Winter 2001

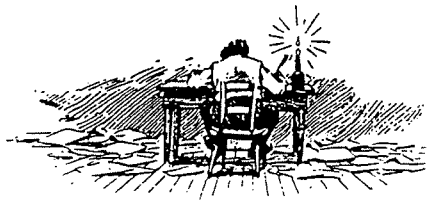
HOT IRON NEWS

Voice of the North West Blacksmith Association

Index

Cover: David Thompson Vase

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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Vancouver, Washington 98665

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

For membership in the Artist-Blacksmith's Association of North America **(ABANA)** write to:

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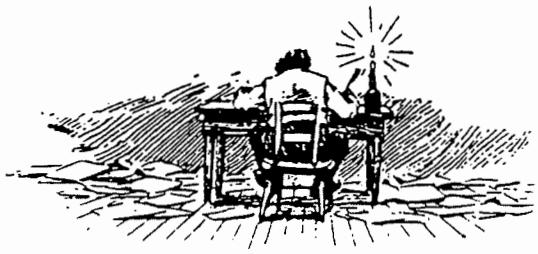
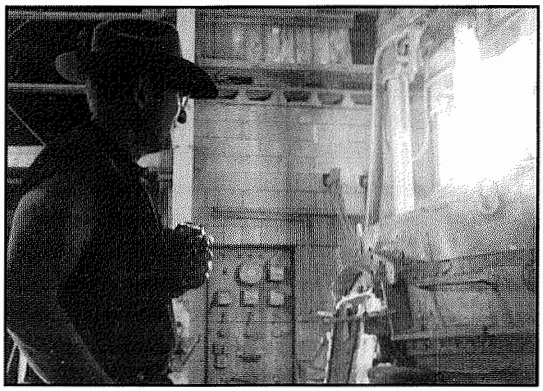
POB 816
Farmington, Georgia 30638
(706) 769-9556/2841 E-mail: abana@abana.org
Website: www.ABANA.org Fax: (706) 769-2841

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



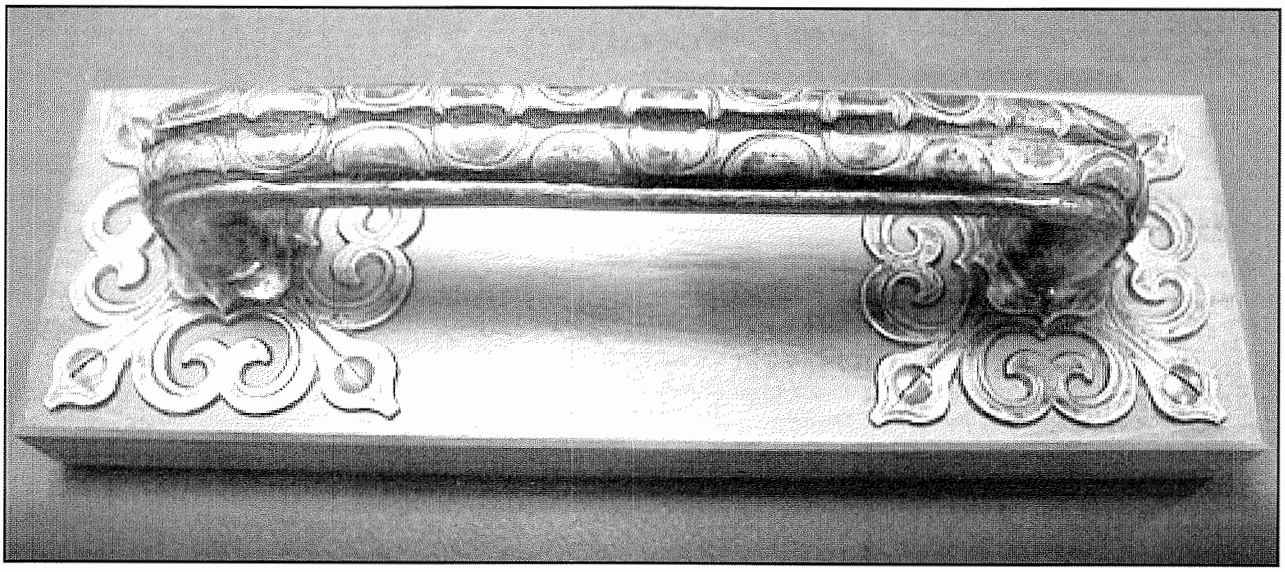
Editor's Notes



Don Kemper has been the President of the N.W.B.A. since 1996. During that time, the organization's membership has grown dramatically and the club has developed excellent programs, such as conferences and grant programs. N.W.B.A. is fiscally sound and is among the most vibrant and progressive of the ABANA affiliates (what used to be known as Chapters!). On a personal level, and as Editor of the News, it has been a real pleasure to work with Don. His intelligent decisiveness and leadership has charted a course that was easy to follow. Don can be extremely proud of his term and the N.W.B.A. owes Don a big "Thanks for a Job Well Done!" Don will now be able to translate all of his newly-freed time to generating even more articles and Hot Tips for the Hot Iron News (see page 45.)

Speaking of quality, the column of Sarah Grace Parker makes it's debut in this issue. Sarah is combining her considerable talents in blacksmithing and art to create a "Workshop" of beginning techniques. The results are as good as anything that I have seen in any blacksmithing publication! Now we just have to figure out how to resolve the "debate" between Wade Wade and Big John! Sounds like a job for our new Prez Mark Manley!

The door pull below is by Samuel Yellin. It will be one of the featured auction items at the ABANA Conference at La Crosse. Check your Hammer's Blow for the registration materials. Two important auctions are coming up that N.W.B.A. members can make a serious contribution to. The Spring Conference Auction proceeds will allow N.W.B.A. to continue it's excellent programs. The same goes for the ABANA Auction. Auctions are the life-blood of both organizations! We've been lucky to have a gifted auctioneer (his name escapes me!) to enhance the contributions. But, the importance of contributions cannot be underestimated. Besides, you get your projects photo in the HIN! Gentlemen and Ladies, Start Your Forges!



As our Great Prez rides off into the Sunset~

PREZ SEZ . . .

"It's been one Hell'uva Ride!"

~ Don Kemper
N.W.B.A. President
1996-2002

WALKING BACK TO THE CHUTES AFTER MAKING THE BUZZER– YOU HEAR THAT REMARK FROM THE OTHERS– BUT ALL YOU ARE THINKING, (AND SAY UNDER YOUR BREATH) IS: ***"THANX BRONC, FOR TAKING ME ALONG FOR THAT RIDE!!!"***--

After six years, that is what I would like to say to all the N.W.B.A. members!

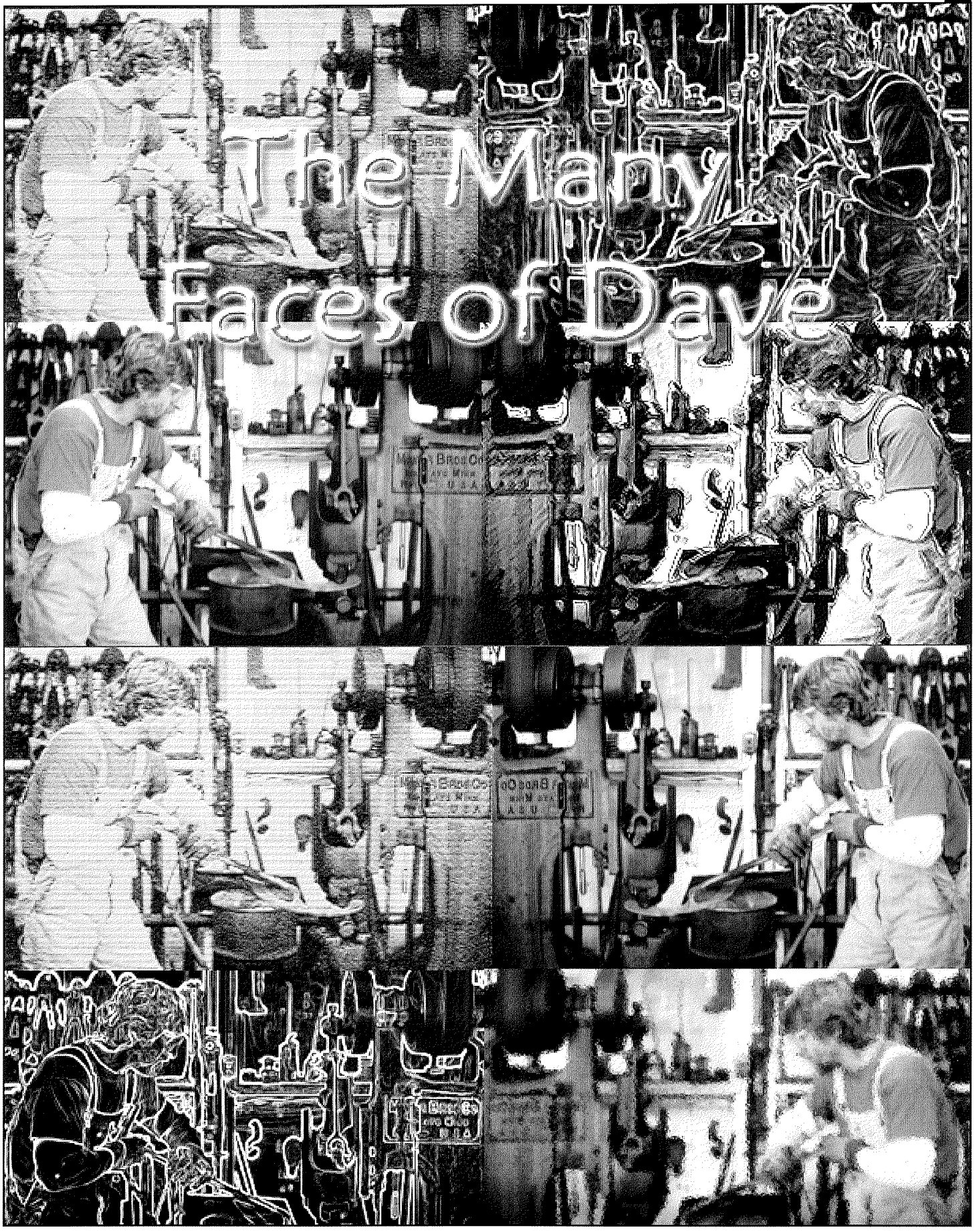
I just received a three-page query from ABANA, asking questions on what affiliates do to promote a strong organization--

THE ANSWER SEEMS TOO EASY: " Surround yourself with good people and stay out of their way!!"
The N.W.B.A. has THE best newsletter, thanx to Gene and Jerry–Kent picked up " www. Blacksmith.org" for us, and keeps it up for good communication–Mark volunteers for rousting our p.a. systems–Jeff and Gary decide the archived iron needs continuity in being unpacked/ packed--
Phyllis keeps our registrations straight for each conference–Ina decides that a mailed reminder of dues is in order (and does it)–Jerry pries the last penny from members at auctions which keeps the club in the black/ providing for extras (while each member donates iron, then buys another's labor)--Joe demos way beyond what is expected , when another demo area gets congested–Darryl volunteers to lead our 20th, a bang-up conference for 400, plus–Tom, Bill and others wait for the trailer, unload, set up the bleachers and equipment–Jeremy volunteers to keep our books for the treasurer--Al keeps track of everybody--Louis is always there--
and--mustn't miss Dave and Babe who seemed to be everywhere--

THE LIST GOES ON AND ON----------
(I APOLOGIZE TO THOSE NOT MENTIONED, BUT YOU GET THE PICTURE!)--
AND ALL THIS IS DONE WITH UNPAID VOLUNTEERS! FANTASTIC!!

NEW OFFICERS WILL BE ELECTED AT THE N.W.B.A. BOARD MEETING ON FEBRUARY 2nd- I KNOW THEY WILL HAVE THE SAME SUPPORT!!!

As for me, *'IT HAS BEEN A HELL'UVA RIDE!–* ***THANX !*** ----------


The Many
Faces of Dave

DAVID THOMPSON

A Panoply of Production~

David Thompson styles himself as a "Sculptor of Steel." However, his work has encompassed all dimensions of sculpture and blacksmithing. David is well-known for his international demonstrations. He has demonstrated at the Third World Congress of Artist Blacksmiths in Aachen, Germany, as well as ABANA Conferences. David and Rebecca Thompson live in Eugene, Oregon.

I am a self-taught artist. My education started as a quiet kid growing up on the family farm, observing nature. This education is continuing today; I enjoy looking at art books but rarely read them. I believe that art is a purely visual experience. To read a critique about a work of art is generally confusing to the personal experience.

Art is a dialog between the artist's soul and his or her chosen medium. My medium is metal, especially steel. I love steel for its strength, versatility, economy and plasticity. Learning to forge and work the material as a plastic is important to gain a full understanding of the material. That is what brought me to blacksmithing.

I always have had an interest in metal, growing up on a farm with an abundance of broken agricultural implement junk. My first sculpture was of agricultural implement parts. I took all the metal shop and drawing classes I could get in junior high and high school. After high school I became a sheet metal apprentice. I just couldn't get excited about 26-gauge galvanized sheet metal and Pittsburgh seams. The pattern-layout and cold-framing processes of sheet metal work has been invaluable to working the material in all its applications.

While serving my time as a sheet metal apprentice, I fed my creative side at home in my garage making welded-wire sculpture and artsy candlesticks, the stuff that was popular

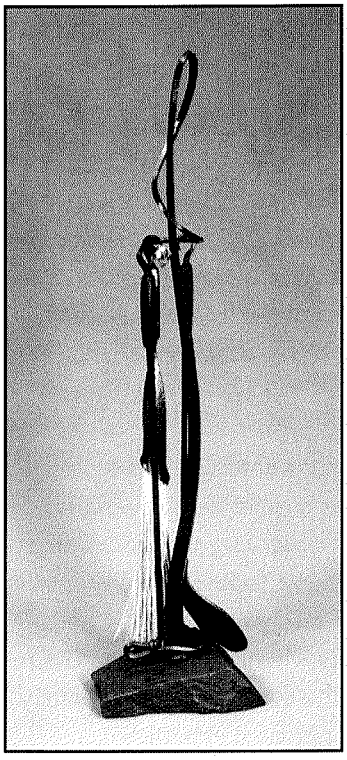
DAVID THOMPSON

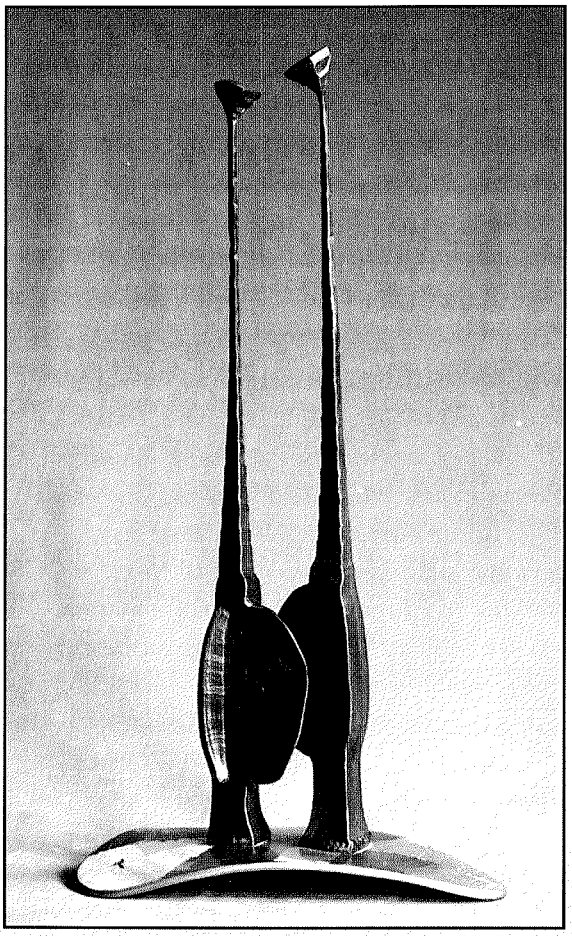
back in the late Sixties. I was selling this work through galleries and the newly-formed saturday market in my hometown. With the encouragement of people actually buying my work, I said "Hey, I can do this!" I stayed with sheet metal until I received my journeyman papers, quit the next day and started an ornamental iron shop in 1970.

I enjoyed being independent and did well doing iron work. I always stresses unique design and quality craftsmanship. For the most part, this early work was cold-formed and fabricated. I was good at fabricating and making things fit but always felt limited by fabrication methods.

In 1979, I received an invitation from Clatsop Community College to attend a metalworking conference at Camp Rilea on the Oregon Coast. N.W.B.A. was founded by the people that attended that workshop. One of the demonstrators was a blacksmith, Frances Whitaker. I didn't know anything about blacksmithing at that time, hey, those guys shoe horses, right? But I thought I would check it out. I was totally amazed, here was this guy taking the same stuff that I had been cutting and welding, heating it up and hammering it into any form desired. *Wow, I was hooked!* I came home, went out to the farm, pulled the forge, anvil and post vise out of the back of the barn, bought Jack Andrew's *Edge of the Anvil* book and went to work. *My whole attitude about metal work was changed!*

I don't call myself a blacksmith; I use smithing as a tool, a means to the end. I am interested in using the best method to achieve the desired results, whether it be ancient or





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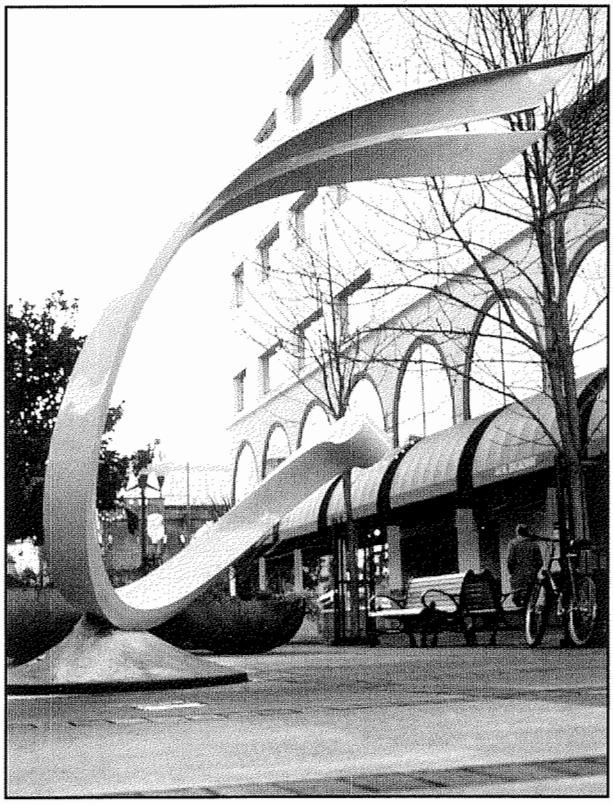

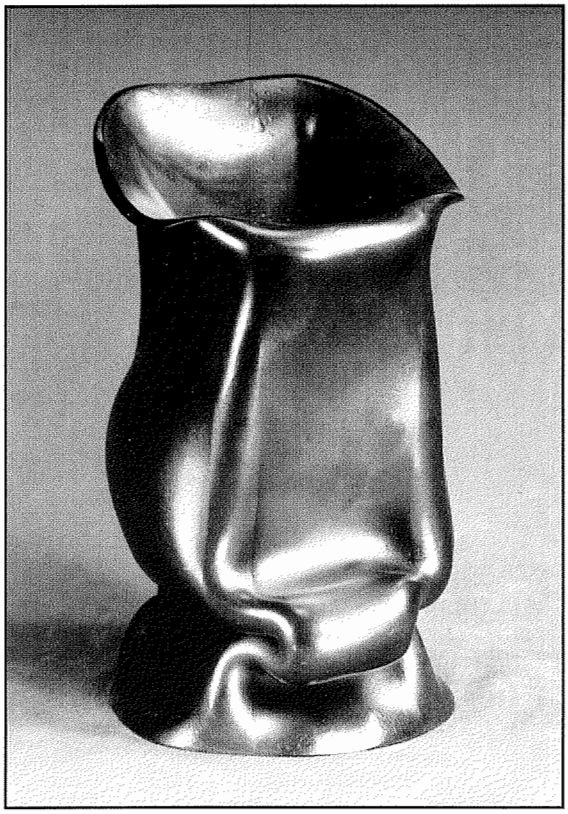

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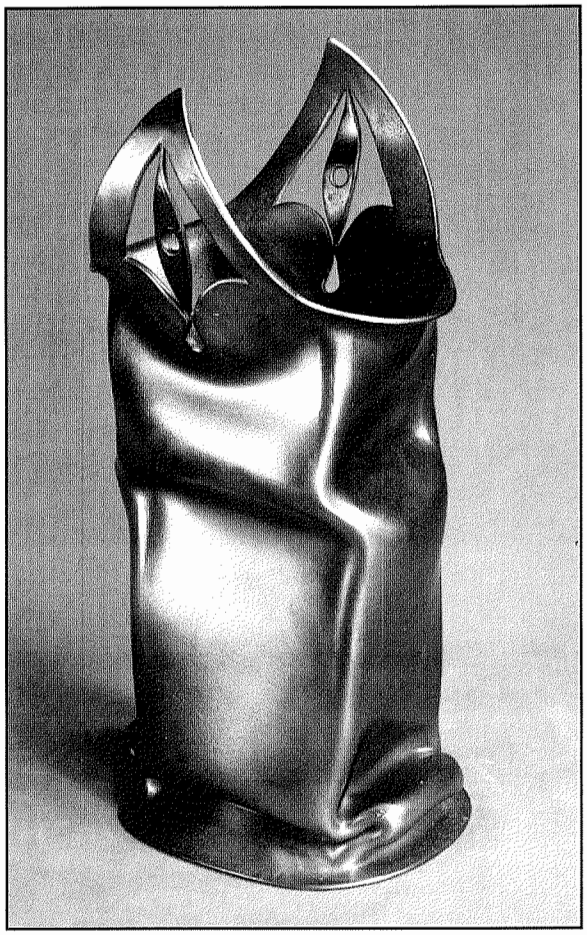

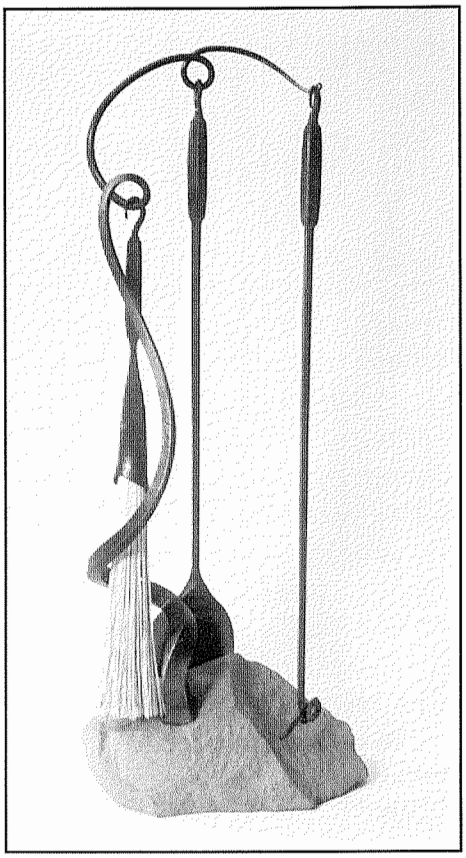

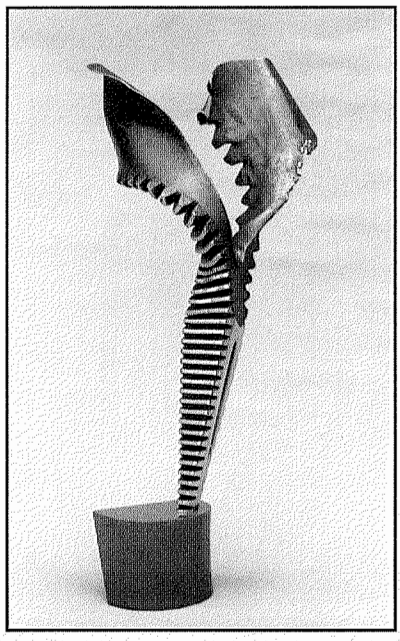

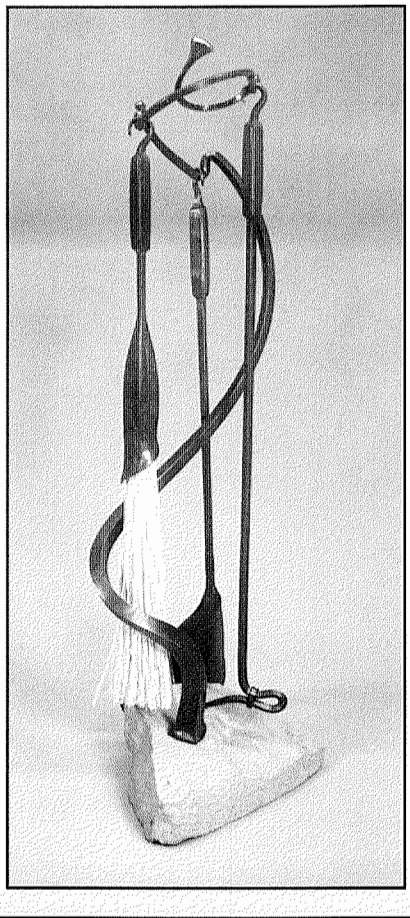

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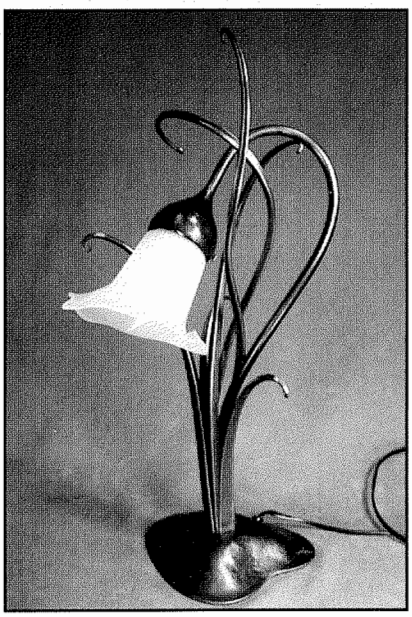

