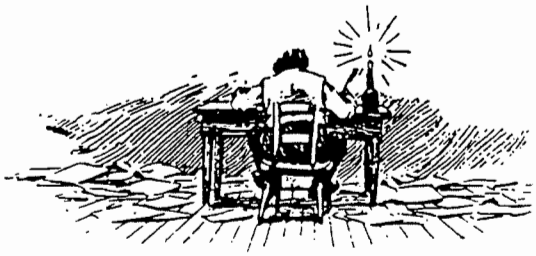


Editor's Notes

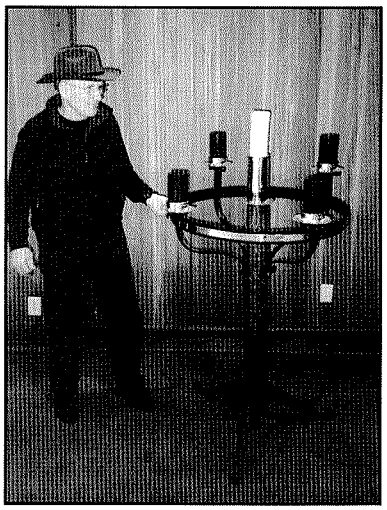
ABANA is about to take an historic step (the first in a journey of 1,000 miles!) It's going to follow the trail of Lewis and Clark and come to the Pacific Northwest! The ABANA Board of Directors Meeting will be held in Seattle in November, probably right before Thanksgiving. This is the first time that ABANA has strayed this far from the Mason-Dixon Line. This will be it's first official encounter with Flying Fish! This will be the first direct contact between the N.W.B.A. and ABANA. It will be a good opportunity for members to meet the Board, sit in on the meetings, and see what type of programs ABANA is planning to further the craft. It will allow the Board to get some fresh input from the hottest and most innovative blacksmithing area of the country! Even if members can't make it to the meetings, there will probably be a Saturday night party (perhaps at the infamous Black Dog Forge, home of the notorious Blacksmith's Ball!)

ABANA is taking some very positive steps. It has now formed an Education Committee to further extension of the craft instructional programs. It is reorganizing how it does business, becoming more business-like and efficient. It is attempting to become more responsive to chapters and members. It plans an over-haul of it's by-laws to modernize it's operations.

ABANA has some fifty chapters across the United States, Australia, and New Zealand. It is a separate non-profit corporation organized under Georgia law. It has assets of approximately $150,000. It is the intent of the present Board to run it like a corporation should be run. This means that we assume only the risks and liabilities that a normal business would assume i.e. the ones that are insurable. If an activity has insurance problems, ABANA will not risk liability exposure. This has been an issue with the ABANA teaching trailer and it's been grounded until the insurance issues are resolved. This has been an issue with anvil-shooting in the chapters. In 1997, the ABANA Board passed a resolution prohibiting anvil-shooting at any ABANA-sponsored events. This action wasn't taken because we all don't enjoy going out and trying to blow our fool heads off with the jagged edge of a swage block, it was because the activity wasn't insurable. Pure and Simple. However, a handful of chapters have persisted in conducting the shoots. ABANA, for self-protection, has adopted the policy that any chapter that conducts an anvil-shoot will have their ABANA Charter revoked. The Board has been catching a little hell about this i.e. that we're a bunch of dictators that just want to tell the Chapters what to do, that anvil-shooting is a time-honored, venerated tradition, etc. It's too bad that the issue isn't that simple! The problem, again, is *uninsurability.* As ABANA's Secretary, I have made it my mission in life to see if any Chapter had insurance for anvil-shooting. One Chapter, which assured ABANA that it did, discovered that the only insurance on the facility where it met covered liability only for the Lion's Club Breakfast held there! Oops! I was told that the National Rife Association covered the anvil-shoots. I spoke with the National Vice-President at the N.R.A. in charge of club insurance. He had never even heard of the practice--and winced when I described it to him! He thought they would put it into the same category as the group who wanted insurance to shoot at model airplanes! I spoke with a number of national insurance companies. I spoke with the General Counsel for BATF. *Anvil-shooting insurance does not exist!* So, what's a prudent Board to do? Kind of limits the options! Regular forging activities are routinely insured. Blacksmithing has an exemplary safety record. But anvil-shooting, fun as it might be, has the same relationship to blacksmithing as bullfighting does to agriculture! Reasonable, thinking persons understand this issue. The Board simply cannot risk the future of the organization because of the complaints of a very small group of people. The activity is not in accordance with ABANA's primary mission of education. If someone wants to blow their head off, they can do it on their own time and in their own backyard!

Thanks to E.A. Chase, Dan Schwarz, and Nahum Hersom for the great articles. And, doesn't the 1860's young blacksmith's striker on page 41 look like a young Dustin Hoffman?

PREZ SEZ. . . .



Turn to Page 38 to see what the Prez does in his "spare time"

2001--The year starts with three new faces on your N.W.B.A. Board. I don't know if Congratulations are in order or not: They each undertook a FULL load of Committee responsibilities! But a Thank You for taking on the work is in order as you visit at the Spring Conference. Thanks also goes to **Ed Hodgson**, C.P.A., who served as bookkeeper for club treasurer. Ed upgraded our records and provided the Board with a detailed report at our January Board meeting. Thanks also goes to outgoing Board members **Derry Cook**, **Ralph Hines** and **Dennis Prince**. The enthusiasm that **Terry Carson**, **Gary Chapman** and **Mark Manley** bring to the Board is certainly contagious!

Al Karg has finished the upgrade of the membership roster. Al would appreciate notification of future address/phone/email changes. A published membership roster is in the works and up-to-date information is it's value.

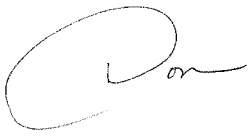
The new N.W.B.A. trailer is being outfitted to hold the club equipment and archives (thanks to **David Tuthill** and **Mark Manley**). It will include provisions for humidity control to protect our archives. There are a couple of archives that have been checked out to club members and they should be returned at the Spring Conference. Storage space can be assigned. N.W.B.A. has one of the best archives of ABANA chapters, and it is available at every conference for study and admiration!

Item for the Spring Conference business meeting: Establish annual dues renewal for January 1st of each year, beginning January 1, 2002. Full payment for dues received January 1 through June 30 (presently $35/39). Dues received July 1 through December 1 would be prorated one-half (presently $17.50/19).

This will simplify members remembering personal annual renewal anniversaries. Subsciption dates will continue to be printed on the Hot Iron News label.

REQUEST: Help keep the membership roster current by including your printed name, address, phone and e-mail with your renewal check.

Looking forward to the Spring Conference in Sisters, Oregon on May 18, 19 and 20! **Jeff and Heather Wester** have expanded their shop since we last visited in the Spring of 1998. They are great hosts! **Laura Goematt** and **David Tuthill** will welcome any volunteers to add to the activities. **Louie Raffloer** has some great hands-on workshops planned. Great Demonstrators and ---------- SEE YOU THERE !!!



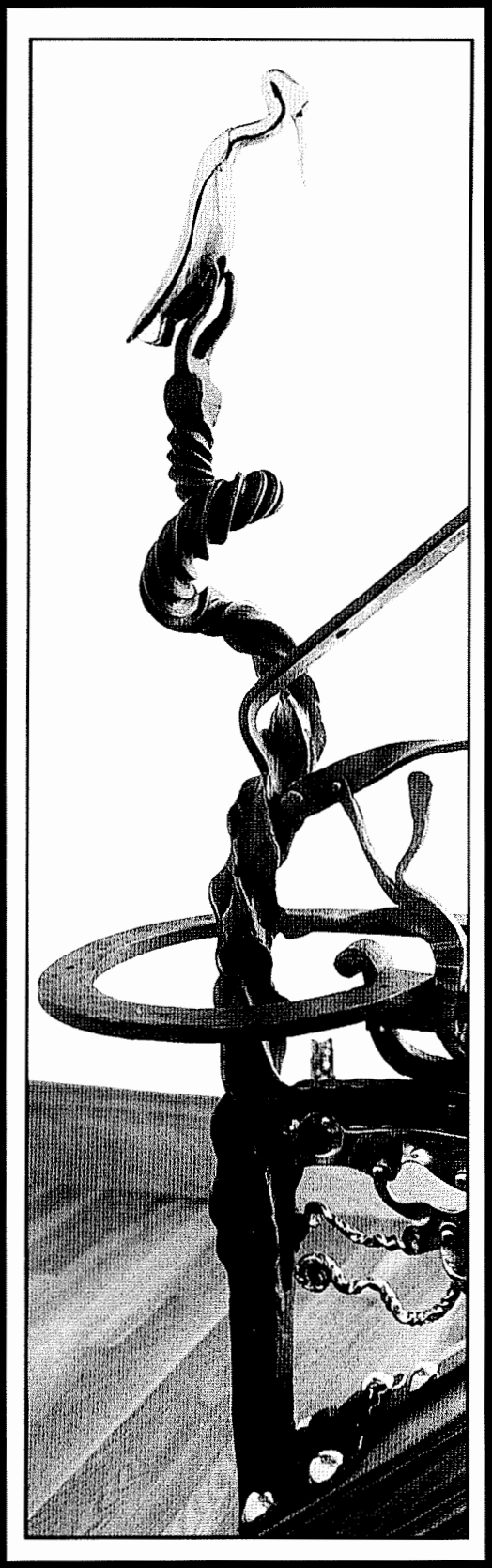
E. A.

Chase

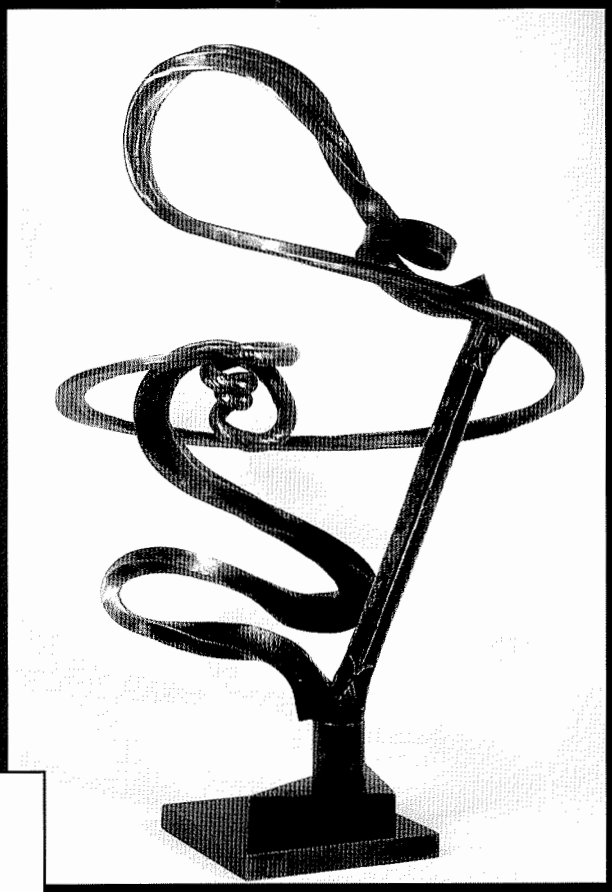
Sculptor and Blacksmith

As an art student focusing on sculpture during the late Forties and early Fifties I sought a satisfying and meaningful relationship to my world and the methods to express that relationship. Like many serious young artists during the aftermath of World War II, I struggled with the portentous task of facing a world bloated with skewed values and hungered for the insight and expressive skills to be part of the solution. I believed in the power of art as an instrument of positive social change; (and after all of these years, still do, but with many more nuances than my younger version could foresee!).

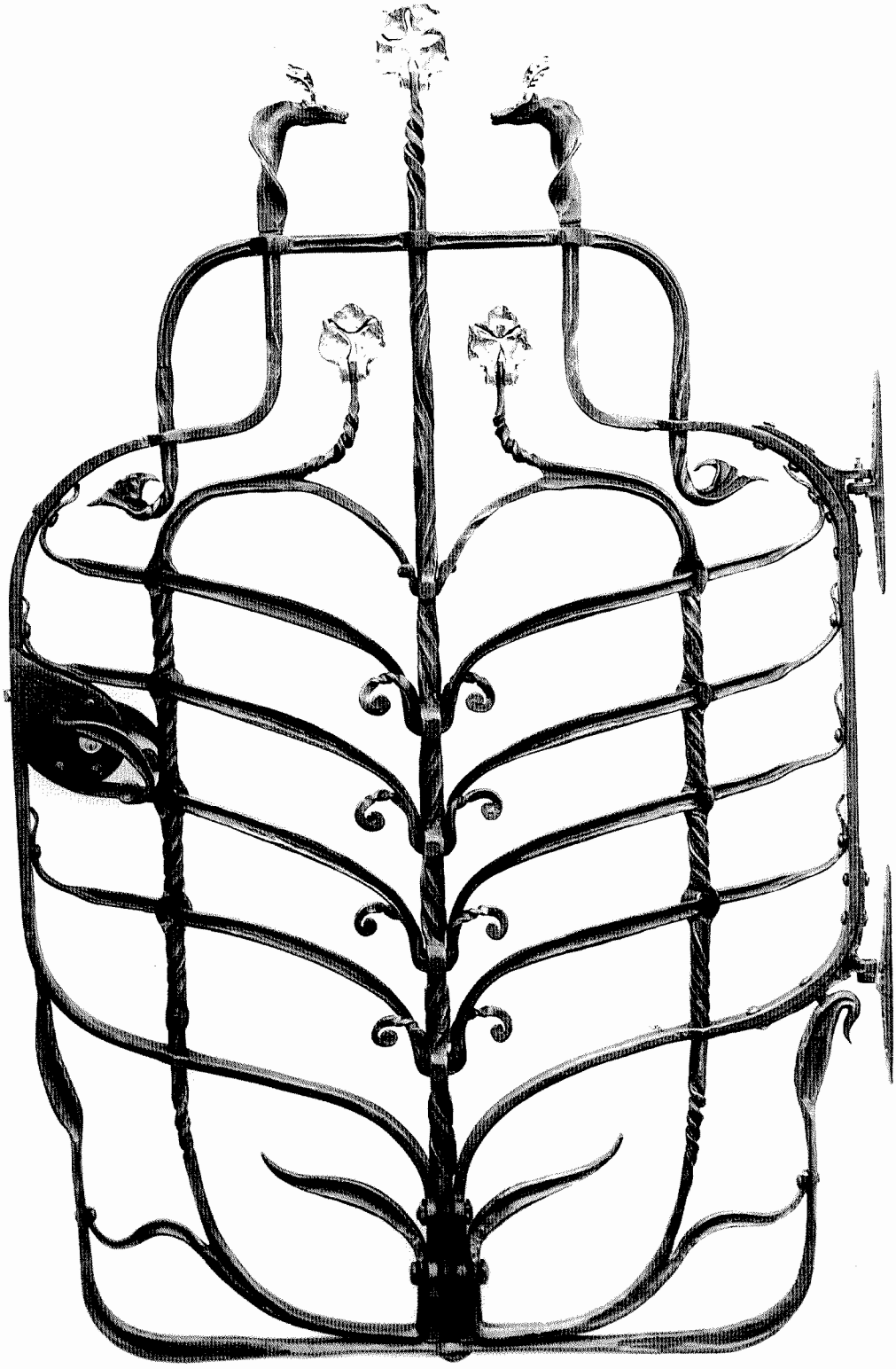
My technical skills developed in traditional sculptural media; stone and wood carving and metal casting. Finally, away from the traditional resources of art schools, and inspired by David Smith and his mimics, fabricated steel began insinuating it's influence in my work. I also continued working "in the round" by experimenting with the then-new epoxy and fiberglass materials. What was philosophically pertinent about my new choices of media had to do with the freedom they afforded from reliance on facilities outside my own studio. It was a sychronous adjustment to this period, reflecting the alienated and disillusioned attitudes of many young intellectuals frustrarted by a deadening sense of powerlessness towards a world gone crazy with the "Bomb", the Cold War, the Korean War--all so soon after the carnage of World War II. The "Beat" movement was understandably in full flower. I needed no excuse to retreat into self-sufficiency in my studio.

