



# The Anvil's Horn



A PUBLICATION OF THE  
ARIZONA ARTIST BLACKSMITH ASSOCIATION



Issue NO. 65

JULY 1996



**Left:**  
Toby  
Hickman



**Right:**  
Heather  
McLarty

**JULY 20TH & 21ST**  
**PLACE: FLAG FORGE**  
**12225 N. Gunman**  
**FLAGSTAFF, AZ**  
**PHONE: Russ Borthwick**  
**(520) 526-8594**



**8:00 A.M..REGISTRATION**  
**9:30 A.M..DEMONSTRATION**  
**12:00 NOON..LUNCH**  
**1:00 PM..IRON-IN-THE-HAT**  
**DRAWING**  
**1:30 P.M.DEMONSTRATION**  
**CONTINUES**

## **DEMONSTRATORS: Alfred Attendees**

We'll have some of the members who attended the National Conference at Alfred, NY demonstrate what they learned there. If you remember the Flagstaff meeting held after the St. Louis Conference a couple years ago, this can be a very interesting event. Of course, we'll have the traditional hands-on sessions as well.

**ADMISSION: \$10 FOR MEMBERS**  
**\$15 FOR MEMBERS & FAMILY OR NON-MEMBERS (FIRST TIME)**





## INSIDE

ABOUT OUR  
DEMONSTRATION

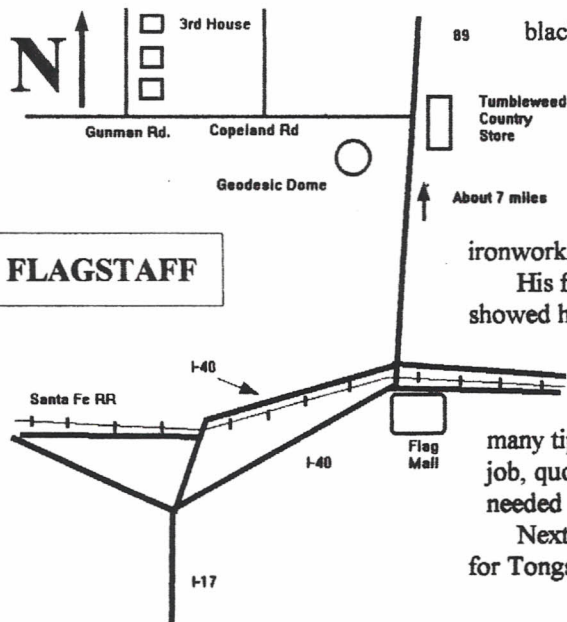
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The trip to Bullhead City was a first for me. At about three hours driving time, it wasn't as much of a trip as I had expected. I enjoyed seeing the sights across the river and the demo was educational, too. I'd like to thank Joe Donathan for organizing the meet. I think he made it a success despite a few setbacks.

YER ed., Mike Cooper  
EMAIL coops@PRIMENET.COM

## ROUTE TO FLAG FORGE:



Our demonstrators for the July meeting will be some of those who attended the National Conference at Alfred, New York. They're going to show us some of what they learned at the conference and give us something to try during the traditional Hands-On sessions, so bring your favorite hammer. There's plenty of room for parking and camping on Russ's property and the gate will be open so drive right in and set up.

Russ says the fire danger is "Extreme" right now, but if they get some rain and it gets downgraded to "Very High", we'll be able to set up the Hands-On and the cookout outside as usual. If not, we'll have to cancel the Hands-On session and the grub will be catered by the Horseman's Lodge.

Keep an eye on the weather!

HOT TIME AT THE  
RIVER

We had a great time at the April meeting at the Mohave Community College in Bullhead City. Joe Donathan and the Mohave CC folks had things well organized and the

turnout was good.

Toby Hickman started off on Saturday with a brief history of his blacksmithing experience. He's been in Petaluma since '76 making lighting, railings, signs and the like. His equipment includes a 200 lb. Nazel hammer, hydraulic press, ironworker and flypress.

His first subject was the scroll. He showed how to roll a scroll and then how to produce a scroll iron to make more of the same. His demo included many tips, such as, when bidding a job, quote two hours per scroll iron needed for the job.

Next came a class in Forging Math for Tongs. Starting with a piece of 1 1/4

(Continued on page 4)

Dear Mike,

I wanted to thank you for your help in the class. The class was great.

I now have my forge and anvil set up and have had a great time trying out new things.

It's a big difference not having all the tools like at the shop but you learn to improvise.

Thanks Again,  
John Drews  
North Pole, Alaska

Dear Mike,

Thanks for the roster of members. It has sure grown since I joined some time ago.

I really enjoyed the article in the April issue of "The Anvil's Horn", "Where Have All the Flowers Gone?" by Bob Rummage. Would you please relay my compliments? All his articles are interesting. I hope he keeps them coming.

Regards,  
John E. Winter  
Hurricane, Utah

Dear Mr. Cooper,

I enjoyed the article you wrote in the last newsletter. You are so correct about the need to warm up before doing anything strenuous.

I never realized before but up here, where it is cool most of the time, sweating is not the problem it is in 110 degrees. There is a world of difference between 70 degrees and 110 degrees, when you are swinging a hammer or standing next to the fire.

One thing I have my students do, to get their arm in shape, is the following exercise. I tell them to sit cross-legged on the ground and make a X or O in front of them. Then to swing the hammer as hard as they can at this mark. This not only gets the arm in shape, it gives them some practice at striking one spot. For beginners, I draw a circle on the face and horn of the anvil. The I tell them to pass the hot iron back and forth through the



# ABANA

*Artist-Blacksmiths' Association of North America*

P.O. Box 206, Washington, Missouri 63090  
Executive Secretary, Janelle Gilbert

Office Hours: 9:00am - 5:00pm  
Phone: (314) 390-2133

## PRESIDENT'S MESSAGE JULY 1996

As you have most likely guessed these messages are written about a month before you get them. We find it necessary to do that for scheduling purposes but it does make it nearly impossible to write about subject matter that is absolutely current. By the time you read this the ABANA Conference will be over. What takes place at the conference will provide subject matter for future messages.

On the Tuesday before the Conference starts the ABANA board will meet at Alfred, NY. One of the subjects to be addressed at the board meeting, thanks to the efforts of Lou Mueller, will be long range planning for ABANA. Effective long range planning is a complex matter that involves very much more than looking at next year's budget or deciding where the next couple of conferences will be held. If any of you have expertise in long range planning we could use you on the long range planning committee. If you want to help let me know. We are serious about getting a good start on long range planning at Alfred but I am sure it will be several months before anything that can be reduced to writing for presentation to the membership comes out of the committee.

I hope the call for board nominations that was printed on page four of the Spring 1996 issue of the Anvil's Ring has prompted some members to submit their names to appear on the ballots that will be sent out this fall. Right now I don't know how many incumbents will file for reelection. I do know that the members that serve on the board find it rewarding enough for them to opt to seek additional terms.