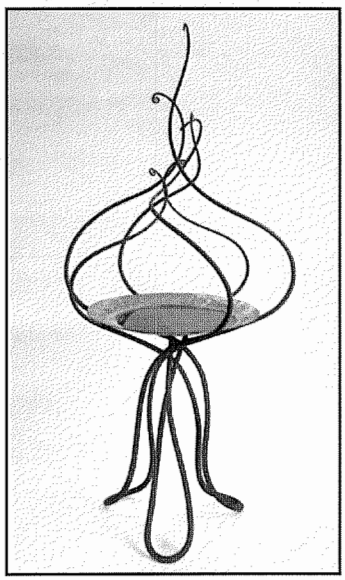

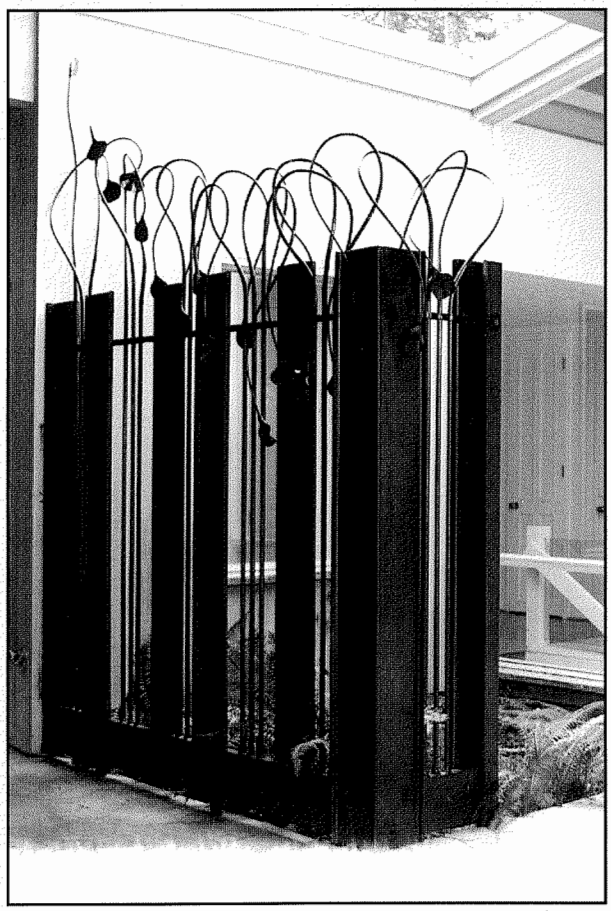

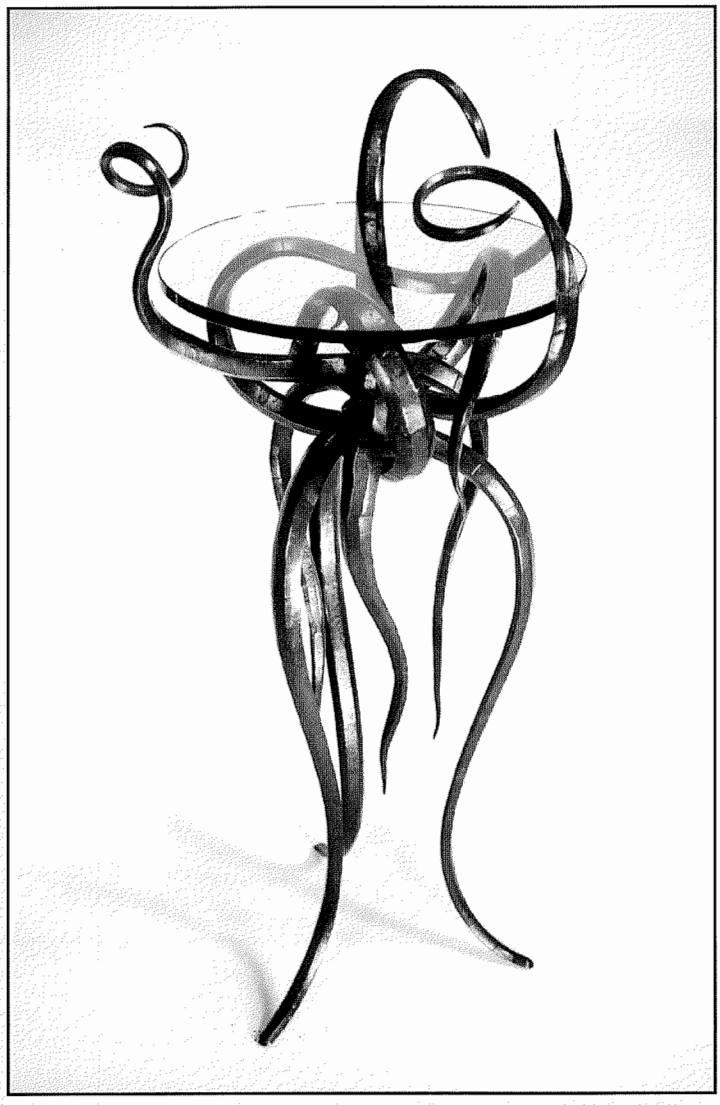

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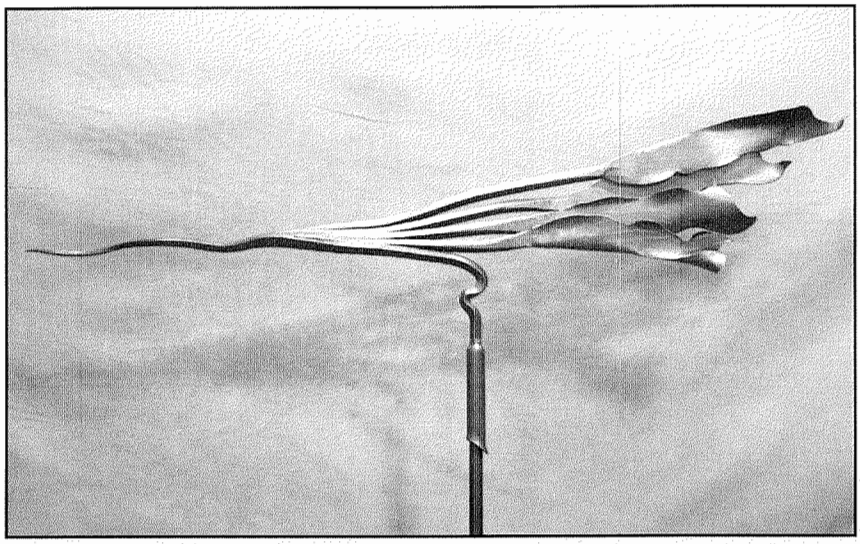

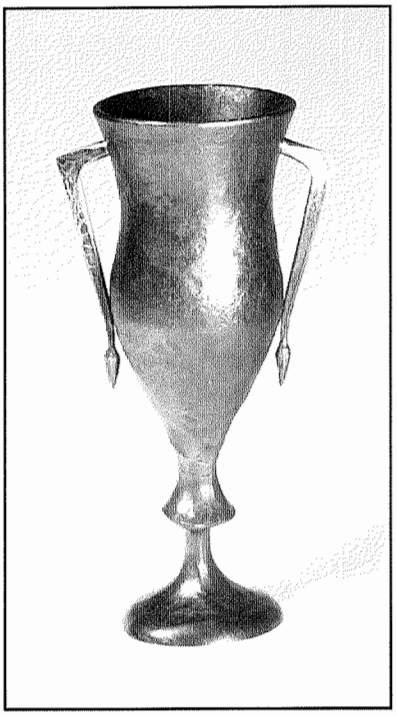

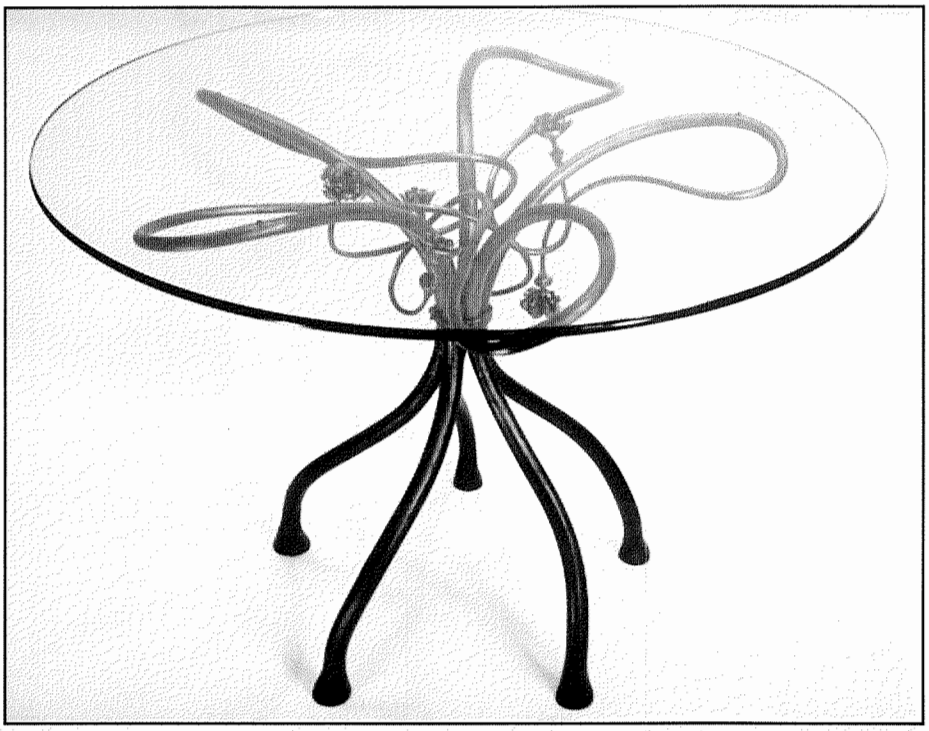

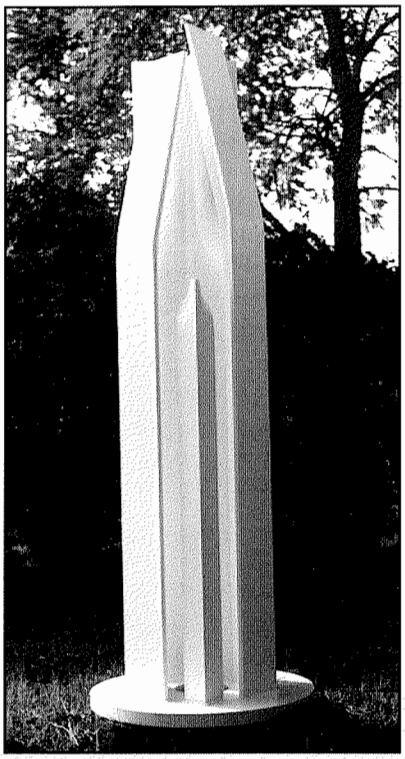

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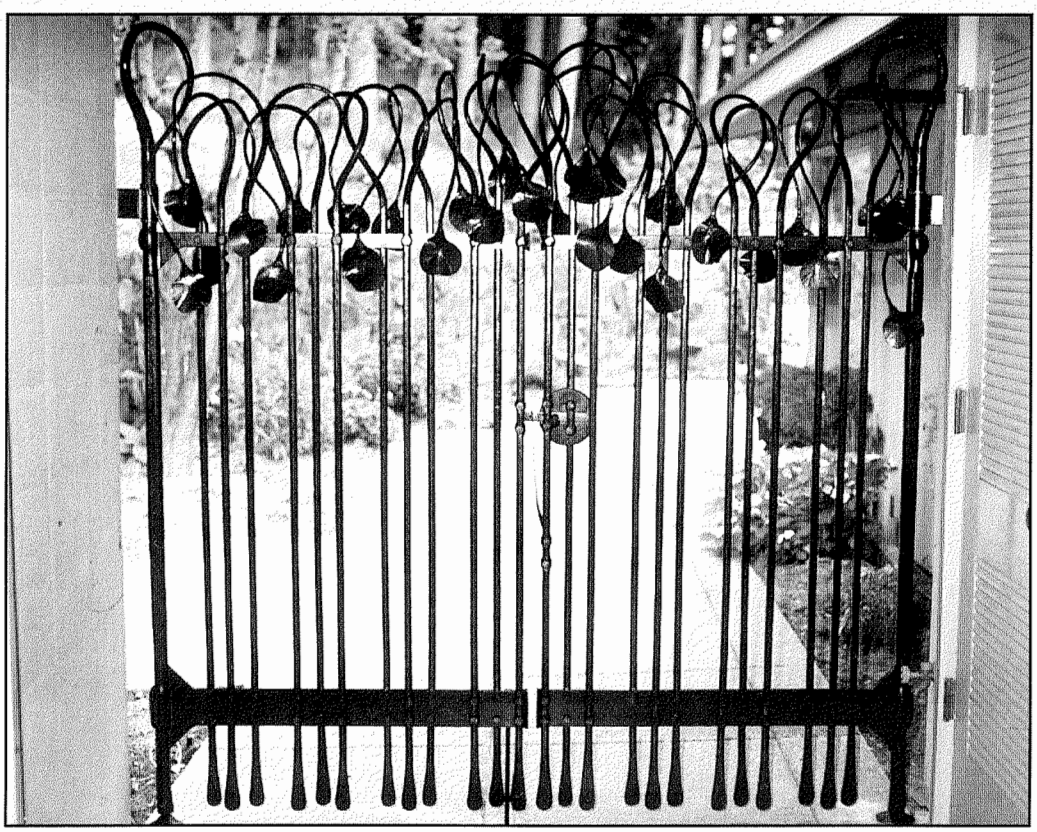

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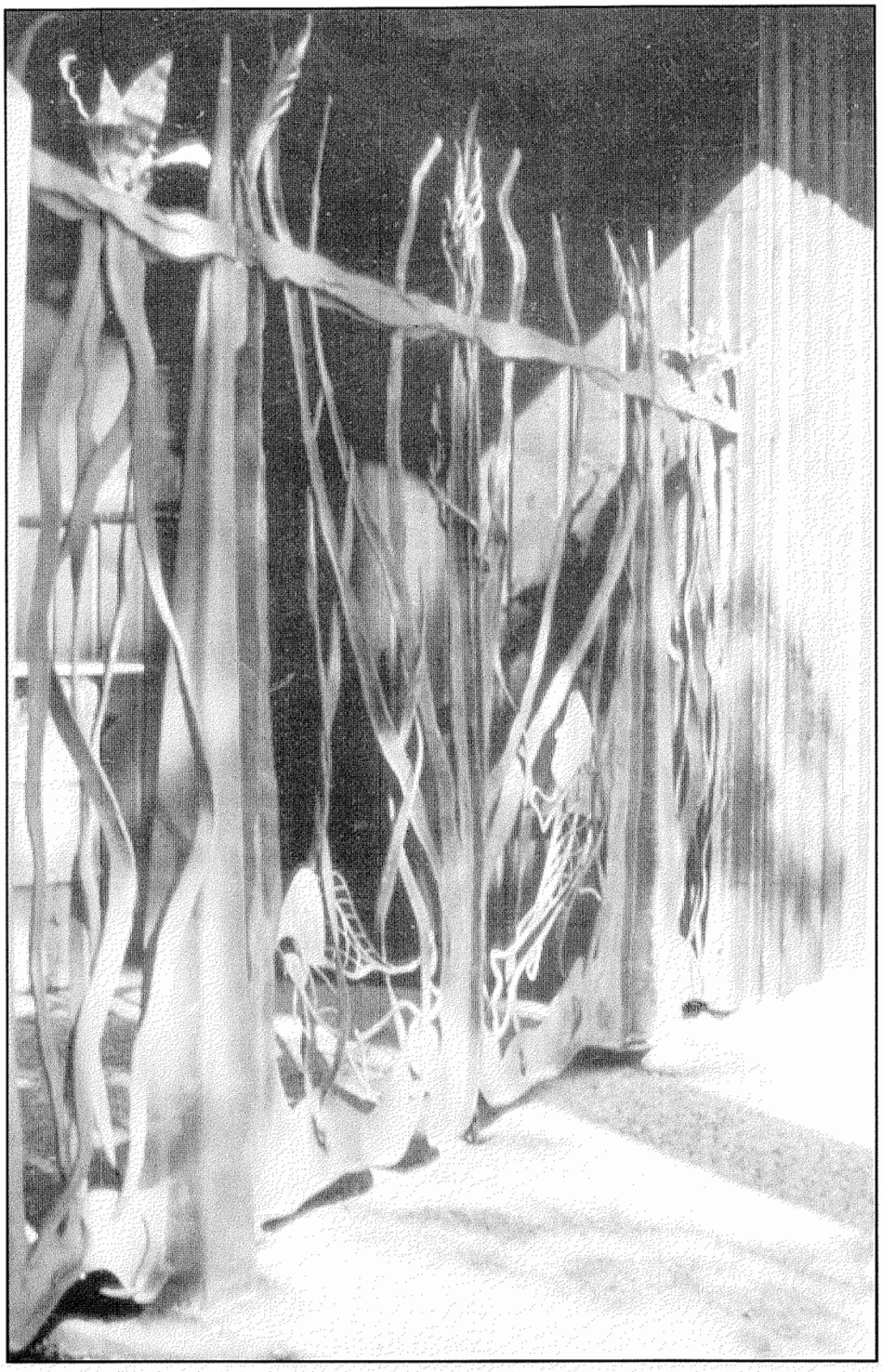

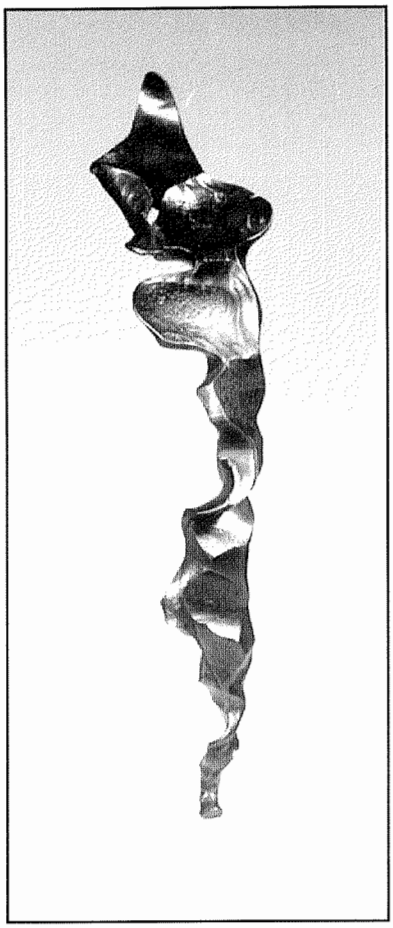

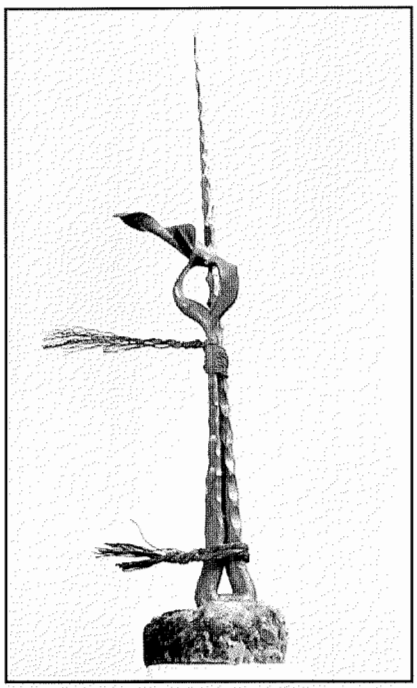

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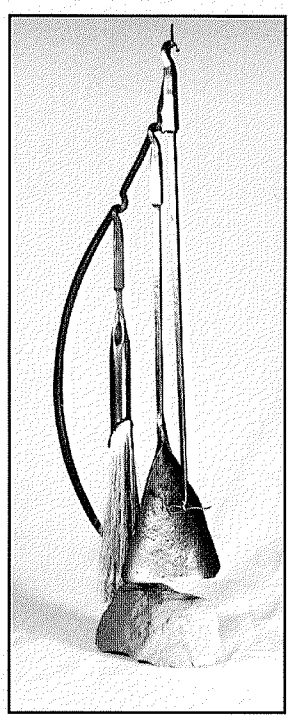
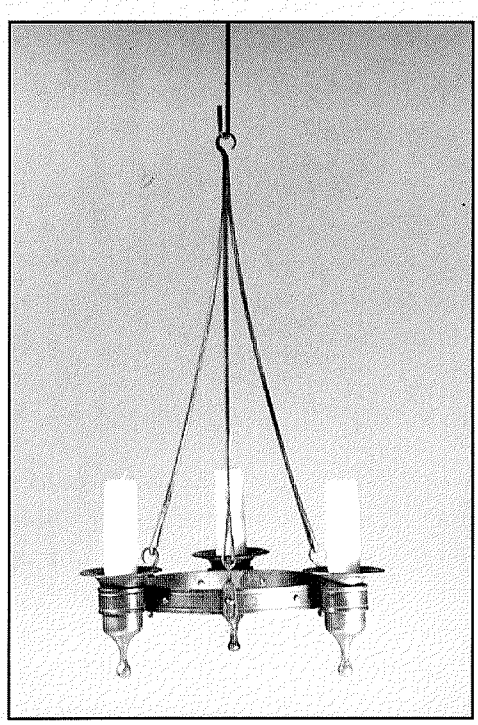
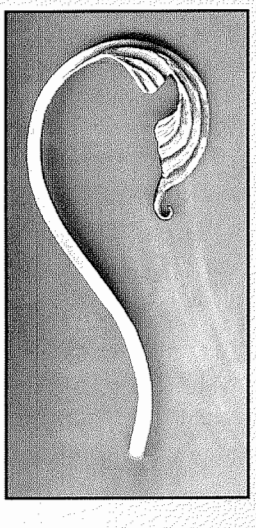




The Hot Iron News proudly introduces a new Column by Sarah Grace Parker~The Beginner's Workshop~dedicated to beginning technique.



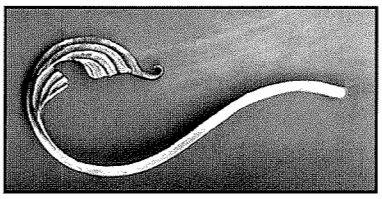
Hello and Happy 2002! Welcome to *The Beginner's Workshop*, a new column and regular feature of the *Hot Iron News.* I am looking forward to the opportunity to volunteer my time and resource to the NWBA and it's members, as so much has been given to me over the past few years. The purpose of this column will always be to serve the membership's needs; your feedback and suggestions are heavily encouraged!

The focus of my articles will be inspirational, philosophical, historical and informational (not in any particular order of priority). I have noticed frequent requests in several blacksmithing publications for more (genuine) beginner projects and information. Having had the luxury of being surrounded by other smith's my entire career, I can well appreciate the reliance one must have on the Hot Iron News when they are learning on their own in a rural area. Having other blacksmiths available to watch, ask questions, and borrow "hands" from is ideal, but not always a reality. I can also understand (from personal experience) that words like "monkey tool", "fuller", "swage", "side set", and "flatter" do not stimulate any response of recognition in one's brain until a picture and procedure has been allocated for these "abstract" terms. I will always provide thorough explanations for the tools and procedures in my "workshops".

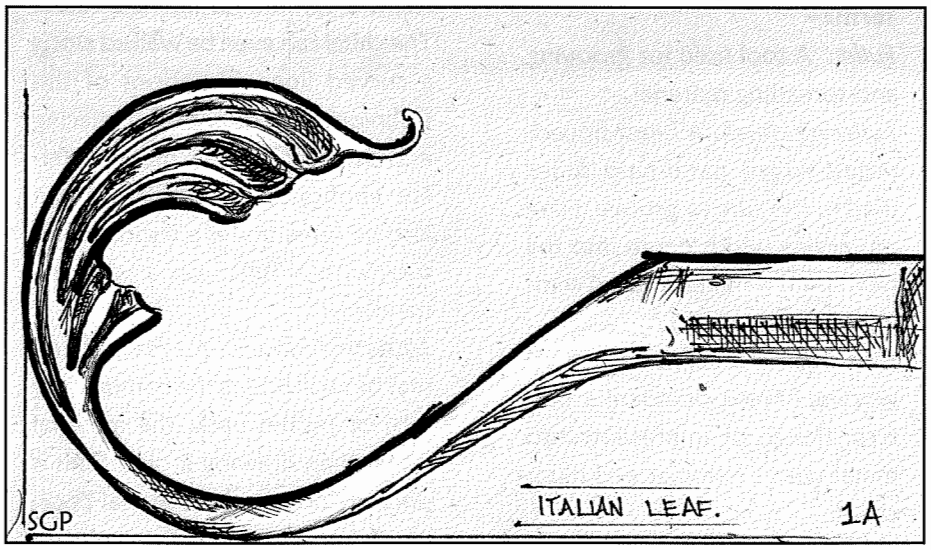
"Experts", if you fear being bored to death with terminology and technique, remember it may help you to *teach*. Besides, I may need your editing, in case (inevitably) I get the facts wrong.