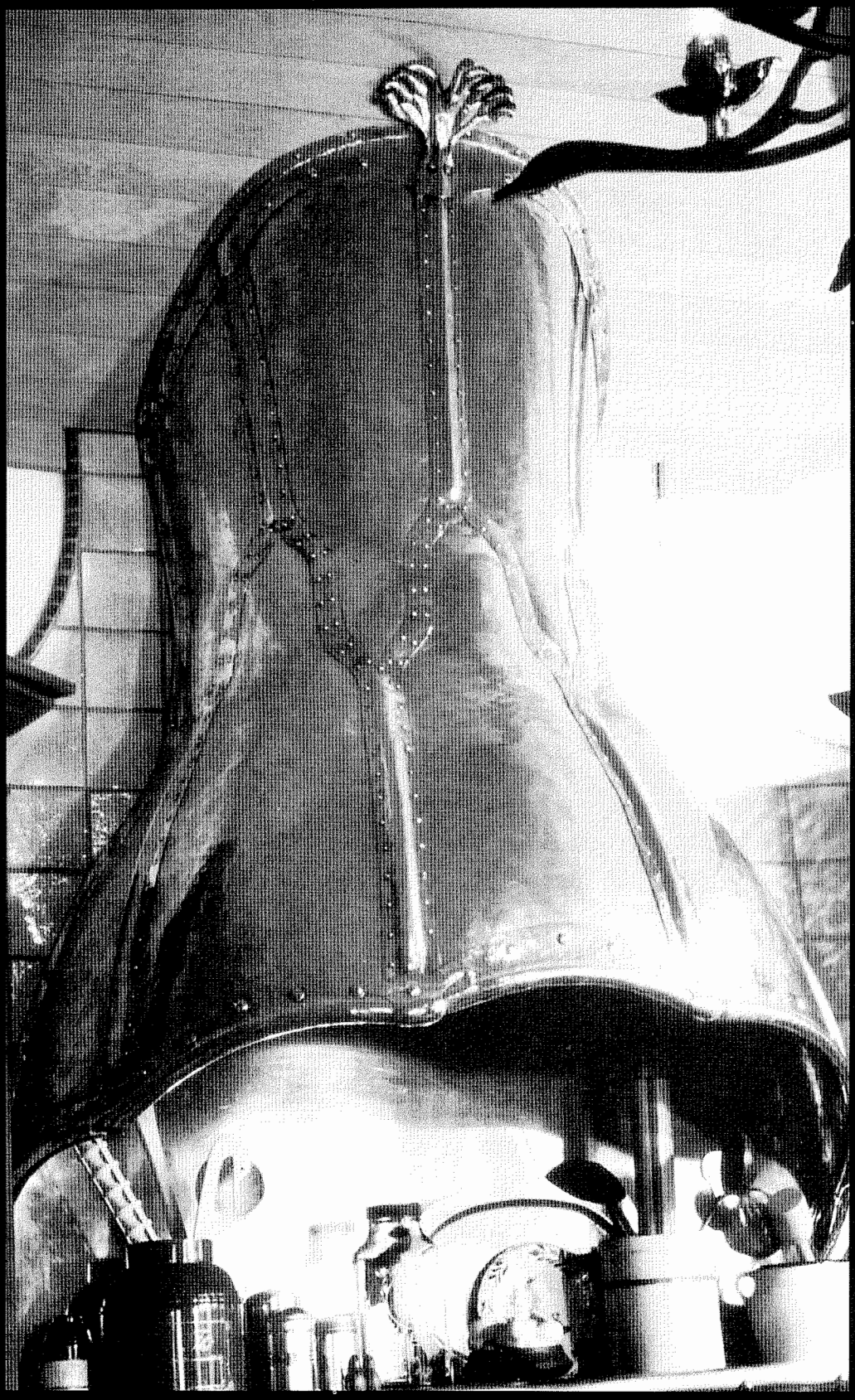


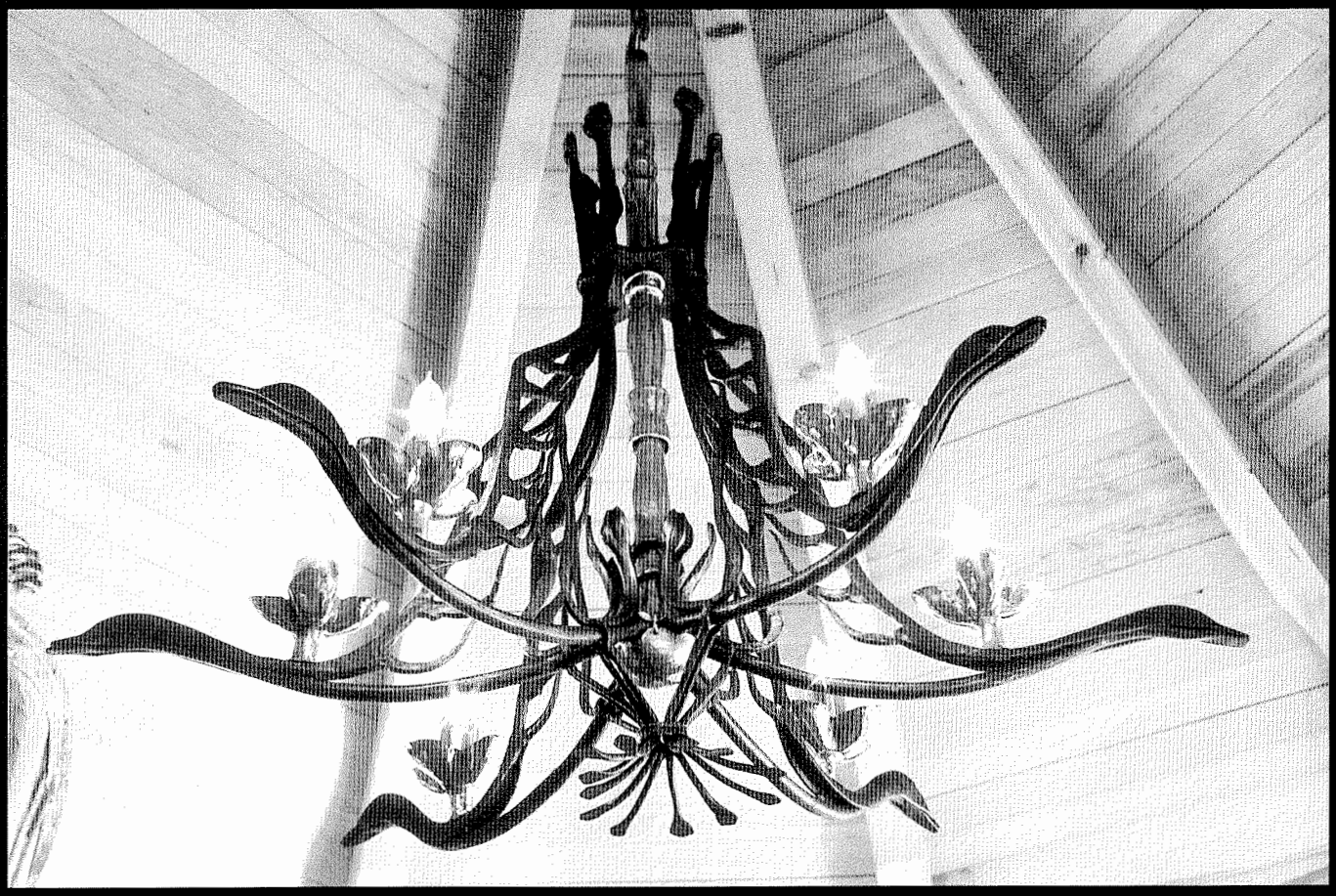
All sculpture continued to evolve in fabricated steel and torch-fusion techniques (which allowed some freedom from the flat planes, found shapes, and simple contours possible with fabrication). I enjoyed the symbolic satisfaction of the scrap yards of Western Civilization providing my not-so-raw materials; and, at the going rate of four cents a pound, I could express my alienation sizably! Tentatively, I began to take the hammer to torch-heated steel, coercing a shape more suited to my vision. I liked the additional control I achieved over form, the hammered texture, and the visceral act of working with the hammer offered a pleasure I had not indulged since my earlier days of stone and wood carving. The Blacksmith's Muse was whispering in my ringing ears.



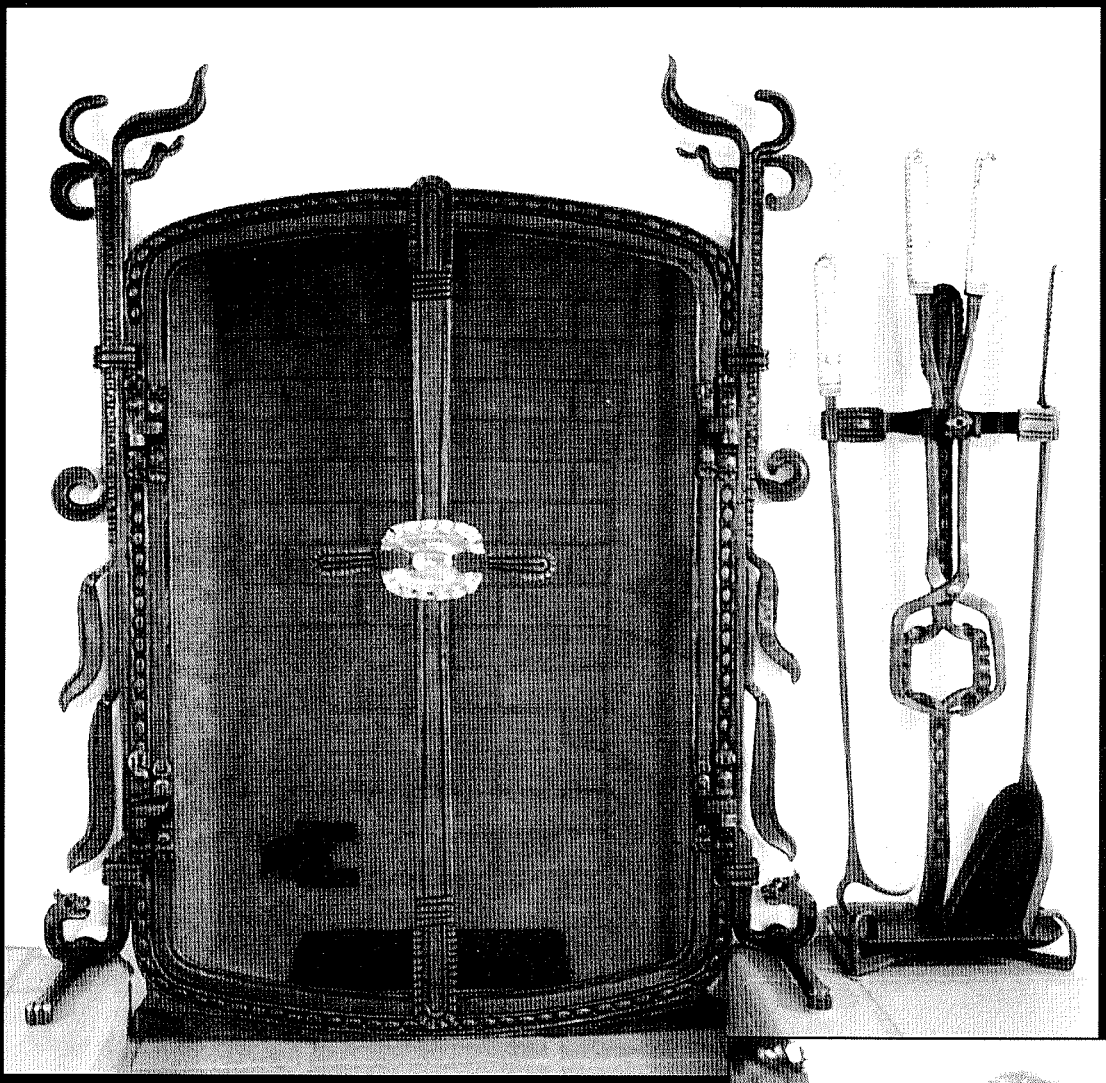
By now we were involved in the Vietnam War. The mood of the times had shifted from the despair of the Beat Movement to a hopeful humanist movement that rejected the cycling of war and social displacement; the "Hippie Era" was born! With the times came a blossoming of creative energy and a move towards self-sufficiency away from established social values. However naïve much of this period may seem today, it was largely responsible for the contemporary artist blacksmith phenomenon that has evolved in the United States. The art of blacksmithing provided not merely self-expression, but the means to make tools and hardware to furnish alternatively-driven communities and individuals with some sense of self-sufficiency. Regional and finally the national (ABANA) blacksmith organizations grew from the basic tenets of openness, sharing, and reexamination of our pioneering past that characterized the "Hippie" revolution. Incidentally, I believe what happened in the United States helped revitalize the blacksmith movement in Europe as we came to their shores with our open-faced desire to learn.

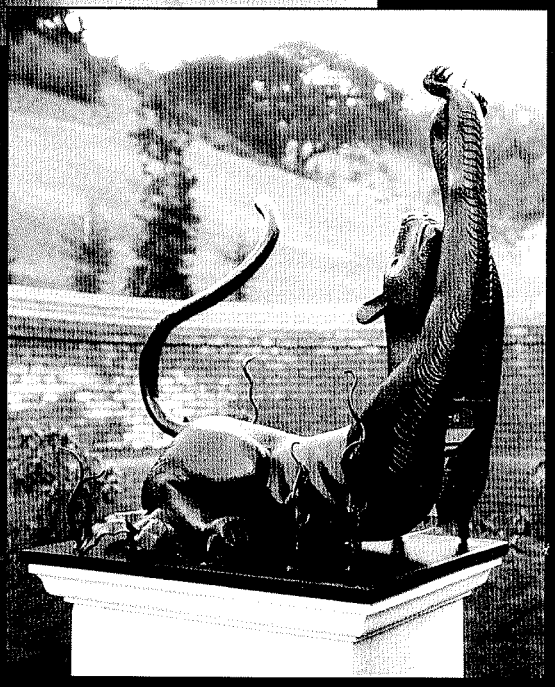


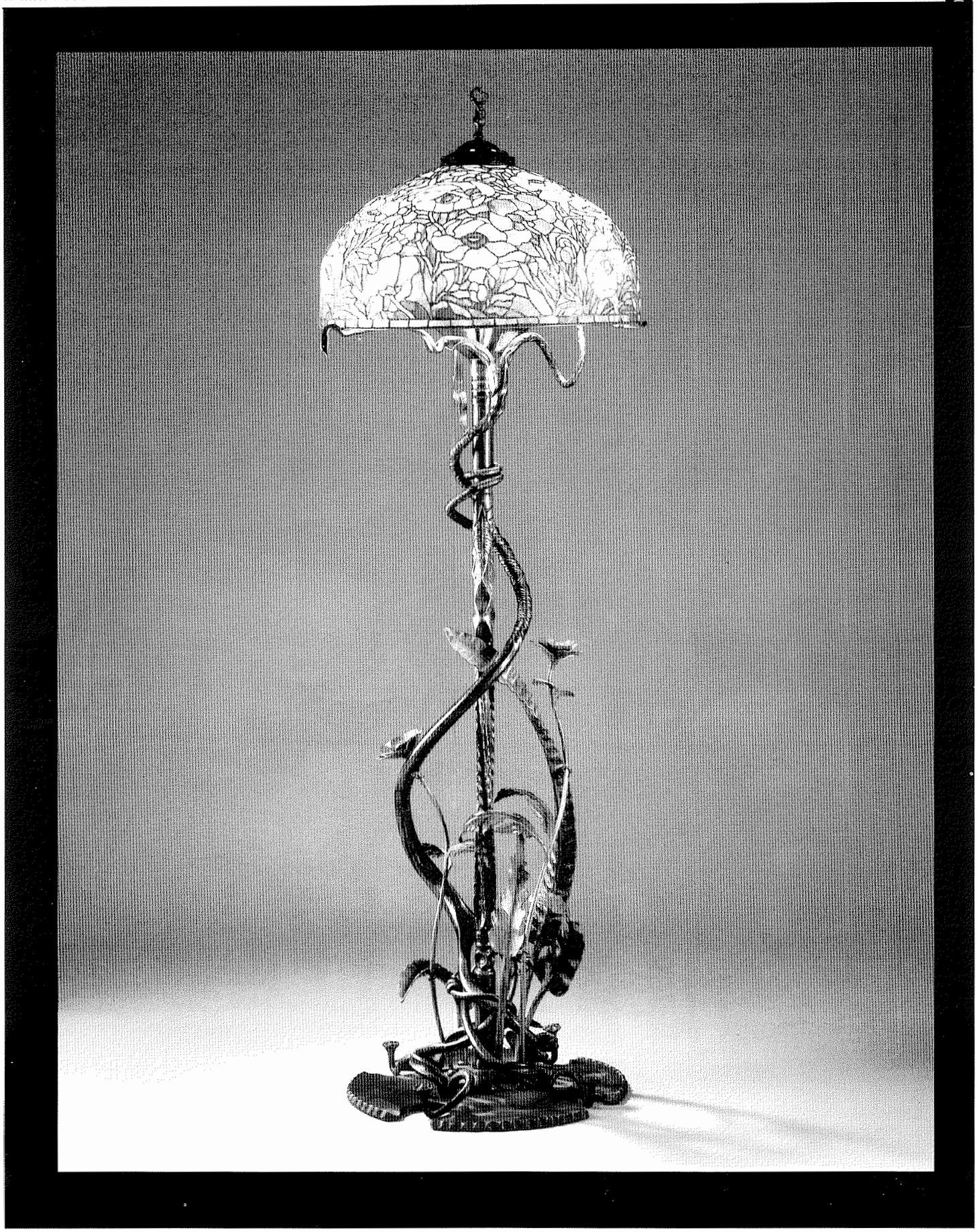


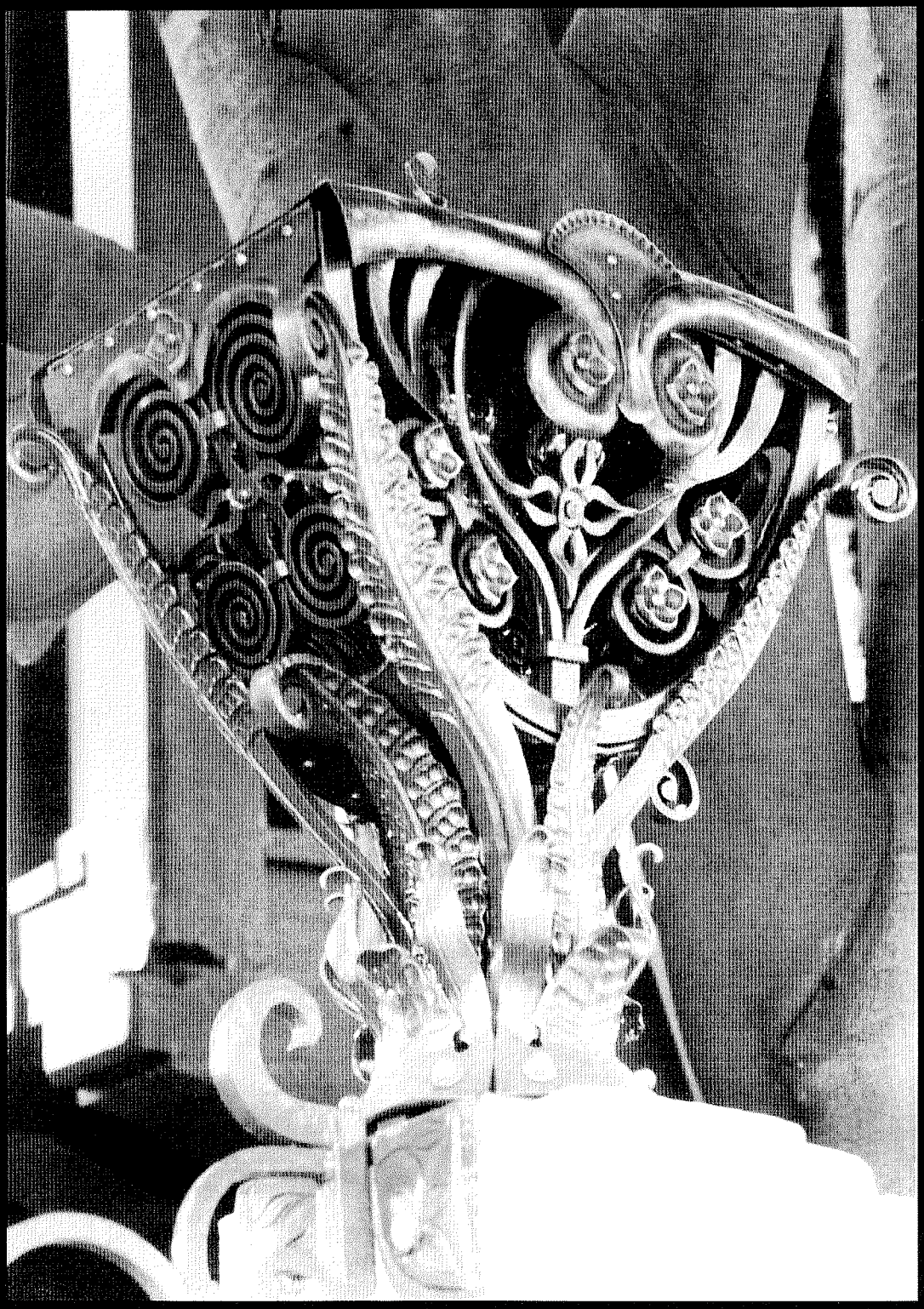


My personal growth as a blacksmith during the Sixties and Seventies was partially due to the influence of those historic times and supplemented by my desire to work metal in a more controlled, direct, and plastic manner. I found that my sculpture, full of satire and often rage, was not welcome in most galleries; as I found my attitude to be equally uncomplimentary. I turned to the newly receptive interest in hand-made architectural features and decoration and kept my sculpture to myself. The freedom to explore the plastic nature of metals as pure design, with the challenge of directing it to functional solutions, was very liberating (and, to my embarrassment at the thought, marketable). This transition in my work is still in effect today, with my architectural and decorative activities accounting for the bulk of my time and my sculpture highly personal and indifferent to marketing pressures.