Last month in telling you about the new art and craft center we have in West Virginia I identified the "Tamarack", the tree for which the facility is named, as an evergreen. I was mistaken. Grolier's Encyclopedia says the tree is of the pine family but unlike most conifers it sheds its leaves although not all at once. Now you know.

How dangerous is blacksmithing? I am not sure that I can give an adequate or satisfactory answer to that question. I do know that accidents resulting from the dangers of blacksmithing are directly proportionate to the amount of common sense we apply to dealing with the presence of those dangers. How dangerous is blacksmithing? Perhaps the right answer is "only as dangerous as we make it". Pay heed to what your common sense is telling you. Be safe. Be happy.

Joe Harris  
ABANA President



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## PRESIDENT'S MESSAGE TO THE CHAPTERS June 1996

### ARTS & CRAFTS SHOWCASED

I know from reading various articles in Chapter Newsletters and other publications that there are several places around the Country that provide a place for blacksmiths and other producers of arts and crafts to showcase and sell their products. Such a facility has just opened in West Virginia and it is really a showplace. It is known as "Tamarack - The Best of West Virginia". Tamarack is an evergreen tree that grows in West Virginia. The facility was built at a cost of 17 million dollars and is being billed as unique 59,000 square foot retail/art/craft/visitor center, showcasing, marketing and promoting West Virginia made arts, crafts and agricultural products.

If you are traveling through West Virginia east or west on Interstate 64 or north or south on Interstate 77 you will see the facility at Beckley, West Virginia, adjacent to the Beckley Travel Plaza. If you have the opportunity to visit Tamarack please do, it will be well worth your time.

Forged items for sale at Tamarack range from beds and other furniture to fireplace sets, kitchen utensils, letter openers and paper weights. There are on-going demonstrations by blacksmiths, woodworkers, glassworkers and others. Being a West Virginia facility it will provide an excellent opportunity for us to promote the Appalachian Blacksmith Association and it will also provide an opportunity to promote ABANA and I certainly will do that.

### ABANA DIRECTOR ELECTION

I hope to see many of you at Alfred this month and I hope to talk to some of you about your willingness to become more involved in the affairs of ABANA by being a candidate for the 1996 election of directors. If you have any interest at all in being a candidate, talk to me or one of the other directors at the Conference. We will do our best to answer any questions that you may have.

### HINDSIGHT SAFETY REMINDER

Another safety rule violated, another sore toe. I have a bad habit of laying heavy objects on top of the anvil when it is not in use. This time it was the bottom plate from my treadle hammer. I knocked it off and it hit my big toe. Was I wearing safety toe shoes? No. Did it hurt? You bet it hurt! The fact that it could have been so easily avoided didn't make it feel any better. I do try, but I hope your safety habits are better than mine.

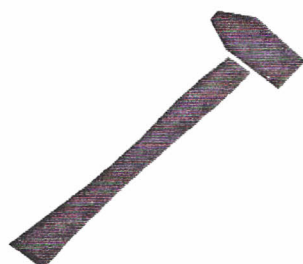
Joe Harris  
ABANA President





# AABA

## President's Message



Ron has had more than his share of irons in the fire this last few months and wasn't able to get his message to me, so I thought I'd pass along this tidbit. This winter, the association in conjunction with ABANA will host a winter mini-conference, Arizona Winterfest. It'll be a four day event at the Phoenix Forge Jan. 9-12, '97. Demonstrators will be Dorothy Stiegler, Jerry Hoffman, Dmitri Gerakiris, Lou Mueller, and Corky Storer. There'll be a Gallery at the Ramada Inn and on the last evening, a Banquet. Registration for the four days will be \$150 and attendance will be limited to 125, so if you'r interested contact Bill Callaway at the Phoenix Forge (602) 254-4996 or me at 938-1495.

For Ron Kinyon  
Work With Safety in Mind,  
Mike Cooper

(Continued from page 2) "Letters"  
circle while striking it with the hammer.

You are also right about loose handles causing blisters. A hammer that "clicks" on the handle will often cause blisters. If the handle is worn or loose, I replace it usually as you described. But if it is only "clicking" I soak it in water about thirty minutes, after having given it a couple of good blows with a heavier hammer.

I don't know if this will work down there in the valley, but it works up here. Wet your hand before hammering. This prevents the hammer from slipping plus you do not have to grip quite as hard. Like I say, a sweaty hand may have the opposite effect of making the handle slippery. While you are at that sporting goods store, you might pick up a "resin" bag. Dry your hand good, shake a little resin and you are part of the hammer. I used to get this stuff from pine trees, pulverize it and keep it in a salt shaker. It does increase your grip quite a bit thus lessening arm cramps.

Yours in smithing,  
Yellowhand  
Dale H. Shadle

(Continued from page 2)

X 3/8, he showed how to calculate the length needed using the volumes of each section of the tool. Although he usually makes tongs on the power hammer, Gene Bland provided the steam for the manual version.

Toby recommended *Blacksmithing Illustrated* by John Lillico for reference.

During the Iron-In-The-Hat drawing, Dr. Ahlene won the tongs and graciously auctioned them off for the benefit of the association. Dan Jennings was the high bidder.

Joe Donathan gave a presentation on chain mail including a hand-out with plans for a coil forming jig. One of Joe's shirts weighs in at an impressive 50 lb.

Heather McLarty came to blacksmithing via the theater. She started out building props and liked welding and fabrication. Her techniques for forging leaves and vines allow her to make realistic leaves down to 1/2" in length which she incorporates into bookmarks made from 3/16" round bar. A favorite reference is a Carl Blasfeld book full of black and white photos of plants, available from Norm Larson.

Thanks, Joel

## DEMO AND BOARD MEETING ROSTERS

Here are the proposed rosters for demonstrations and Board of Directors meetings for 1995/96:

Demos:

July 20 & 21, Flagstaff

Sept. 21, Tucson

Nov. 16, Phoenix

Jan 9-12, Phoenix Winter Mini-Conference

Board Meetings:

Aug. 17, Oct. 19.

Unless notified otherwise, Board Meetings are at the Phoenix Forge.

## AABA OFFICERS

PRES. Ron Kinyon, V. PRES. Jon deMasi, SEC. Mike Cooper,

TREAS. Ed Hirrold

EDITORS Mike and Fran Cooper

## BOARD OF DIRECTORS

Bruce Birtciel, Calvin Boyle, Mike Brooks, Darrel Bussey, Bill Callaway, Read Carlock, Hap Danielson, Maurice Hamburger, Dave Hawkins, Joe Hernandez, Bill Murray, Bob Rummage, John Segura, Ron Smith, Gordon Williams, Tom Yeager



**N.W.B.A. Resource Handbook**

## BLACKSMITHING ON-LINE

There are many information sources for blacksmiths on just about every on-line service and throughout the Internet/World-Wide-Web.