Your contributions are greatly appreciated (especially humor!).

SARAH GRACE PARKER

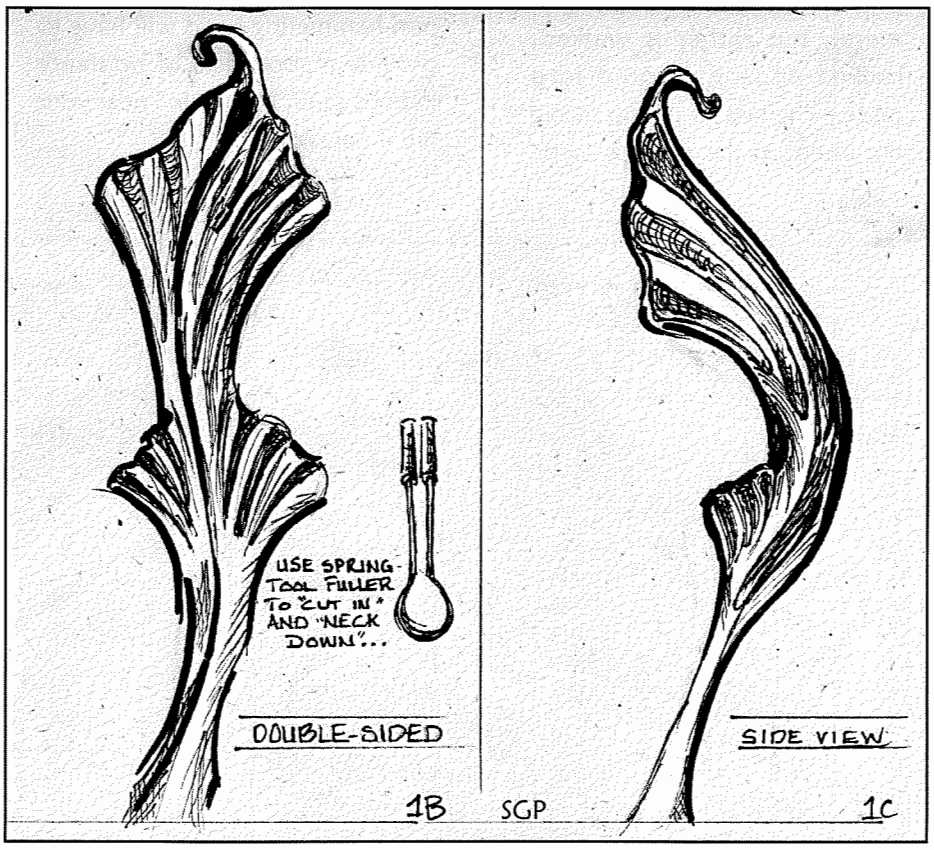


The Art of the Italian Leaf

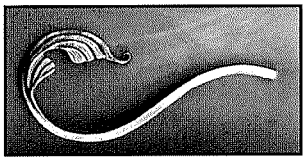


This workshop teaches a method for forging a simple Italian leaf. Stock size, layout of fullered lines, fuller width, and number of "petals" can all be changed as desired. Try this version and then try as many different variations as you desire. A general rule of thumb to follow: A narrower fuller will result in a more delicate, detailed looking leaf.

This leaf is abstract rather than realistic in style but will benefit from proper proportioning, just as if it existed in nature (a good rule of thumb for everything you forge). In other words, when deciding how long to make the "petals", relate them to one another proportionately. For this leaf, the second "petal" should be approximately 1/3 the length of the first. Experiment, your eye can usually tell when things are in proportion. If they are disproportionate, they will appear awkward rather than natural. Don't fret if you don't get it right the first time . . . there are many different skills to master when forging this leaf. Oh yes, and the most important rule of thumb: *Have Fun!* It is always easier to learn when you are enjoying yourself.



Sarah Grace Parker



Glossary of Tools and Terms~

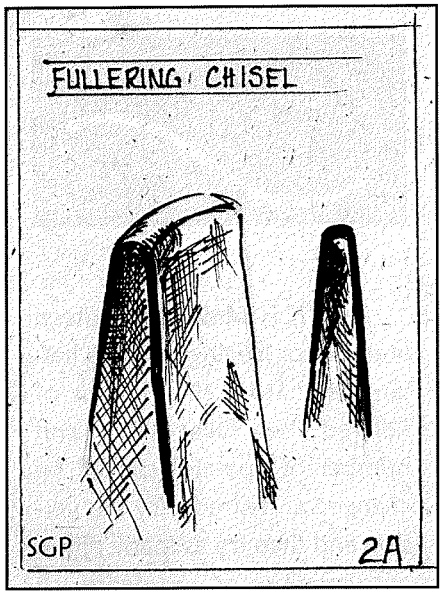
Fuller: A tool used for grooving and spreading material.

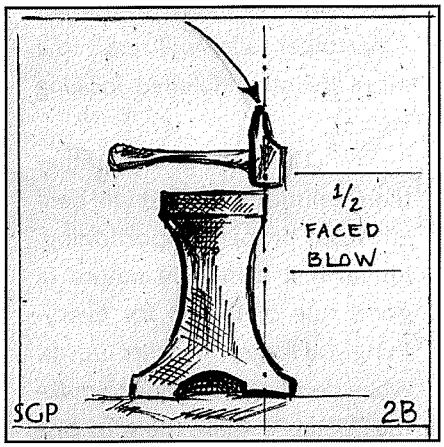
Fullering chisel: A blunt-tipped, radius-edged hand-held fuller used in this case to groove a line of varying width/depth into the steel (using a method called chasing). (See drawing 2A)

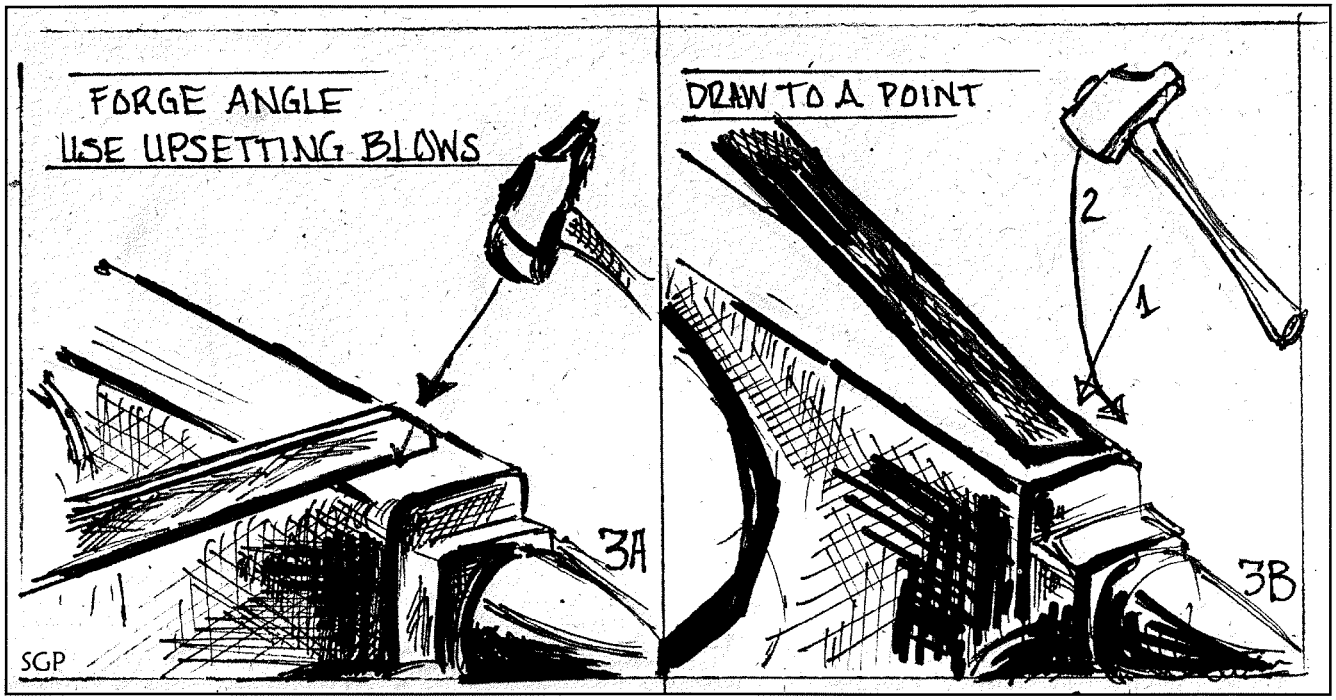
Chasing: (To chase is...) To groove, furrow, or indent a pattern, design or impression into metal with a hammer and blunt chisel.

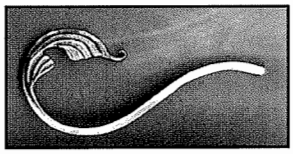
Walking a Chisel: A foremost skill. Using this technique, the chisel never leaves the piece of metal, but rather is walked, rocked and/or pivoted into place. The side of the tip facing the direction the chisel is to be walked is lifted, aimed, and slid into place (think of a rocking chair that slides forward slowly). Next the chisel will be firmly "set" and struck with a hammer. By repeating these steps, a continuous line is created. The chisel can even be walked along a curved line. Variations of this technique can be used for placing and setting chisels in many different applications. "Walking" can also be done under a treadle hammer with a fuller on a wooden handle.

Upsetting Blows: A type of hammer blow in which the hammer upsets, or pushes back, the material rather than drawing it out. This is done by driving the material backwards into itself, using the anvil face (or in some cases your hand holding the material) for resistance. Your non-hammering hand will have to provide a good deal of resistance in both cases, "lock it in" near your hip if necessary.









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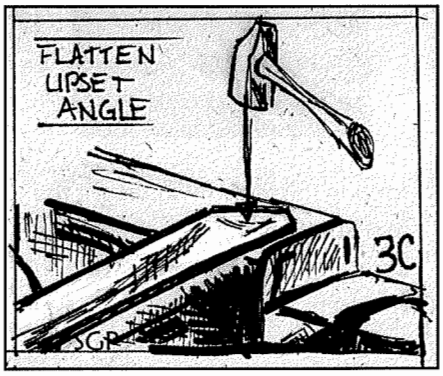
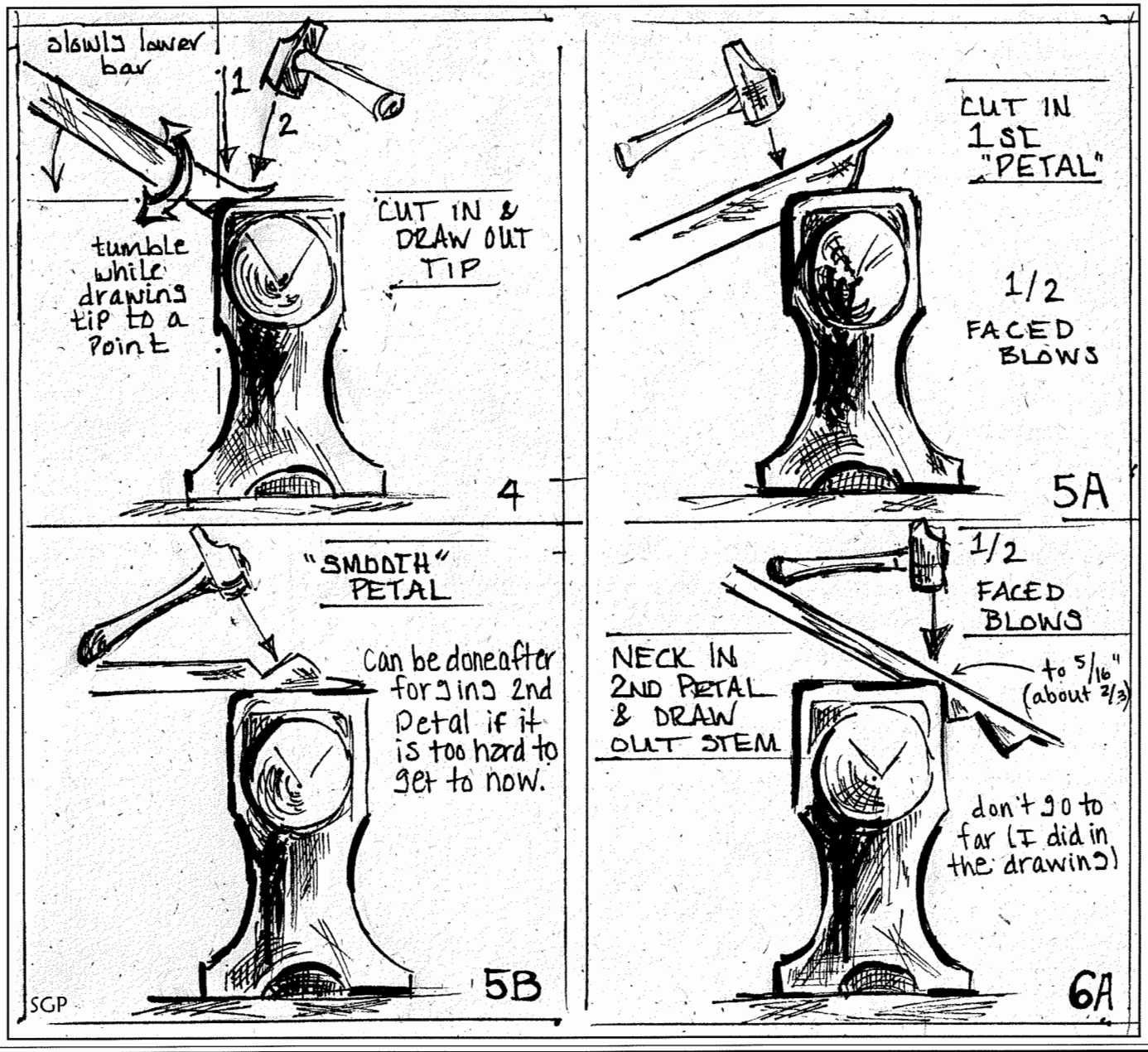
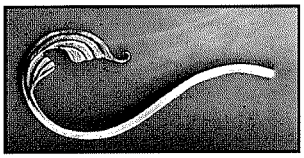
Fullering chisel: A blunt-tipped, radius-edged hand-held fuller used in this case to groove a line of varying width/depth into the steel (using a method called chasing). (See drawing 2A)

Chasing: (To chase is...) To groove, furrow, or indent a pattern, design or impression into metal with a hammer and blunt chisel.

Walking a Chisel: A foremost skill. Using this technique, the chisel never leaves the piece of metal, but rather is walked, rocked and/or piv-

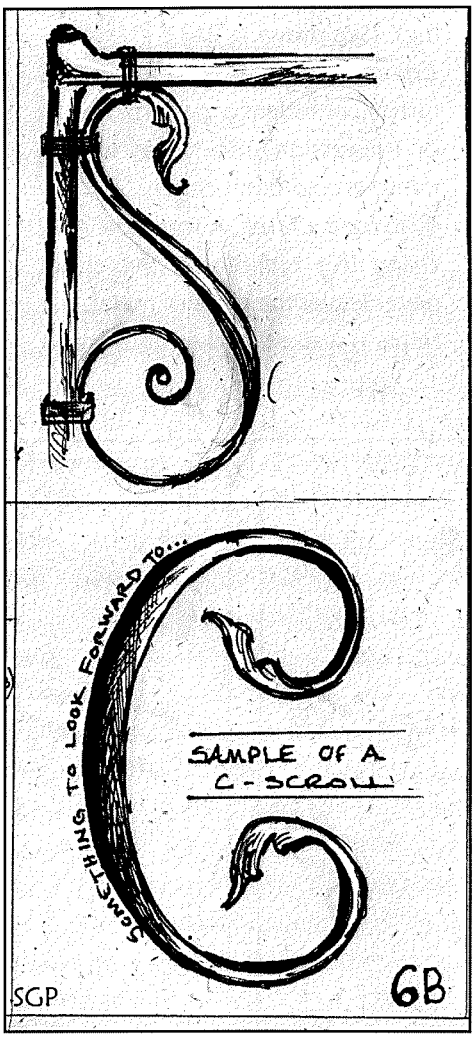




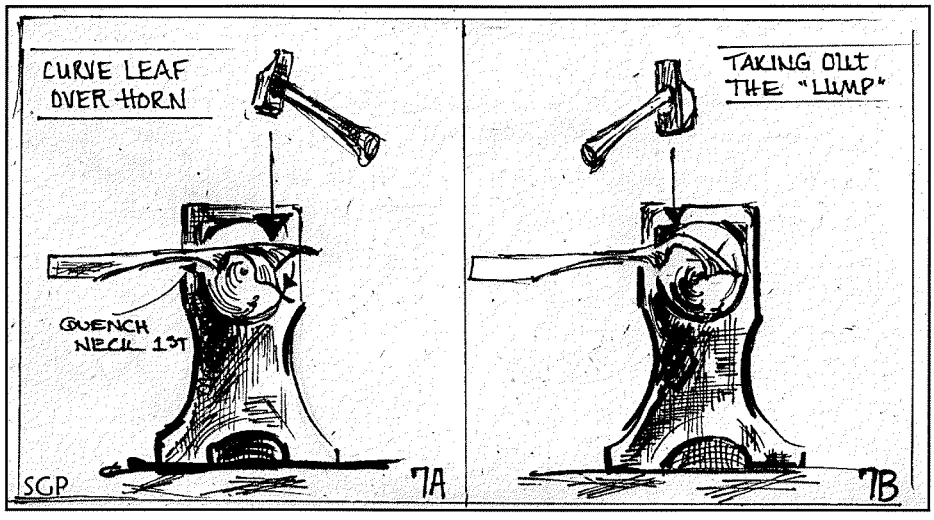


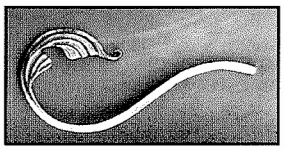
forging this leaf. I was taught the more challenging (but often more accurate) method of necking in the stem before cutting in between the first and second petals (reversing steps 3 and 4). Necking in first will ensure that the leaves come out the same length every time (allow about 2" to start for this particular pattern). Of course, this creates the challenge of forging the rest of the leaf with a thin neck that will want to bend and twist (as long as you pay attention to this while you are forging and remove any twists or kinks as soon as they appear, you will have little trouble). The method below is often considered the "easier" method, but I encourage you to try switching steps 3 and 4, which myself and a few other smiths will argue, is the more accurate method. As always, do what works for you.

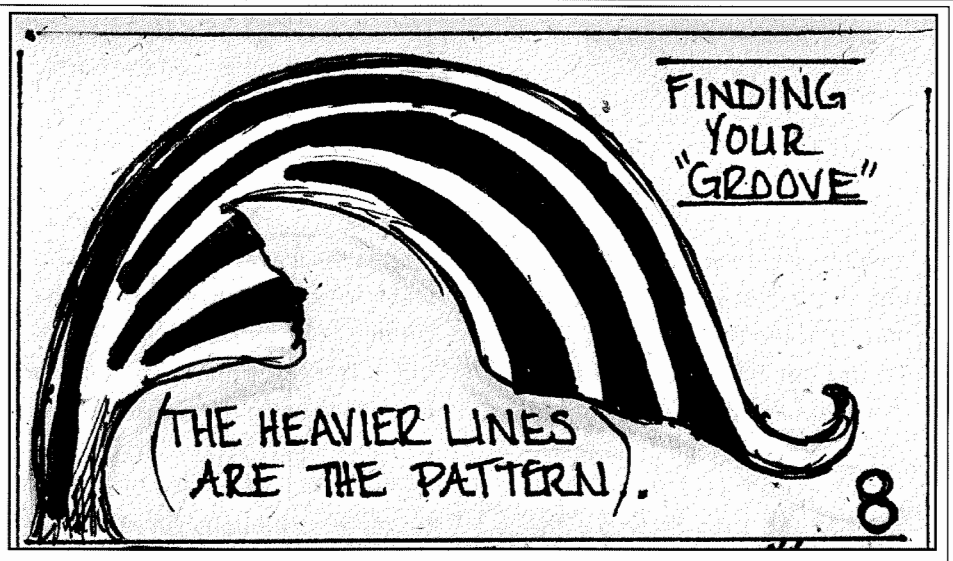
STEP 1. An "Upsetting" Taper? Forge the tip of the flat bar on edge to a steep angle that comes to a blunt point. Use "upsetting blows" (see glossary) to upset the end rather than drawing it out. Rotate the flat bar on its side and flatten the upset edge until it is the same thickness as your stock. Flip the piece of flat bar so that the top of the angle you have forged is touching the face of your anvil. Hold the piece at this (steep) angle, and use straight downward, slightly glancing blows to continue drawing the tip to a point. (Think of it this way: the material will move the direction your hammer is swinging, especially as you finish the blow). Be careful to avoid developing a cold shut. The end will want to fold over on itself. Rotate the piece on its side again, and flatten to the original stock thickness. The finished angle should be about 45 degrees. (See drawings 3A, 3B, & 3C)



STEP 2. Cutting in and Drawing Out the Leaf Tip. Hold the piece over the radius edge of the anvil closest to you (angle side down) and "cut in" about 1/3 of the angle's length. Start by holding the flat bar at an angle above level to make "cutting in" on the forged angle easier. Using half-faced blows, slowly lower your hand holding the flat bar as you continue hammering and drawing out the tip (stop moving your hand down when piece is level with anvil). When you have cut in deep enough that the width







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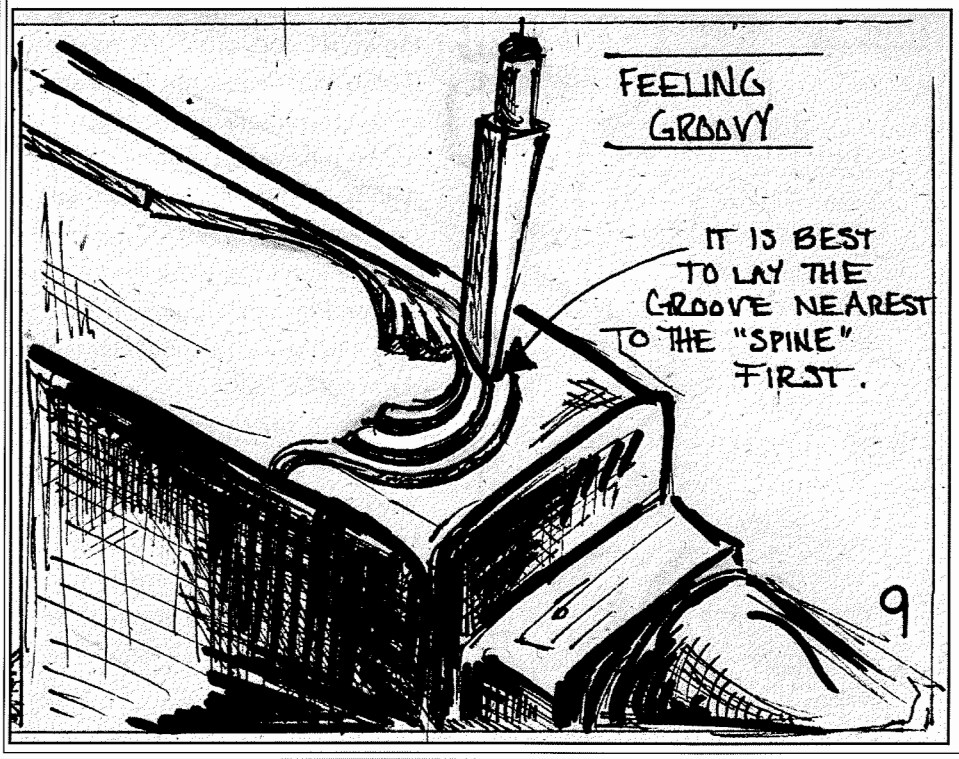

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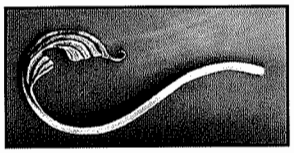
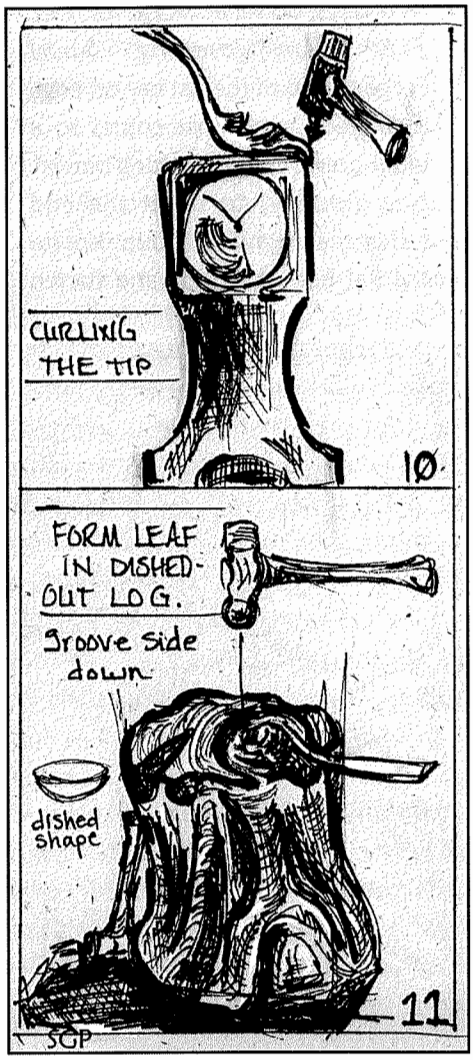


Draw out the rest of the stock to form the stem. (You can do this over the edge of the anvil, or over the horn) . . . of course use a power hammer if one is available). If you want to make a C-scroll, repeat the above processes on the other end of the flat bar and then draw out the material left between the two leaves. Leaving the middle wide and tapering towards the neck of each leaf has a nice effect. Make sure all of your transitions are smooth. (See drawing 6B)

STEP 5. Thrown for a Curve. This step is difficult, hence the name. Don't let it frustrate you. I have some tips to help. Take a heat on the leaf blank. Quench carefully up to the base of the neck so that the stem will not bend when you are trying to curve the leaf. Over the horn of the anvil, forge the first "petal" into a curve. It will want to bend at the weakest spot rather than anywhere else. When it does, move the leaf back so that the "kinked" area or lump, is just before touching the top of the horn. Strike directly over the lump. This will pull the lump out and you can again forge the "petal" into a curve over the horn. (This is a good method for opening scrolls that are too tight, or pulling kinks out of curves without risking thinning the material by forging it directly between the hammer and the horn). (See drawings 7A & 7B)

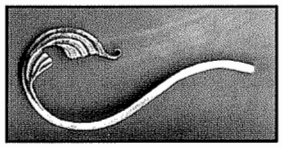
You will have to work back and forth like this until the curve is smooth and continuous. Flatten the leaf as necessary. It will want to warp naturally from the curving. (Of course if you are having a terrible time, you can try quenching up to the weakest point (narrowest part of taper) to prevent it from bending. It will be harder to get a continuous curve, but it may help if you are really struggling.