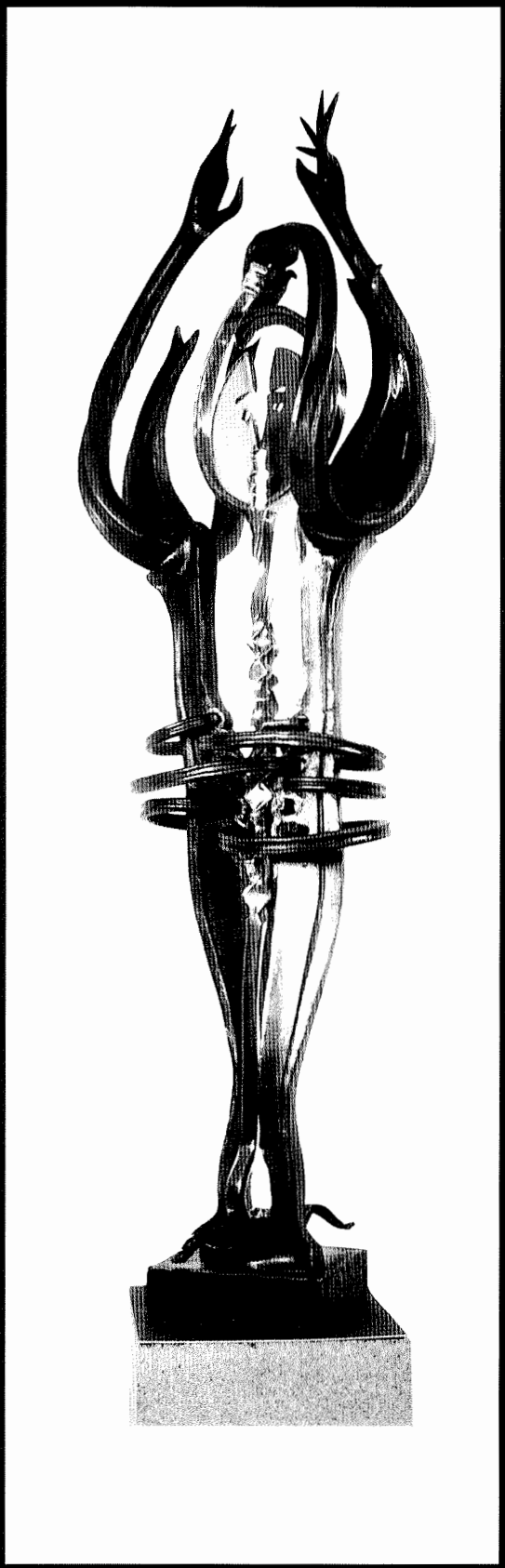
Having spent my time during the Sixties and Seventies experimenting and essentially self-educated in blacksmithing, it was with great enthusiasm, and even greater humility, that I became aware that I was not alone in my interest. Not only did I find myself looking at an entire movement, but realizing many other smiths had better technical skills and were busily involved in sharing what they knew, I became involved in the organizations that were developing, first in California, with the California Blacksmith Association, and in 1979 with ABANA. I learned much from United States and international artists who willingly give of themselves at conferences.

E.A. Chase P.O. Box 785 201 Fern Street
Santa Cruz California 95061 831 423-3188

E.A. will be a demonstrator at the N.W.B.A. Spring Conference. One of his demonstrations will be the application of hand-held pneumatic hammers to the forging of ferrous and non-ferrous materials. He will demonstrate some of his varied techniques in the "hot-carving of animal and human heads in steel, raising decorative work in non-ferrous metals, and the application of specialized tooling developed exclusively for the technique. This application has been under development at his forge for the past twenty years and has become completely integrated into his work.

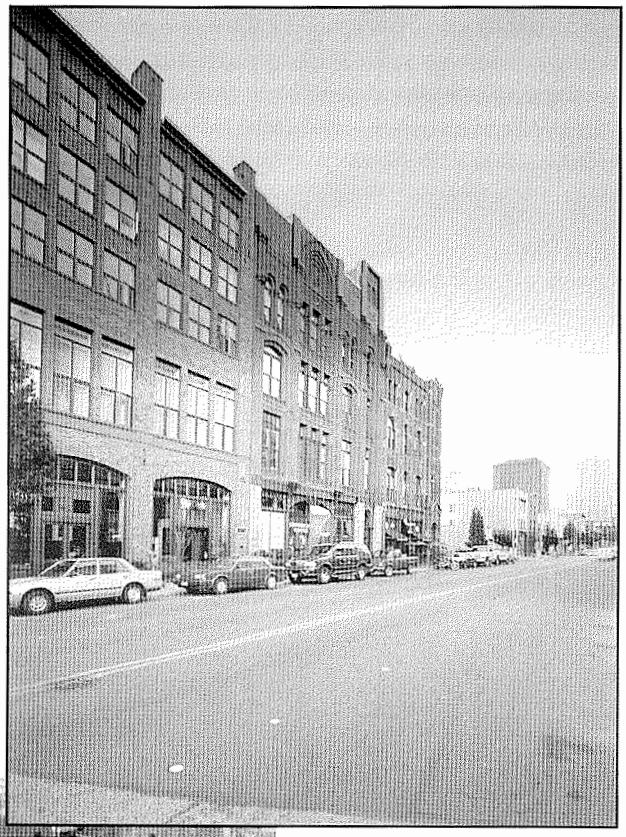
E.A. will also demonstrate small-scale brass forging. He will demonstrate how he forges his well-known belt buckles. This is a specialized technique developed over the years. He has forged over 10,000 "one-of-a-kind" buckles since 1968. Francis Whitaker once called this "the best durn brass-forging demo I've ever seen!"

E.A.'s demonstration will also include a power-hammer forging demonstration showing some of his deep incise and "off-the-square" technique for creating unusual sculptural shapes.

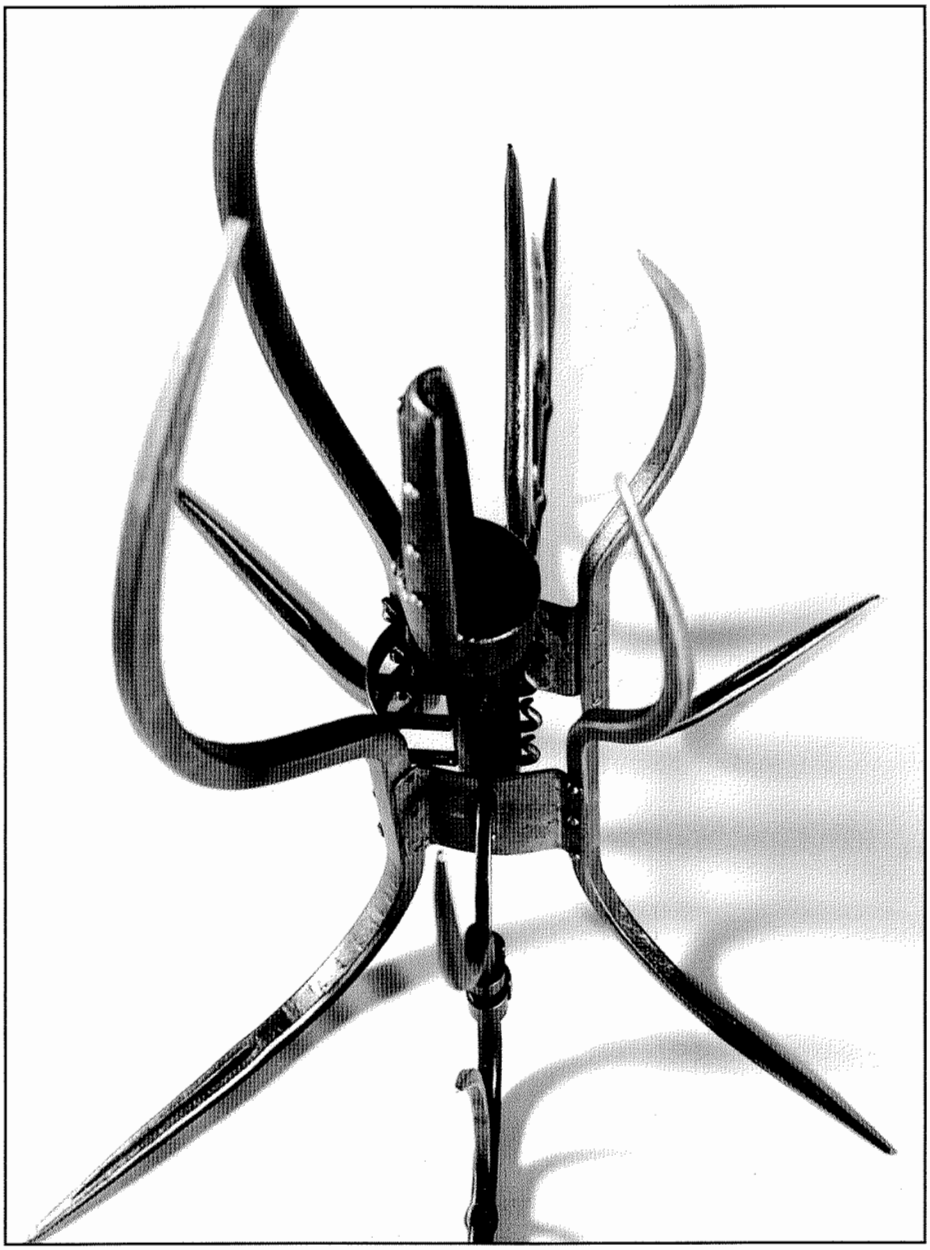


Black Dogs in Belltown

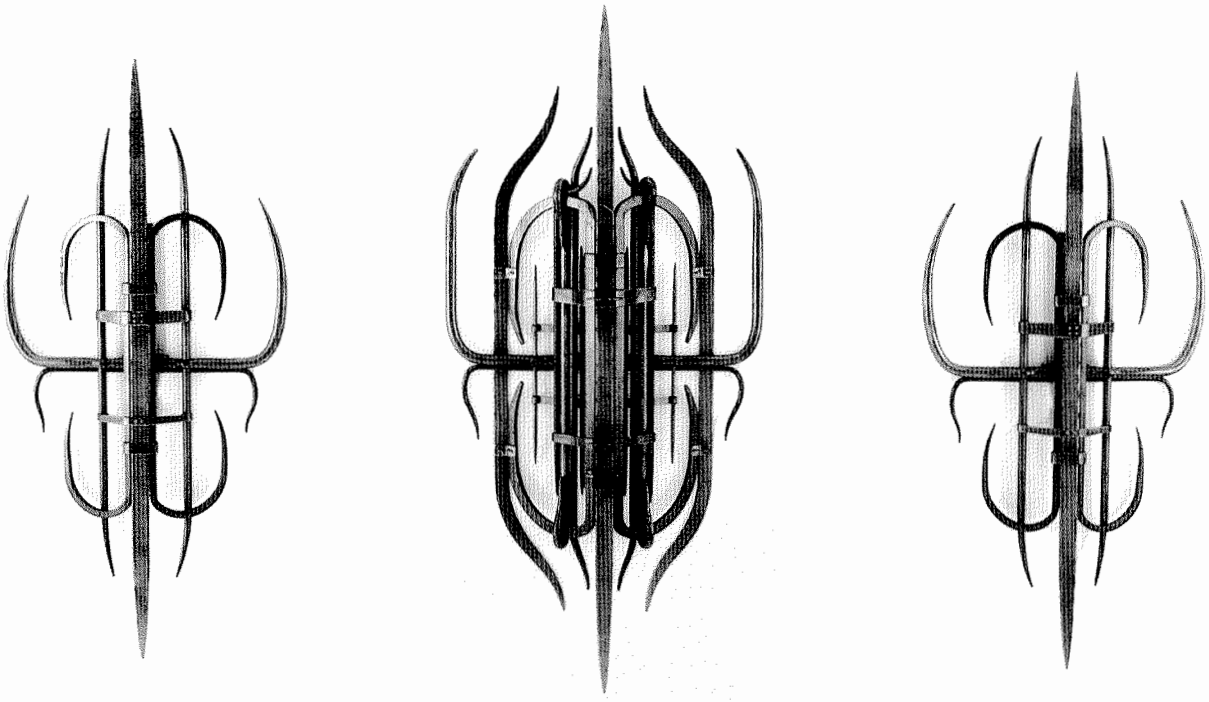
Nestled in the heart of downtown Seattle, Belltown is a collection of funk, grunge, chic, urban, old, and Black Dog Blacksmiths. Literally in the shadow of the Space Needle, Belltown has gained notoriety in recent years as the scene of the Black Dog Forge Blacksmith's Ball--probably the only place on earth where you can see young Microsoft zillionaires sipping Chardonnay while sitting on an anvil! It is also the only known Smithy on earth that features a trapeze act during the Ball. The *Capo* of the Black Dog Family is Louis Raffloer. Louie has initiated a lot of up-and-coming young blacksmiths to the Pacific Northwest Iron Culture. One of these long-time talented Black Doggies is Dan Schwarz. Dan is definitely a Belltown Contemporary Artist. His sculptures are 3-D Symmetrical and make artistic use of tenons, tapers, and drifting. Sconces, wall sculptures, house pieces--bear a resemblance (subconscious?) to the soaring tapered spans of the Space Needle just down the street. Dan combines a clean contemporary look with powerful visual interest. Another unique Seattle Style!



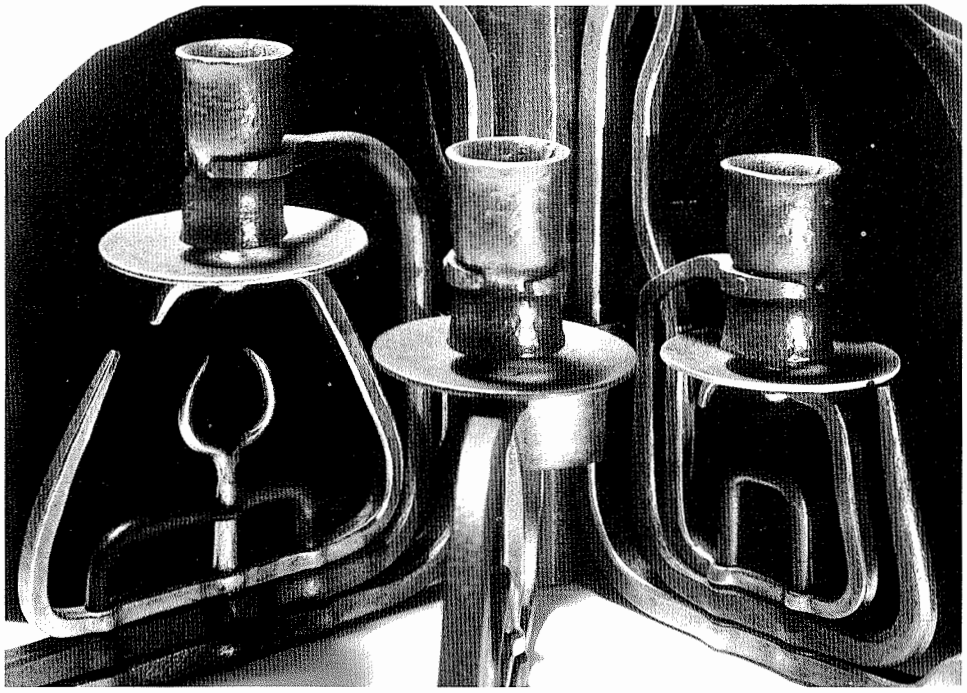
Still standing after all these years! The Bell Building still looks out on First Avenue.



DAN: The techniques used in these examples are basic: tapers, hot bending, tenoning, slit-drifting, splitting, and riveting. The table sculptures involve tapering and flaring pipe and chisel marking. This piece utilized torched-over rivets which suspends the pod and forms the spine.



Wall sculpture series of three.



Candelabra detail with tenons and slit-drifts through 1/4, 3/8 and 1/2 inch stock.

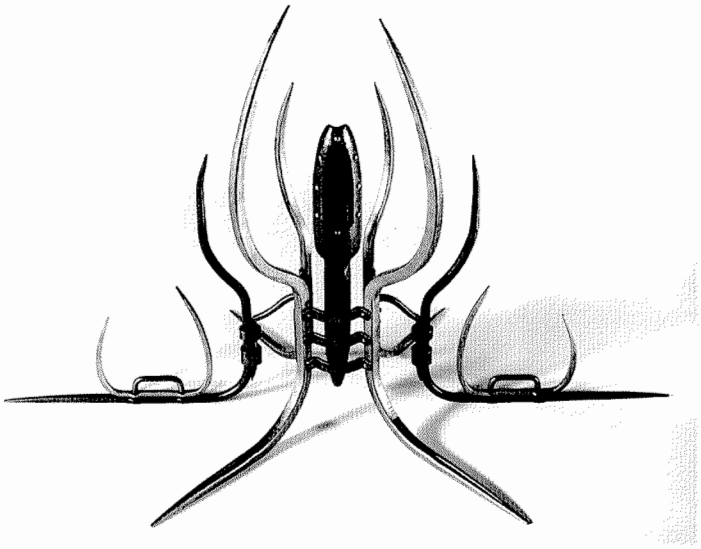
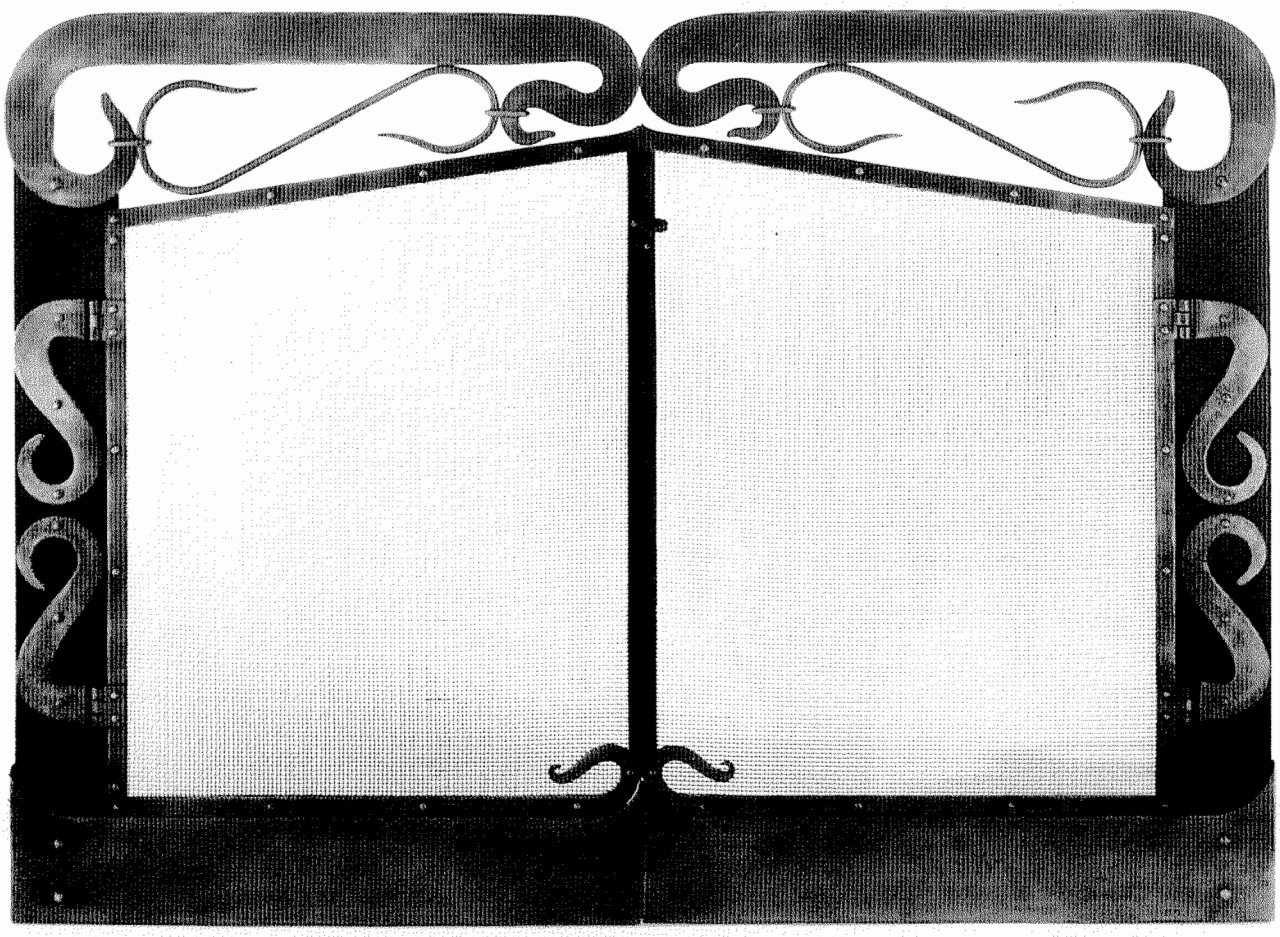
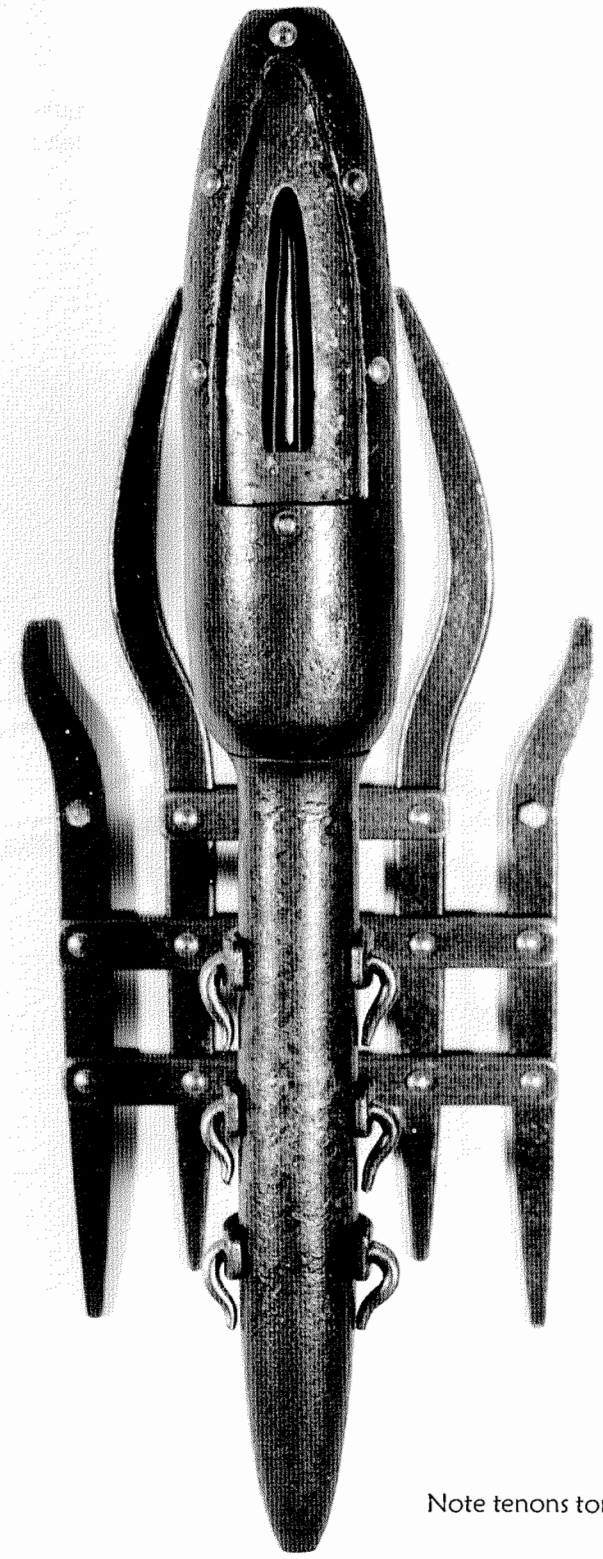