A.B.A.N.A. is finally on-line with their own Web Page. The UMBA journal appears here and in the near future it will be published on the World Wide Web exclusively at A.B.A.N.A.'s page. Their URL is: [http://wuarchive.wustl.edu/edu/arts/blacksmithing/A.B.A.N.A./](http://wuarchive.wustl.edu/edu/arts/blacksmithing/A.B.A.N.A/)

To subscribe to A.B.A.N.A.'s "The Forge" mail list forum, send as Email to: [listproc@wugate.wustl.edu](mailto:listproc@wugate.wustl.edu) in the subject field, type: subscribe THEFORGE (your name) To send a message so that all the other subscribers of The Forge Mail List receive it, send it to: [theforge@wugate.wustl.edu](mailto:theforge@wugate.wustl.edu)

The UMBA Journal is on the Chapter Newsletters Page. That URL is: <http://wuarchive.wustl.edu/edu/arts/blacksmithing/A.B.A.N.A./chapters/news/news>

Plaza Del Herro. The Blacksmith Plaza (in Mexico)  
Their URL is: <http://www.nets.com/bsmithplaza/>

The Old Cowtown Museum, a non-profit organization in Wichita, Kansas. their home page is at: <http://www.southwind.net/~scribe/cowtown/smithy.html>

Ralph Lawson-Smith, Westmead, N.S.W, Australia <http://www.usyd.edu.au/su/radiology/smithing/smithing.htm>  
The American Welding Society has a Web page at: <http://amweld.amweld.org/home/html> As well as at: <http://www.os.kcp.com/home/catalog/gasmetarc.html>

You may be interested in a net based mailing list that sends a comprehensive listing once a month of show, exhibit, grant info etc. It is called the Art DEADLINES. To get a copy of The Art Deadlines List via email, including subscription information, from the World Wide Web, send the line:  
send <http://www.xensei.com/users/adl> -in the body of your message to: [agora@mail.w3.org](mailto:agora@mail.w3.org)

Using the above method you will be able to get a copy of The Art Deadlines List from the World Wide Web at any time! Otherwise, point your browser at the URL: <http://www.xensei.com/users/adl>

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To get subscription information about The Art Deadlines List, send the message:  
SEND SUB-INFO to: [adl@xensei.com](mailto:adl@xensei.com)

To get information about advertising rates for The Art Deadlines List, send the message (in the Subject line of body of your message): GET AD-RATES to: [adl@xensei.com](mailto:adl@xensei.com)

The Institute of Metal Repair is happy to offer a free archive for metalworkers. The archive includes:

**PLANS.TXT**, a listing of magazine articles showing plans for making your own metalworking tools and equipment. They reviewed all major magazines from 1900 to 1980. If you have access to a library with a good magazine collection, you will be tapped into the motherload of tools and equipment plans.

**GOLDMINE.TXT**, an article entitled, "Repairing, a Metalworker's Goldmine." Outlines the benefits to metalworkers when they include metal repair, restoration, care, preservation and conservation, to the services they offer.

**BOOKLIST.TXT**, a list of metalworking books, many out of print, but worthwhile spending the time to find.

**IMR.TXT**, a short description of what IMR is all about.

To receive this file, please E-mail request, including your on-line address to: [71477.1742@compuserve.com](mailto:71477.1742@compuserve.com)

And last but not least, ACADEMIC METAL, out of Temple University. It is not so much a forum for an exchange of techniques as it is a forum for the exchange of ideas, philosophies and approaches to one's work and the public at large. If I may be so bold, a Zen of Metal Arts forum.

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Blacksmith Association



## AN INTRO TO SCROLLS

By: Jeff Mohr, Watkinsville, Georgia

I get a lot of beginning smiths through my shop. If they can turn a scroll, I'm lucky. I've had a lot of experience teaching beginning smiths how to do just that. It's a simple process but one that's hard to master. The only way to get good at it is by much practice. When beginning, take it slow - hit, stop, look - then hit, stop, and look again. It takes a lot more time to get yourself out of trouble so it's better to save yourself time by working slowly. A small cone for the hardy hole is handy for helping to correct the mistakes made in turning scrolls.

Start by forming a taper on the end of the stock (as shown in Figure 1). Push 1 to 2 inches of the tapered end over the far edge of the anvil and bend it down (Fig. 2) then turn the piece so that the tip now points up. Strike the work at the point indicated by the arrows in the sequence of figures at right —→

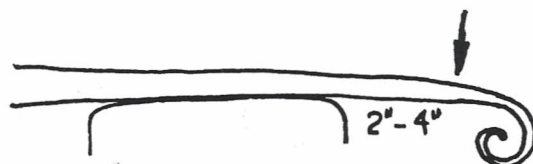
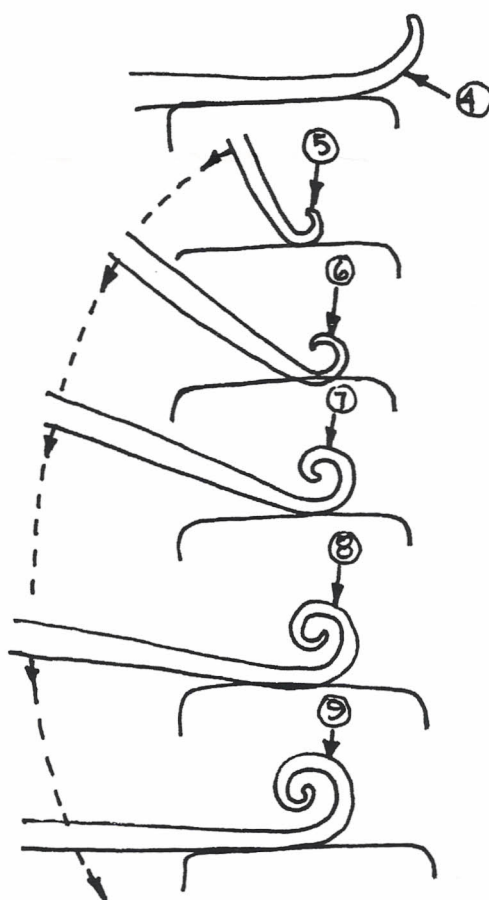
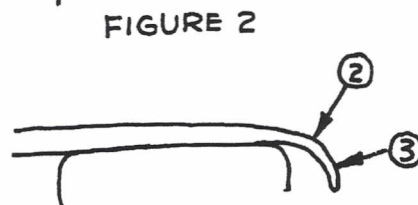
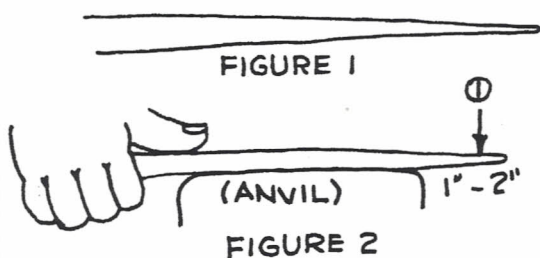
Always remember that in general, the hammer hand is the laborer - the other hand is the manager. This is especially apparent in scroll making. After bending the tip over with the first few light blows, to get to the tip in order to start turning the scroll, raise your left arm (assuming you're right handed) real high so that the tip is in such a position that the hammer blow is directed straight down towards the anvil. Lower your arm a little on each successive blow as the scroll is rolling around. As you move along the tapered stock the force of the hammer blows is increased slightly since you are striking increasing thicker stock, but the first blows are really light taps.