Take another heat and quench the neck of the leaf. Over the horn of the anvil, forge a curve into the second "petal". This is a difficult to achieve, but very important step. Follow the back edge of the leaf with your eye; the curve should be smooth and continuous. Make any corrections necessary now. It will be harder later when the grooves have been forged. Remember to always bring any quenched areas back to a normalizing (orange) heat. Steel is weak and brittle if left in a quenched (hardened) state. For this project this will be done automatically in future steps.



STEP 6. Walk Don't Run. Chasing Grooves into Your Leaf. Choose Your Hammer. I recommend a flat-faced, square head hammer for striking chisels . . . I've noticed the larger and flatter the face, the less likely I am to miss (duh!). Also, rounded hammer faces seem to slip (glance) more often, damaging the chisel and often the lower thumb knuckle (ouch!). There are varying opinions as to whether to use a hard/soft hammer, you will figure out which you prefer on your own. I'm not fussy about it, but I don't like using my regular forging hammer for striking chisels, because the chisel end can damage the face.

Choose your pattern. Choose a pattern for your grooves. It is best to have one continuous line follow the back edge of the leaf (if making a double sided leaf, make this groove down the center). The



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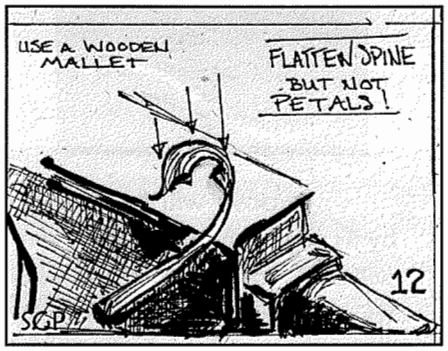

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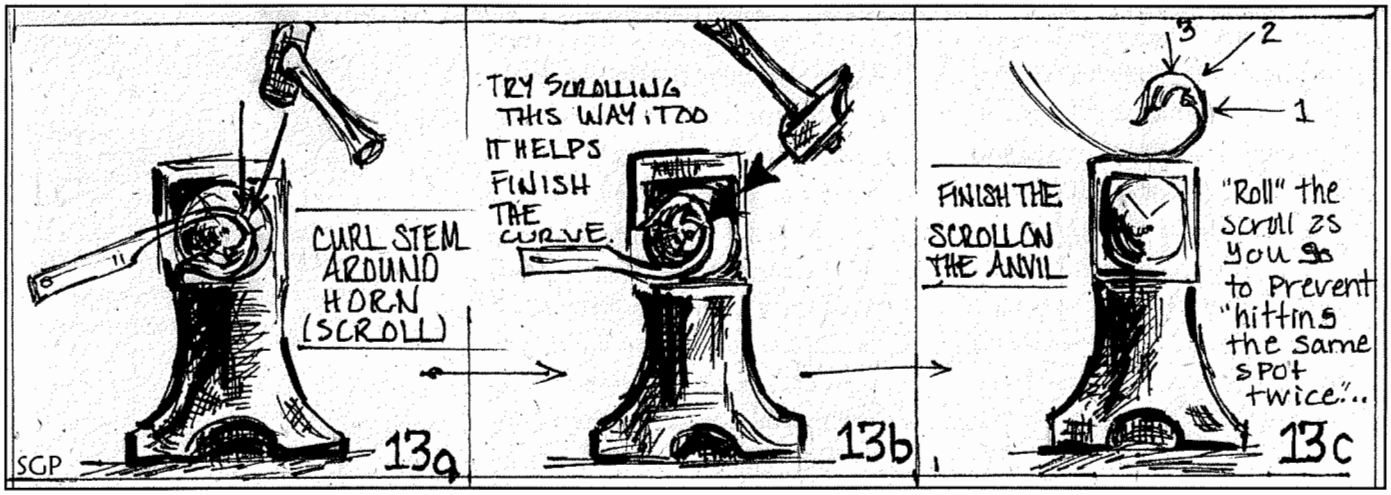
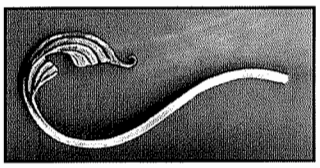




groove will be defined by its edges (this is what the eye will see), so smooth them out. You can hold the chisel at an angle to get into the sides. By nature the material will spread when fullered. Use this to your advantage on the "petal" edges. It will help bring them to life.

You will have a much easier time getting the line to follow the right path on the first pass if you focus your eye on the front tip of the chisel (the side touching the hot metal that faces you). Aim this end the direction you want it to go. With your eye, draw an imaginary line in front of the chisel tip and focus on following that line forward. This takes practice, but it will start to come naturally if you perform the steps carefully. You will get faster as you go.

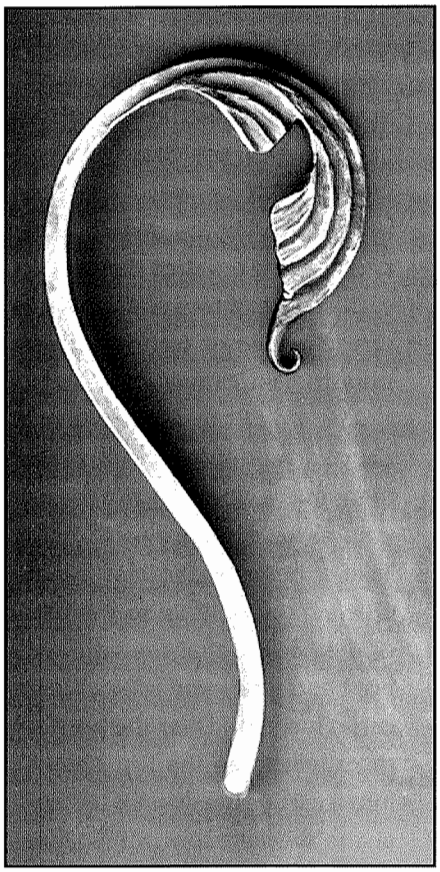
As you walk the chisel around the outside edge (spine) of the leaf, you will notice that it tightens the curve naturally. Later on, forming the leaf will have a similar effect. Keep this in mind when doing the initial curving of the forged leaf over the horn of the anvil. Create a smooth and natural "curl", but account for it's getting tighter later on.

Before forming the leaf, take a heat on the small, rounded tip and curl it over the far radius edge of your anvil. Curl it the opposite direction that the leaf curves. This step will add a lot of character. Do it now because it is hard to get to the tip after the leaf has been formed. (See drawing 10)

STEP 7. Taking Form. Now that the leaf is embellished with grooves, it is time for the final step. Forming is probably the most important step of bringing life to any forging. I like to use a hardwood log at this stage as the wood will not damage the chased lines. A carved, "dished" area on a log is perfect for this. You will be surprised by how much this step will smooth out the curve and enliven the leaf.

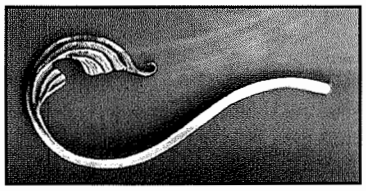
Take a heat. Using a ball peen hammer, place the leaf groove side down into the dished area of the log. Form the leaf into the dished shape avoiding the "spine" but pushing the "petals" forward into the dished area as much as possible with the ball peen. Return to the anvil and use a wooden mallet to flatten along the edge of the spine (grooved side up). Repeat this process until the spine lays flat on the anvil face but the petals lift upward and have a dished shape. (See drawings 11 & 12)

As a final step, curve the stem over the horn or into the log until you have created a nice, continuous scroll, or any other desired shape. (See drawings 13 a, b, & c). Try the leaf in a window grill or railing design. Maybe a sconce or a candle holder. Apply the techniques you have just learned for other projects altogether. This is excellent practice and builds many skills. Make piles and piles of leaves until you feel you may have to rake them away . . . you will find plenty of uses for them later on. Besides, steel is cheap. *So forge with abandon!*



Feel free to e-mail or write to me with your ideas:

Sarah Grace Parker
5018 Third Avenue, N.W.
Seattle, Washington 98107
Sarahgparker@hotmail.com



Sarah's Recommended Reading!

Werk und Werkzeug des Kunstschmieds (The Smithy's Craft and Tools) by Otto Schmirler.

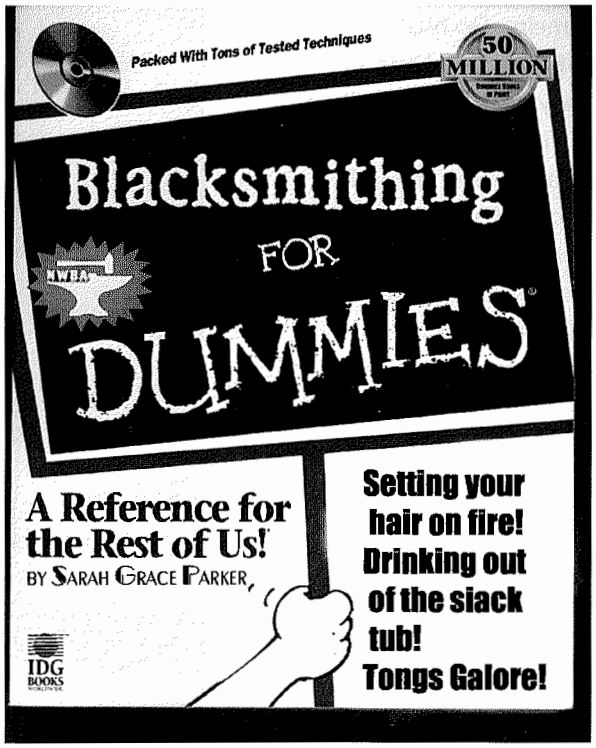
An excellent how-to reference book! I purchased my copy at the ABANA conference in Flagstaff. With clear, descriptive drawings of tools and methods throughout, this book is an essential in the blacksmith's library. Additional shop photographs of tooling and smiths in action make it easy to understand. Translated in English although the pictures are descriptive enough on their own (they really are worth a thousand words). A useful "tool" for veterans as well as beginners.

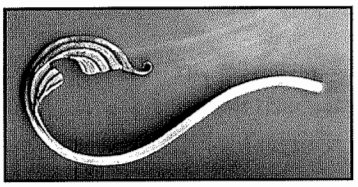
Blacksmithing For Dummies!

Blacksmithing is dangerous! Many different types of people make excellent smiths, but there is one required skill: YOU MUST HAVE COMMON SENSE! There is no such thing as "**Blacksmithing for Dummies!**" . . . your brain must be employed at all times. You are responsible for your own safety. You are responsible for the safety of others. You are responsible for knowing what makes you dangerous. The person is more important than the environment. I have seen more accidents in "safe" shops with dangerous people than I have in "dangerous" shops with safe people. Practice *response-ability* at all times. Be a smartie, not a *Dummie!*

In Addition:

The condition of your mind correlates to the quality of your work. The attitude of your hand *will* show. Strive to improve. By definition a craftsman cares about quality. Invest yourself and you will "reap what you sow". The rewards of a beautiful piece are far greater and more lasting than a large paycheck; if you don't believe this, you are in the wrong field. Tools and machines make all the difference in the world for efficiency, but they can never replace a skilled hand and eye. A skilled hand and eye is gained only through diligent practice. Doing something that is hard builds skill, having skills builds confidence. Having confidence builds character. Having character builds relationships. Tool hoarding is different than tool collecting. Collecting ensures that tools are preserved for the next generation. Hoarding ensures that the next generation will never have a chance. Knowledge hoarding is self-defeating. All blacksmiths carry the responsibility to push the craft into the future . . . find your





niche and pass your skill on to the younger generation. To the younger generation: Respect those who teach you. Appreciate that you are fortunate. Give back to them in your dedication and quality of craftsmanship. Carry their essence forward.

Personal Opinion.

No blacksmith, whatever age, has the right to wear shorts. (If your legs are not already unbearably ugly, they soon will be ...*keep* them covered!) "Pyrophobes" do not belong in a blacksmith shop. You WILL catch yourself or something (hopefully not someone) on fire at some point, RELAX; put it out. *Tip*: Frayed edges of clothing act like *fuses*. Avoid wearing clothing that melts. Do **NOT** put flammable styling products in your hair, they *will* ignite. All body hair is flammable. That's okay, it will balance out the lack of hair on top of your head! Cologne *stinks* in a blacksmith shop. Banging on things loudly is a natural instinct to drive people/things away (think pot and pan clanging/bear reaction). I can only deduce from this that most blacksmiths are either A: deaf (or desire to be), or B: don't like people. There is no avoiding looking like an ape while banging on things loudly, accept

Attention All NWBA Members who attended the Spring Conference in Sisters, Oregon: If you or someone you know happens to have a copy of my notes on making tongs I would be so grateful if you could send a copy of them to me. Unfortunately, my original, hand-written copy (with the words "PLEASE DON'T TAKE, THIS REALLY IS MY ***ONLY*** COPY" disappeared from the table near the workshop area on the last day of the conference. I'd promised many members that these notes would be printed in the next Hot Iron News as there were only a few extras left after my tong-making workshop. PLEASE help if you can. I need them for my own reference as well. *Thanks so much!*

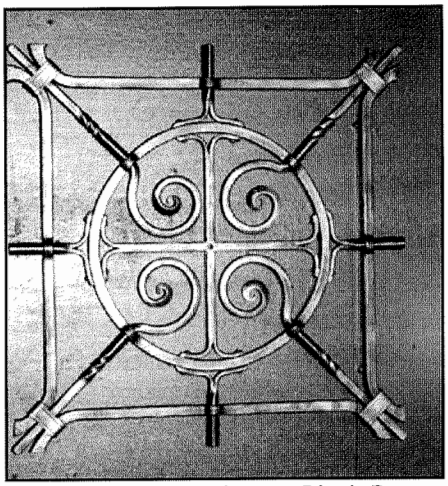
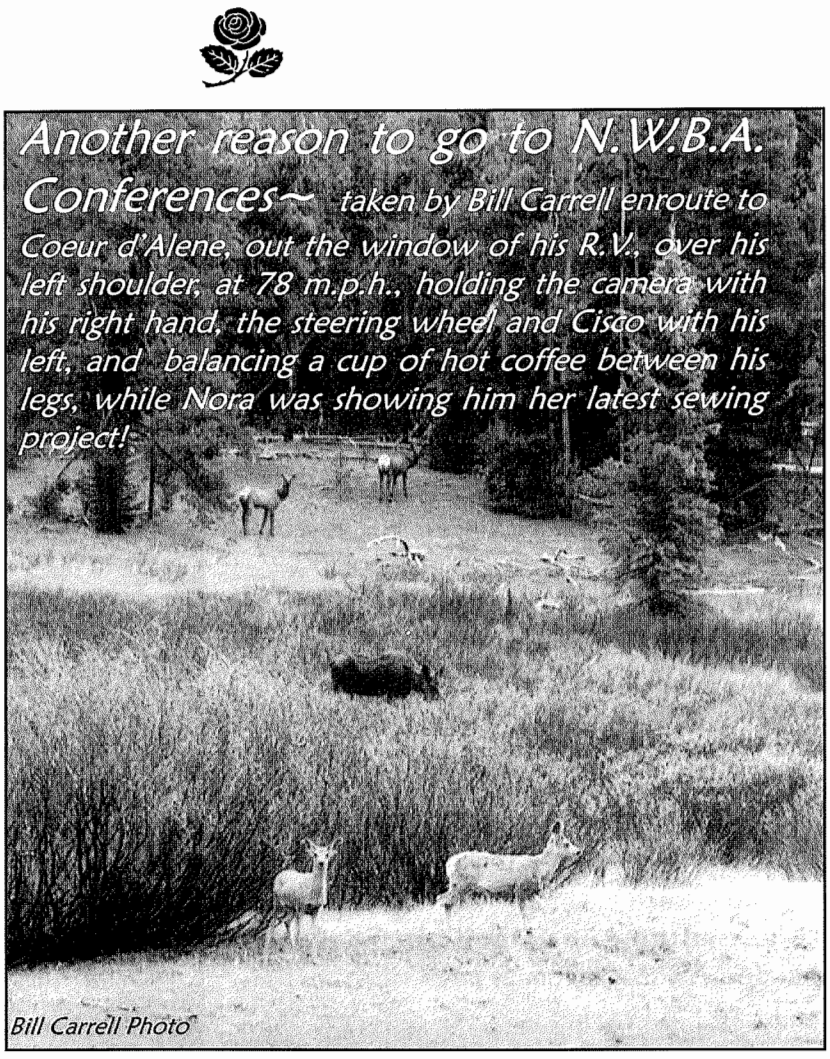
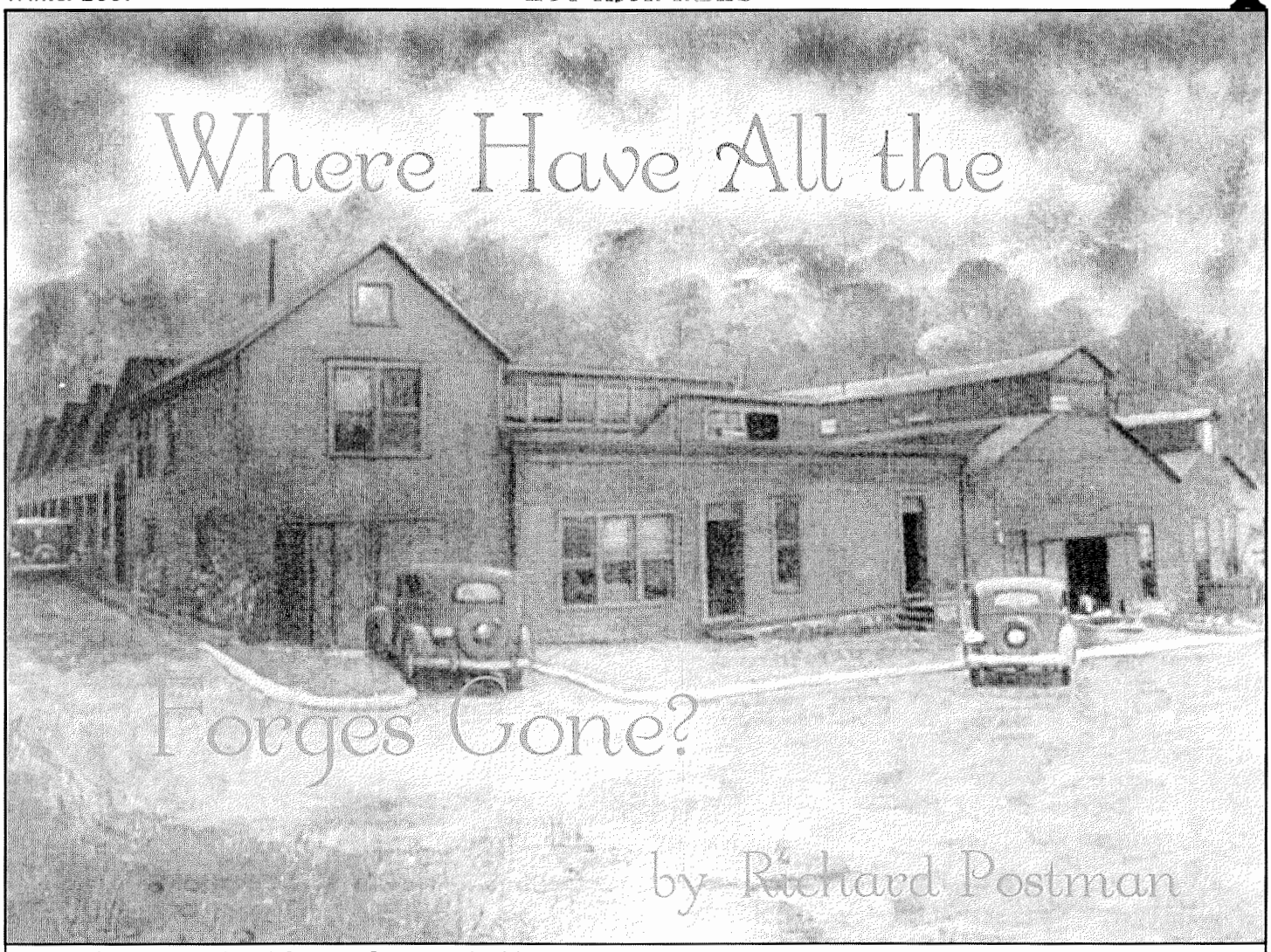


Photo of scroll taken at Black Dog Forge, forged by an unknown, and, thus, unhonored, artist.



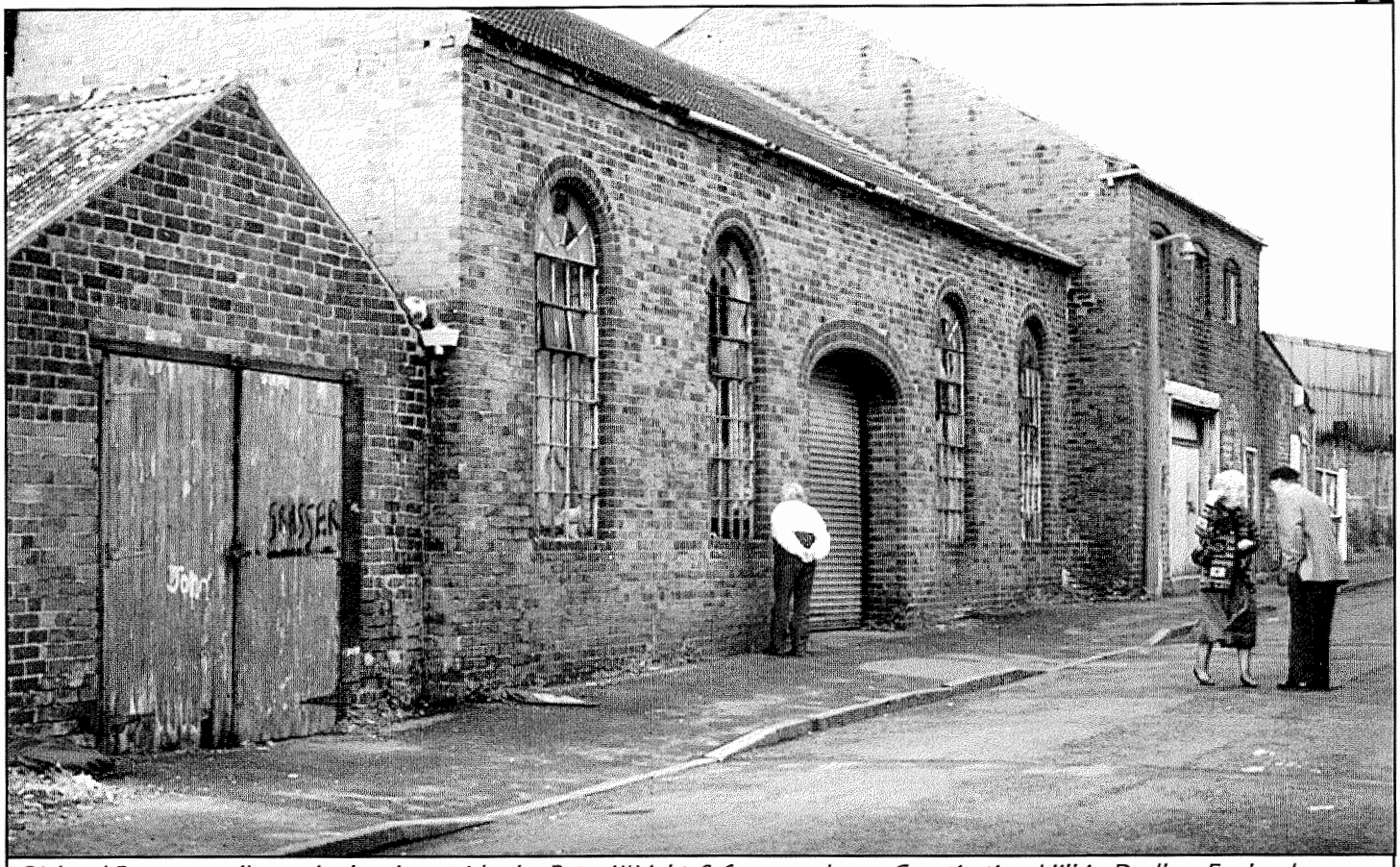


The Columbus Anvil and Forging Company building in 1935

In preparation for the writing of a new book as a supplement to *Anvils In America* it occurred to me that I should get photographs of as many of the sites where wrought anvils were manufactured as possible. As far as I knew not one site was a forge any longer both in the United States and England, but to know what these sites looked like today intrigued me.