Table sculpture held together with 1/8 inch rivets, forged U's with tenons, and the four collars as shown.

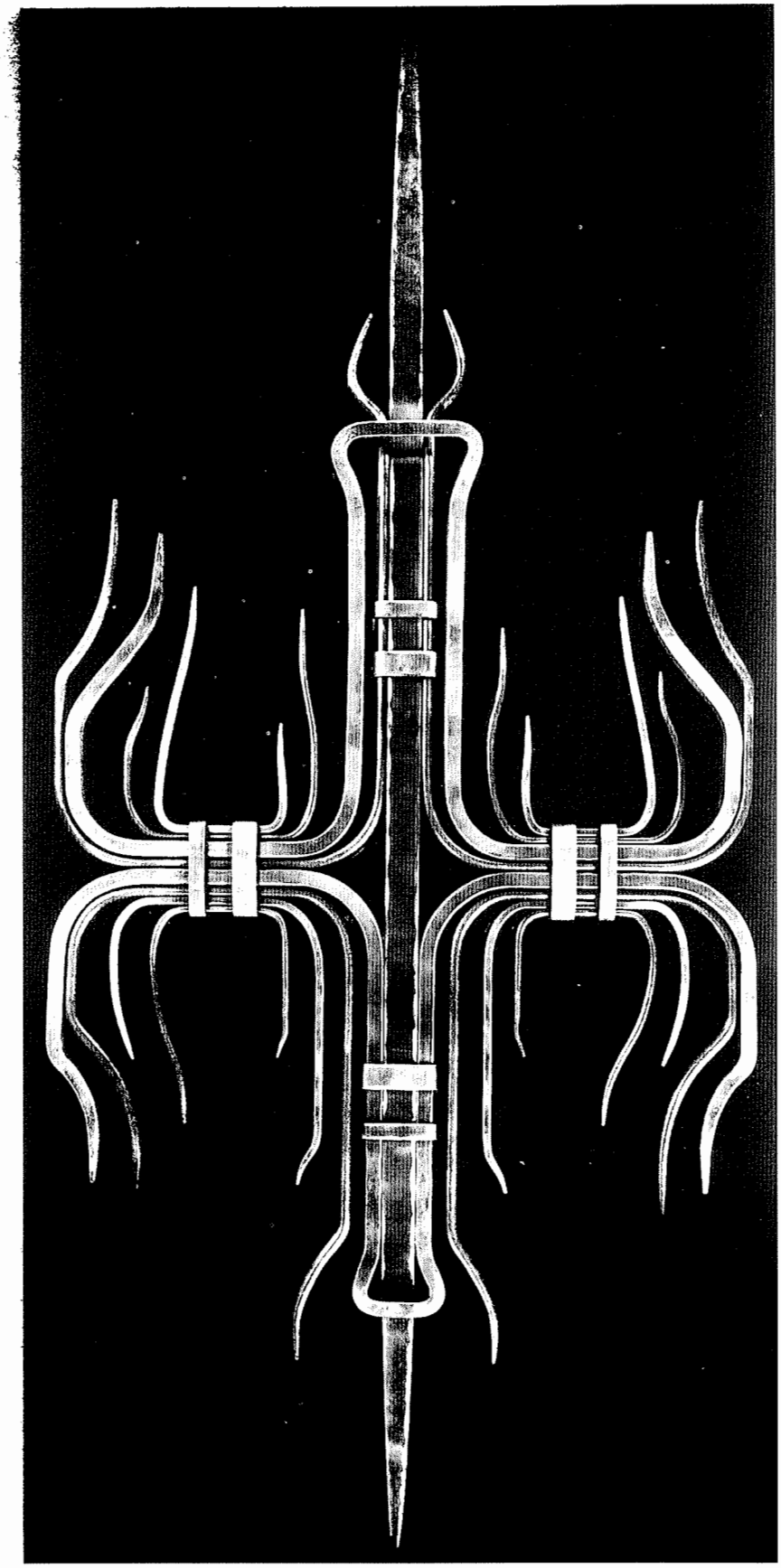


The fireplace screen involved lots of hard bending. Shackle techniques were used for the hinges. Stretching and sandwiching the screen is a story in itself!

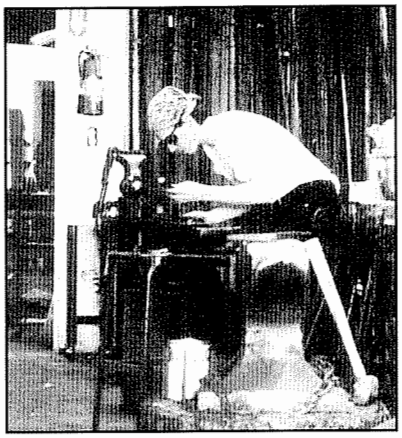


Note tenons torched over and holding pod.

These 3-D sculptures are mounted French Clip style.



Photos by Jeff Dagen Belltown Fotowerks



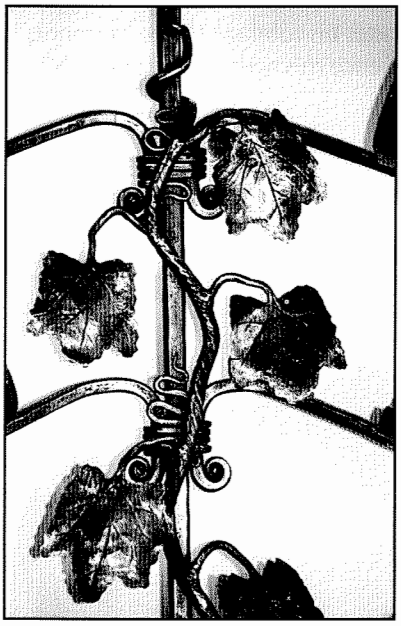
BLACK DOG FORGE

Dan Schwarz
Black Dog Forge
2318 Second Avenue
Seattle, Washington 98121
206 282-1942

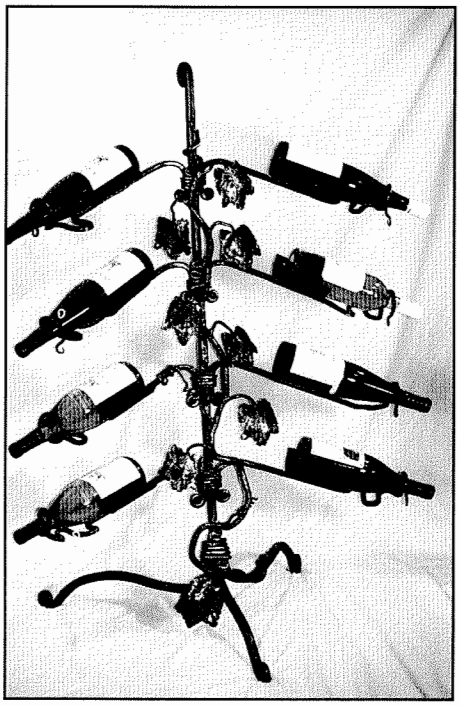
And check out Dan's work at:
www.danschwarzironwork.com

Freewater Forge

Coffee Table Forged Mild Steel Bubinga Wood Top

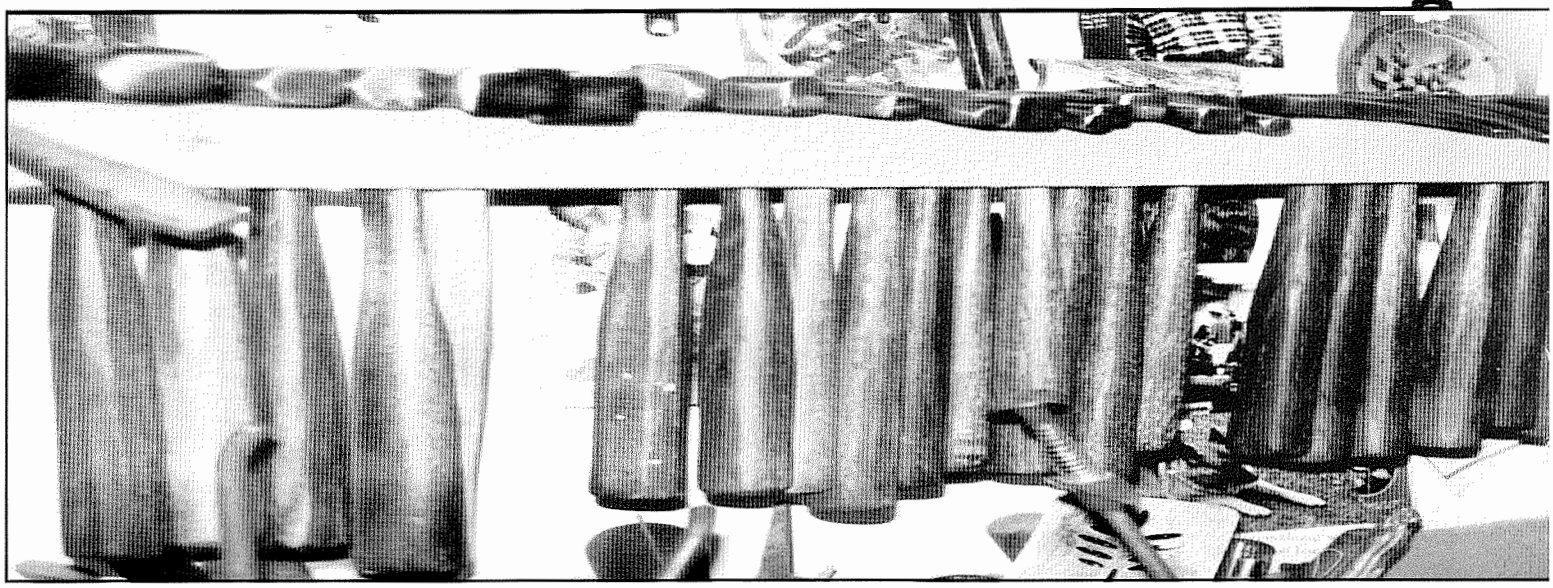


Wine Rack Detail



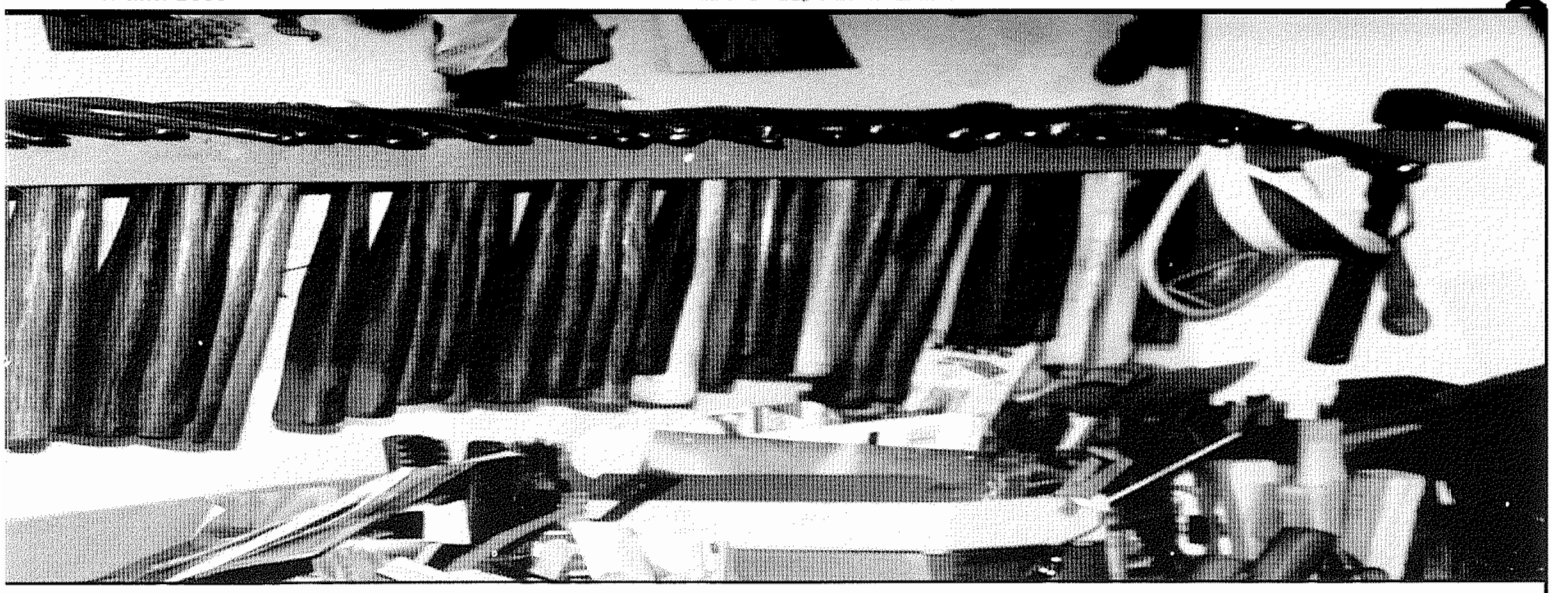
Freewater Forge
77835 Mosby Creek Road
Cottage Grove, Oregon 97424

Tyler McCready Harry McCready and Darlene Armantrout

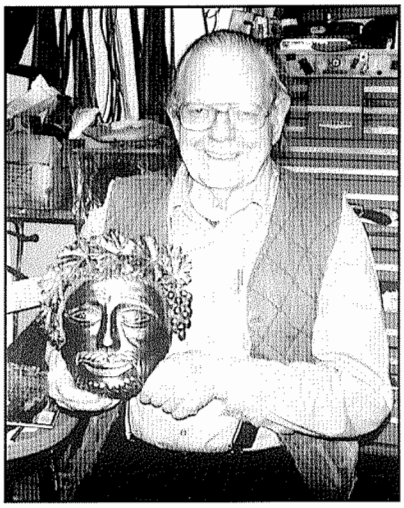


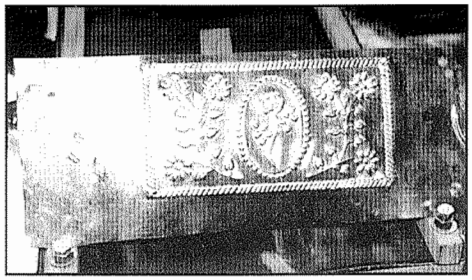
I had the good fortune to be able to spend a week with ***Nahum Hersom*** in Boise, Idaho. One of my specific interests in blacksmithing is Repousse. There are some books and articles, but I found nothing that equaled real life experience with a master. After reading Nahum's letter in the Summer issue of the *Hot Iron News*, I felt that I needed to contact him. First, I talked to Don Kemper and expressed my interest in Repousse. Don found the telephone number for me. Nahum wanted to know if I had a forge and shop and enough blacksmithing experience to make hammers and the tools that are required in order to make the repousse pieces. I eventually found myself in Nahum's shop. After firing up the wood stove, I got started as Nahum gave me a hammer, set an under-tool in the vise, and showed me how he wanted me to hammer a straight groove in a piece of sheet metal. I assume that this exercise allows him to see what degree of hammer control and accuracy I have. My week as a student progressed relative to my ability to control the tools. As the week moved along, Nahum had me working on more and more complex shapes and forms with on-going dialogue about the steps and techniques in the process, which tools were needed and variations in pieces. He was a source of almost constant information. I realized that I should have had a tape recorder. Each day, when I returned to my motel, I sat down and tried to record, through words and sketches, what I had done that day. Fortunately, Nahum gives you a repousse workbook at the end of the week. It includes patterns, techniques, tools and information that he covers in his course. When my memorable week came to an end, I said good-bye to a wonderful man, wishing that I could spend another month under his tutelage. Rare moments, indeed! I want to thank the NWBA and the ***Al Bart Memorial Fund*** for helping me experience this rare opportunity. Nahum, you are the best!