After you have formed a small scroll similar to that in the last illustration, you can increase the size of the scroll by repeating the procedure. To get a larger radius on the increasingly larger scroll, just push more and more material over the edge of the anvil. **Practice!!!**



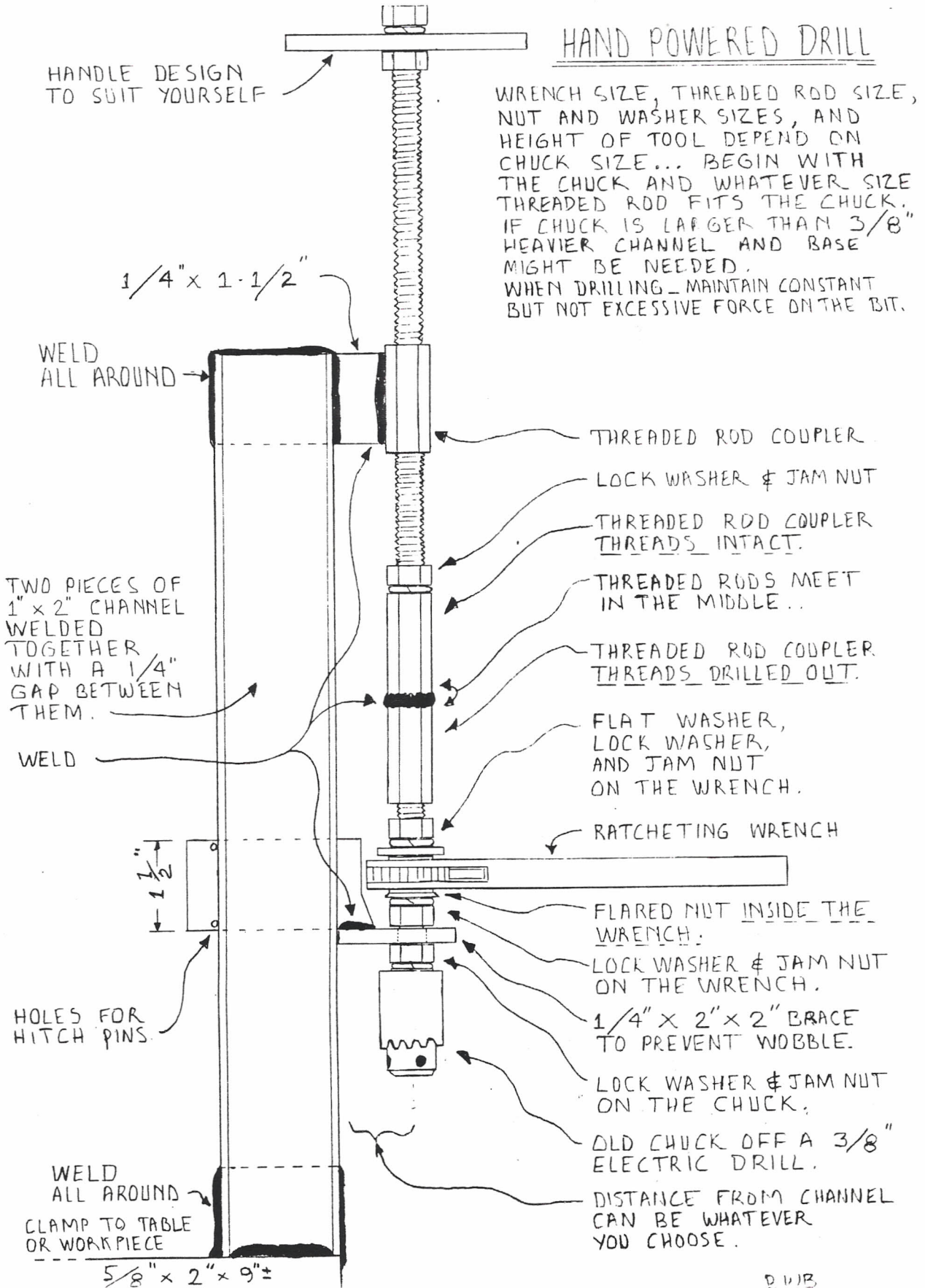
There are many examples of perfect scrolls in nature. Study a sea shell or a snail shell to really see what your goal is. A well made scroll has no flat spots in it. It is a line that smoothly flows as it curves in an ever increasingly loose radius from the center outward.

*Jeff*

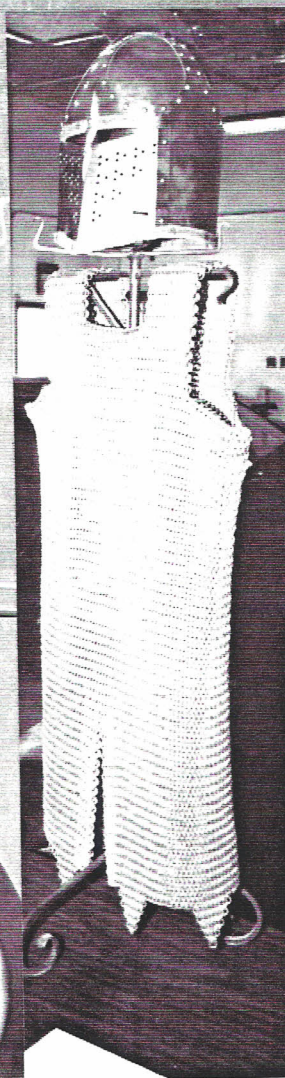
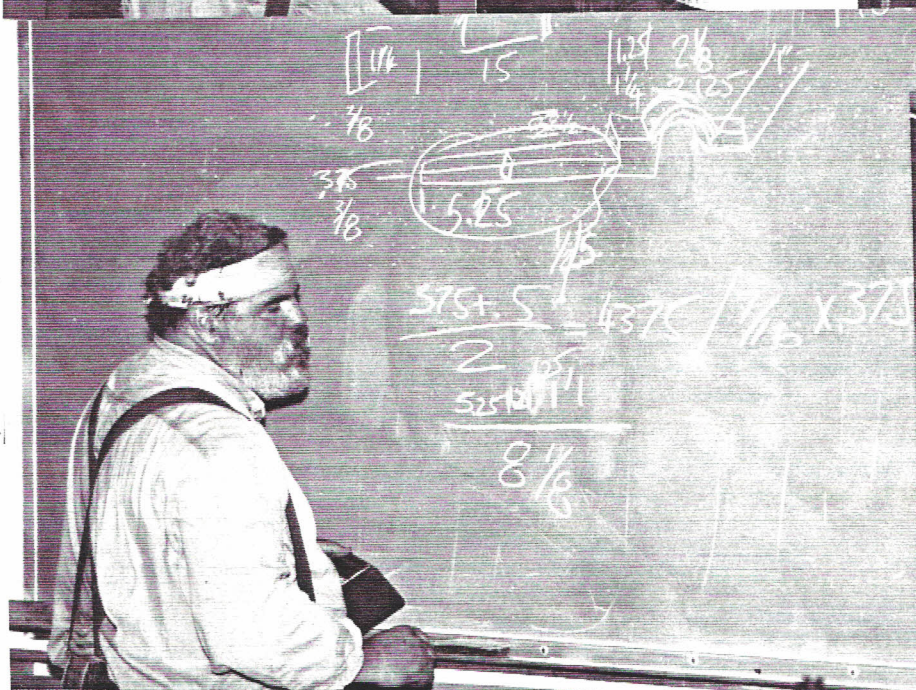




You may have seen Bruce's Manual Drill Press at some of the meetings. Bruce was kind enough to let us print the plans so you can make your own!