In July, 2001, I made an appointment with Mr. David E. Tilton (see newspaper photo), the last owner of the Columbus Forge & Iron Co. (Trenton) to go with me to photograph the sites where the Trenton and the Arm & Hammer anvils were made in Columbus, Ohio. I asked Mr. Tilton to go with me mainly because he knows where the sites were and could find them much quicker than I could. He is almost 80 years old and not in good health, but was anxious to see the sites again. The last time he had seen them was about 15 years ago and I was with him at that time as well. One of my daughters lives about 60 miles north of Columbus so I used that as home base. I kind of "killed two birds with one stone."

I picked Mr. Tilton up at 10 a.m. and headed for the site of the Columbus Forge & Iron Co. There is a photo in my book of the site the first time that I saw it. It had closed in 1982, but all of the buildings were still there as well as the steam and drop hammers. Several years later I went back to take black



Richard Postman talks to the locals outside the Peter Wright & Sons works on Constitution Hill in Dudley, England

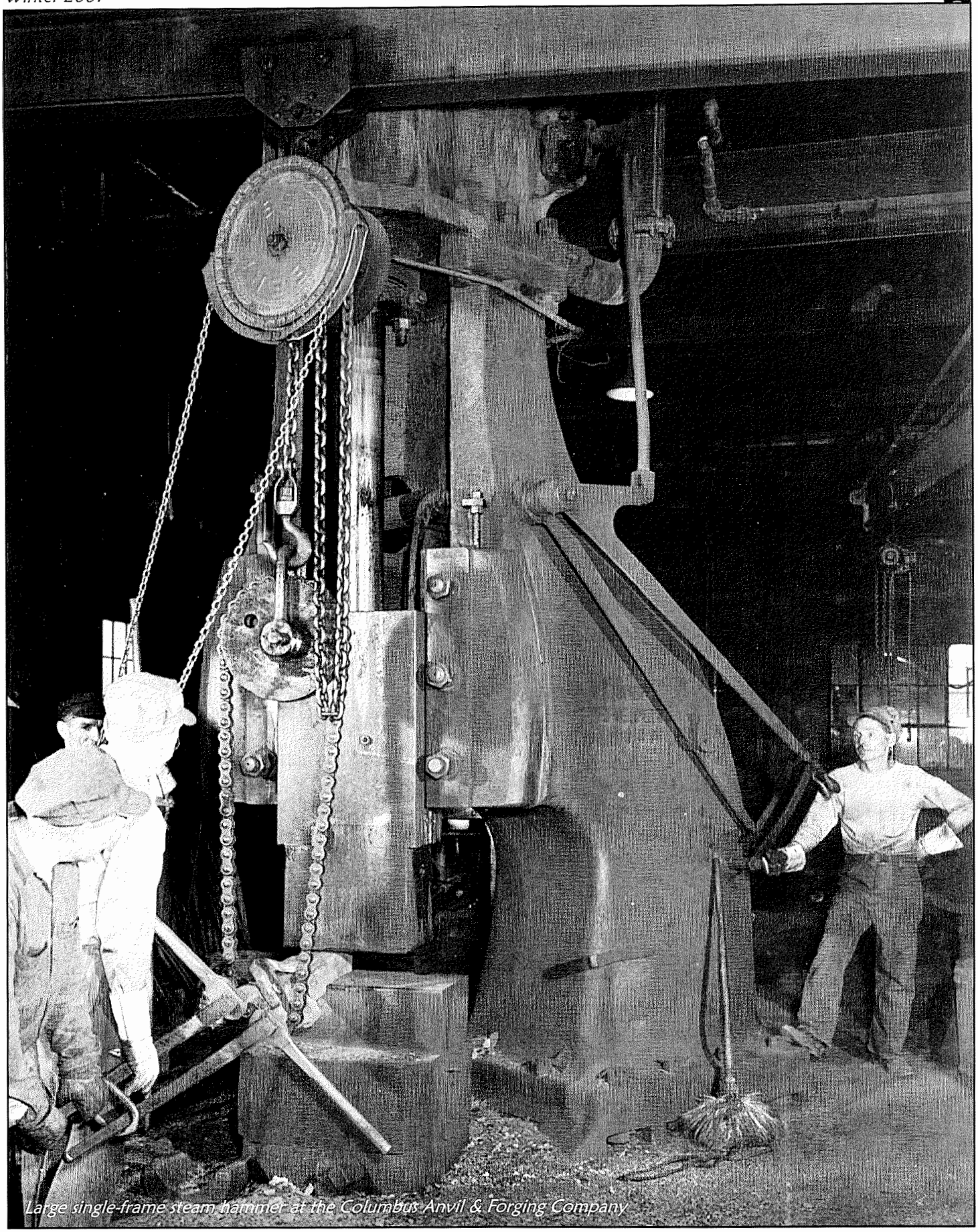
and white photos, but found that the buildings were gone and in their place was a parking lot for tanker trucks for the Capital City Products Co. who had bought the site. I was alone this time and did not bother to take any photos. This last visit I expected to find the same thing, but got a surprise. Where the Forge building once stood there were now large storage tanks, lots of piping, as well as other new buildings. The interesting thing was that the whole large complex of Capital City Products Co. was for sale and had closed down. There was a guard inside the fence (the whole area was completely fenced in) and he said he could not permit us to go in and take photos. Mr. Tilton explained who he was and I told him what I was there for, but our explanations were of no avail. He said that he would lose his job if he let anyone in. I did not want to take pictures through the fence, so the guard offered to take my camera over the fence and take the photos that I wanted for me. I showed him how to use the camera (it is all manual) and passed it over to him. He took the photos that I wanted and did a good job. After talking to him a while longer we left and headed for the site of the Columbus Anvil & Forge Company, makers of the Arm & Hammer anvil.

The Columbus Anvil & Forge Company went out of business in 1955. When I had visited and photographed the site about 15 years ago it was a parking lot for taxi cabs, but near the railroad tracks on this site there was a concrete building which I realized afterward was probably the new forge building that was constructed after a devastating fire in 1940. The forge before 1940 had been a wooden structure. The Columbus Anvil & Forge Company was located on West Frankfort Street. Frankfort was a short street about three blocks long and ended in front of the forge, the railroad tracks being beyond. Mr. Tilton was no longer sure where Frankfort Street was, but knew the general area so we drove around a bit before locating it. We turned left on to the street and drove two blocks until we came to a cross street where Frankfort Street ended. Mr. Tilton said "well here it is." All that was in front of us was a large open space all the way to the railroad tracks and a deep

The East Hammer at the Mousehole Forge. The large log, circa 1780, supported the wooden spring that gave the tilt or helve hammer more power. The Five-Cam Wheel that lifted the Helve Hammer can be seen. The grinding stones were used to grind the anvil faces. The wheel pit for the stones is to the left of the stones. The forge for the helve hammer was on the other side of the log to the left at the back of the building.

and white photos, but found that the buildings were gone and in their place was a parking lot for tanker trucks for the Capital City Products Co. who had bought the site. I was alone this time and did not bother to take any photos. This last visit I expected to find the same thing, but got a surprise. Where the Forge building once stood there were now large storage tanks, lots of piping, as well as other new buildings. The interesting thing was that the whole large complex of Capital City Products Co. was for sale and had closed down. There was a guard inside the fence (the whole area was completely fenced in) and he said he could not permit us to go in and take photos. Mr. Tilton explained who he was and I told him what I was there for, but our explanations were of no avail. He said that he would lose his job if he let anyone in. I did not want to take pictures through the fence, so the guard offered to take my camera over the fence and take the photos that I wanted for me. I showed him how to use the camera (it is all manual) and passed it over to him. He took the photos that I wanted and did a good job. After talking to him a while longer we left and headed for the site of the Columbus Anvil & Forge Company, makers of the Arm & Hammer anvil.

The Columbus Anvil & Forge Company went out of business in 1955. When I had visited and photographed the site about 15 years ago it was a parking lot for taxi cabs, but near the railroad tracks on this site there was a concrete building which I realized afterward was probably the new forge building that was constructed after a devastating fire in 1940. The forge before 1940 had been a wooden structure. The Columbus Anvil & Forge Company was located on West Frankfort Street. Frankfort was a short street about three blocks long and ended in front of the forge, the railroad tracks being beyond. Mr. Tilton was no longer sure where Frankfort Street was, but knew the general area so we drove around a bit before locating it. We turned left on to the street and drove two blocks until we came to a cross street where Frankfort Street ended. Mr. Tilton said "well here it is."



Large single-frame steam hammer at the Columbus Anvil & Forging Company

In November, 2001, John Catchings and I ventured to England to photograph sites where anvils had once been manufactured and to do a bit of research at the libraries on past manufacturers. My main focus was on the Mousehole Forge of which I had written an article for this journal before called *A visit to the Mousehole Forge*. This time I wanted to get good photos of everything and take measurements of the ruins etc. We went in November hoping that most of the leaves would be off of the trees, but no such luck as they had one of the warmest Falls ever. Never-the-less I was able to get many good photos.

Beside the Mousehole Forge we went to every site listed in old English directories that were listed as having made anvils in both the Sheffield and Dudley areas. We even went to Leeds to check out the Kirkstall Forge site. We were not surprised to find that the sites where most of these forges once stood are now housing projects, covered by streets or occupied by commercial office buildings. There were several exceptions however.

The site of Ponds Forge in Sheffield where William Parker made anvils in the mid-19th Century is now a large sports arena. On one side of the sports complex the anvil of one of the large steam-hammers is still there as sort of a memorial. The anvil with it's base is over seven-feet high. It would be expensive to remove and, because it did not interfere with the construction of the new arena, they left it there.

At several of the other addresses in Sheffield we could discern some old buildings that might have been part of forges; at least they were from the 19th Century. We photographed all of these sites.

In the Dudley area we discovered some old buildings of Peter Wright still there on Constitution Hill. We discovered from library research that Isaac Nash bought the Peter Wright works on Constitution Hill in 1903 and moved the operation to Wollaston Forge near Dudley. He then sold off the old site on Constitution Hill in several parcels. Half became houses and the part we saw became Shedden-Wright Engineers Ltd. When we photographed the site it was derelict. John even brought back one of the bricks from this site. He also got one from Mousehole Forge. I had too much stuff to add bricks to my luggage!

The sites where Henry Wright and the Wilkinsons made anvils are gone and houses and streets now cover them.

In a previous article in this journal entitled "The Rest of the Story" I wrote about the Kirkstall Forge where anvils were made from about 1798 to 1890. What I knew about this forge came from a book published in 1954 when the forge was still in business. In the early 1990's I was told by a friend who lived near the village of Kirkstall at one time, that she thought the forge had gone out of business. The Kirkstall Forge site is about four miles west of Leeds and about 40 miles north of Sheffield. This was one site we were determined to see as it had been a very large operation in the 19th and 20th Centuries. Leeds is not an easy city to find your way around in, but with determination we found the Kirkstall Road that led to the village of Kirkstall. We knew that the forge site was on the river and not far from the old Kirkstall Abbey as the monks of the Abbey started the forge about 1200 A.D. We had driven several miles out of Leeds and thought that we might have passed the site so we stopped at a small book store by the side of the road. The whole area from Leeds westward is built up so it was difficult to tell when we were out of Leeds or just how far we had to travel. The book store owner said that we had about a mile to go and we would see the old Abbey ruins on our left. We drove on and spotted the Abbey ruins, but no forge. Not far beyond the Abbey there was a sign beside an entrance which said "Dana Corp., Axle Division." We drove by and continued about another mile. Having encountered no entrance that might lead to the old Kirkstall Forge we concluded that where the Dana Corporation was located must be where the Kirkstall Forge had once been. We drove into the entrance of the Dana Corporation and were stopped at the gate by a guard. The Guard said that the forge was still in operation so I made an appointment with the forge director to visit the following week. At the appointed time we went back to the forge and were

Companies Make Their Wares By Forge Here

By ERNEST LEOGRANDE

The strains of the anvil chorus have faded away in the past few years, but in Columbus they still ring out loud and true.

Two companies here still carry on with the making of forged anvils, that is, those worked on individually and not cast in molds. The two companies are the Columbus Forge & Iron Co., 544 W. First-av, and the Columbus Anvil & Forging Co., 117 W. Frankfort-st.

Of the two, the former is the older, having been started in 1898, two years before the Columbus Anvil & Forging. They and a British forging company are probably the only firms in the world still putting out forged anvils.

THE MASTER anvil maker at the Columbus Forge & Iron is Karl Wright of 2191 Morse-rd. Karl has worked on the iron blocks with the distinctive "horns" since 1933 when he began by welding. The anvils are made in two pieces, top and bottom, and welded together.

Karl worked beside his father, A. J. (Si) Wright, who started work for the company 52 years ago at its very beginning. Si retired two years ago at the age of 75 and left Karl, who is now 36, to carry on.

There is a market for the anvils throughout the world. A recent shipment went to Manila, half-way around the world.

EARL M. TILTON of 2390 Arlington-av, is president of the company and his son, David E. Tilton of 2341 Edgington-rd, is his assistant.

While strolling through the Mexican section of Los Angeles on a recent visit there, the father and son saw an anvil they thought they recognized. Sure enough, it was one of theirs.

An old Mexican workman was using it to shape ornaments for the tourist trade. He told the Tiltons it had been given him by his father.

Mr. Tilton Sr. saw the face of the anvil was scarred and offered to reface it for him free, even though the guarantee had long since ran out.

"My father would turn over in his grave!" the workman said. "Anti besides, my hammer is used to the bumps. I couldn't work the same without them."

THE TILTONS count anvil-making as 10 per cent of their business, but a steady 10 per cent. The other 90 consists of forged iron and steel pieces.

The scale of sizes for the anvils ranges ordinarily from 25 to 300 pounds. They have made some as heavy as 1000 pounds, though, and

Continued on Page 6B. Col. 1.

FATHER AND SON, president and assistant, are Earl M. Tilton and David E. Tilton. They are officers of the Columbus Forge & Iron Co., an old-time Columbus industry. It still produces wrought anvils in addition to machine and drop forgngs.

AN OLD MASTER is Karl Wright, 2191 Morse-rd. Karl's father also made anvils at the Columbus Forge & Iron Co. Karl soon may be the only anvil maker in the country.

1951 article with Earl Tilton, Richard's guide

given a quick tour. Of course, most of the buildings are fairly modern, but a number of the old stone building ruins were preserved with their water wheel and the tilt hammer. *This is the only site where anvils were made that is still a forge!*

The Butlers ran the forge until 1974 (about 200 years) then sold out to the British firm "G.K.N. Engineering" who ran it until 1995 when the American Dana Corporation bought it. They now make axles of various kinds for heavy equipment. It is known as the "Kirkstall Forge Operation, Spicer Speciality Axle Division."

Kirkstall Forge is most likely the oldest continuous operating forge in the world, 1200 - 2002 A.D. They still had one of the anvils that was made there.

Strains of Anvil Chorus Still Ring Out in City

Continued From Page 5B.

once, during the depression, there was a shipment that weighed only six and a half pounds.

These last had to be drop-forged and were fashioned for recreational use.

During World War II the company made thousands of anvils for Army engineers. Today, as before the war, they ship mainly to commercial buyers.

Blacksmithing also was done in the shop as late as 1937, but it now has been discontinued.

MR. TILTON is not quite sure of the original ownership of the company, but in 1902 his father-in-law, D. W. Singleton, took over. In 1917 he himself stepped into the job of managing the firm.

In the office shared by the two Tiltons, there is an oil painting, done in 1883, showing an old-time blacksmith operating a water-driven forging hammer.

"Most people wouldn't be interested in that picture," Mr. Tilton Sr. said, "but it appeals to me. Everything in it is entirely accurate."

As the number of anvil makers dwindles, perhaps someone in later years will look at a Columbus Forge & Iron wrought anvil and speak as approvingly of its workmanship.

Arm & Hammer Wrought Iron Blacksmiths' Anvils

Forged from wrought iron, welded at the waist, to which is welded a solid plate of crucible tool steel.

Pritchel hole, base size, ½ to 9/16 inch; other sizes in proportion.

An additional charge will be made for special sizes, and definite specifications required.

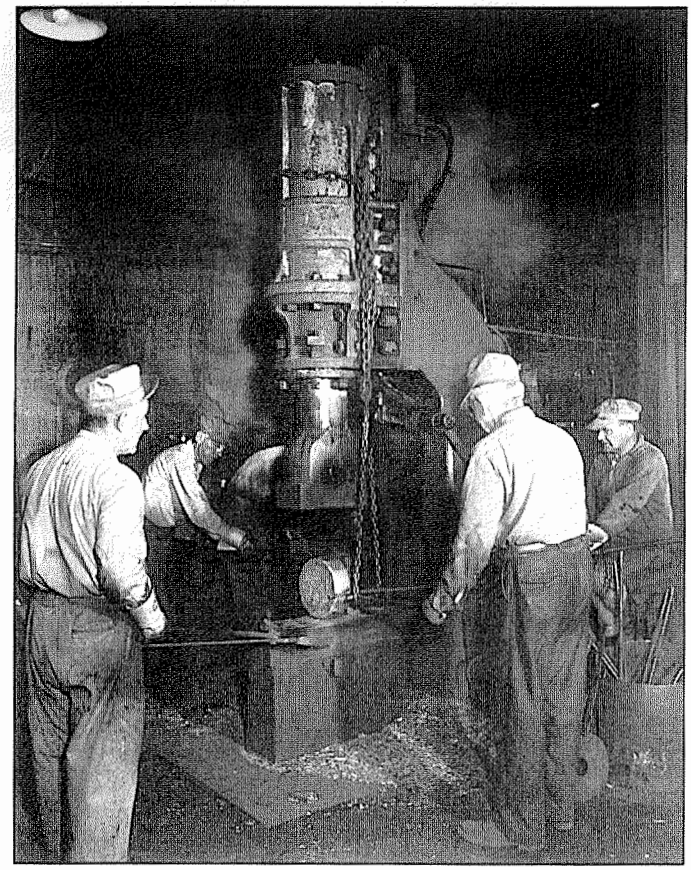
Standard Dimensions

Size of Face Inches	Weight Pounds	Size of Hardy Hole Inches	Size of Face Inches	Weight Pounds	Size of Hardy Hole Inches
2¼x 9½	25 to 30	⅝	4 x15½	130 to 140	1 1/16
2¼x10	30 to 35	⅝	4 x16	140 to 150	1 1/16
2½x10½	35 to 40	⅝	4 x16½	150 to 160	1 1/16
3 x11	40 to 50	¾	4¼x17	160 to 175	1⅛
3¼x11½	50 to 60	¾	4¼x17½	175 to 200	1⅛
3¼x12	60 to 70	¾	4½x18	200 to 225	1⅛
3½x12½	70 to 80	⅞	4¾x19	225 to 250	1⅛
3½x13	80 to 90	⅞	5 x20	250 to 300	1¼
3½x13½	90 to 100	⅞	5½x22	300 to 350	1¼
3¾x14	100 to 110	1	5½x24	350 to 400	1¼
3¾x14½	110 to 120	1	6 x26	400 to 500	1⅜
3¾x15	120 to 130	1	.....	.....	...

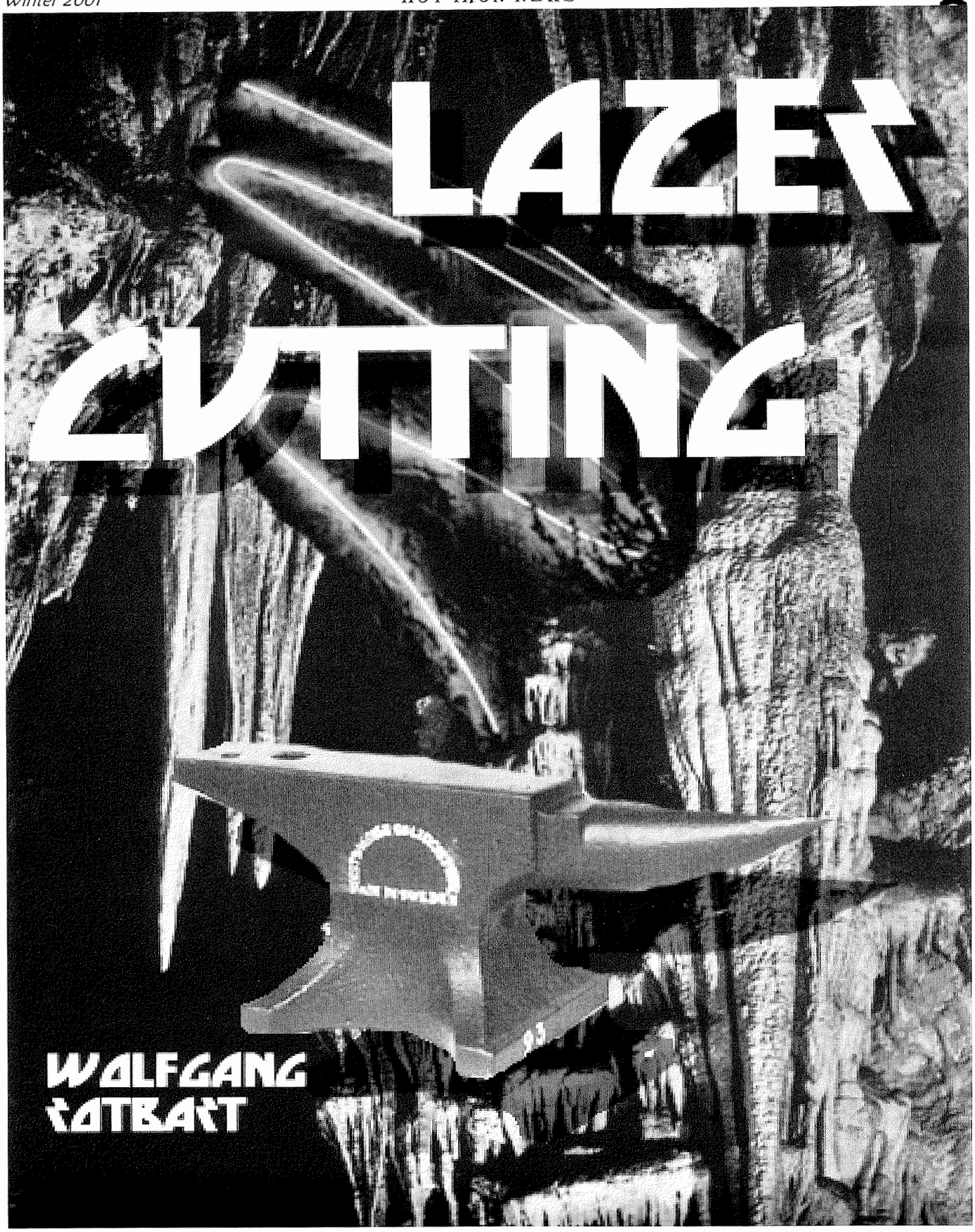
Advance on Weights Other Than Base Sizes

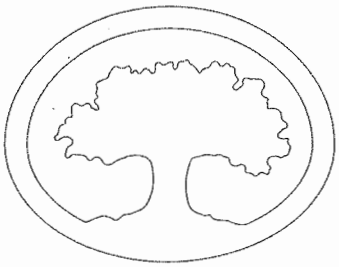
Base Sizes, 80 to 425 Pounds

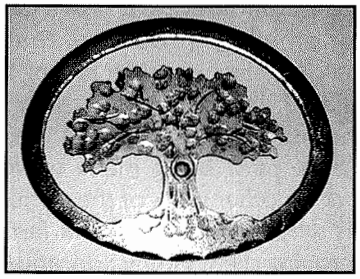
Weight Pounds	Extra Over Base Per Lb.	Weight Pounds	Extra Over Base per Lb.
425 to 500	$.01	40 to 49	$.06
70 to 79	.01	30 to 39	.10
60 to 69	.02	20 to 29	.16
50 to 59	.04	10 to 19	.30

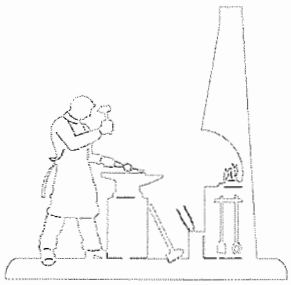


This photo was probably taken at the Columbus Anvil and Forging Company in the 1930s. It is one-half of the composite used to produce the painting "The Last Anvil Makers."
(Courtesy of Mr. J.E. Finneran Jr.)