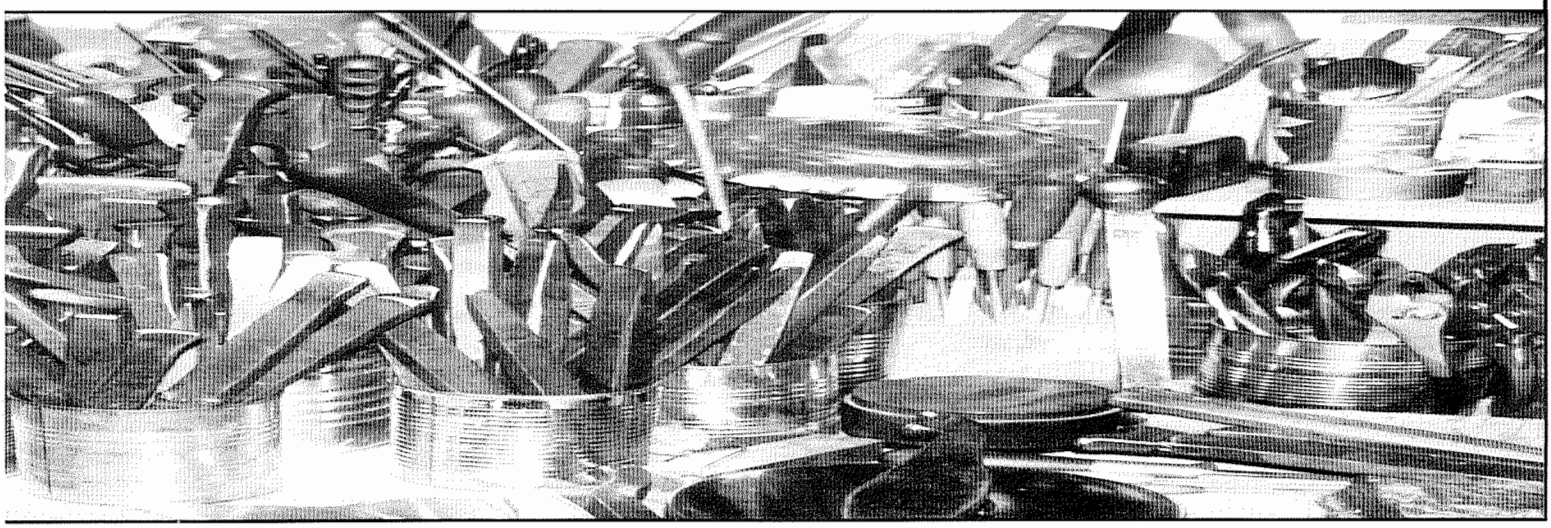
Bert Romans is from Mulino, Oregon and was the recent recipient of an NWBA Grant.



Nahum Hersom's hammers and chisels are a virtual panorama of artistic talent.







Nahum Hersom started writing articles about hammer handles in the Anvil's Ring in 1981! Twenty years later we celebrate this unique repousse' artist's career by sharing his knowledge~gained through a lifetime of study and application~of an almost-lost insight into one of the most basic elements of forging! Nahum also has a reprise of his original article~

These notes perhaps should be called *The Handling of Hammers!* I have heard people who are learning and working in the blacksmith craft tell about problems with their hands, wrists and, of course, the *tennis elbow syndrome.* Before we go any further, the therapeutic massage people have achieved a good measure of success in helping the above problems, as well as exercises and help with carpal tunnel syndrome.

Since many of these people just go to a weekend course, or to short-term crafts schools, there are aspects of the hammer skills, taught to and by the old European craftsmen, that have been lost in the transition of their times to today's craftsmen. Also, perhaps what works for one person doesn't mean that it works for all people.

I was fortunate to learn from a German craftsman who was very articulate about teaching me the finer points of the trade. Perhaps, since this man was not only a skilled ornamental smith, but also an accomplished repousse' worker, he was cognizant of hammers, their shape, and hammer control when using various hammer shapes.

Since my forte was learning repousse' from him, I realized that the hammer was the prime tool of the trade (skill).

Perhaps the following notes will be of interest:

1. Since we do not have a definite time spent in an apprenticeship program (Old European), we do not, from youth, build muscles needed for strenuous hammer work.

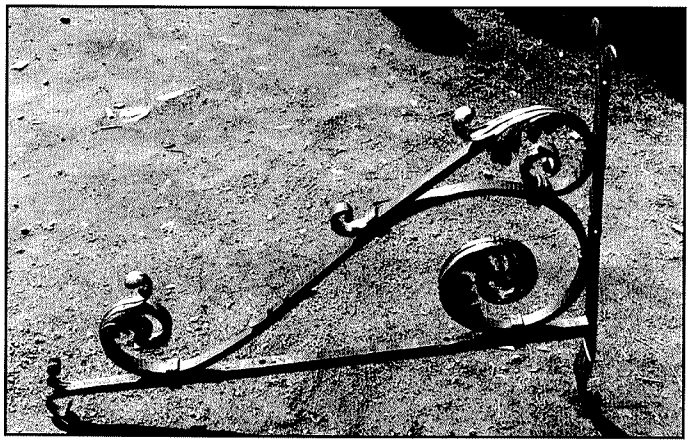
2. Often the hammers that we give to beginners are too heavy and the handles do not fit the person's hand.

3. Production forging by hand is the most strenuous of all. Farm work *per se* gave us mini-breaks and mini-rests for our hands and arms while the work was heating. Often, farm equipment pieces were quite large and took time to heat.

4. The method of checking the hammer's handle size of a finger space between fingers and thumb works for some hands but not for all.

5. The handles of most hammers are a straight, roundish oval shape that are not necked down enough to let the handle spring and relieve much of the jar and shock when in use.

6. The hammer head and handle should



A good example of the application of Nahum's repousse' in a piece co-forged with Jerry Culberson

have a balance point that can help to relieve much strain when working.

7. Some who teach say to use a hammer with a longer handle, and hold it by the end. This works for some people but can put lots of stress on wrists and forearms causing major damage on the thumb joint at the wrist and causing tendon damage in the palm of the hand from a continuous tight grip on the handle, as well as carpal tunnel syndrome.

Remember, I was taught by but one of the many men in the field. Each had his own way of working and passing on the secrets of the trade skills. So do I. I pass on what I have learned about hammer handles and other aspects in the trade in a way that is different from what some teach today.

8. Although many of my hammer handles are octagonal in shape, lots of times I round the corners some making the handle more oval shaped.

9. I make handles that are a bit shorter than those one usually buys but that have a definite throat or neck that compliments the weight of the head. The rest of the handle is deeper than wide with a more pronounced oval shape which helps control the striking position of the hammer on the work. I even have forging hammer handles that are eight-sided and which gives another measure of control if the hammer is to be turned frequently from the face end to the pein end when in use. This type of switching control is important on repousse hammers as the heads are made with complementary ends and must be frequently turned.

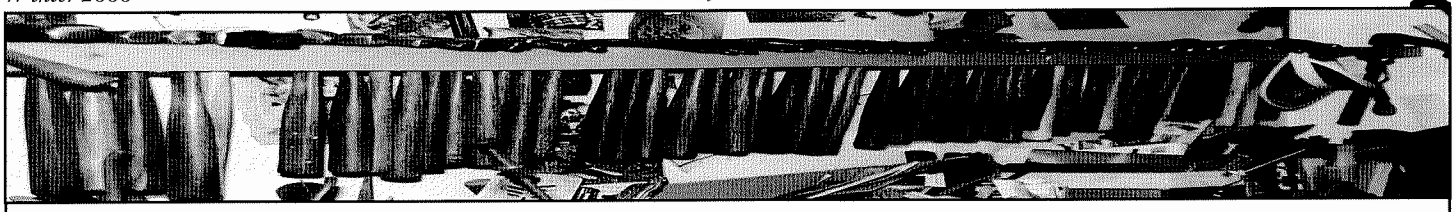
10. All hammers do have a balance point and when making ones own handles this point is found and the handle shaped to optimize this place.

11. Commercial handles can be sanded down to this shape using #80 grit belts.

12. When forging, it is important to have several hammers with various shaped heads. Each one performs work of a certain function i.e. a rounded face for work you want to move in two directions and a flatter face for smoothing out forge marks and for driving punches and chisels.

Modified oval ball (two sizes) heads often come in handy. Hammers of similar shapes but with the peins and faces ground to different shapes are necessary. All styles of work cannot generally be done with one hammer. Someone is bound to ask, "Why so many hammers? I thought a hammer was a hammer?" That's when you have that *cat-like grin* and answer, "They really are just for show!"

The hammer handle should fit your hand and never be gripped tight but be held loosely. Actually, one *throws* the hammer at the work–with controlled throwing! This is why you never stand in front of a forger! Spit on hand! Yes, I have thrown my share of



hammers at the wall when working.

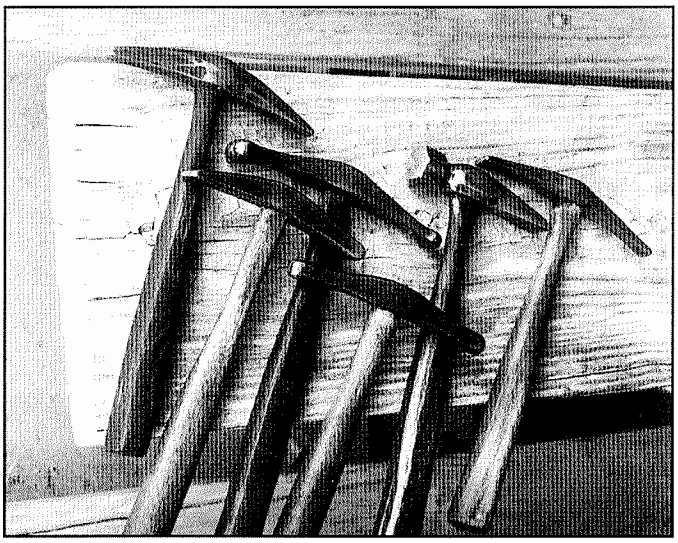
Actually, I was taught to almost hold the hammer between the first finger and the thumb. In fact, my Master said that someone could conceivably take the hammer from your hand while striking. The only time your hand tightens on the handle is just before it hits the work, so that you have control.

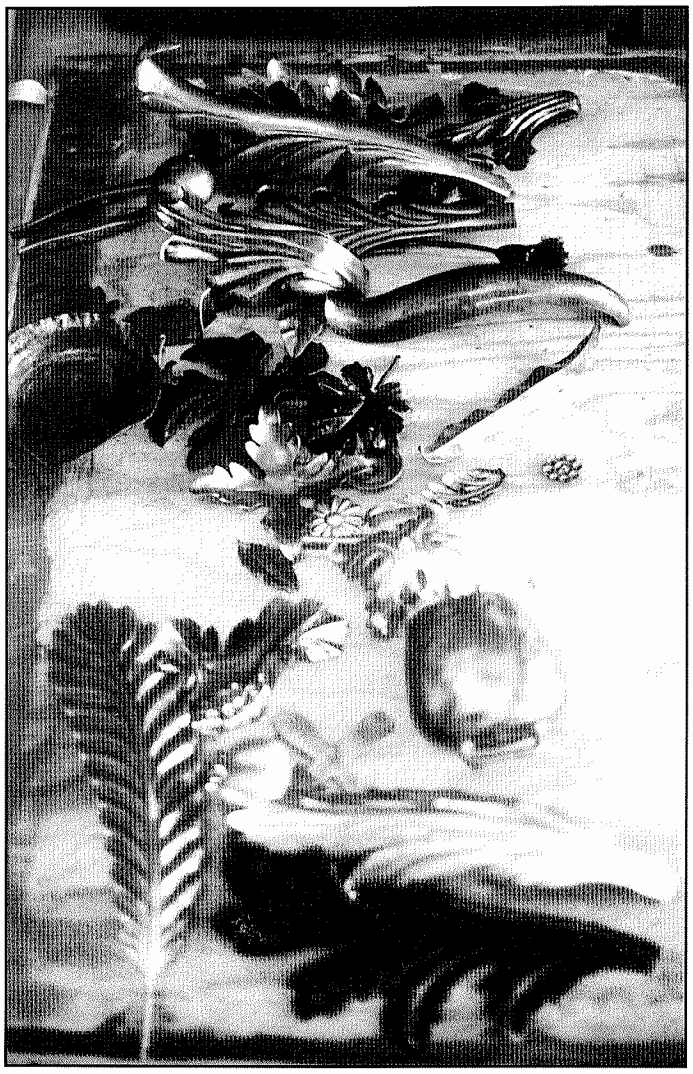
While using the hammer the essence of use is to strike the same *power blow*, which is a muscular control with all hammers no matter what the size or weight. For a harder blow use a large-headed hammer. For a lighter blow use a smaller-headed hammer. Part of this reasoning is the up-stroke. Why lift a heavy hammer for a job that requires light blows? And, of course, we all know about the bounce factor of the anvil to help lift a heavier hammer.

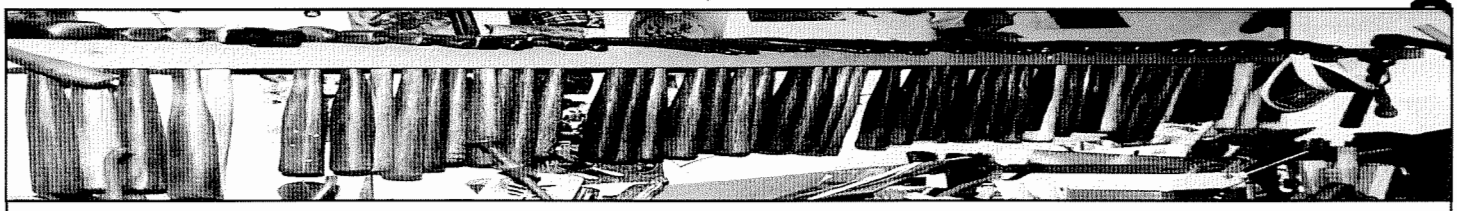
When using the hammer note (except for heavy forging) that there is a place on the handle that seems to have a balance point. The head doesn't pull on the hands or wrists too much. This is the area behind the neck which should be large enough so that the hammer won't work forward as one uses it. Remember the loose grip. Notice the shape of the picture in the accompanying *Anvil's Ring* article–a modified shape similar to that, depending on head size, is what I use. In the picture, note the reduction of size behind the hand area. This is so the hammer can be moved forward and still have grip enough for a few occasional harder blows. This reduction is not necessary on all handles depending, of course, on one's hand size and strength.

The *Anvil's Ring* article was about repousse' hammers. I wrote the article in 1981. Repousse' hammers are of all weights, from a few ounces up to two pounds, depending on the thickness of the metal worked. Even people who make armor need to have the same shaped handles to reduce fatigue from the continuous blows over long periods of time.

Now for making handles. Of course, one can







buy ready-made turned handles and sand them to a size and shape comfortable to use, or salvage broken sledge handles. I make mine, as the joke goes, of "pallet wood." I worked for a company that gave away pallets of all kinds. I gathered up the hardwood ones and salvaged lots of hardwood. Many times the wood was hickory, ash, elm, maple, and, of course, oak, white and red. By choosing the thicker boards I used these for handles and many of the wood tools we use for repousse. What a choice, every size of grain and hardness.

I have handle patterns of side and top shapes for different sized heads. First, I saw out the side horizontal shape. Then, another pattern on top for the vertical shape being sure that the grain runs vertical for strength. I either saw off the corners of the square or sand them down with #80 belts. After I secure the head I further sand down the handle so that it is very comfortable. Afterwards I dip the handles in motor oil and let them drain before wiping down.

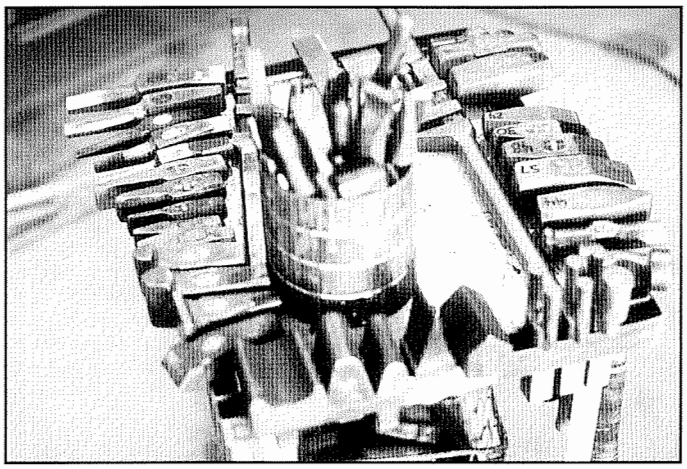
For heads that come loose due to extra dry weather I dribble antifreeze on the eye, which tightens the head.

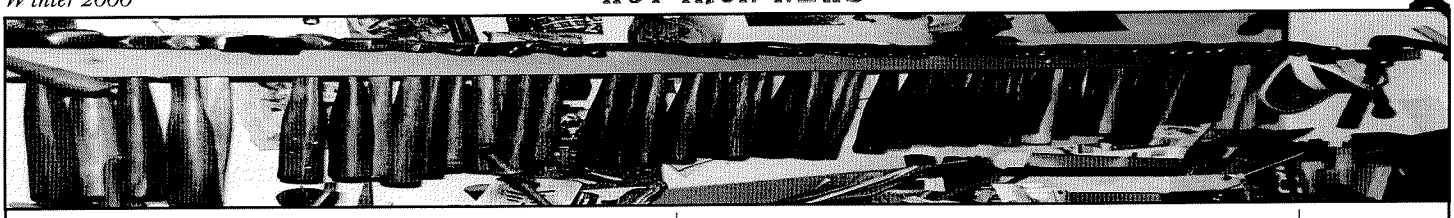
I have made handles that seemed to be the correct size and shape but then had to replace them with a larger or smaller size, or overall shape, depending on the amount of work I needed to do and the way the hammer performed.

Actually, the hammer is a very sensitive tool and responds to the smiths head, heart, and hands. No wonder Francis Whitaker wanted his hammer beside him as he passed on to the Next World!

We grow accustomed to the look and feel of our tools. We who now carry on with the forge, anvil, hammers, and hot iron for future years to come.

~Nahum G. Hersom





Hammer Handles

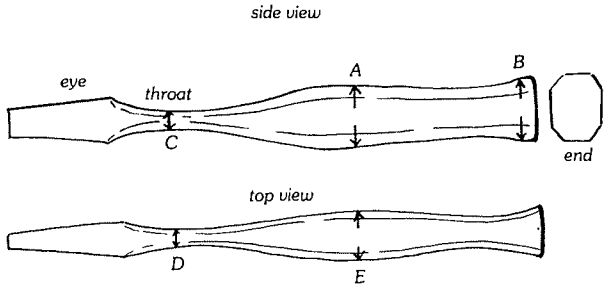
Much has been written on the subject of hammer handles, and, like other tools, many craftsmen have their preferences as to size and shape. There is a formula which has been passed down to me by my master. The eye of the hammer should be in proportion to the mass and the front taper of the eye goes two-thirds of the way through the metal. The front side of the eye is approximately one-quarter larger than the back side or handle side of the eye.

I saw my handles out of straight, fine grain hickory, ash, white oak or elm. The dimension "A" in the side view of figure 8, is wide enough to fit the smith's hand. This is important to have the necessary control. To make a pattern, use a handle that will fit loosely in the hand. At no time must any hammer from a repoussé hammer to the largest sledge, be gripped tightly. A properly held hammer could conceivably be pulled out of your hand by someone. (Placing the thumb on top of the hammer may in some cases give better control, but experience has proven that in the long run, constant use this way will injure the upper thumb joint at the wrist and the associated tendon. As my old friend used to say, "Thumb off the top if you don't want a broken wrist. Keep it wrapped by the fingers.") The dimension "B" should be a slight swell so the loosely held hammer will not work forward in the hand and to shape the handle so it more nearly fits the smith's hand. Smiths who have thin hands such as I, need a different shape than those who have fat, thick hands. Finger length also makes quite a difference.