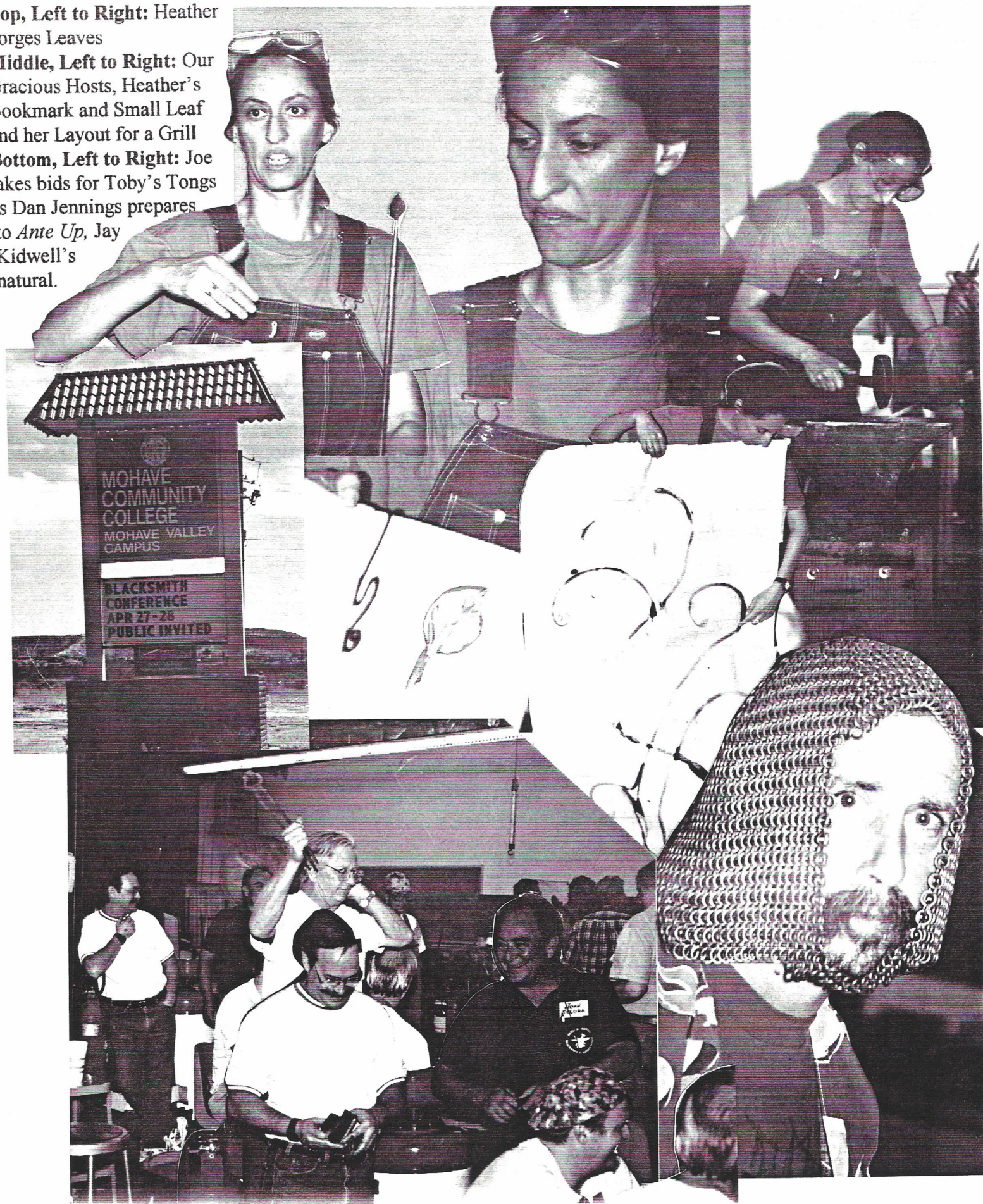
**CW from Lower Left:**  
Gene Bland striking (for)  
Toby  
Toby's Forging Math  
Toby's Tongs  
Bob Rummage and Toby  
confer  
Toby warding off evil  
Joe Donathan spinning  
some Mail  
**Left:**  
Joe's Mail Shirt and Helm