LAZER
CUTTING
WOLFGANG
BOTBART







Although laser-cutting technology (LCT) has been around for some time, it seems many blacksmiths are reluctant to use it for various reasons. Among those are the perception that it is expensive, difficult to go from concept to finished product, suitable only for large production runs and a reluctance to use some "newfangled" idea. The fact is that LCT is very economical, even when only one part is needed, and, with a little help, very easy to go from sketch to a finished product. Also, there are many parts that can be produced for only a few dollars using LCT which could not be made by hand for less than hundreds of dollars using a forge, cutting torch or plasma cutter and hand tools.

What is Laser Cutting Technology?

LCT uses a computer-controlled x – y axis bed to move and position a piece of flat material under a powerful laser which heats and melts (or in the case of wood, burns) the material. A high pressure jet of gas blows the molten material out of the way and also helps cool the remaining material.

What is it used for?

LCT is especially suited for intricate work in materials up to 1" thick, multiple parts that must be virtually identical, parts that need matching holes, such as riveted parts, and tooling.

I use LCT on a regular basis to produce jig and fixture plates at a very economical price relative to having the same thing done in a machine shop and I get the parts in a few days, rather than perhaps weeks, if I used a machine shop.

I sometimes use LCT to produce the top, intermediate and bottom rails for railings. I lay out the holes for the pickets on the computer so the spacing is always consistent. It can be a real chore to consistently place and orient pickets "on the diamond" in a railing, but producing the holes in this way by using the computer is very easy. Having the holes punched rather than laser cut usually results in the holes not lining up properly from the top of railing to the bottom due to inconsistencies in the center-to-center distances of the punched holes. Often there is a lot of filing and fitting to be done. Using laser cut rails, I can quickly and easily plug weld the pickets in place. Grinding the plug welds is also relatively quick and easy. This produces a much "cleaner" look and tremendously reduces the time spent dressing up all those welds all around the top and bottom of each picket, especially since I'm not the best welder around. Making positives or negatives of lettering, house numbers, etc. is also quick and easy.

For some non-ferrous materials such as copper and stonework, a related technology known as water- jet cutting is used. For ferrous parts 1" thick or more, computer-controlled flame cutting is a good choice.

How can it be used in blacksmithing?

As with most anything in our trade, one of the first steps in a project is to develop a design and get it on paper. Unfortunately, LCT can't help with this!

The next step is to convert the sketch into a format that the LCT computer can read. This is the part that most smiths shy away from. *Please excuse me if I get a bit technical here, but it is not necessary to understand the following in order to use LCT. The conversion is done by first "reading" the document with a scanner. This will produce a computer raster file that can't be read by LCT computers. Therefore, the raster file must be converted into a vector format that the LCT computer can read. There are several softwares that attempt this conversion automatically, but I've yet to see one that works very well. They just can't seem to produce smooth curves that look aesthetically pleasing, especially for natural objects. I use computer-aided design (CAD) software to bring the raster image up on the computer screen and then trace over the image to produce the required vector file that the LCT computer can read.*

Once the LCT-compatible file is done, I print out the file to

verify the aesthetics and then send the file via the Internet to the laser cutter for a quote or to produce the desired quantity.

The laser cutter usually produces the part within 4 –5 business days. I then have it delivered to the Portland shop, pick it up in will-call or occasionally have it shipped to the shop in Vernonia.

Please refer to the attached pictures to see a beginning to end representation of a small project. The tree is 6" wide x ¼" thick and took about 1 hour to convert ($35) and cost about $10 for a single part and $5 each in quantities of 50. I spent about 15 minutes ($12.50 at my shop rate) and brushing and texturing the piece. That works out to $18.20 each in quantities of 50. Would you do 50 of these trees for $18.20 each using traditional methods? If you did, you'd certainly regret it.

Does this technology work well with blacksmithing?

Some blacksmithing purists might argue that using LCT cheapens their work by giving it a manufactured look. That may be so if nothing further is done to the "raw" laser-cut part. But by using standard hammer texturing, decorative chiseling and punching techniques, the part can have as much life to it as a part forged completely from stock steel. LCT opens a whole new area for the artist-blacksmith to explore, just as power hammers and electric welders did in years past.

Can I make money using this?

For those of us who forge steel professionally, one of the most important questions concerning the use of any technology or process is, "Will it make me money?" I've found that the use of LCT parts is a very profitable use of technology. I can have parts economically produced that I would not even consider pricing for a client if I were to make them by hand. On fast track jobs, it is nice to have parts being made while I work on other parts of the project. This way I can get jobs out faster, improving client satisfaction, and go on to the next job quicker, thus improving cash flow and productivity. Also, I avoid a lot of drudgework cutting, grinding and filing part after identical part.

One of the many great things about LCT is that a file only need be produced one time and can be used repeatedly. Also, if a larger or smaller version of the same design is needed, the computer can re-size the file in less time than it takes to tell about it.

LCT can be a great help to a blacksmith, but there is one important drawback – *it is addictive!* Once you start using it, you'll find yourself regularly saying, "How did I ever get along without this?"

How can I use this technology?

As I stated earlier, converting a sketch into an LCT-compatible format is the part that prevents most smiths from using the technology. Most laser cutting facilities will perform this conversion for you, but the price is usually expensive and the results vary widely. They tend to do quite well with geometric shapes, but not so well with natural objects.

It takes a computer, expensive CAD software and experience in the field to efficiently render natural-looking objects in a LCT-compatible format. Most smiths have neither the time nor the inclination to do this.

Most conversions take from as little as 15 minutes to several hours with about 1-1/4 hour being the norm. The cost of the laser cutting, including material, runs from as little as $0.50 or less per part for quantities of small parts from thin sheetmetal to $100 or more for single, complex parts in the thickest steel. Most parts I've made or used run in the $2.50 to $25 each range.

I've worked with Berkley Tack for several years now helping convert about 50 sketches into steel parts for production runs, single pieces and samples. He says he relies on LCT for custom designs such as logos, very detailed pieces and for production runs that would be just too time consuming to produce by traditional blacksmithing methods. He always forges, chisels and/or punches his parts to help give them life and also to draw a sharp boundary between what we do and what metal fabricators are capable of.

At the risk of sounding completely crass, I am available to help converting sketches into a LCT-compatible format. Having worked for years at converting sketches and forging steel, I am familiar with what my trade requires as well as what the laser cutters need. I presently charge only $35/hr. This is substantially less than my shop rate, but heck it's work in a warm, clean and quiet place with no heavy lifting! I'll be glad to provide estimates if you send me a reasonable sketch and contact information by fax or email. Please draw the outline in with a very dark pencil or pen and provide overall dimensions for the length and height of the finished part as the fax tends to distort the sketch unequally in the x and y directions.

Wolfgang Rotbart
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503-429-7342 fax
wolfgang@wolfgangforge.com
www.wolfgangforge.com

Penland

Christa Fairbrother

This July I got to go to Penland for a workshop with Hoss Haley through the generosity of the NWBA. For anyone who's never been to Penland it's a great experience. It's wonderful to be able to work in the shop for 25 hours a day with great food provided and no distractions like dishes. The new facility is wonderfully equipped and spacious. This article recaps what I learned in my time there.

The first morning Hoss detailed what he thinks about when designing a piece. He considers the scale of the piece and what techniques will be used for it. The next elements are the materials used. Lastly, he decides what the finished surface will be (polished vs. textured), the amount of overall refinement and what the finish (patina or paint) will be. Using these as a guideline, these choices will allow you to establish an order for the steps you need to take for your piece.

The demo piece Hoss made was a pear (see photo). When broken down into it's components, the pear is a cone and a hemisphere. There are two ways to make a sphere. You can sink two halves into a swedge block and weld them together (not recommended since they never fit together well, however it's great for a hemisphere). A better way is to do it with templates. To make a template, take a circle and divide it into three pies. Weld up the edges of the wedges at right angles for your template. By making a piece that fits as a perfect cap to your template, you will have a section of a perfect sphere. Eight of these will give all the pieces for a perfect sphere. This sectional method works well when precision is necessary or the circle is very large. To find the area of your sphere, add the diameter to 1/2 the circumference and then take the average for the starting size of your circle.

Hoss reviewed the elements necessary to get good clean cuts with your oxy-acetylene torch. The orientation of your torch to the material is important. For 1" stock, hold the tip vertical to your material. For 1 /2" stock put your torch at a forty-five degree angle to your material. Thinner material requires your torch to be almost horizontal. The distance of your flame tip should be the same distance as soldering: the end of the light blue cone should be just cutting your material. If your oxy/acetylene mix is correct, the little blue flames will not change size when you pump the air. When starting and stopping your cut, try to do it the scrap section of your material, rather than in your actual object. Also, the tip should be slightly angled towards the scrap to encourage slag to go that direction.

For everyone's benefit we got a demo on power-hammer operation and safety. Never use flat tongs under the hammer, your stock can squirt away from you too easily. Your work should always remain parallel to the hammer dies. Top tools should be kept short. Welded on porter bars can be dangerous if they break off so be careful. When using spring tools, guides can be welded on so the top and bottom dies always register correctly. Avoid letting your stock become a parallelogram, hit on the diamond to square it back up. Never let your tooling strike the hammer face and of course, hit it when it's hot.

We also got a basic blacksmithing demo on slitting and drifting holes. The sample stock was 3/4" bar with a 3/4" hole. To punch a round hole, you need a slitting punch that is one and one half times oversized. For this hole, we used a 1" tool. For ease of use, keep your chisels clean and well polished. After you punch your slit, upset the bar into itself to swell the hole to accept the drift. This allows you to maintain your original material thickness around the hole. When measuring for multiple holes, the most consistent results are obtained by marking from end to end rather than measuring center of one hole to center of

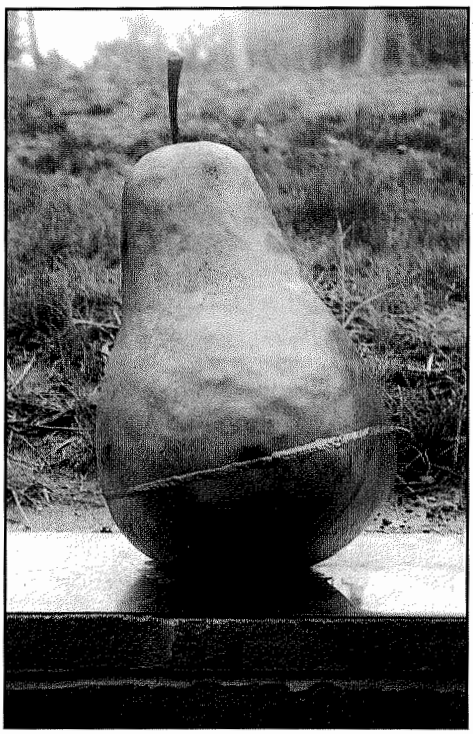
the next. A measuring jig can be made to accomplish this. If you're punching through round bar, upset the hole area before punching because punching in round will decrease the stock size more than punching in square.

Our last demo was on hot chasing and repousse work. Hoss used the Greek architectural reliefs as examples. Keep all objects on the same plane, foreshortening does not work in relief. The first step is to establish your volumes. Remember finished forms will be smaller so move extra to start with. Always preserve the areas that will get thin. After the initial areas are blanked out, isolate your heat to help you define areas. Always work major areas of detail to minor areas. All edges need to be clearly defined, particularly where your shape meets the base plate.

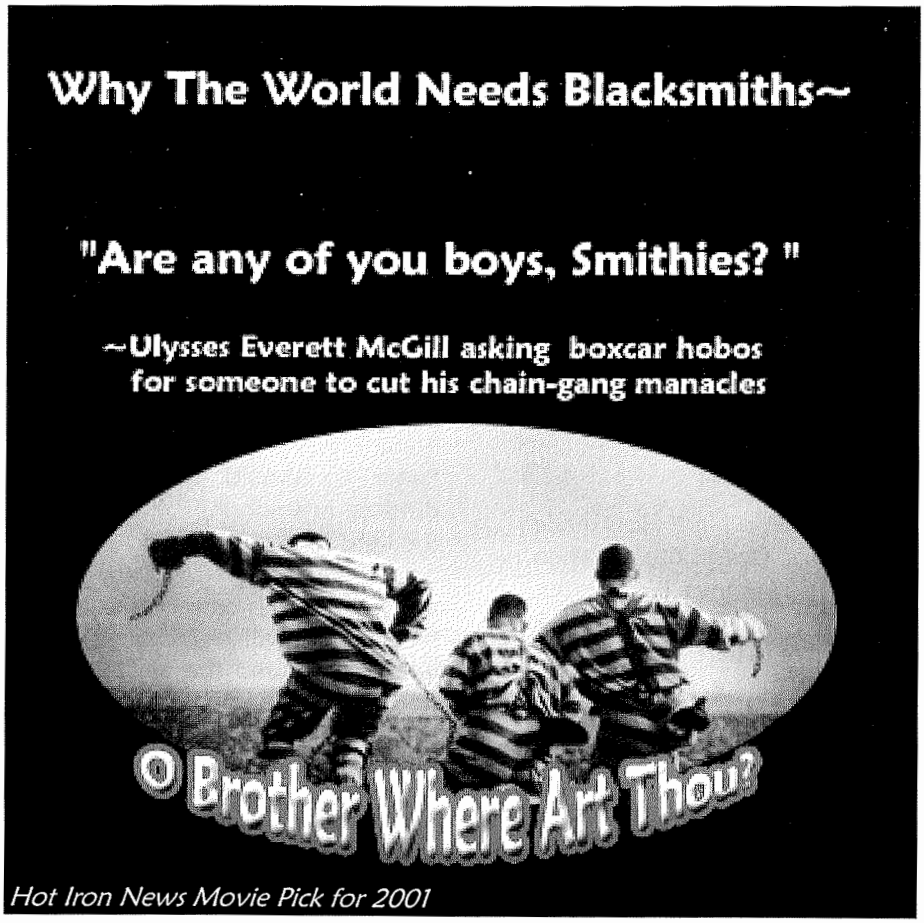
One of the trademarks of Hoss' pieces is their finishes; sometimes paint, sometimes patina. His finishes usually enhance the inherent colors of aged metal so the processes involved try to recreate that old look. One way to get that is to apply paint alternately while heating and spraying the piece with ferric nitrate. First you choose your base color, apply it and then scratch it up with a brush or steel wool. Then you can heat mildly with your torch and spray on ferric nitrate to start the rusting process or add another color, scratch and then ferric nitrate. The whole process requires a certain amount of trial and error for you to be able to establish the look you want. Heating the paint will change it's color slightly. Blues and greens are fragile and don't respond as well to this process as the red and yellow tones.

If your base coat is white and then you scratch through with a scribe before you ferric nitrate, you will get a graffito quality to your piece. Ferric nitrate over an aluminum-based paint will give you a nice burgundy color. Before any of these paints are used, you should sandblast your piece because fire scale is too resistant. If you don't have access to a sandblaster, use muriatic acid diluted in a plastic trashcan at a 1 to 4 ratio. Always neutralize with baking soda after using acid. The ferric nitrate is in a weak tea form. When you're happy with the finish you did, apply wax while warm to seal your piece.

I got a lot accomplished on my trip and I would definitely encourage everyone to try and attend a workshop there at some time. *Thanks to the NWBA for helping to make it possible!*



The Penland Pear



Hot Iron News Movie Pick for 2001

PAY ATTENTION!

OR

HOW I STARTED AS AN APPENTICE ~ BY RYAN TACK, 16

In my lifetime I have made many mistakes that I could have easily evaded. I set my hair on fire by not noticing a hot stovetop. I fell off a horse because I did not check how tight the saddle girth was. I even broke my arm running backwards on a wet day. One day, however, distinctly states a repeating moral: *If you do not stay alert, and you allow yourself to be distracted, then you are going to be sorry!* That day was my brother's and my first day of work as apprentice blacksmiths for our father. I was thirteen-years-old, Christmas vacation was finally here and my brother and I were content sitting inside on a freezing cold rainy day. We heard the door open and the heavy footsteps that only my father's boots would make. As he entered I saw a dangerously proud look on his face. It was the kind of look he gave us when there was something he wanted us to do. He then began to speak in a tone that suggested great things to come. "Ryan, Stephen, I think you're both old enough to start earning some money, and I could definitely use plenty of help in the shop making pokers." It was more of an order than a request. It was time to work. Though I was excited about the new experience, I was also afraid since it was my first time ever working in my father's shop.

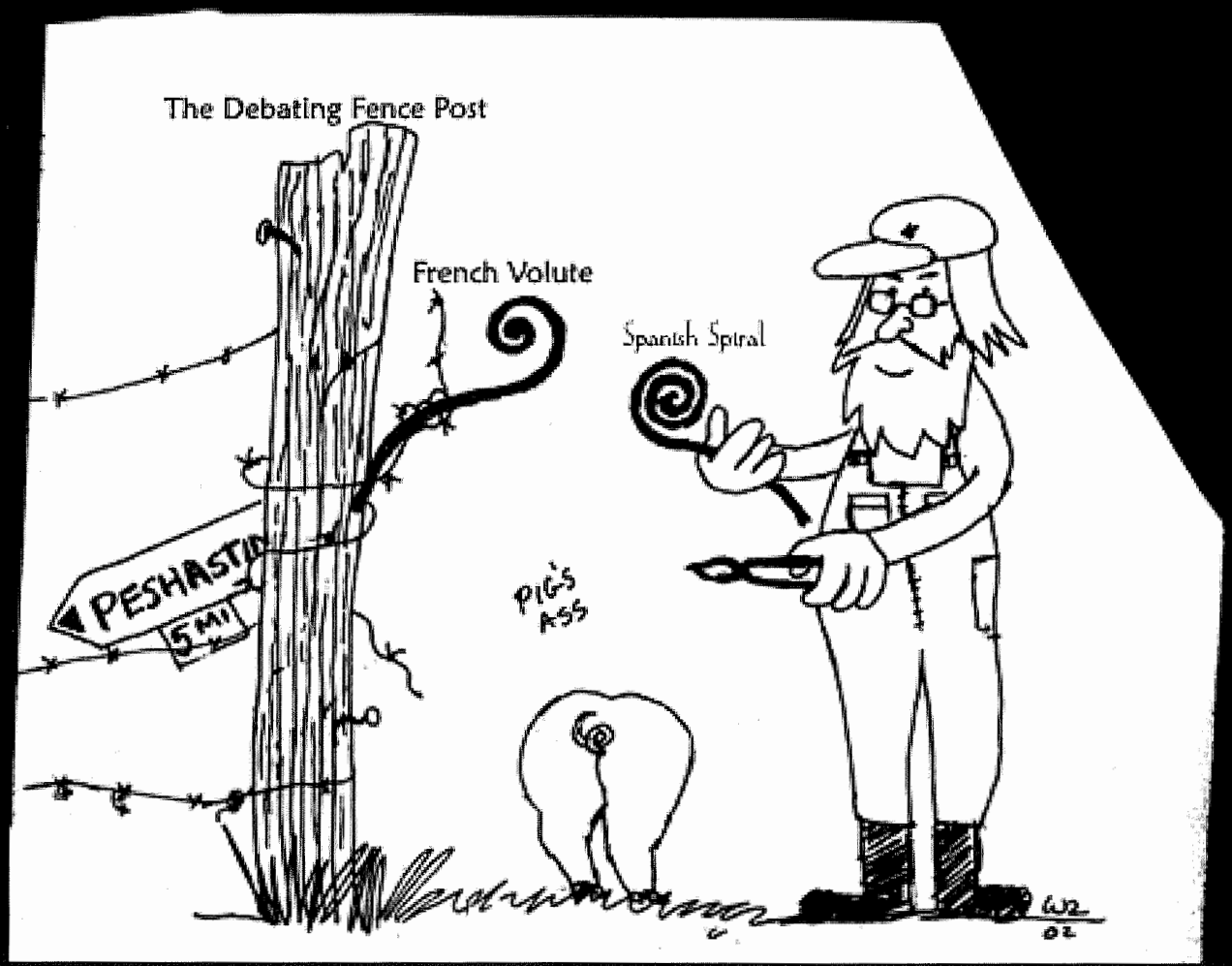
The wearher outside was even worse than I expected. The temperature was a brisk 38 degrees, with high winds, and pouring rain. I was very glad I wore two shirts and a sweater, and that it was only a brief walk from the house to the shop. The inside of the shop was cold, and smelled of iron and oil. Power hammers, forges, anvils, and vises visually dominated while the smaller tools tended to be rather unimpressive. My father went over to a small forge and turned it on. I watched as the brick walls of the forge slowly grew brighter. He then picked up a long slender piece of iron and put it into the forge. Next he explained that metal was best shaped when it reached a light orange color, but *was* still hundreds of degrees hot before it even started changing color tones. I heard my father's words, but my thoughts were on the blazing inferno before me. After the metal had turned a satisfactory orange color he demonstrated how to form a point on the end of the metal rod by hammering each side twice and slowly drawing the burning metal out. I watched in awe as the once-hard metal began to bend and lengthen under the heavy blows of my father's hammer. When he was done he quenched the hot steel in a barrel of cold water. I began to focus on the beauty of the metalworking, rather than the practical steps he was trying to show me.

Now it was my turn to work. I put the steel into the forge as my father had and patiently watched for the color to change. A loud ring broke my concentration as my father ran to get the phone. "Ryan, take the metal out of the forge. I'll be right back." he yelled. I carefully grabbed the cold dark end of the metal and balanced it on top of an anvil. After he was done talking on the phone a large gust of wind hit the outer sliding shop doors, causing them to crash in loud report. I turned to see what the noise was, and as I did I bumped the precariously balanced piece of metal on the anvil. It spun several times. I wasn't paying attention to what I had done. I didn't care that the metal had spun. When the wind died down and my father returned to watch us I reached down to put the iron back into the forge. As I grasped the bar, the burning, acrid smell of cotton began to waft through the air. *I knew I had grabbed the wrong end!* I looked at my hand in horror as the cotton gloves I had been wearing burst into flame. Immeasurable heat seemed to soak into my hand! *It felt as though I had put my hand into a boiling stew pot, and my hand was fast becoming the stew!* I instinctively dropped the metal rod; but my hard lesson was not over. It fell straight down, burning a hole through the sweater and shirts I had been wearing, barely missing my skin, and then began melting through my rubber boots.

Had I listened to my father, and remembered that metal could still be extremely hot, without showing color, I probably wouldn't have been so careless. The blisters and burns I got that day were a reminder to pay attention. I could have avoided the entire accident had I not let my concentration wander. I regret that moment in my life, but at the same time I treasure it. As an example of carelessness, it taught me to be more alert and more cautious, especially while working in dangerous conditions!

The Great Debate!

French Scroll, Spanish Scroll . . . or a Pig's Ass! Do YOU know the difference?! Wade Wade clears up the Issue!



John Loeffler, alias Blue Moon Forge, Peshastin, Washington, raises serious issues in this provocative article on scrolls. Does Wade Wade debate with fence posts? Is this caused by the long Artic nights/ days in Canada? Are Black Crowberries hallucinogenic? You'll note that John contends that the Spanish Scroll is the open scroll and the French Scroll is the tighter-wrapped of the two. Wade Wade, in his graphic response, claims it's just the opposite and that John Loeffler can't identify a scroll from the twist on a pig's ass, eh! Did the new N.W.B.A. President, Mark Manley, realize the Tempest that he was stepping into?

"The Perfect Scroll" by Big John Loeffler

Wade Wade and I had a Debate! Easy to do with Wade--he would debate with a **Fence Post** if he is in need of a little verbal contact! The topic of our encounter was the *Perfect Scroll*! Seems Wade likes a *open-flow scroll* and I favor a scroll *with at least two revolutions* before it goes into the next movement. Then came the **Twist**! He asked me which was *French* and which was *Spanish?*: *Hell, I didn't know!* Six weeks later I get this letter from Wade. In it was a copy of a article from the California Blacksmiths Association. A few years old, it featured a picture of a **Pig's Ass** and it's curly tail. The title was: *Do you know your scrolls?* The long and short of the story is (pun intended) that open-scroll is Spanish, the longer, tighter- wrapped scroll is French and the English scroll falls in between with one full revolution.

I teach a class at the local Community College. One of the key topics I cover is scroll-making jigs. I go over layout, how to heat a piece of flat bar and make a small curl on the end as a hooking point if needed. We used the bender bars to duplicate the movement. Then we hit it in the center and out around the edge till the center lifts. This action allows space for the stock to go as you run down the length of the spiral. This will leave you with a dome shape on your product produced on the jig but this is easly corrected on a flatting table (Photo 1). After you've created the rise in your jig, support the jig from the underside with a series of flat straps, 1x 1/4 works well. Depending on how often you intend to use a jig dictates the quality of support it needs. Myself, I never throw away a jig: You never know when you'll need that shape again! Putting on a way to clamp the jig is based on your preferred use. On some jigs I weld pins on to use on my cold bender (Diacro) (Photo 2). On some I weld angle iron on for the vise. On others I weld on a square that fits my anvil hardy hole. Sometimes I cut one off to fit another.