The throat must be made thin and narrow to act like a spring. The weight and size of the hammer head determines the throat size. The other lines on the drawings are where the corners of the sawed shape have been ground or filed off, using a coarse file and smooth sanding. This octagonal handle has more hammer control than most commercial handles, which are not usually deep enough and have a tendency to turn in the hand when the head strikes the metal. Most people who use my hammers really like the feel of the handle and the hammer's balance. I usually make my handles and mount them in the head. I then strike the hammer on a fairly solid object. The spring in the handle and the resultant bounce can be felt. Experience will tell you when it seems right. Continue to shape the throat until the hammer feels right to use. This includes all hammers from sledges down. True, you may break a few more handles, but the shock damage on the hand and arms will be lessened. Oil the wood thoroughly with whatever kind of oil you prefer.

The chart accompanying this article is only approximate, as I have handles whose dimensions I have varied to fit the application. No matter what the final hammer handle shape, experience and experimenting will determine a handle which will be just right for you.

When doing repoussé work, since the hammers are doubleheaded (each end the same shape, but different sizes), it is often necessary to flip the hammer over. This is done with the thumb, rolling the top head toward yourself as the hammer is lifted. The octagonal shape facilitates this action much better than the commercial shapes.



C = throat depth

D = width approx.

E = width approx. 2/3 that of A

Chart for Approximate Handle Sizes

hammer weight	eye	throat depth	throat width	dim. A	dim. B	total approx. length
1½ to 2½ lbs.	1" x ⅝"	¾"	9/16"	1¼"	1½"	14"
1 lb.	¾" x ½"	⅝"	7/16"	1 1/16"	1¼"	12"
½ lb.	9/16" x 5/16"	½"	9/32"	1"	1⅛"	10½"

THROAT LENGTH = approximately 2/5 of total handle length

HOT TIP

Mark Manley, Manly Metal Works, Silverton, Oregon, is a new Board member and has made some surprising discoveries about shop safety and CO!

Several years ago I started wondering how much carbon monoxide (CO) that I was exposing myself to while using my propane forge. I had heard over the years that a properly adjusted propane forge will produce little-to-no carbon monoxide and that if your shop is not 100% weather-tight you should be okay. These two statements bring up two questions: first, how do I know that my forge is adjusted properly? Secondly, how much ventilation do I need if it is not?

So I started looking into what was available in the way of carbon monoxide detectors and/or monitors. I found that Kidde Safety makes an affordable quality line of carbon monoxide alarms and detectors called Nighthawk. These are available at most hardware stores and home centers. I also started looking for information and guidelines for carbon monoxide exposure levels. What I found for exposure guidelines was this:

~50 ppm (parts-per-million) is the maximum allowable for continuous exposure for healthy adults in any eight-hour period, according to OSHA.

~exposure to 200 ppm may lead to slight headache, fatigue, dizziness, and nausea after two to three hours.

~400 ppm: headaches, fatigue, dizziness, nausea within one to two hours, life-threatening after three hours.

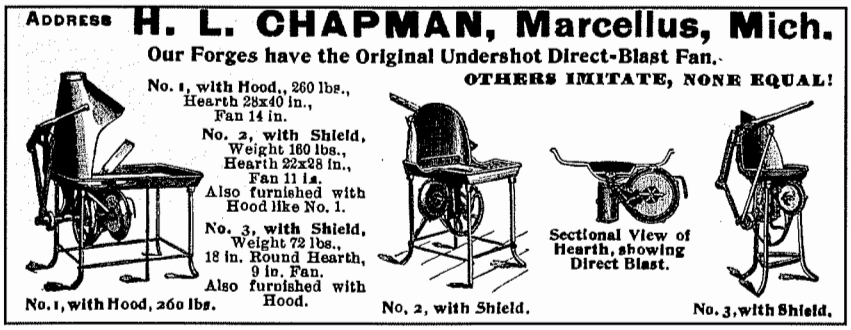
~800 ppm: dizziness, nausea, convulsions within 45 minutes, unconscious within two hours, death within two to three hours.

~1600 ppm: headache, dizziness and nausea within 15 minutes, death within 30 minutes.

So, for around $40, I purchased a Nighthawk carbon monoxide detector. This unit plugs directly into a 120-volt outlet. It has an 85 decibel alarm that sounds at an exposure of around 150 ppm, and a digital display that will read 0-999 ppm. I installed this detector in an outlet about ten feet from my forge and monitored the carbon monoxide levels as I went about my work. What I found was quite concerning. I had been unknowingly exposing myself to unsafe levels of carbon monoxide--anywhere from 30 to 160 ppm for hours at a time.

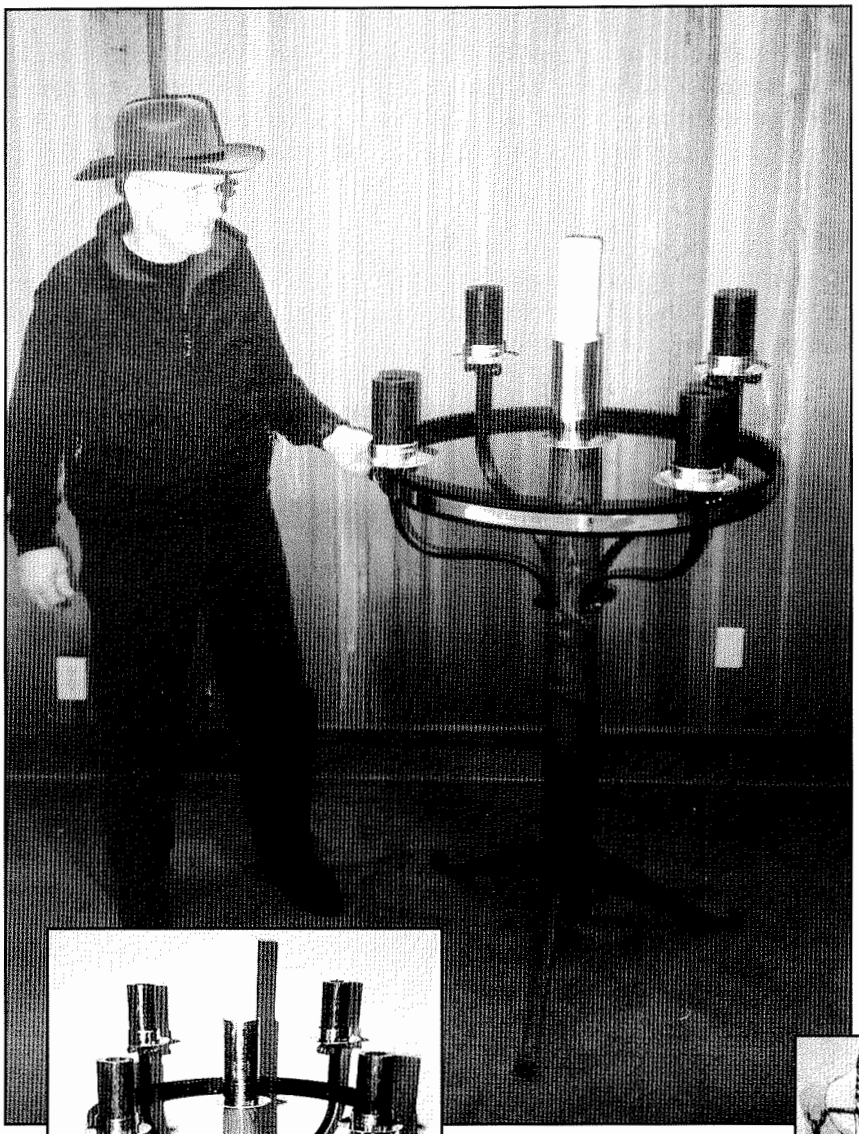
I have learned over the last two years that I need to monitor the carbon monoxide levels whenever I am using the forge. By adjusting the air/fuel ratio of the forge and ventilation of the shop, I can keep carbon monoxide levels to zero. It is surprising how a small adjustment to the forge can make a significant difference in carbon monoxide levels.

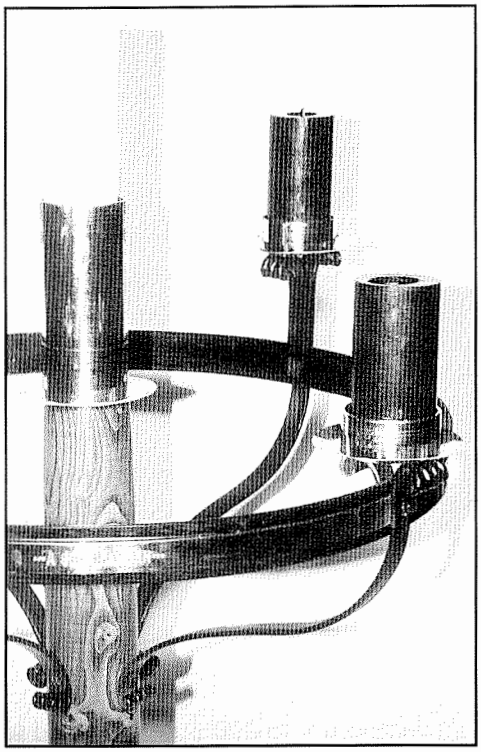
My suggestion to all blacksmiths, whether you are using a propane, natural-gas, or coal forge, is to install a carbon monoxide monitoring system in your shop. You may be surprised at what you learn about the quality of air you are working in. REMEMBER: Just because OSHA allows a continuous exposure of up to 50 ppm in an eight-hour time period does not mean that zero ppm is not a whole lot better and safer!



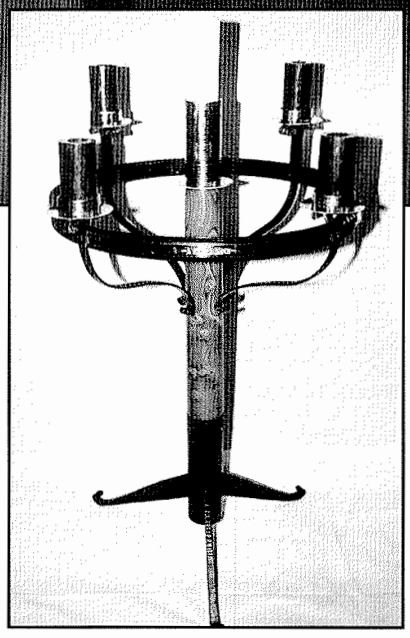
Advent Wreath

Don Kemper has contributed countless hours as President of N.W.B.A. He performs his iron artistry at *Earth, Wind, Fire and Ice Forge*, at Ridgefield, Washington, just north of Vancouver.

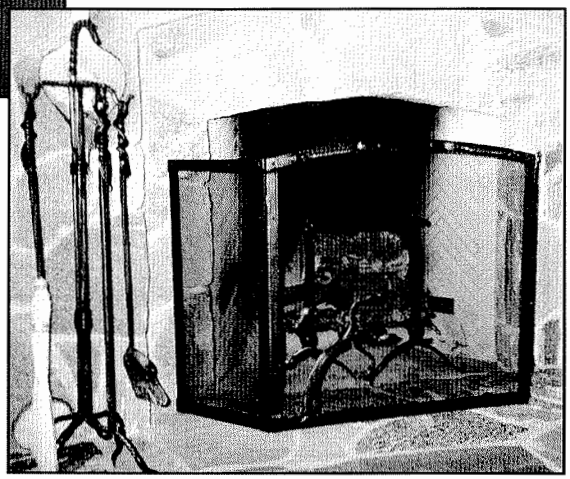




Don forged this Advent Wreath for a local church. It is iron, brass and ash and is 52" by 32".



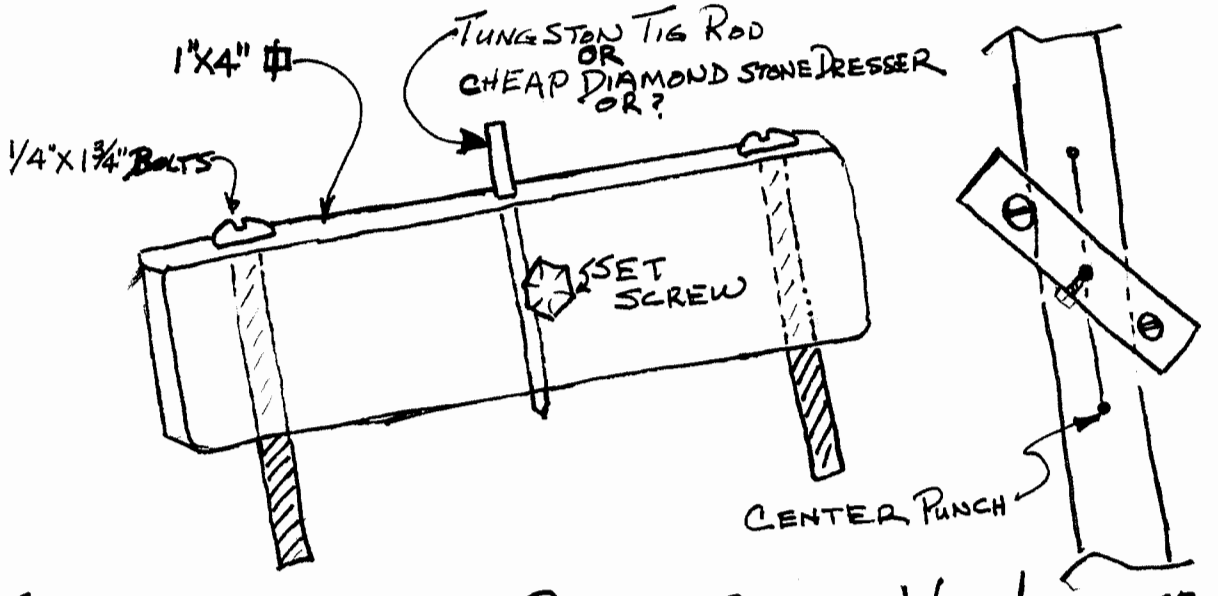
Firedog Andirons with Triptych Screen is forged iron for a large Rumford fireplace.



HOT TIP

By the Prez! When he's not putting out fires in the N.W.B.A., Don Kemper is a busy guy. Here's a useful little gadget to make sure you're always centered in life!

CENTER MARKING TOOL



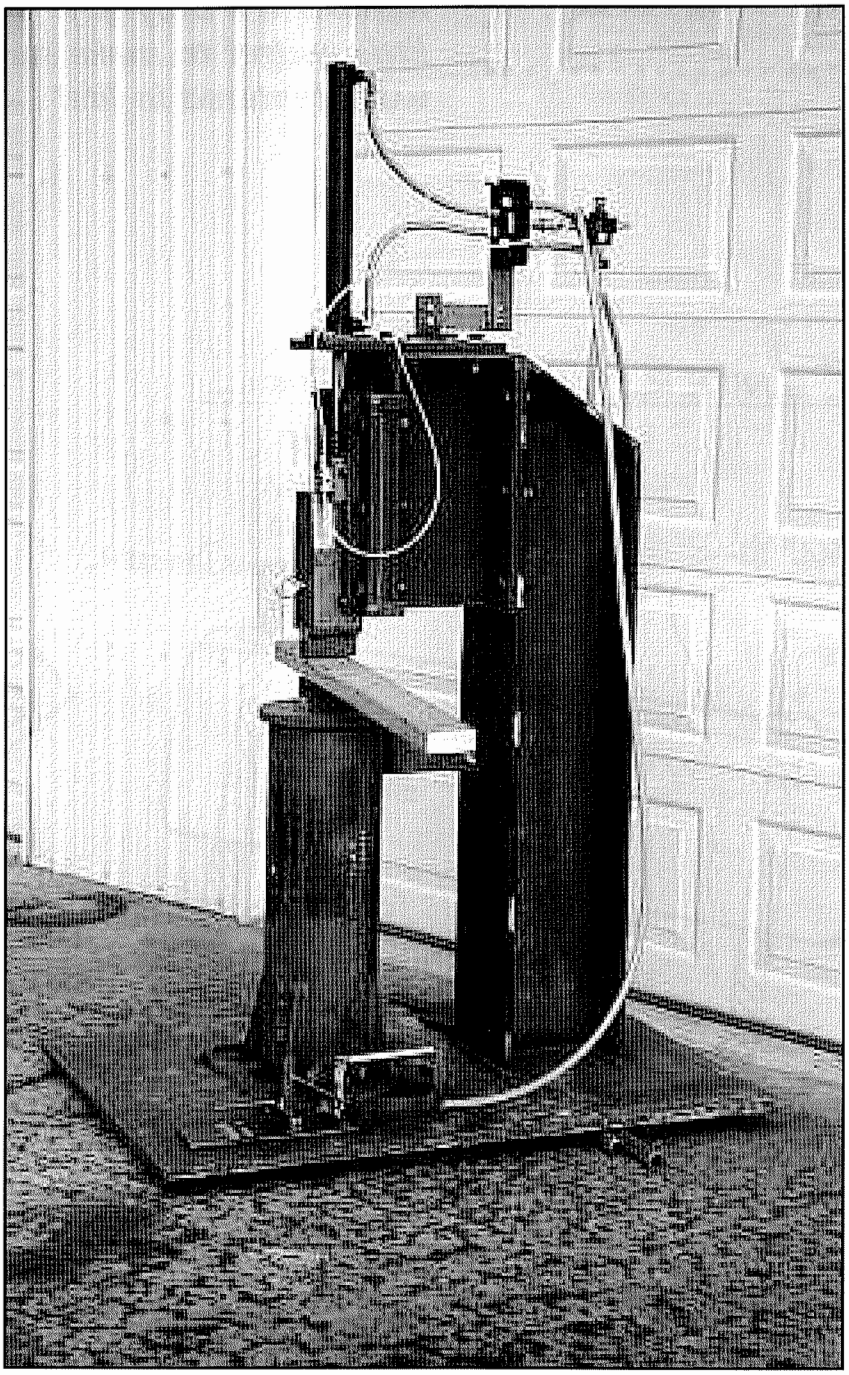
....THIS IS AN OLD TOOL - BUT IT REALLY WORKS!....