**Top, Left to Right:** Heather Forges Leaves

**Middle, Left to Right:** Our Gracious Hosts, Heather's Bookmark and Small Leaf and her Layout for a Grill

**Bottom, Left to Right:** Joe takes bids for Toby's Tongs as Dan Jennings prepares to *Ante Up*, Jay Kidwell's natural.

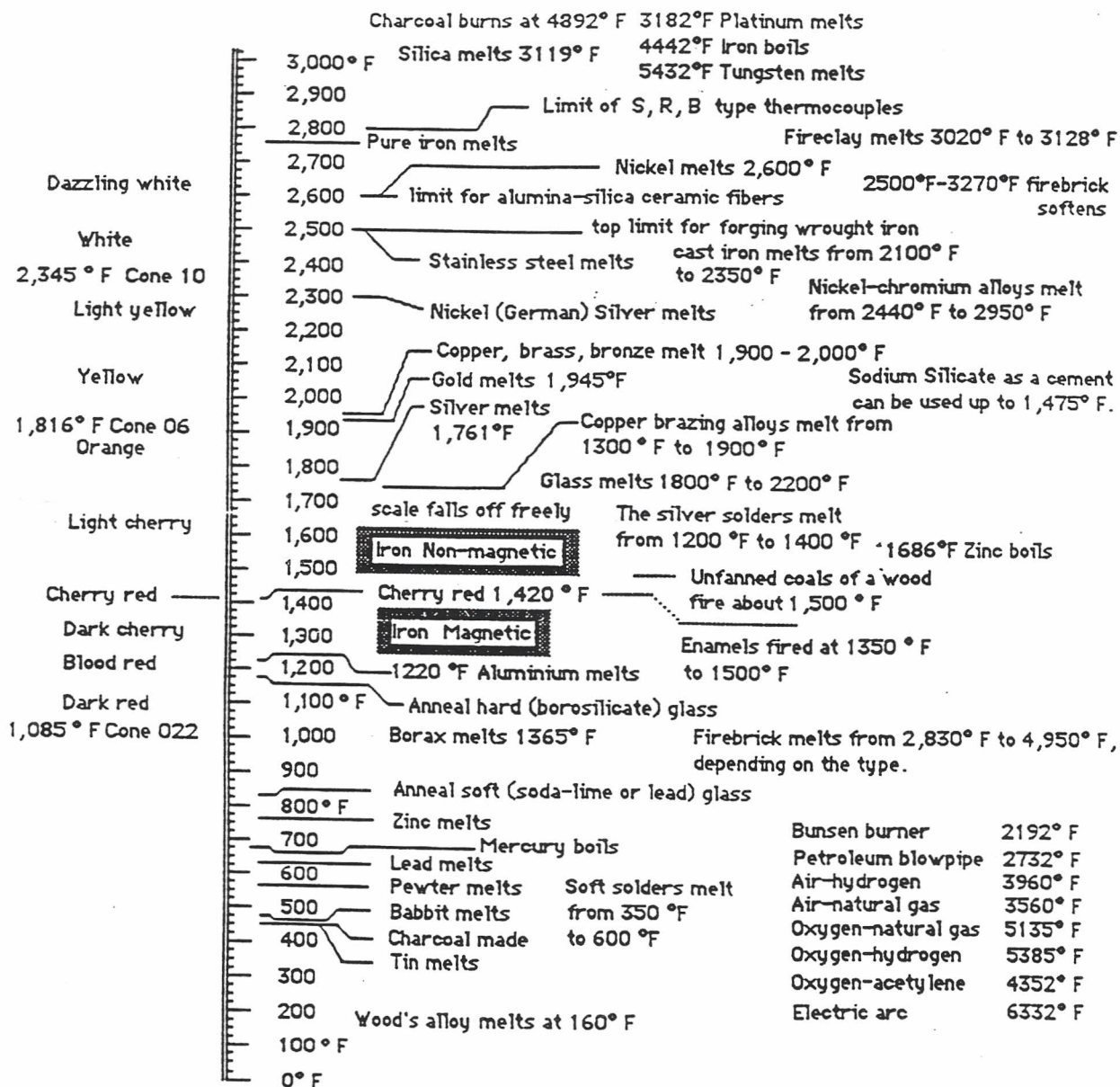




Reprint from: The Blacksmiths Guild of the Potomac January/February 1996.

## REFERENCE PAGE

Thanks to Tom Coker for the catalog from which we copied this chart. The book sells for \$14, plus shipping.



From my book, *Blacksmithing in the 21st Century*, published by Cybernetics Design, 88 East Main Street, Suite 457, Mendham, N.J. 07945-1832 Copyright © 1995 by David Smith. All rights reserved. This item may be reproduced if this notice is left intact.



## YOUR MOTHER IS ABOUT TO DISOWN YOU!

That's right, your Ma! The entity we used to call Ma Bell is about to deny your existence. US West Direct, the Yellow Pages poeple, have begun notifying business listed under the heading "Blacksmiths" that starting with the next issue of the Yellow Pages, that heading will be dropped. You'll have to settle for a listing under Welding, Metalworking, or some other, less appropriate heading.

If you have a concern about the proposed action, contact your US West Direct Sales individual and send something to your editor, too.

Perhaps a bit of pressure from those affected will prevent Ma from booting you.

## LIBRARY STUFF

Jerry Fuller would like to build the library into a reference for the Association, so he needs contributions.

If you can donate or you know the whereabouts of material that may belong to the Association, please contact Jerry or any Board member.

Jerry can be reached at: 705 N. Orlando Cir., Mesa, AZ 85205, (602)924-4026.

## CONTEST

Starting with the April meeting, the subject was again **POKERS!** We got exactly two! That was pretty embarrassing. We have close to **TWO HUNDRED** members and we could only get **TWO** pokers. If we could figure out how to forge *apathy* we'd probably have more entries than we could handle. We'll try pokers one more time in July.

**Flagstaff is coming!**

**Don't embarrass me again!**

Remember, the items must be signed and winners' pieces will be held in the Association's display for 2 years.

Just a reminder: if you have a piece that's been in the display, you can claim it by contacting Jon deMasi at one of the meetings. You can also leave it in the display, if you like.

## BELOW: SOME INTERESTING STUFF ON THE SHOW-N-TELL TABLE





## The Manufacture of Anvils in Great Britain

from *the Blacksmith and Wheel-  
Wright*, July, 1904 submitted  
by Brian Hughes

The Hardware trade Journal, of London, England, recently published an account of a visit by a reporter of that paper to the Constitution Hill Works, Dudley, where Peter Wright & Sons have for over two hundred years been engaged in the manufacture of anvils and vises.

We reproduce this article as likely to be of interest to American blacksmiths, large numbers of whom use Peter Wright anvils.

The Hardware Trade Journal says:

The name of Peter Wright & Sons, of Dudley, is so extensively known in connection with blacksmiths' anvils and vises that it will need no introduction from us. To have a reputation as an old-established house is, in these days of new inventions, a doubtful blessing. In many cases the fact that a firm was established twenty, fifty or one hundred years ago only goes to prove to the mind of the outside world that their methods are obsolete, their goods old-fashioned, and that for really up-to-date service a concern of more recent origin must be found. This is one side of the question.

This view, however, is not always correct, and there are many hundreds of instances throughout these islands that point the other way. In the case of Peter Wright & Sons, every year of the two hundred during which they have been in existence has seen modern improvements, superior machinery and scientific methods introduced into the production of their manufactures. It is therefore correct to say that every anvil at present leaving Constitution Hill Works is not only the outcome of the very latest in the way of scientific invention, but that each of those articles has behind it the whole of the experience of a couple of centuries. It will undoubtedly, therefore, be of

interest to give a brief description of the process of manufacturing as it is carried on to-day.

The firm are turning out anvils of finer quality than ever before, and worthily maintain the reputation which they have secured in every part of the world.

It is interesting, in passing, to note that this is one of the branches of industry which we appear still to retain, in face of much talk of foreign competition. For example, in the United States of America there is no better known blacksmith's anvil than that manufactured by this house. The same remark would apply to almost any quarter of the globe.

In the old days all anvils were "built up," that is, made by welding together a number of separate pieces on to a central block of common iron. Each of these vertical butt welds was, of course, a grave source of weakness, and such anvils frequently broke up. Under the firm's patent, which was the invention of Peter Wright (the great-grandson of the founder), all their anvils are made from only two forgings, which are called the "top" and the "bottom" respectively, and require only the one weld at the waist, even this being, in addition carefully "tied in."

The finest wrought iron scrap is carefully picked over by hand at the forges, and then passed into large furnaces, where it is either balled or piled, and then thoroughly worked under powerful steam hammers, so as to form the tops and bottoms from which the anvils will be made.