I have a jig I call my master scroll jig (Photo 3). It's a perfect spiral. I've painted this jig with heat-tolerant paint to make it more identifiable and to read chalk marks (start and stop points) more easily. I spent a long time making this jig. It is well supported from the underside. I never use this jig on the cold bender, it is fit for my anvil which is well attached to the floor. If I have my design preference, which in most cases I do, I use this jig. Why? Well, to answer **Wade Wade,** *I'm Lazy!* Once you achieve the perfect scroll use it over and over as often as you can!

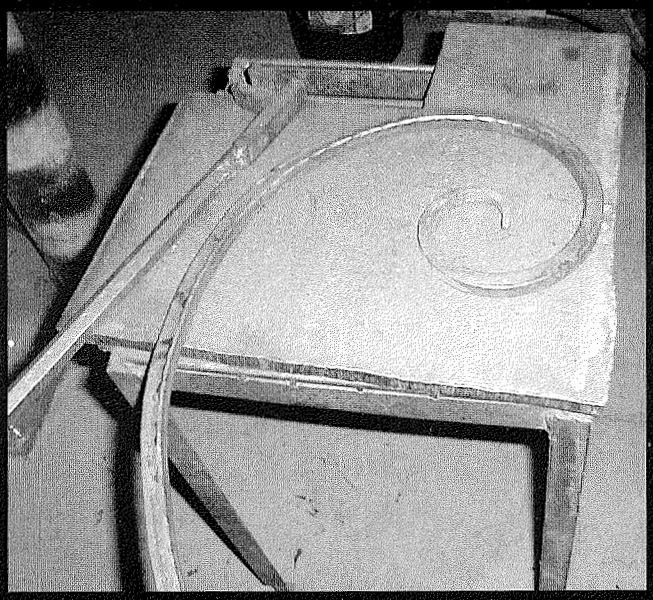


Photo 1 ~ Flatting Table to correct jig distortion

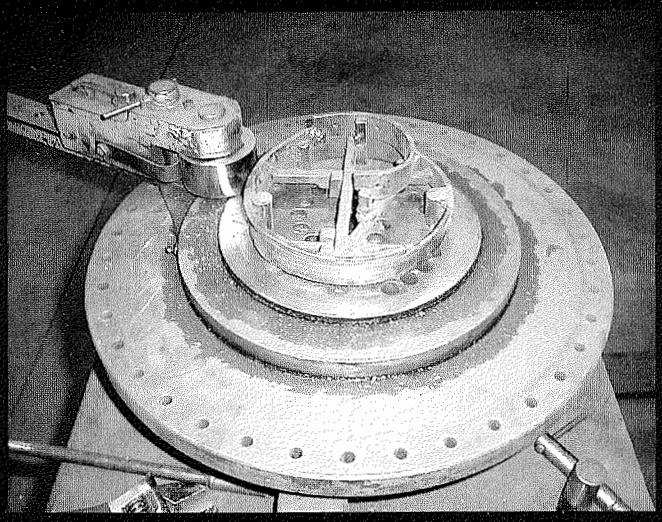


Photo 2 ~ Using Diacro cold bender with jig

Blue Moon Forge Scroll Tools ~

Photo 3 ~ Master scroll jig

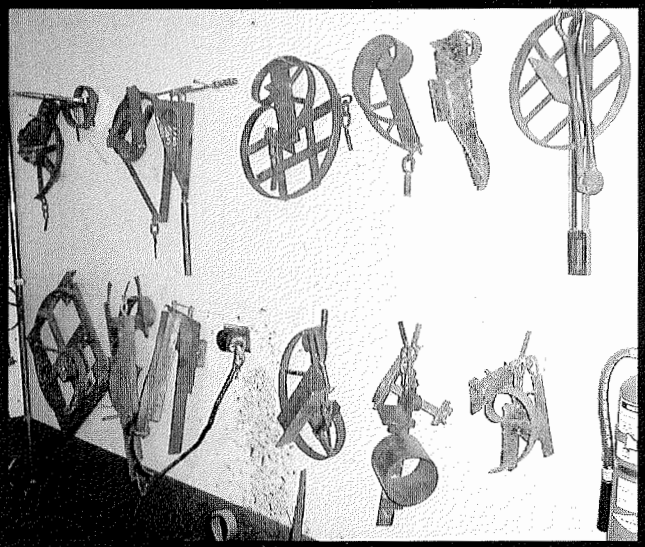


Photo 4 ~ Blue Moon Forge jig collection

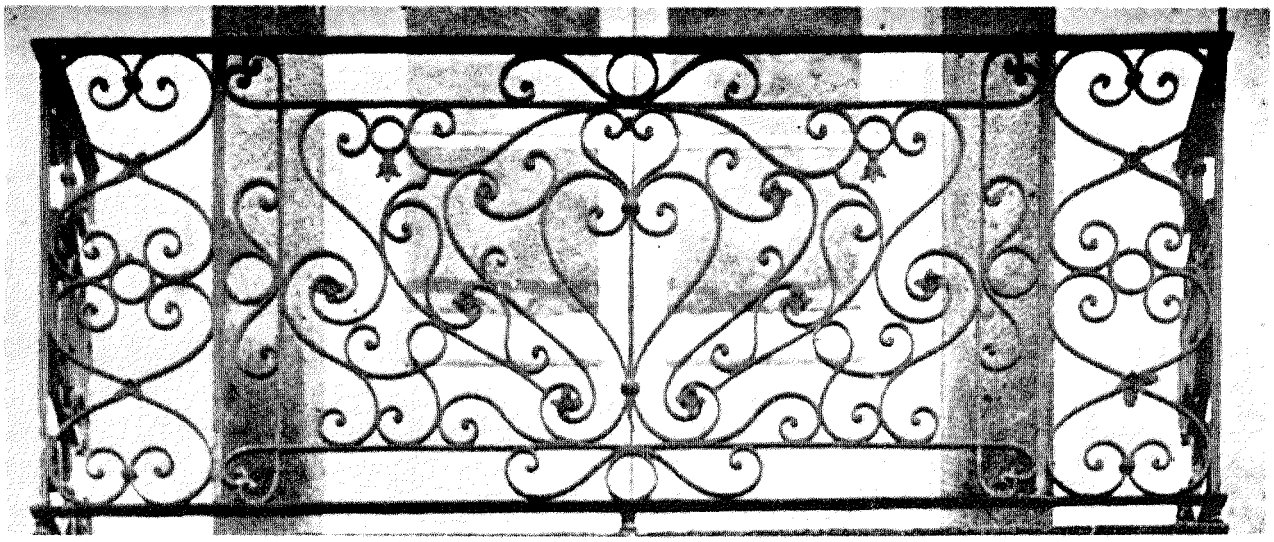
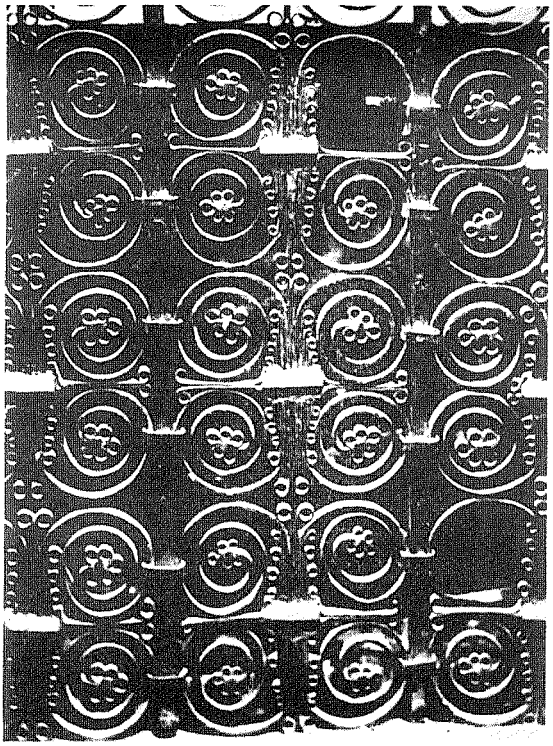


FIG. 139.—FRENCH DESIGN, MILITARY BARRACKS, BRAGA, PORTUGAL

Three Types of Scrolls ~



FIGS. 87 (ABOVE) AND 89 (BELOW).—AISLE-ALTAR SCREEN, SAN VINCENTE, AVILA. (THIRTEENTH CENTURY)

Although this is one of the best of early Spanish grilles, and is most admirable for the colorful termination of the large scrolls and the introduction of small ones, it seems to languish in oblivion

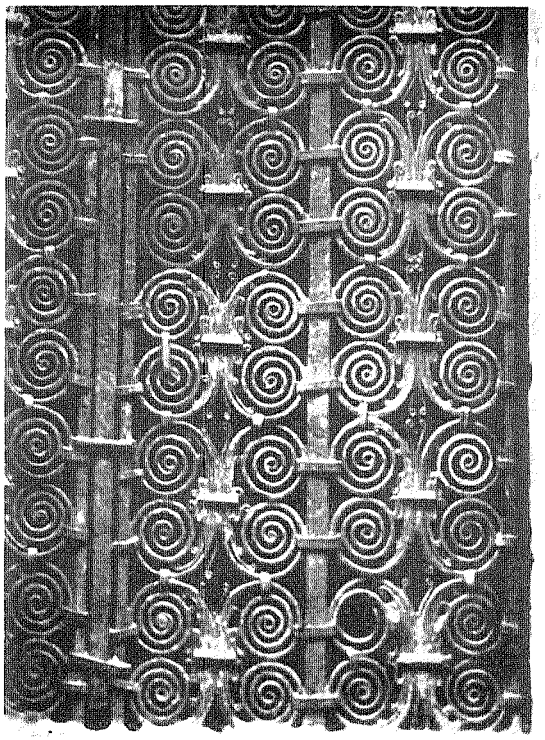
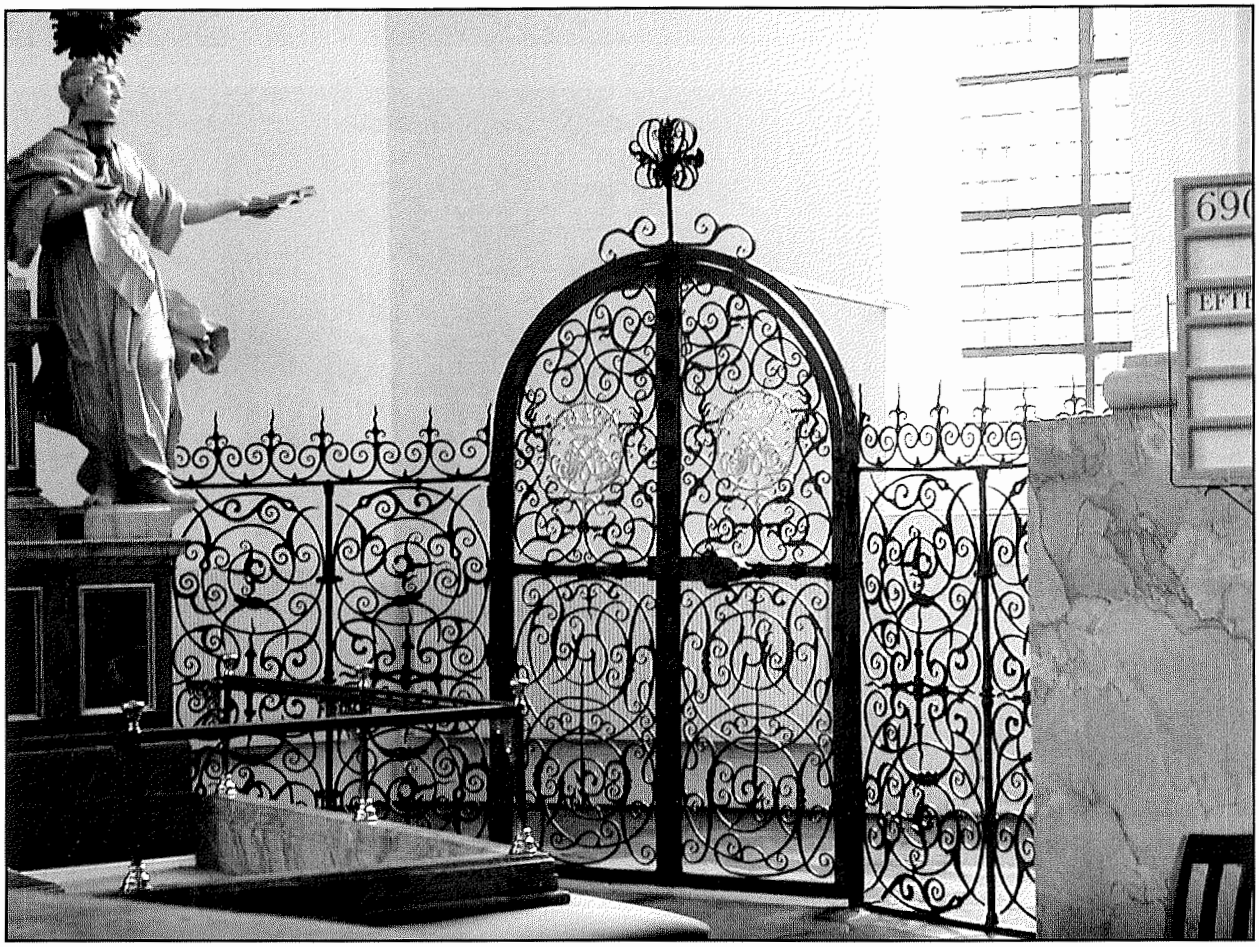
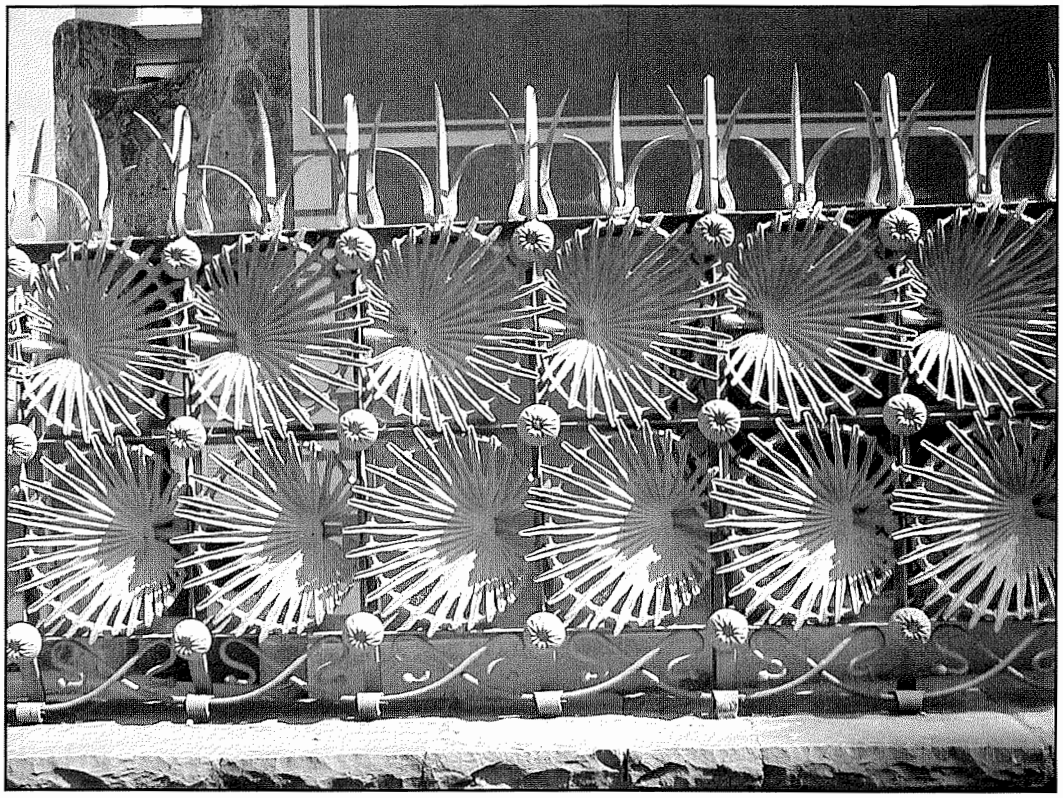


FIG. 88.—PORTION OF WINDOW GRILLE, WEST FAÇADE, S. MARIA DEL MERCADO, LEON. (THIRTEENTH CENTURY)

This example loses in contrast with Fig. 87 because of greater scroll monotony and flat bands instead of triangular ones, but the tiny scrolls are a delightful touch and a redeeming feature

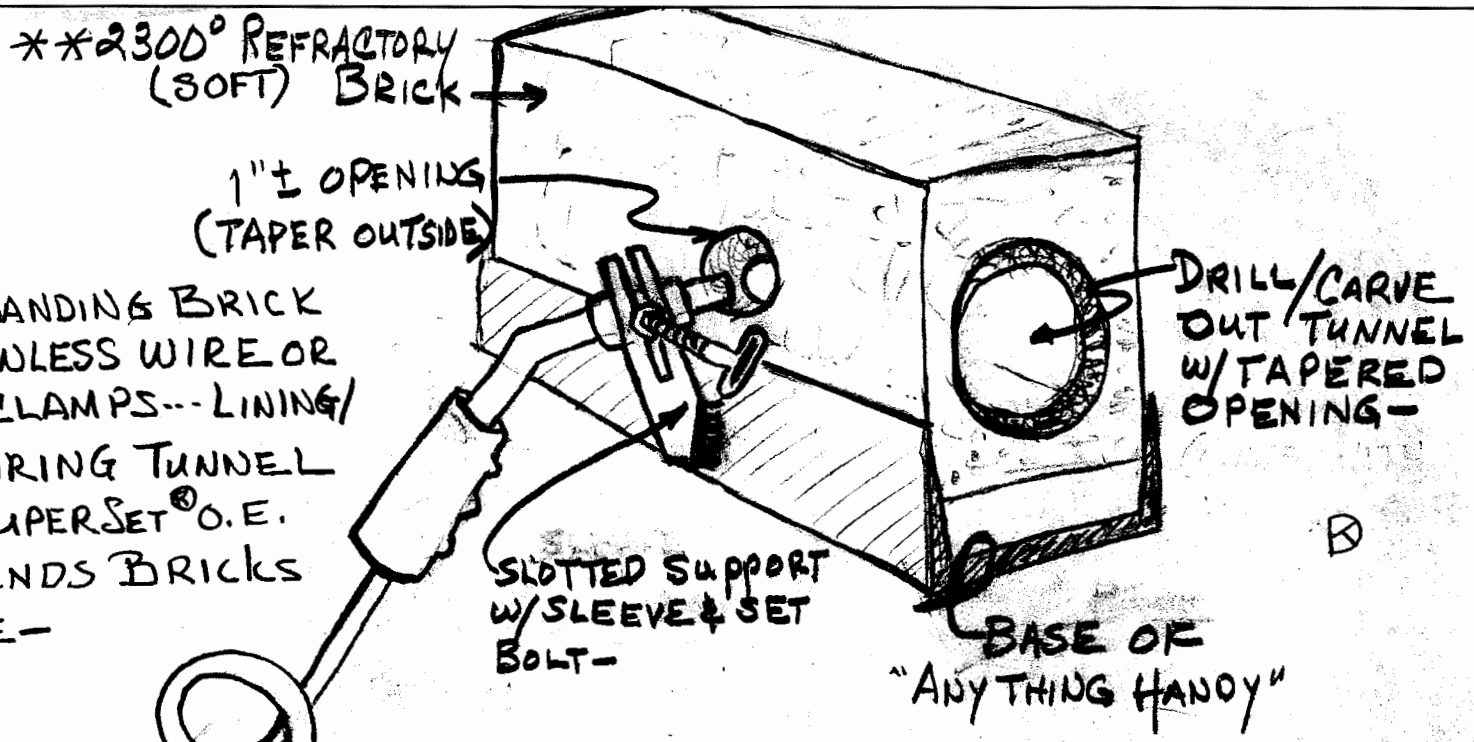
~ Wrought Iron in Architecture, Geerlings





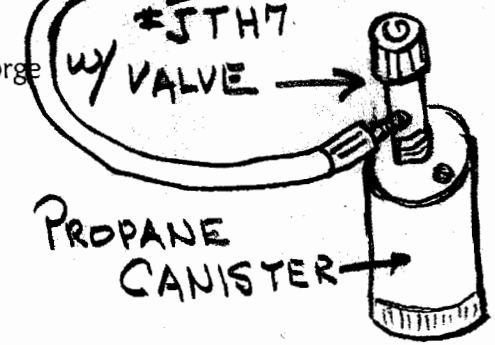
Pheel Abroad!

Phil Baldwin has been checking out the iron in Europe! Top is an interior gate in Copenhagen. Bottom photo is the Screen Parc Guell in Spain. Must be nice!



HOT TIP

by Don Kemper
Earth-Wind-Fire & Ice Forge



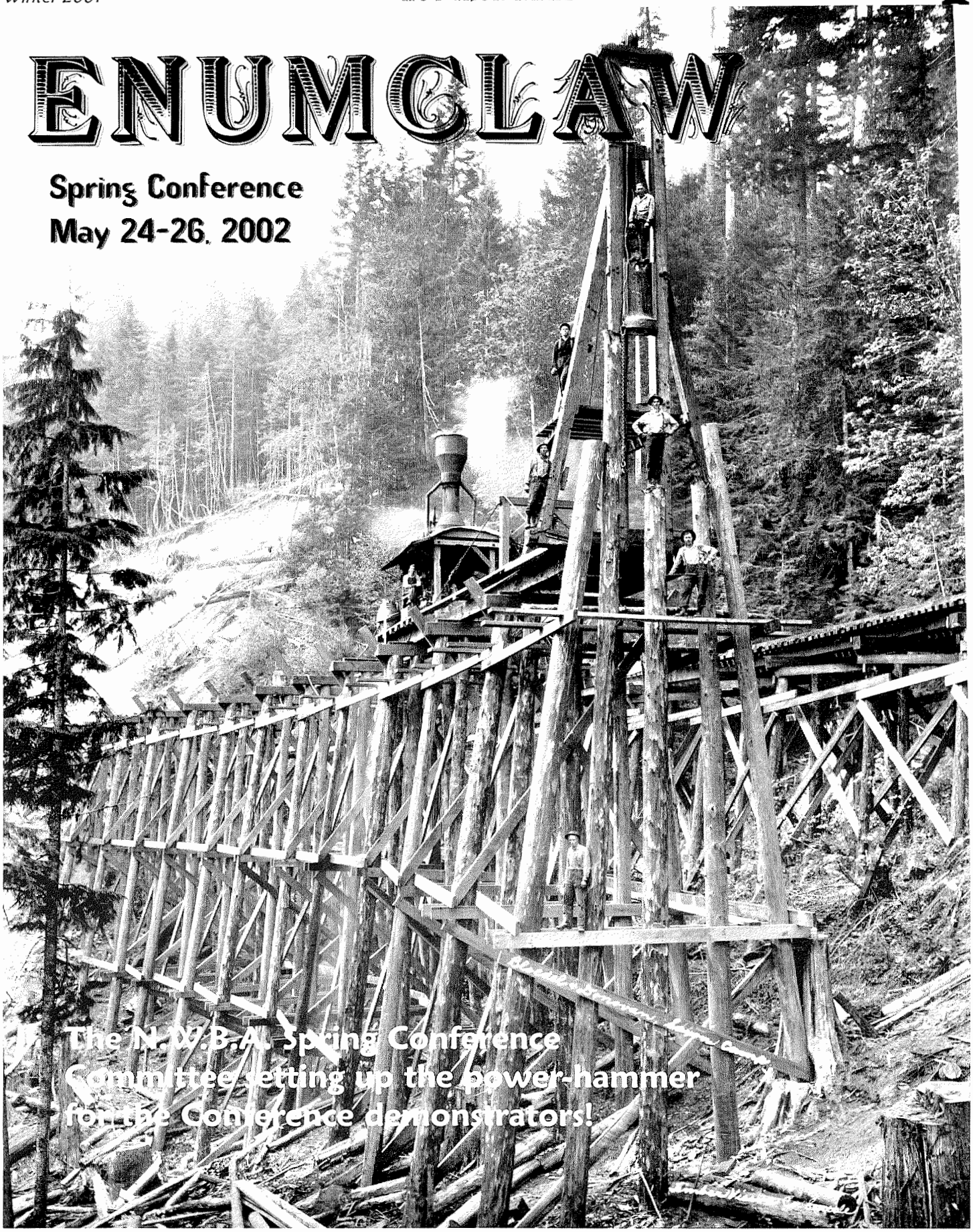
*- P. THORNE USED PROPANE FEEDING #0 WELDING TORCH-
**-G. CHAPMAN LINED A COFEEE CAN W/ KAOWOOL®

ONE BRICK FORGE

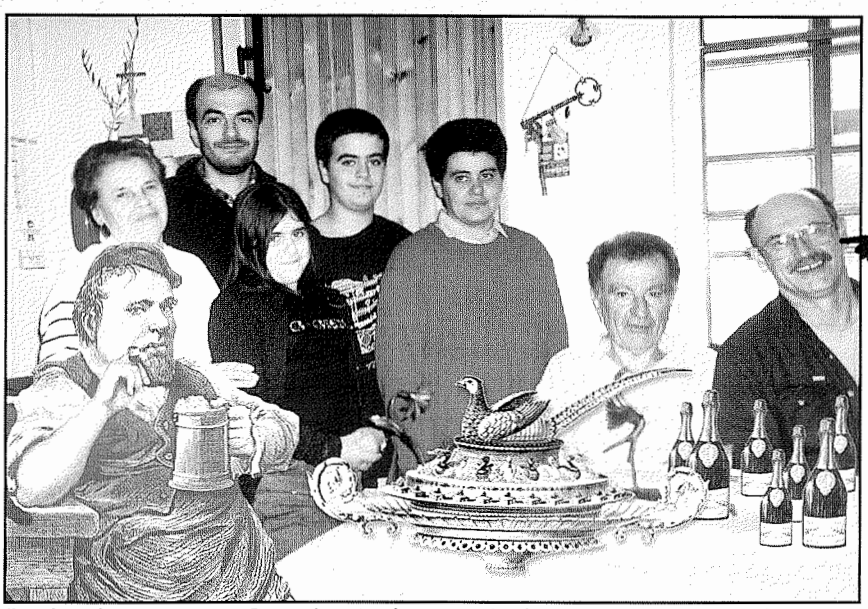
- LATEST MINI-FORGE BY WAYNE GODDARD
- $40.00 & 40 MINUTES TO BUILD
- 60 SECONDS TO LITE & FORGE 1ST PIECE
- PROPANE CANISTER TO USE ANYWHERE
- TORCH RATED FOR MAPP GAS ALSO (FORGE WELDING TOO?)
- SIMILAR MINI-FORGE USED FOR MOKUME-GANE (SEE BOOK/VIDEO BY S. MIDGETT IN N.W.B.A. LIBRARY)-

ENUMCLAW

Spring Conference
May 24-26, 2002



The N.W.B.A. Spring Conference Committee setting up the power-hammer for the Conference demonstrators!