....MADE QUICKLY FROM WHATEVERS HANDY----

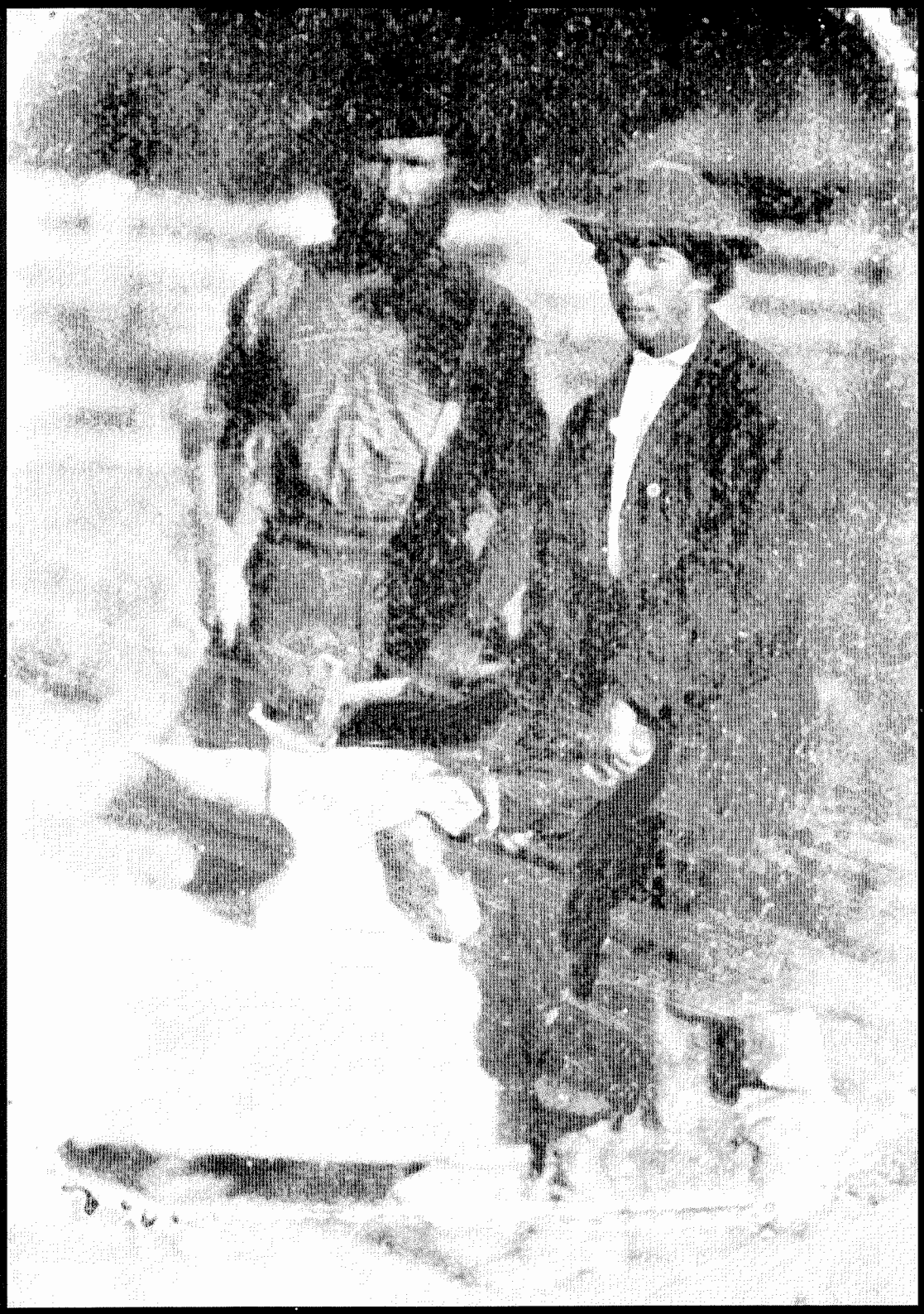
...MARKS STOCK FROM 3/8" TO 3" WIDE---- B

...HELPS GUIDE "WALKING CHISEL"---

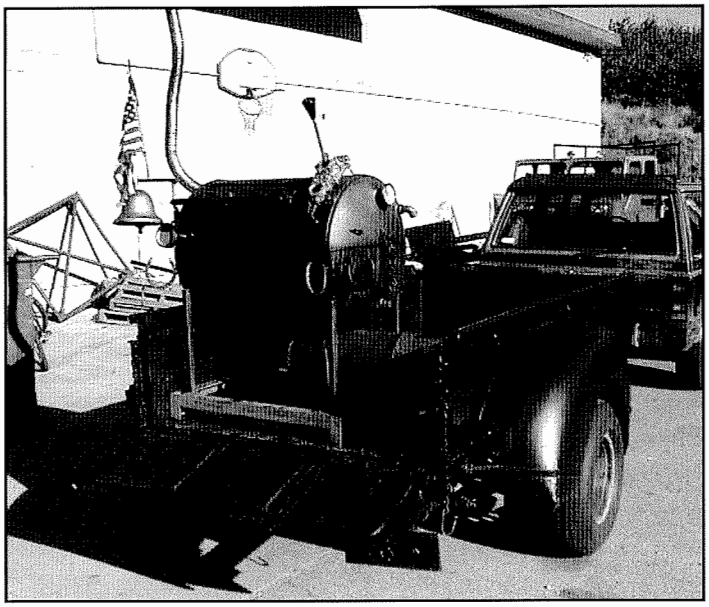
From Rick Leeson, Custer Forge AND Welding, 3128 Behme Road, Custer, Washington, blacksmithrick@aol.com~



This hammer was built using the ABANA plans by Ron Kinyon as a guide. I wound up with the hammerhead and die weighting 93 pounds. This strikes on a 600-pound anvil. Most of the construction metal was obtained at a local scrap yard. This took several trips over many months waiting for the right materials to show. A friend donated the one-inch thick base plate. Another friend supplied the air cylinder. I purchased the five-port four-way valve, airlines, and fittings new. The total cost of this project was about $350. I thank the Whatcom and Skagit County blacksmiths who lent a helping hand during this endeavor. I'm also grateful to my Canadian friend *Wade Wade*, who was always willing to haul this project home relieving me of my burden.

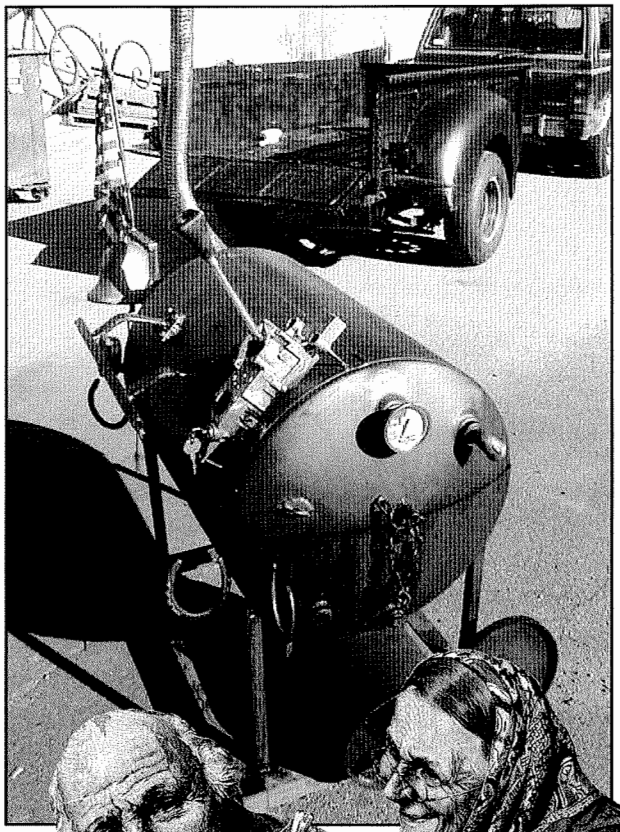


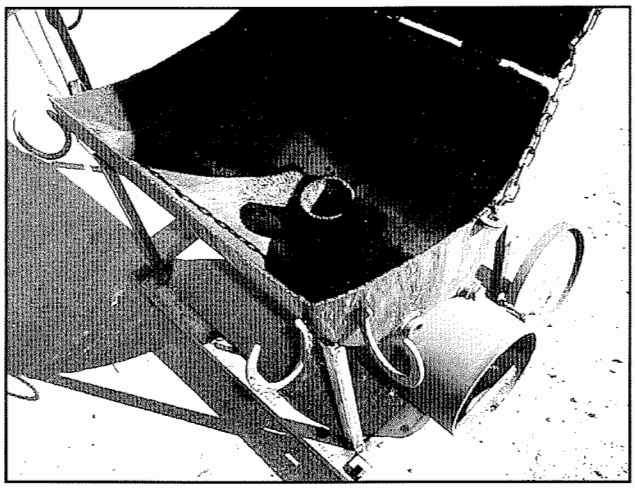
This Tintype dates from the 1860's and is one of the earliest photographs of American non-military blacksmiths. The striker is holding the hammer with both hands.



♪ *It's Summertime, Summertime, Sum-Sum Summertime!*

and no one is more prepared than Big John Loeffler at Blue Moon Forge up to Cashmere! The Ribs and Booze will be flowing freely from this Behemoth Bar-B which, although appearing fabricated, was actually drawn out and forged from an old 200-lb Hay-Budden anvil!





Now this baby can smoke Brisket! Separate smoking chamber and Four-on-the-Floor make this machine Dangerous!!! And, as you can see in the top photo, all John has to do to get wood is grab his chainsaw and head for the neighbor's apple orchard!

Here John is seen getting tuned up prior to lightin' up. This thing radiates more BTUs than the Space Shuttle!

Sharing Skills is what being a Blacksmith is All About . . .

A Lusty Young Smith

A lusty young Smith at his vise stood a-filing,
His hammer laid by but his forge still aglow,
Along came a Damsel and him she espying,
And asked if to work at her forge he would go.

With a jingle bang, jingle bang, jingle bang, jingle.
With a jingle bang, jingle bang, jingle hi-ho!

"I will," said the Smith and they went off together,
Along to the young damsel's forge they did go,
They stripped to go to it, 'twas hot work, hot weather;
She kindled a fire and soon made him blow.

With a jingle bang, jingle bang, jingle bang, jingle.
With a jingle bang, jingle bang, jingle hi-ho!

Her husband, she said, no good work could afford her,
His strength and his tools were worn out long ago.
The Smith said, "Well mine are in very good order,
And now I am ready my skill for to show."

With a jingle bang, jingle bang, jingle bang, jingle.
With a jingle bang, jingle bang, jingle hi-ho!

Red hot grew his iron, as both did desire.
And he was too wise not to strike while 'twas so.
Quoth she, "What I get, I get out of the fire,
Then prithee, strike hard and redouble the blow!"

With a jingle bang, jingle bang, jingle bang, jingle.
With a jingle bang, jingle bang, jingle hi-ho!

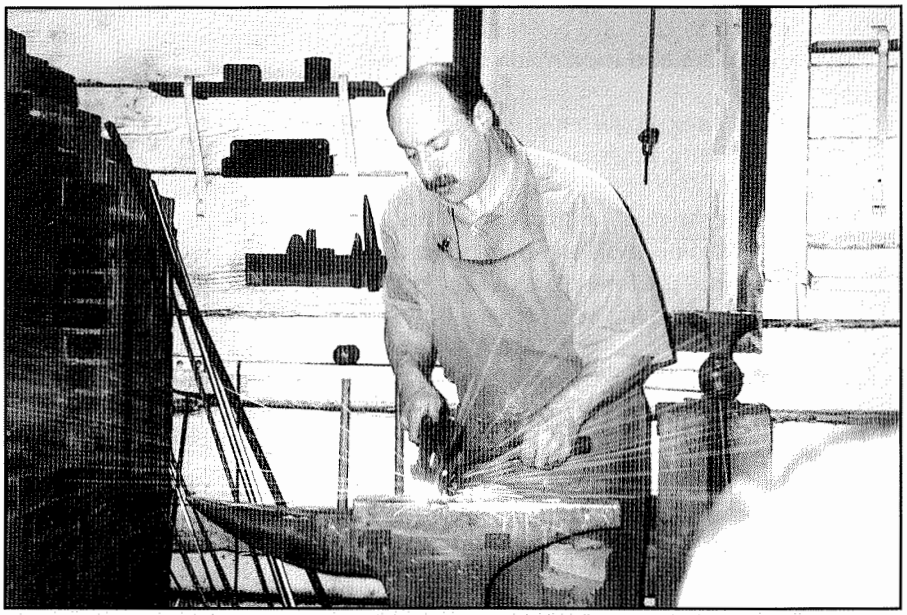
Six times did his iron, by vigorous heating,
Grow soft in the forge in a minute or so,
And often was hardened, still beating and beating.
But each time it softened, it hardened more slow.

With a jingle bang, jingle bang, jingle bang, jingle.
With a jingle bang, jingle bang, jingle hi-ho!

The Smith then would go; quoth the Dame full of sorrow,
"Oh, what would I give, could my husband do so!
Good lad, with your hammer, come hither tomorrow,
But, pray, can't you use it once more, ere you go!"

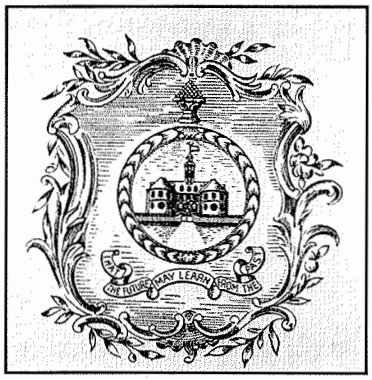
Colonial Williamſburg

Peter Roſſ will again offer a Forging Demonſtration on Auguſt 17, 18 and 19 of the Preſent Yeare. Both Colonialſ and Subjectſ of the Britiſh Crowne are Invited to Participate. The Claſſ Project will be a Hearth Toaſter, uſeful for the heating of your morning Biſcuitſ (or Soneſ for thoſe from the Provinceſ ſtill under the thumb of Her Royalneſſ). The Stipend for the claſſ if 265 Yankee Dollarſ (or 9,568 if payed in Canadian Peſoſ). A Prior Depoſit of 100 if Required to Aſſure your berth at the Proceedingſ. No refundſ for rounderſ.

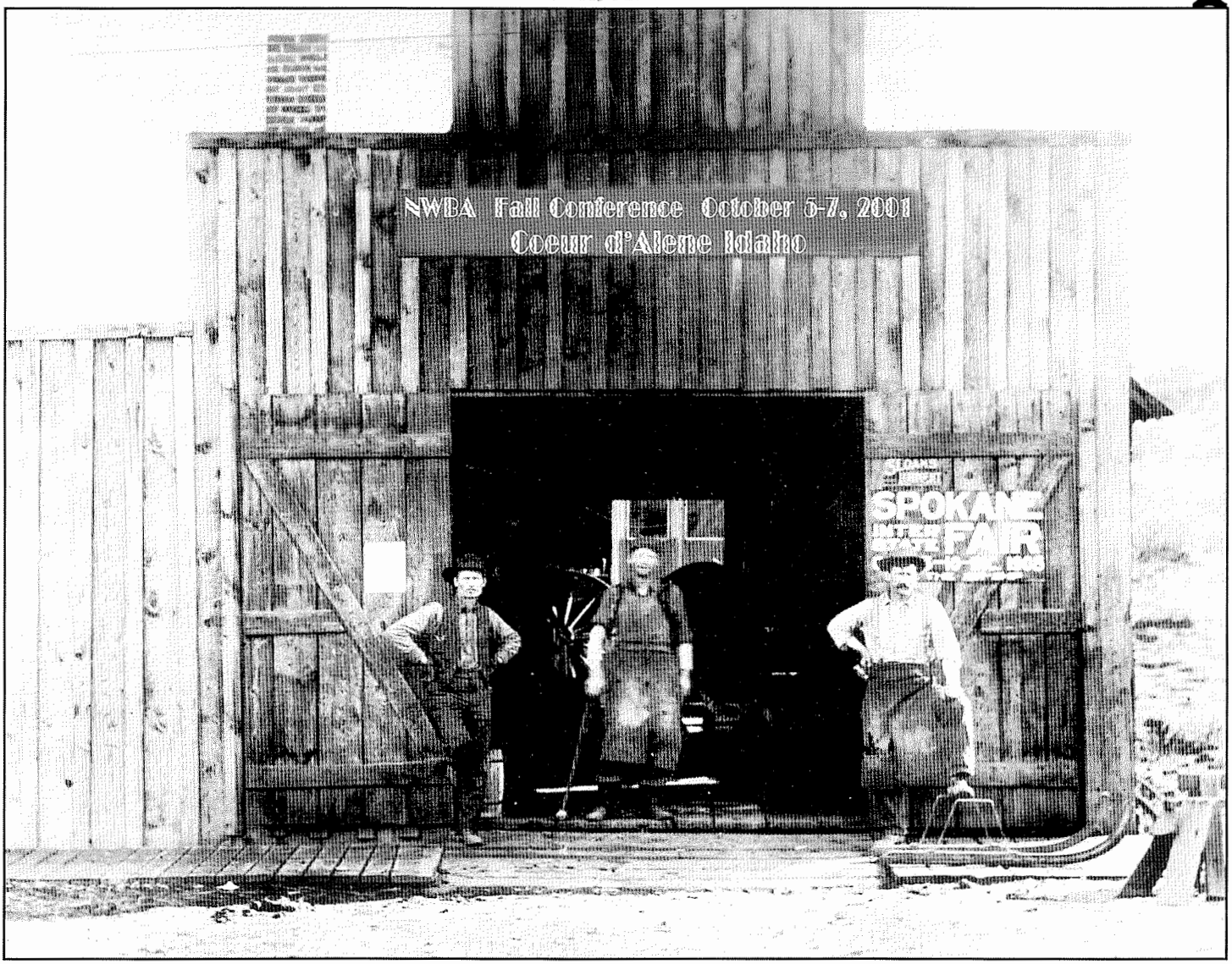


Hear Ye!
Hear Ye!

The Lord High Regiſtrar if Ike Bay, who if alſo Headmaſter of the Peter Roſſ Inſtitute of Higher Learning Weſt (Left) Coaſt. Hiſ Digſ may be contacted at 503 645-2790 for Particularſ.



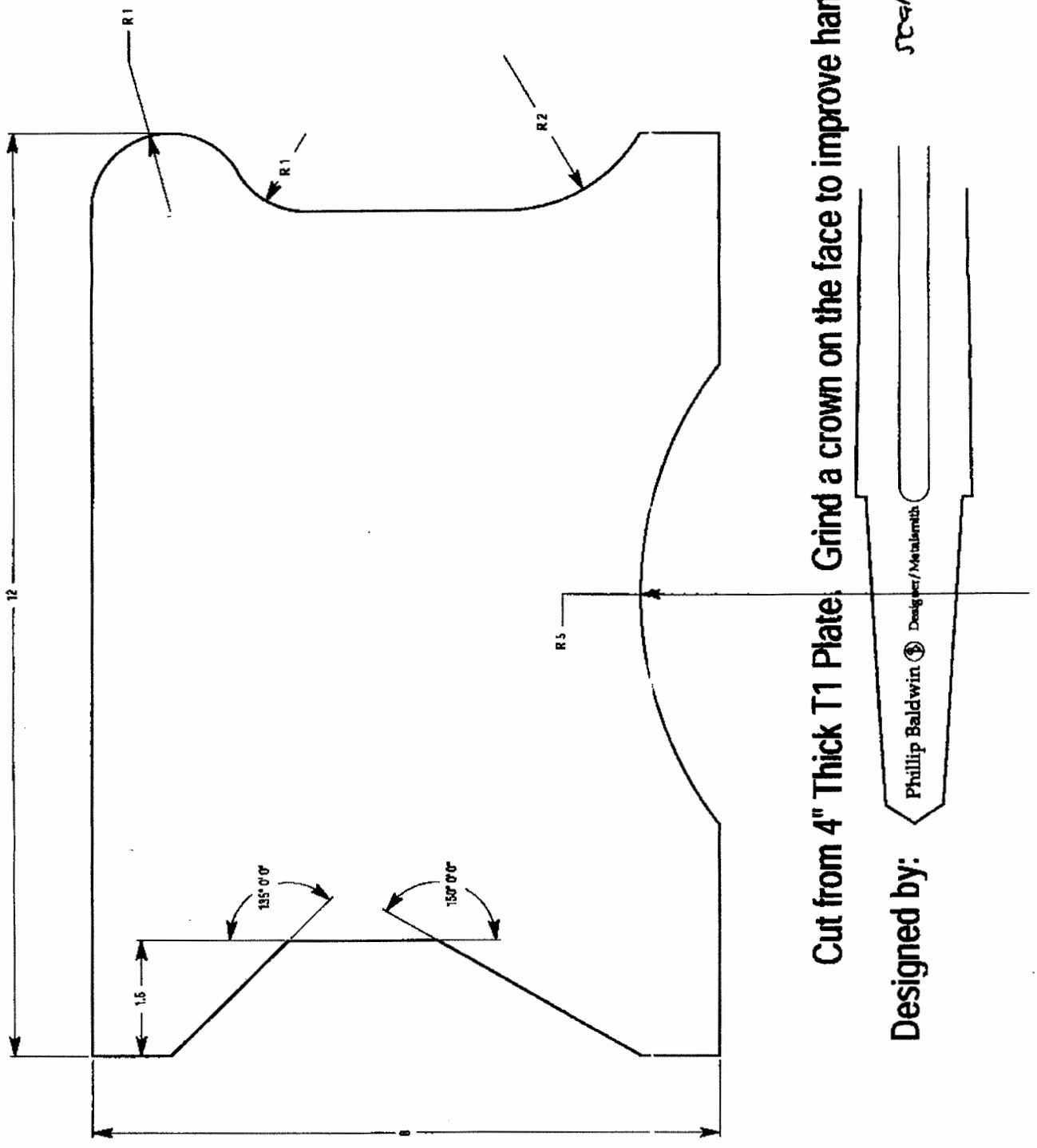
Colonial Williamſburg if celebrating itſ 75th Anniverſary of Reſtoration. Peter Roſſ if the Reſident Blackſmith who workſ on the revival of claſſic Colonial forging. Located on Prince George Street if the Deane Forge, home of coachmaker Elkanah Deane, which if now uſed aſ a Colonial Blackſmith Shoppe.



