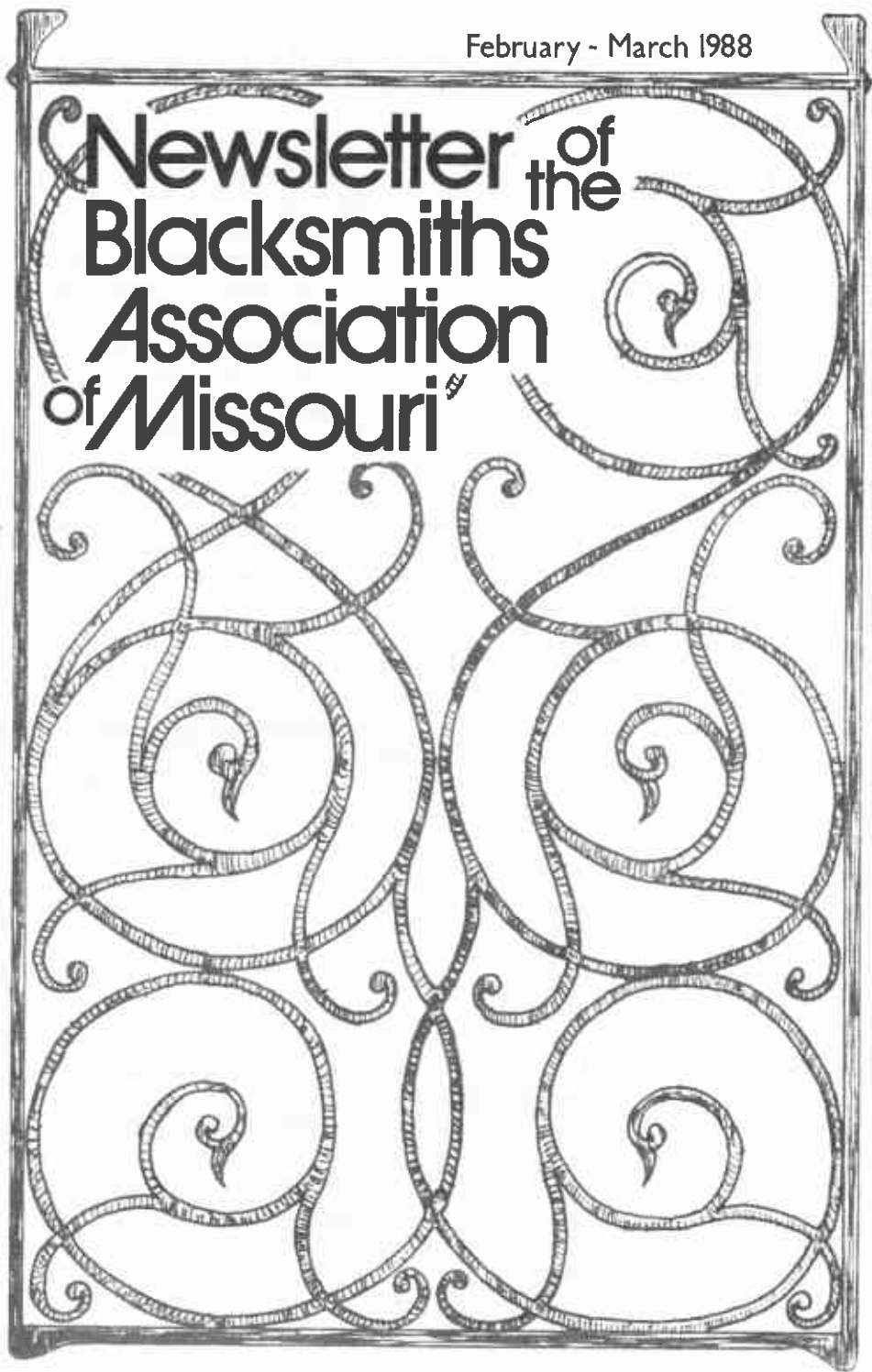


February - March 1988

Newsletter of the Blacksmiths Association of Missouri



SGA

FEBRUARY - MARCH 1988
VOL. 5 NO. 1

The Blacksmiths' Association of Missouri is a chapter of The Artist-Blacksmiths' Association of North America. This organization is devoted to preservation, advancement, and communication between blacksmiths of Missouri and surrounding areas. BAM's newsletter's goal is to support these ideas. Letters to the editor, tech tips, tools for sale, or any ideas which further these ends will be considered for publication.

Occasionally some material included in this publication will be copyrighted and may not be reproduced without written consent of the author. BAM welcomes the use of any other material printed in this newsletter provided the author and this organization be given credit.

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Dues is Due

This is it guys, time to pay the piper. If you don't find your name on this list of current members, this is your last newsletter. If you are paid up, or if you joined late in 1987 and are not on this list drop our treasurer a line. We run from January to December to simplify bookkeeping.

1987 was a great year for blacksmithing in Missouri and BAM. We had several major workshops and many good regional meetings. 1988 will prove to be just as exciting.

Write your checks today! We all need each other.

BAM MEMBERSHIP APPLICATION

Name: _____:

Address: _____:

City: _____:

State: _____ Zip: _____:

Telephone: _____:

New Member: _____: Renewal: _____:

Memberships are for the calendar year, January 1 to December 31. Dues are \$15.00, which includes a subscription to the bimonthly BAM newsletter.