The family of Angelo Bartolucci, along with Terry Carson, N.W.B.A. Party Animal, in Meldola Italy

Angelo *will be demonstrating his reknowed* ***Italian Style****. This will be an action-packed conference with demos starting at 10 a.m. on Friday and running until 2 p.m. on Sunday. Don't miss a minute of it! Any questions? email Terry Carson at tlcforge@aol.com. Cost is $60 or $55 with an auction item! $15 bucks for the spouse or guest. Free camping at the fairgrounds, RV hookups are $15. King's Motel is around the corner 360 825-1626. The Park Center Motel in Enumclaw is 800 528-1234. No Doggies allowed in the Fairgrounds except Wonder Dogs!*

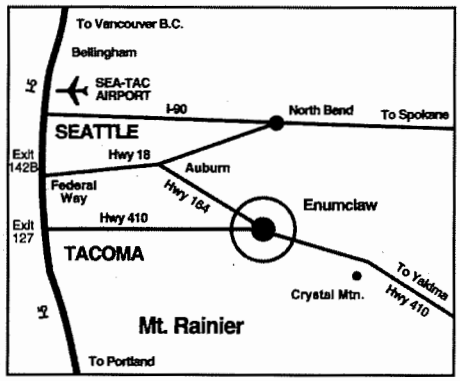
Noted Italian Blacksmith Angelo Bartolucci will be the Special Guest Demonstrator at Enumclaw/Spring.

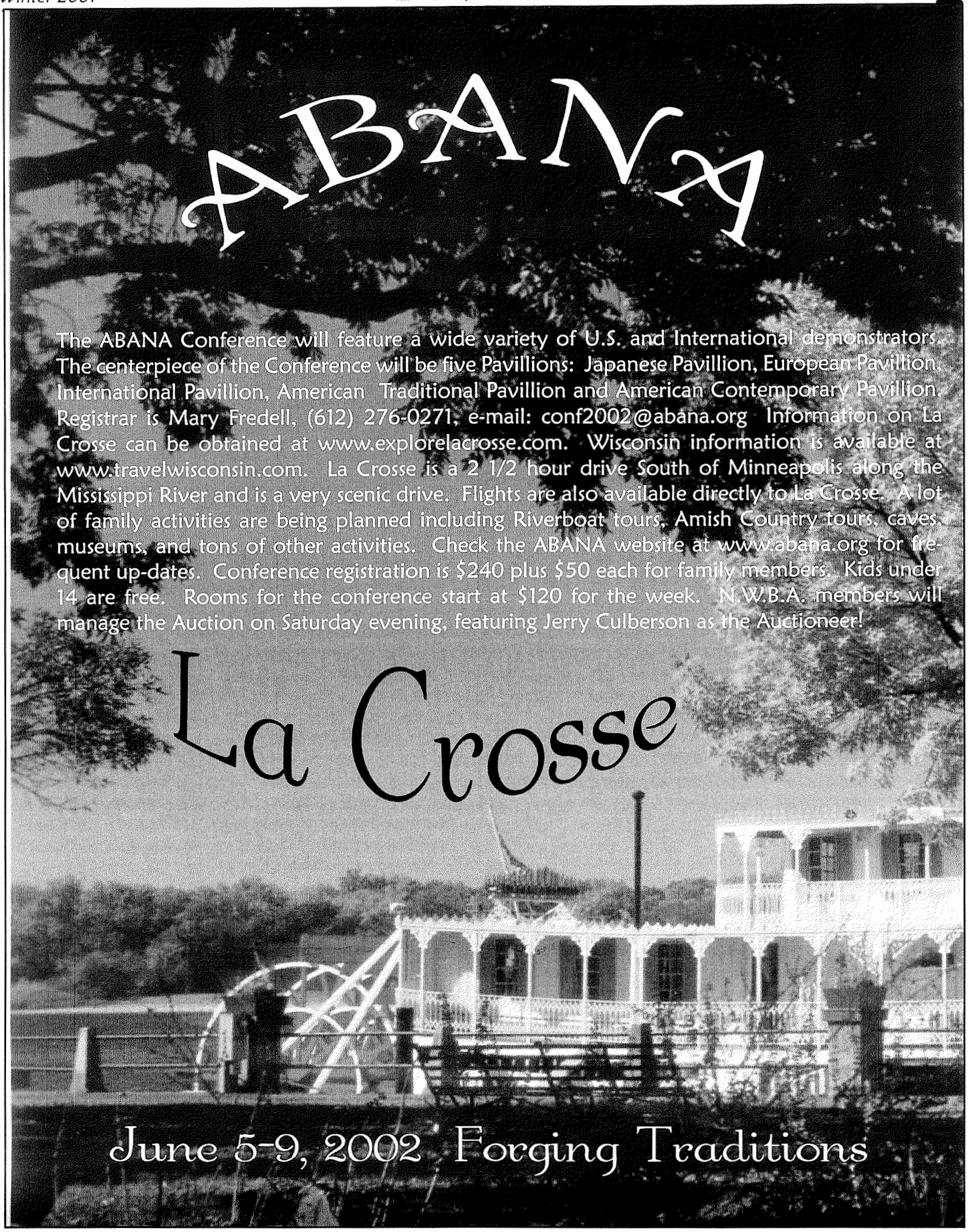
- ***~ David Thompson, Artist-Blacksmith-Sculptor Demonstrator!***
- ***~ Steve Bondi, California Blacksmith, Slide Show of Italian ironwork!***
- ***~ Barry Rice, Bothell, Washington, Horseshoeing Demonstration!***
- ***~ Jesse Marsh, Eatonville, Washington, Horseshoeing, Engraving, Spur and Bit-making!***
- ***~ Hands-On Demos with Gary Chapman, Chad Heiserman and Christa Fairbrother!***
- ***~ Art Gallery by Russ & Willene Jaqua!***
- ***~ The Silver-Tipped Tongue of Auctioneer Jerry Culberson!***
- ***~ Saturday Night Banquet and Auction!***
- ***~ Tons of Fun, Black Dog Midnight Madness with Contests, etc. !!!***
- ***~ Guest Appearances by Ike Bay and Hardie Swage!***

With Special Tricks by Bwana Bill and Cisco the Wonder Dog!

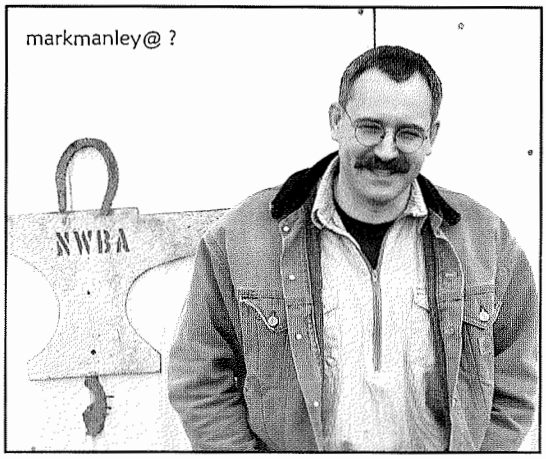
Special Guest Appearance *of Dona Meilach, Author of Decorative and Sculptural Ironwork with her special slide show!*

From the North, go South on Interstate 405 to the Maple Valley Highway (State Route 169) and go South to Enumclaw and follow the signs to the King County Fairgrounds.
From Interstate 5, take Highway 18 East to Auburn, and State Route 164 East to Enumclaw and follow the signs to the King County Fairgrounds.
From the South, take State Route 167 and go East on State Route 410 to 284th Avenue SE.




ABANA
The ABANA Conference will feature a wide variety of U.S. and International demonstrators. The centerpiece of the Conference will be five Pavillions: Japanese Pavillion, European Pavillion, International Pavillion, American Traditional Pavillion and American Contemporary Pavillion. Registrar is Mary Fredell, (612) 276-0271, e-mail: conf2002@abana.org Information on La Crosse can be obtained at www.explorelacrosse.com. Wisconsin information is available at www.travelwisconsin.com. La Crosse is a 2 1/2 hour drive South of Minneapolis along the Mississippi River and is a very scenic drive. Flights are also available directly to La Crosse. A lot of family activities are being planned including Riverboat tours, Amish Country tours, caves, museums, and tons of other activities. Check the ABANA website at www.abana.org for frequent up-dates. Conference registration is $240 plus $50 each for family members. Kids under 14 are free. Rooms for the conference start at $120 for the week. N.W.B.A. members will manage the Auction on Saturday evening, featuring Jerry Culberson as the Auctioneer!
La Crosse
June 5-9, 2002 Forging Traditions

The New Prez!



At the Spring Board Meeting at Don Kempers in February, Mark Manley was elected the new President of the N.W.B.A. Mark runs Manley Metal Works in Silverton, Oregon. Mark will give his one-hour-long inaugural speech at the Spring Conference at which time he will also announce his brand new e-mail address so that he doesn't have to communicate with the Editor of the Hot Iron News by Snail Mail!--bearing in mind that Mark Twain said that you should never make anyone angry who has five gallons of ink!

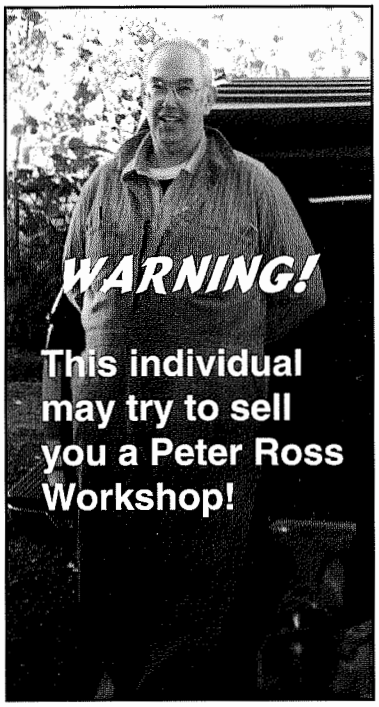
FOR AS LONG AS ANYONE CAN REMEMBER, DAVE AND BABE BRANDON HAVE BEEN MOVING FROM MONTANA TO ILLINOIS. HERE'S THEIR LATEST REPORT! . . .

Today the two Old Farts decided to unload the first bus that we loaded and moved here in the Summer of 1998. We did 7 pallets, loaded about 20 chicken boxes on each one, is 140 boxes of books and National Geographics. Several boxes with items from the store, like X-mas wrap, bows, cards and Halloween items, besides my sister Peggy's clothes and Gramma Tyne's apron, my dad LeRoy Henry's baseball glove. All of my rocks (good rocks) all over the country. A few boxes of fireworks, at least enough for a Mexican Revolution. Several boxes of baseball, football, hocky trading cards. Unopened complete sets 1989, 1990, 1991, three complete uncut sheets of sport trading cards. They are so old that nobody would even want them now, right? We still have welder, saddles, horse tack, reloading bench, reloading equipment, dies, powder, primers, bullets, and uncounted boxes of books. Like Christmas in January, to see your old stuff after 4 years of hiding. Oh, yes!-- A box of garden seeds. We are kind of tired after all day moving boxes off the bus and into the barn on the shelving.

Love, Dave and Babe.

P.S. Will be doing the same thing tomorrow. Might have this bus sold so we have to get it ready. Then we will have the last bus to empty. More fun, right!?

Here, Board members Laura Goemaat, Terry Carson, Maria Cristalli and Mark Manley. Don Kemper took the pictures. The others were camera-shy. The financial report indicated that N.W.B.A. ended the year with $18,250.71 in Capital Reserves. The Fall 2001 Auction generated $8,043.50. Kemper's farewell Hawaiian Adventure, approved by the Board, should take care of the Reserves. All in favor, put your hands in your pockets.



ABANA Conference June 5-9, 2002 at La Crosse, Wisconsin on the campus of the University of Wisconsin. Registration packets are in your Hammer's Blow or contact Mary Fredell at 612 276-0271 or conf2002@abana.org. Multiple demonstrators from around the world will present multiple demonstrations so that you can see everything! This is a great economical way to see the best in blacksmithing. ABANA also appreciates any good auction items. Contact the Editor if you are interested in donating to the auction.

N.W.B.A. Spring Conference will be in Enumclaw, Washington, at the King County Fairgrounds, May 24-26, 2002. Angelo Bartolucci will be the invited demonstrator and ABANA-World-Class David Thompson will be the local demonstrator. Either one of these two is worth the trip! Lots of other cool activities.

N.W.B.A. Fall Conference will be October 11-13, 2002 in Centralia, Washington. Al Karg is the conference coordinator.

Caniron IV will be in Hamilton, Ontario July 11-13, 2003.

Show and Sales can be reported to new Board member Christa Fairbrother who will post them on the N.W.B.A. website at www.blacksmith.org. or let Kent Rudisill know that he can post them. Christa's contact info is on Page 3.

Little Giant Rebuilding Seminar will be March 22-24 at Sid Suedmeirers at Nebraska City, Nebraska. 402 873-6603.

Peter Ross Workshop will be November 8-10, 2002, featuring Williamsburg Blacksmith Jay Close. For details, contact Ike Bay, the handsome rogue in the upper left-hand photo on this page, for details. 503 645-2790 or dasbayhaus@worldnet.att.net.

Earth, Wind, Fire & Ice Workshops include:
Intermediate/Joinery/Gate Building Workshop, March 15-17, with Terry Carson, covering traditional joinery technique.
Basic/Novice Workshop, April 5-7, a basic blacksmith workshop to get you started right. Beginning with forges, firebuilding, basic tooling, basic projects and demos.
Bladesmithing Workshop with Wayne Goddard, covering the finishing of a knife. Students will bring a finished blade (from furnished information), for a narrow tang. Techniques to finish the tang, install a fitted guard and handle, engraving, inlay, sheath-making. Wayne will have his bag of tricks to enlighten and entertain.
Sculpturing Animal Heads by Darryl Nelson. Date to be announced. Build your tools before class with furnished plans. Design and "close-up" views will be studied.

Workshops are at Don Kemper's forge in Ridgefield, Washington, just north of Portland. Cost is $200 and hours are 9 to 6 Friday and Saturday and 9 to noon on Sunday. Supplies furnished. Tool list, etc. will be sent upon registration. Call Don at 360 887-3903 or kemper@pacifier.com for info.

Hot Iron News~ Doesn't put itself together! Got a Hot Tip?

Old Cedar Forge N.W.B.A. Workshop 2002 Schedule with Jerry Culberson~
April 12-14 Intermediate/Tool Making Joinery
May 17-19 Basics, novice
July 12-14 Basics, novice
August 16-18 Basics, novice
September 13-15 Intermediate/Tool Making/Joinery
October 25-27 Basics of Blacksmithing, Novice
November 15-17 Intermediate/Tool Making/Joinery
December 14 Old Cedar Forge Open House/Open Forge~No registration required.
Old Cedar Forge is located in Allyn, Washington. 360 275-6769 or oldcedarforge@web-o.net. Class size is limited to eight. Cost is $315 for three days. $150 non-refundable deposit assures your place. Membership in N.W.B.A. is required and is $35. Continental breakfast with fresh-baked croissant and pate fois-gras is provided. Dinner in the Chateau on Saturday night.

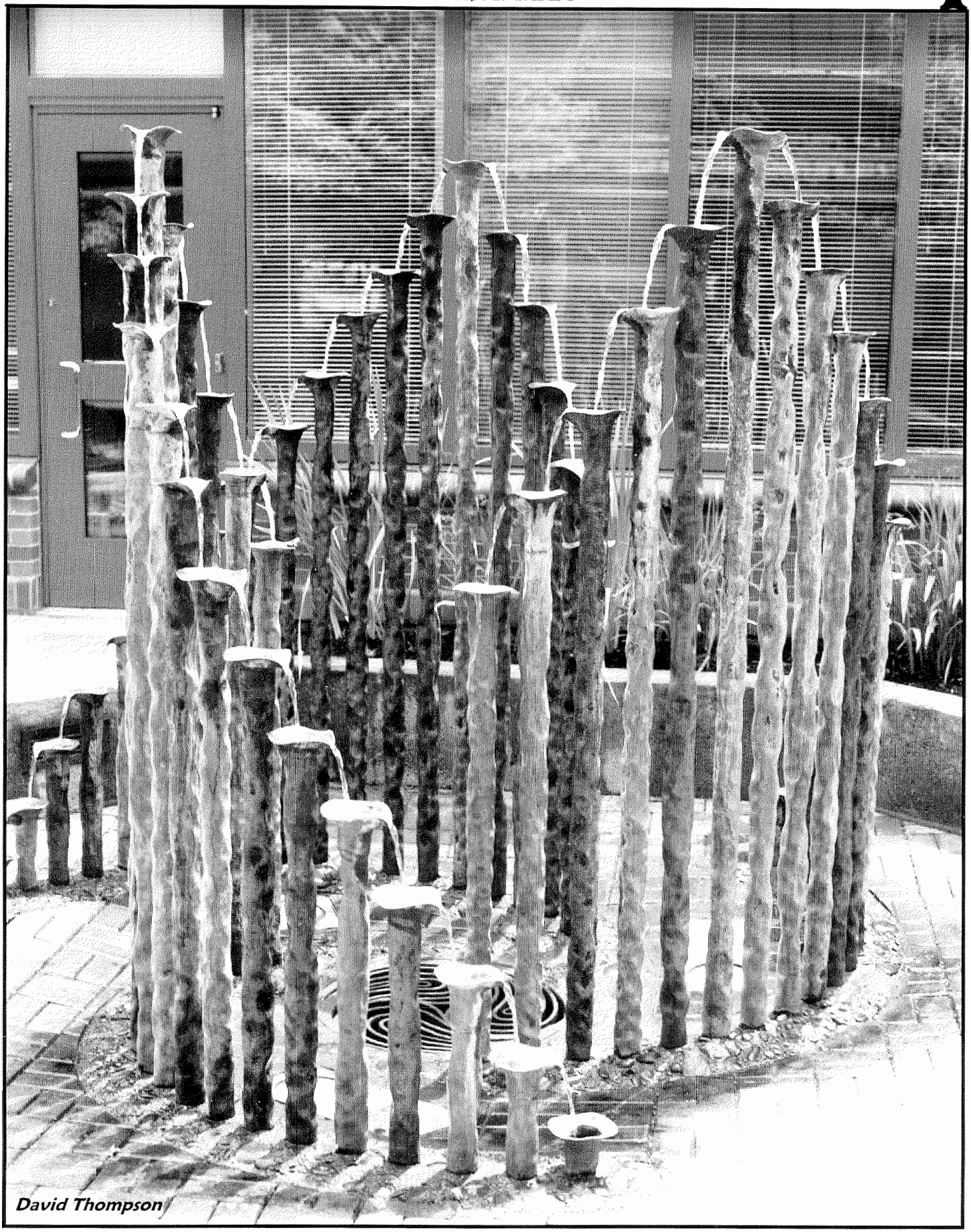
Coon Hollow Forge, Kalispel, Montana, May 7-9 Design for the Artist-Blacksmith with Doug Newell. May 10-12, a British Invasion with Doug Newell and Tony Stewart. Mid-July will see a workshop with Frank Turley, dates and location to be announced. Contact Dan'l Moore at 406 752-4766 or coonho@cyberport.net for details.

Have Hossfeld Bender #1 Small Size, need parts. Wolfgang Rotbart, wolfgang@wolfgangforge.com or 503 429-7342.

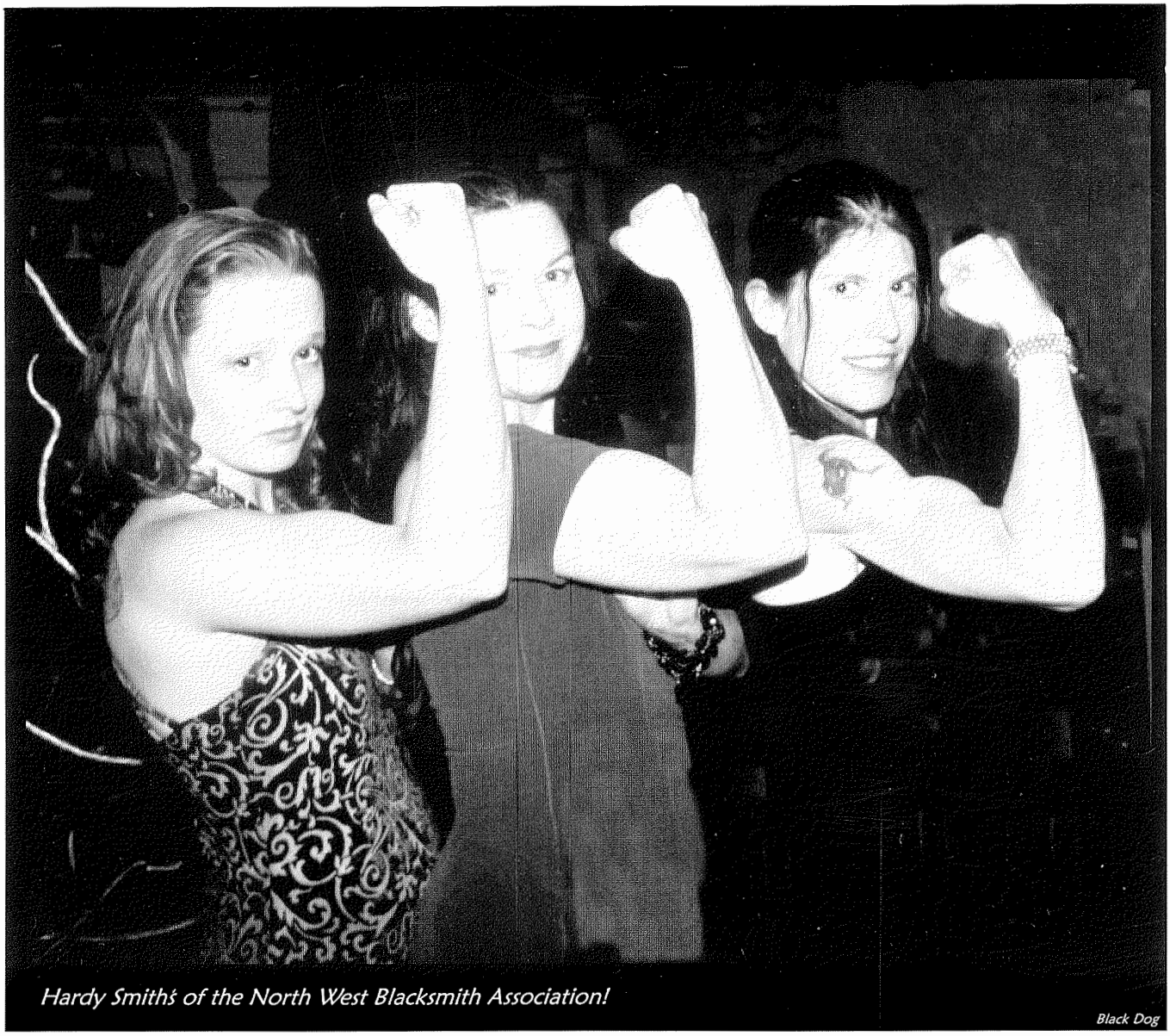
Beaudry hammers for sale. 150#, complete with motor/drive frame, etc., Don Kemper 360 887-3903.

Anvils, coal forges, post vises, tongs, fullers and swages, different sizes. Anvils are 60 to 240 lbs. Bob Watts, Spokane, 509 922-5969 or bobwatts@qwest.net

ABANA Website had 350,000 hits in January, 2002. 863 from Saudi Arabia.



David Thompson



Hardy Smiths of the North West Blacksmith Association!

Black Dog

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