REGIONAL METALSMITH CONFERENCE !!!

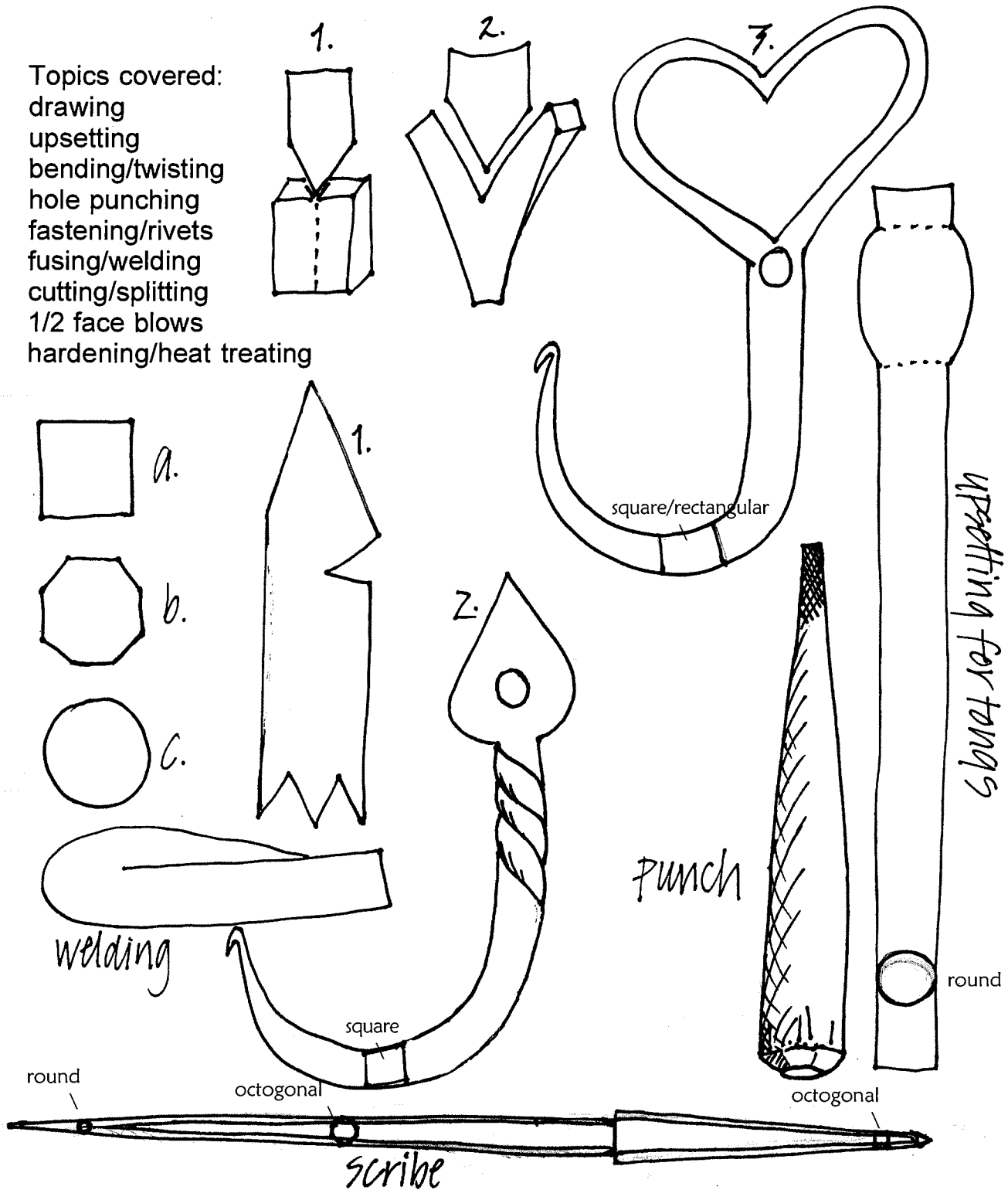
TIME TO LEAVE THE RAIN BELT AND HEAD FOR THE SAGEBRUSH! JOIN THE NWBA, THE KOOTENAI BLACKSMITH ASSOCIATION, AND THE NORTHERN ROCKIES BLACKSMITH ASSOCIATION AT THE HERN IRONWORKS FOUNDRY IN COEUR D'ALENE OCTOBER 5 7, 2001. THIS COMBINED CONFERENCE WILL BE A MEMORABLE EVENT INCLUDING FOUNDRY DEMOS! AMONG THE DEMONSTRATORS WILL BE BOB PATRICK. MARK YOUR CALENDARS AND PLAN TO BE THERE!

Phil Baldwin's "Alternative" Anvil is built like a swage block: rotate it and use all the sides. The "horn" radius is at right angles to a regular anvil.



Phillip Baldwin, POB 563, Snohomish, Washington 425 334-5569

The Oregon College of Arts and Crafts hosted a Peter Ross workshop at Don Kempers last Fall. These are some of the Colonial items forged by the fifteen students. Thanks to the Bays for the drawings.



MAP TO Ponderosa Forge & Iron Works, Inc.

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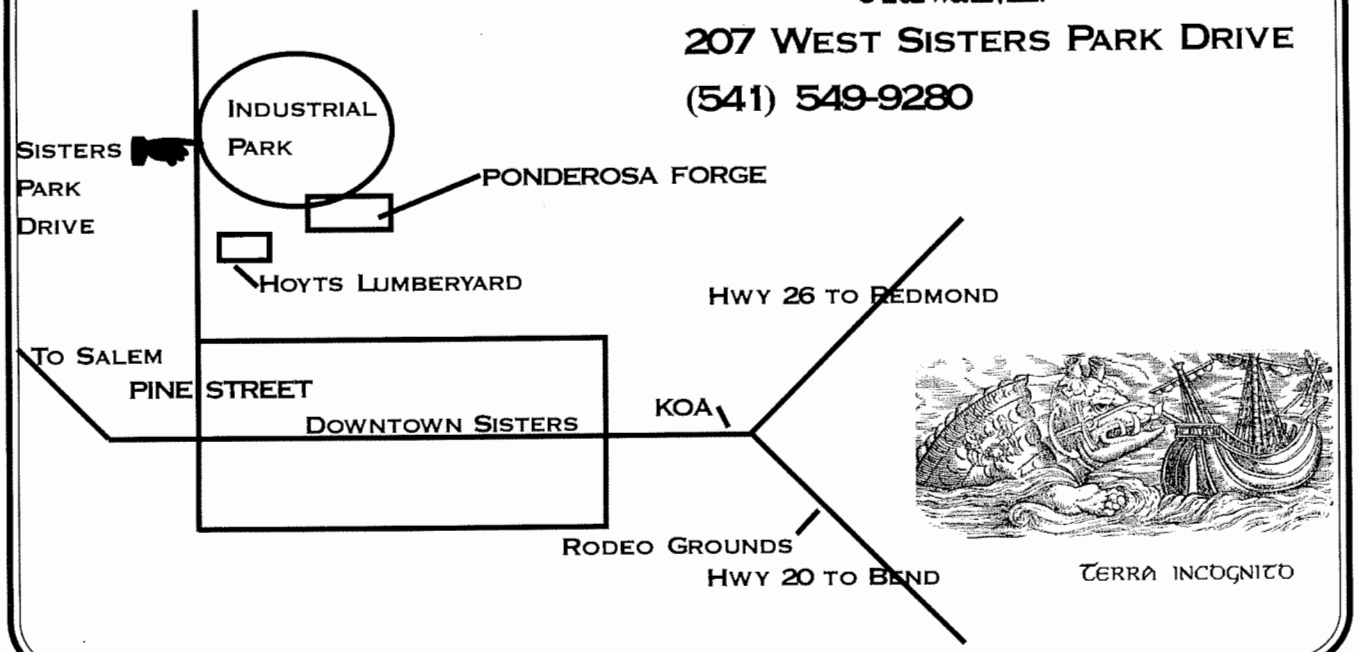


TERRA INCOGNITO

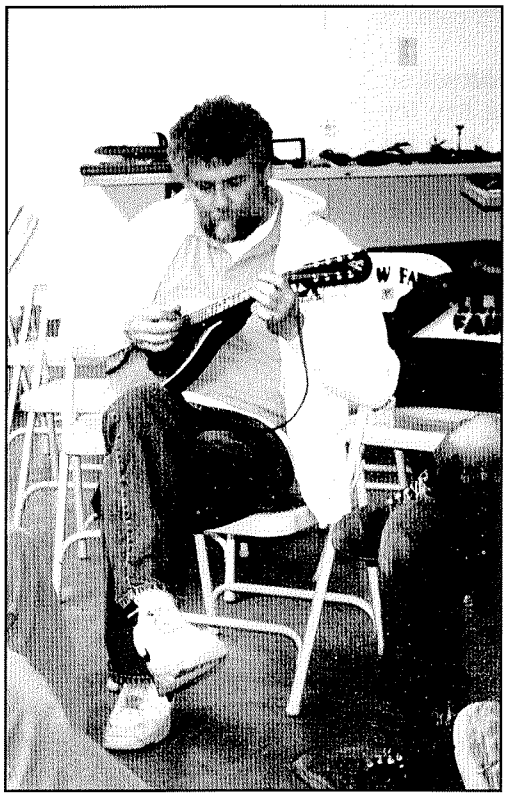
Spring Conference 2001 !!!

Conference demonstrators are E.A. Chase of California and Joe Elliott of Oregon David Tuthill and Laura Goematt are Conference Coordinators. Hands-on Workshops will be selected by lottery at the conference and will be given by Lauren Osmolski, Sarah Parker, and Matt Tilton. Attendees will be required to have safety glasses, gloves and your favorite hammer. Demos start at 1 p.m. on Friday and run until Noon on Sunday. Fees are $50 plus $15 for guest/spouse. ***$5 Auction Item Discount on Registration!***

Auction Saturday Night ~ Time to Forge <u>YOUR</u> Auction Item!!!

TWO GOOD REASONS TO ATTEND AN N.W.B.A. CONFERENCE!

Culture



Art

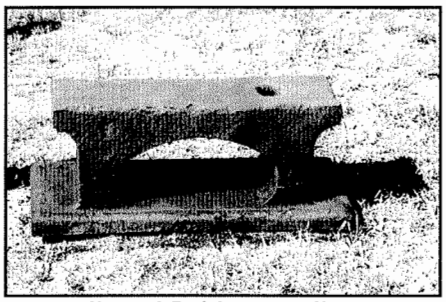
JOE ELLIOTT WILL BE PLAYING SOME SWEET TUNES ON THE ANVIL WHEN HE DEMOS AT THE SPRING CONFERENCE! MONSTER WOMEN ALSO PLANS A GUEST APPEARANCE (WITH A FRESH CORSAGE!)

Old Cedar Forge Workshops June 15-17, Intermediate (Pre-requisite is Basics Workshop). Limited to eight students. Cost is $315. $150 non-refundable deposit is required. Contact Ina Culberson, Workshop Coordinator, 360 275-6769, e-mail: oldcedarforge@web-o.net

Anvil for Sale 275 pounds or so, long face, long horn, $525, 206 782-7796 or nickjean@speakeasy.org

Henrob 2000 Torch Special price of $350, free shipping. Includes video, cutting attachment, tips and torch. Gary Gloyne, 931 Deetz Rd., Mt. Shasta, CA 96067. 503 926-3932.

Anvils New Czech and TFS anvils and Elkhorn #2 coal. Prices from $450 for TFS 100 lb. single horn to $1700 for a Czech double horn with a side beak and an upsetting block. These are high quality cast steel anvils. I also have some O-1 steel blanks 5/8 x 1 1/2 x 15 inches for $6 each. Wayne Lewis at keystone@peoplepc.com



Railroad Bridge Anvil

Caniron! in North Battleford, Saskatchewan, June 29-July 1, 2001. www.geocities.com/caniron or 306 374-7940 The site is dead north from the middle of Montana (for the benefit of the directionally-challenged!) and to the northeast of Calgary. A full cast of great demonstrators is on tap along with a lot of fun events for the kiddies and spouse. Don't miss the Pitchfork Fondue on Saturday night! Cost is $175 *Canadian*! HIN hopes to have it's foreign correspondent at the scene, with live satellite reports and film at 11!

Peter Ross Colonial Workshop will be August 17-19. Check with Ike Bay for details. 503 645-2790. Also, check for Oregon College of Arts and Crafts workshops in August.

NWBA Spring Conference at Sisters, Oregon, May 18-20.

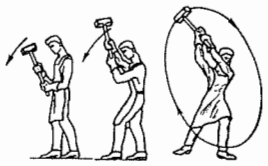
Northern Rockies Blacksmith Spring Conference is May 11-13, 2001 at Lincoln, Montana at Gerald Biresch's Forge. 406 257-IRON for Dan'l Moore or coonho@cyberport.net

Consignment Sales Opportunity Angela Kagele has opened Lilly's Pad, an art and gift shop at Mt. Hood and is looking for all types of forged ironwork to pawn off on the tourists this summer. 503 622-6290 for details.

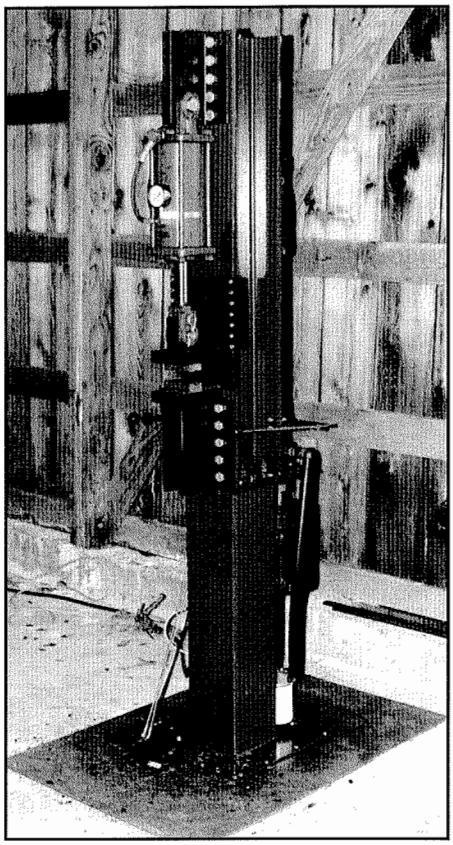
Oh, Writers, Where Art Thou? Keep those cards and letters (full of Hot Tips, articles, photos, projects, fantasies, hopes and dreams, coming in to our editorial staff!)

Contact Al Karg with New Addresses

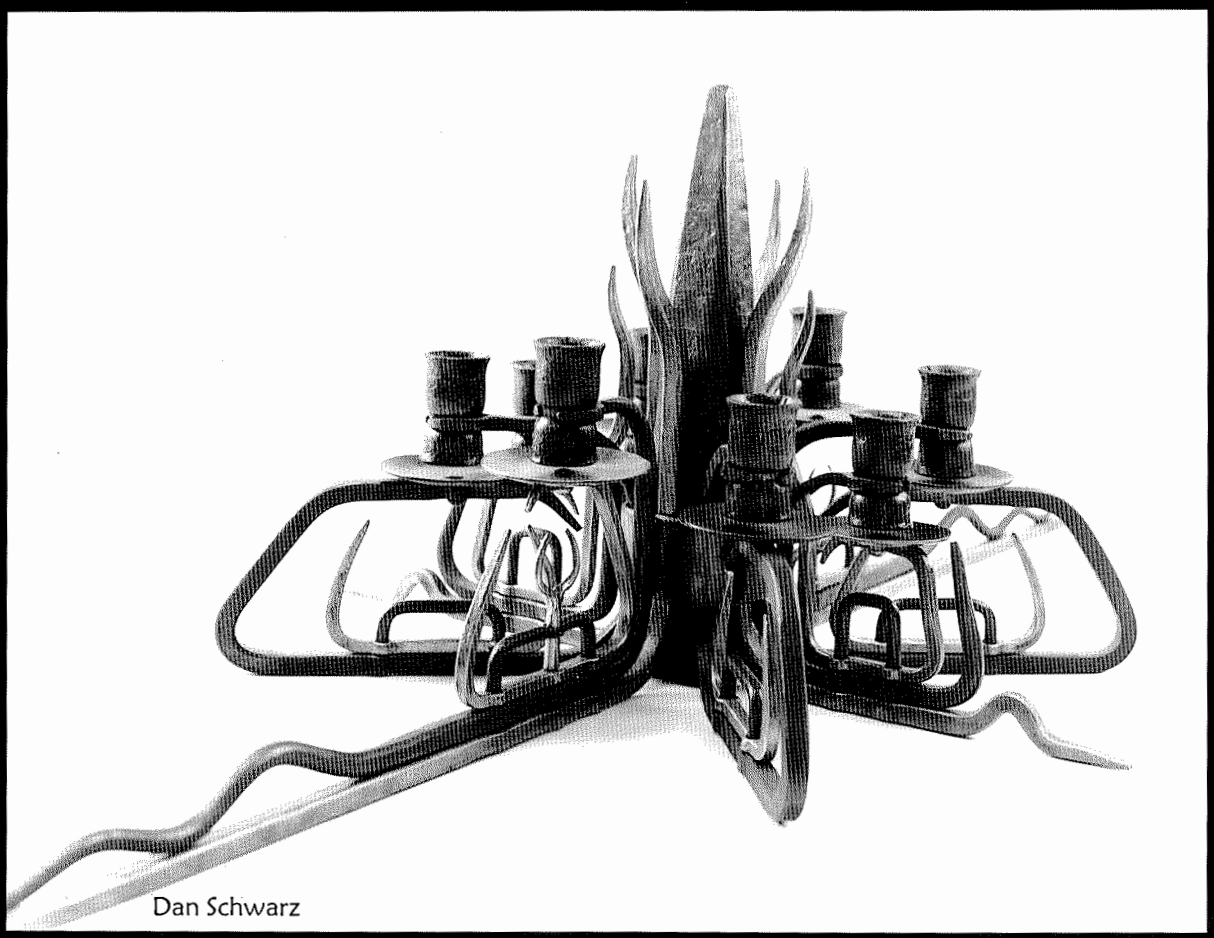
Platen Tables 5' square, 3,400 lbs. Dick Franklin 253 862-9310.



Pioneer Iron Works 25-Ton Hydraulic Forging Press offers precisely guided and controlled forging power plus a versatile, integrated tooling system. The forging power of a large air hammer without the noise or heavy foundation requirement. Primary control is by a pair of foot pedals. Adjustable hand controls are also provided. Upper and lower die blocks have precision-milled pockets which are carefully aligned. 5 h.p. motor is standard. The press achieves almost 49,000 pounds almost instantly with little change in motor or hydraulic sound. Since the action is squeezing rather than pounding, production tools can be made of low alloy steel at much lower cost than standard or custom hammer dies. Contact Art Anderson for details. 406 273-0986 message phone.



E.A. Chase *Kitchen Hood Hammered Copper, Brass and Bronze*



Dan Schwarz

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Jerry Kagele, Editor
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