These forgings are now paired together, and, owing to their design, the greatest strength and working surface is secured for each anvil, according to its weight. These are then handed over to the anvil makers, who have been trained to their respective duties all their lives, and have therefore become specialists at their work. This trade is very largely hereditary, and many of the men are representatives of families that have worked for Peter Wright & Sons for generations. These forgings now undergo a further process of hammering and trimming,

which contributes great toughness and soundness. They are then welded together at the waist under powerful hammers, which insures the absolute homogeneity of the whole anvil.

The next step is to weld on the steel for the face, and this as may be imagined, is a delicate and most important process. The steel employed is the finest grade, combining all the different qualities necessary for the heavy work that the anvil face has to stand. The firm is constantly experimenting by means of chemical and physical tests, in order to secure the very best material for their purpose. The face of the wrought iron body is heated up to welding point in a large smith's hearth, both being in charge of foremen, who always superintend this process. Specially pure washed fuel is used, and a true weld is made without the aid of any patent compounds or mixtures. To make a sound weld of the face of an anvil of, say, 700 pounds, is, of course, a really fine piece of work, requiring the most careful methods and highest degree of skill.

The anvil now has the bick and table trued up, the holes put in, and the finishing touches made, after which it is heated to the correct temperature and plunged into great hardening tanks, where streams of water give it the final temper. Long experience has determined the degree of hardness which proves the best and safest to insure good, all-round wear.

The final process is to grind the steel face, which is done on huge grindstones, and the anvil, after being polished, is passed on to the warehouse.

Throughout this time the anvil has to undergo various exhaustive tests at the hands of one of the principals, for hardness, squareness and freedom from any flaws. Constant practice enables a trained ear to detect even small defects by the ring given out, and it is all this care which causes a Peter Wright Patent Solid Wrought Anvil to ring like a bell. After approval, the trademarks are stamped on every anvil, these consisting of the words "Peter Wright Patent"



## ITEMS OF INTEREST

Going to **England** this year? Here's an excerpt from *the Arizona Republic* Sunday, Feb. 11, '96 sent in by Bruce Birtciel:

"...On March 20, a \$66 million, 25,000-square-foot Royal Armories Museum in Leeds will open. The museum will display about 7,000 pieces in five galleries, and will feature interactive computer displays. Exhibits in four of the galleries will illustrate the use of arms and armor in war, hunting, tournaments and self-defense. The fifth gallery will be devoted to Asian armor and weapons, including a Chinese helmet from 350 B.C.

Leeds, 185 miles north of London, can be reached by train from London's Kings Cross station. The journey takes about 2 hours and 15 minutes. The Royal Armories Museum, a 10-minute walk from the station, will be situated off Armories Drive, Leeds LS10 1LT. By road it is about a quarter of a mile from the M1 highway. It will be open 10 a.m. to 6 p.m. daily. Calculated at a rate of \$1.55 to the pound, admission for adults will be about \$10.75; children 4 to 14 years, about \$6.

**Tom Yeager** thought it would be worthwhile to repeat Rob Gunter's hardening solution here. It can be used to harden mild steel for use on hot work:

Into 5 gal. water mix

5 lbs. salt

32 oz. Dawn dish soap

8 oz. Shaklee Basic I

The Shaklee distributor Tom found is in Sedona, Carrie Devore, (800) 742-5553.

The cost was less than \$15 per qt. including UPS. This quench is safer than the sodium hydroxide quench formerly advocated for mild steel and is reputed to give it enough surface hardness to make a chisel that's capable of cutting unhardened A36.

**Plenty of Rivets!** Here's a tip from Dave Way of the Southern Alberta Chapter:

When you need a large quantity of rivets for a project, make a jig from a piece of plate or bar with a plug welded to the back to fit your hardie hole or vise. Drill a bunch of holes in the face of the plate a little larger in diameter than the shank size of the finished rivet and deep enough to form the length of shank needed.

Cut some rivet billets to length from the appropriate size round bar. To figure the length, add the needed shank length plus 1½ times the diameter of the shank (for the head).

Make a rivet set from some suitable tool steel a little larger in diameter than the desired rivet head diameter. One way is to form the desired head shape in some stock and drive the heated punch blank over it to form a female replica of the desired shape. Dress the punch and harden and temper it.

Now either heat the billets in the forge or drop them in the plate and heat them with a torch, being careful not to overheat the plate. Strike two good blows to upset each billet and finish the head with the rivet set. Tap the plate with the hammer and the rivets will jump out ready for use.

## SCHOOLS

Colorado Rocky Mountain School  
1493 County Road 16  
Carbondale, CO 81623  
(303) 963-2562

Dry Canyon Forge  
Joe Elliot  
128 East Antler  
Redmond, OR 97756  
(541) 548-2564  
Basic and Advanced Classes

The Forgery School of Blacksmithing  
Rob Gunter  
13 Imnaha Road  
Tijeras, NM 87059

(505) 281-8080

Old Cedar Forge  
Jerry Culberson  
East 220 Cronquist  
Allyn, WA 98524  
(360) 275-6769  
Basic and advanced classes

School of Bladesmithing  
Texarkana College  
2500 N. Robinson Rd.  
Texarkana, TX 75501  
(903) 838-4541

Sculptor of Steel  
David Thompson  
4440 Theona Dr.  
Eugene, OR 97402  
(541) 688-2348  
Basic classes

Turley Forge Blacksmithing School  
Route 10, Box 88c  
Santa Fe NM 87501

## MOUNTAIN SMITHS BLACKSMITHING CONFERENCE VI

August 15-18, 1996 the Rocky Mountain Smiths will hold their sixth Conference at the Francis Whitaker Blacksmith School on the campus of the Colorado Rocky Mountain School in Carbondale, Colorado.

Demonstrators will be Francis Whitaker, Nahum Hersom, Cathi Borthwick, Chris Axelsson, Hoss Haley and David Norrie. Activities include a Gallery and Silent Auction. Reasonable accommodations will be provided at the School.

Contact:

**Conference Coordinator:**  
Will Perry  
PO Box 122  
Carbondale, CO 81623  
(970) 963-2464

**Conference Registrar:**  
Dan Nibbelink  
1932 N. Hwy 287  
Berthoud, CO 80513  
(970) 532-4387



## "CLASSIFIEDS"

### Artist-In-Residence/Smithy Manager

**Position:** Full time, permanent position, \$16,500, Tuesday through Saturday. Medical insurance, workman's comp., sick and annual leave, studio space, commission and work for exhibitions are strongly recommended.

Contact Jim Wallace, Director  
**National Ornamental Metal Museum**  
374 Metal Museum Dr.  
Memphis TN 38106

**WANTED:** Blacksmith to work in the largest and fastest growing shop in southern Arizona. Contact:  
Tombstone Smithey  
Box 222  
Tombstone, AZ 85638  
(520) 457-2326  
Or apply in person at the Smithey.

**FOR SALE:** Niagara Tinners Bench Set. Includes stake plate on 26" base with shelf and 7 steel stakes. In storage 50 yr. Ideal for tinwork or light ironwork. Set is similar to Centaur cat. p.108, but larger and heavier. \$1700 value, \$450 firm.  
Contact Tom Woods at:  
3401 W. Morten  
Phoenix, AZ 85051  
(602) 841-1218.

**FOR SALE:** Bruce Birtciel ran across these tidbits while scouting Glendale antique shops.  
At Craft Country, 9201 N. 29th Ave. near Metro Center, a hand operated blower on a stand for \$295 made by Lancaster Forge and Blower Co. Arizona Antique Gallery, 1126 N. Scottsdale Rd., Tempe has a 3½" post vise for \$90.  
An un-named store on 57th Dr. between Glendale and Glenn, north of the Bank One building has a blacksmith's bellows upstairs that's about 4 ft. long for about \$295.

**FOR SALE:** Combination gas and coal forge with motor for \$100.

Contact tom Yeager at:  
19206 W. Fillmore  
Buckeye, AZ 85326  
(602) 853-0506

**FOR SALE:** *The Artist-Blacksmith's Craft* and *My Life as Artist-Blacksmith* by Julius Schramm have been translated from the German and published in one volume by SkipJack Press. In the first book, *The Artist-Blacksmith's Craft*, Schramm presents his view of the forces influencing blacksmithing and continues with a description of basic processes. The remaining 30 pages contain photographs of his work.

The second book, *My Life as Artist-Blacksmith*, is as the title implies, autobiographical. In it he recounts his early life and experiences as a blacksmith. He goes on to describe some of his works and ends with some learning exercises. The last 25 pages contain photographs of his work.

A new release from SkipJack Press; *Julius Schramm* translated by Robert Ruhloff was first published in the '30's as a workshop report. It's a 6" x 8.5" 24 page booklet with 11 photographs of wrought iron work that Schramm forged near the end of his career. It's available by mail for \$6 from:  
SkipJack Press Inc.  
637 Drexel Ave.  
Drexel Hill, PA 19026  
(610) 284-7693 ph  
(610) 284-7694 fx

### RESTORATION '97:

Restoration 96/Chicago is a convention/trade show with an emphasis on architectural restoration and conservation of twentieth century resources. Presentations will accompany the trade displays and educational programs. New this year is a "Job Match Program" aimed at connecting job seekers with prospective employers in this field. This year's Restoration will be held at the Chicago Navy Pier, October 18-20.  
For more information, Contact:  
RESTORATION Conference Manager

RAI/EGI Exhibitions, Inc.  
129 Park St.  
North Reading, MA 01864  
Tel (508) 664-6455  
Fax (508) 664-5822  
e-mail show@raiegi.com

**SHOP TIP:** From Juanita Hill, by way of the May issue of the newsletter of the Appalachian Area Chapter, a painting tip. For painting iron or wood. Wad a nylon stocking and use it instead of a brush. It does not leave streaks or lint.  
Dampened nylon is also good for dusting your iron projects.

**WAX IT:** Here's a good preservative for your metal projects, knives, etc. It's called Renaissance Wax and it's imported from England. It's used by museums, art galleries and institutions to preserve their precious pieces. Order a 200 ml. bottle for \$16 plus \$4 S&H from:  
Cutler Specialties  
22 Morris Lane  
Great Neck, NY 11034

**FLAT BELTS:** From the Mike George in the Newsletter of the Blacksmiths Association of Missouri, here's a tip for those needing flat belts. Try your local farm machinery dealer. Hay balers for making large round bales use rubber or rubber-faced canvas belting to roll the hay. The belting can be from 3 inches to over 7 inches wide. In normal use these belts only wear in spots. That means there is a lot of good belting in the dealer's scrap pile. Mike traded a couple of small hooks to the baler mechanic for a piece of belting the length he needed, complete with brand new, machine installed lacing.

**FOR SALE:** Ray Robertson at Laurel Machine and tool has some more neat stuff. They have been making swage blocks, cones and hardy tools for the past couple of years. Now they are adding anvils to the list. They are getting ready to pour a 400 pounder he says will be a Rc 60 hardness. Call Ray at (601) 428-0541 for more info.

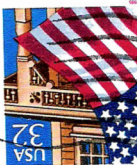


✍ Send to: ABANA, P. O. Box 1181, Nashville, IN 47448 ☎ Or phone with VISA/MasterCard by calling (812) 988-6919



THE ANVIL'S HORN  
3533 W. BANFF LANE  
PHOENIX, AZ 85023

The Anvil's Horn ♦



♦ 16

## SOURCES OF SUPPLY

**Contractor Book Soutce** stocks a number of reference books for the trades loaded with handy formulas. There're located at 9th St. and Jefferson.

**ENCO Tool Supply** carries abrasives, belts, saw blades and many other kinds of tools at reasonable prices. Stop by or send for a catalog.

(602) 968-5153

929 W. 23rd St. Tempe

**Arizona Specialty Metals**, 4020 E. Washington, Phoenix AZ 85032 (602) 276-8407, has a pile of H13 tool steel for sale cheap. In a special arrangement with Tom Yeager, they'll sell H13 rems for \$1.00 a pound. This is high temp, air hardening steel that's great for hammer dies and anvil tools. See Jim or Allison and say Tom sent you or identify yourself as an AABA member to get the special price.

**Genuine Wrought Iron:** All sizes square, round, flat and fabricated bar. Made in England.

Contact Tim Ryan.  
(617)643-0158.

**Brochure:** Brian Hughes has written a new brochure called "*Consumers Guide to Wrought Ironwork*". It is a promotional and educational tool for blacksmiths to use in helping potential clients understand their work. If you would like more information, send SASE to:

Brian Hughes  
Box 10033

Prescott, AZ 86304

**Centaur Forge**, P.O. Box 340, Burlington, WI 53105, has a complete line of books and tools. Send for their catalog.

**Little Tree Designs**, 115 E. Mendocino, Willets, CA 95490, has a catalog of tools and fixtures.  
(707) 459-1934

**Valley Forge and Welding**, Jere Kirkpatrick, 30-C E. San Francisco St., Willits, CA 95490, is another good source of catalog tools and fixtures.  
(707) 459-2523.

**For Sale:** Ring roller, benders, twistlers, bending dies, ornamental iron

drawing system, scroll iron attachments. All new manufactured products. Send for info.

Shop Outfitters  
605 S. Adams St.  
Laramie WY 82070  
(307)745-5999

*The Anvil's Horn* is the official newsletter of the Arizona Artist Blacksmith Association. Published every other month preceding the bimonthly meetings of the Association, the newsletter is oriented toward anyone interested in blacksmithing and related forms of metal work. Membership is available at the rate of \$15 for individuals and \$20 for families and includes a subscription to the *The Anvil's Horn* for one year. Every attempt has been made to ensure the accuracy of information appearing here, but no liability is assumed by the Association or its officers for errors, damages, or injuries resulting from any design use, construction or application of said information. Uncopyrighted material may be used freely by other similar organizations provided proper credit is given. Any copyrighted articles appearing herein should not be reproduced without permission of the author. Matters relating to membership, newsletter submissions, corrections, etc. should be addressed to the editor: Mike Cooper  
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