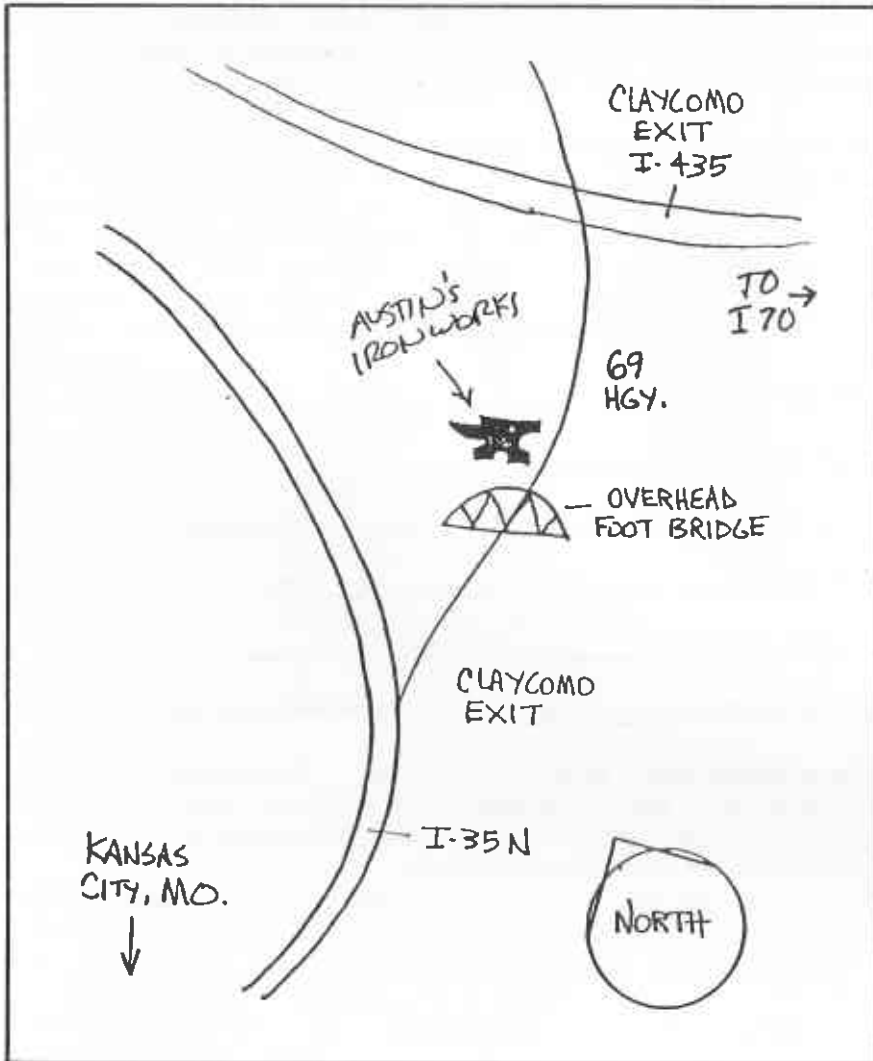
Please make checks payable to Blacksmith Association of Missouri

SEND CHECKS TO: Steve Austin
44 N.E. Munger Road
Claycomo, MO 64119

Next Meeting

Our next meeting will be March 19 in Kansas City at Steve Austin's shop. The trade item will be a door knocker.

Steve will have ABANA slides, films, and more. Don't miss this one!



ABANA MEMBERSHIP APPLICATION

Membership in ABANA includes a subscription to the Anvil's Ring

Name: _____:

Address: _____:

City: _____:

State: _____ Zip: _____:

Telephone: _____:

New Member: _____: Renewal: _____:

Practicing Smith: ___: Artist: ___:

Teacher: ___: Student: ___: Amateur: ___:

Fulltime Student	-	\$25.00 per year
Regular member	-	\$35.00 per year
Family Membership	-	\$40.00 per year
Senior Citizen	-	\$25.00 per year
Overseas Member	-	\$45.00 per year
Contributory	-	\$100.00 per year
Library Subscription	-	\$25.00 per year

Mail to: Artist-Blacksmith Association of
North America
P.O. Box 1181
Nashville, IN 47448

ABANA Conference 1988
Sloss Furnaces - Birmingham, Alabama

The 1988 conference looks like a good one with many nationally known demonstrators. Among the numerous subjects to be covered are: power hammer techniques and tooling, traditional and contemporary door latches, floral motifs, working with a striker, sculpture, and much more. This type of conference only happens once every two years.

Dear ABANA Members,

PRESIDENT'S MESSAGE TO THE CHAPTERS January 1988

Dear Fellow Blacksmiths,

We are off and running and now that January is nearly over there is but a short time before the Sloss Furnace Conference.

I want to personally thank those of you who have called or written to me and expressed so many positive thoughts. Thanks! I never know if I am coming across the way I hope to and positive feedback is very important.

Susan Showalter is finishing up her year end commitment to ABANA and is resigning to pursue her artwork. Bill Callaway is the new Treasurer of ABANA and will conduct the financial end of the organization. The ABANA Board is going to fill Susan's vacated seat and you as members will have the opportunity to "okay" that choice at the General Membership Meeting in Birmingham in June.

We will have our regular 1988 Elections in the early Fall, so be thinking of who you want to represent you. Remember the tremendous workload that each ABANA Board of Director must shoulder. We need help with economic advice, legal, secretarial, audit or CPA information, A.V. and library skills, and leadership ability. If you know someone who is a likely candidate, get with your chapter and prepare to nominate him or her for the Fall Election.

The Conference Committee headed by Bill Manly is giving us a good report. We sent them the second half of the seed money so that they can mail your registration packets to you. Anyone who can send in an early registration will want to do so, as you will find a savings in several areas.

Insurance for the conference is being handled at this time. To keep these fees as low as possible and still insure our conference-goers for the event, all in attendance must be ABANA Members. Therefore, the registration fees for non-ABANA Members will be higher but will include a family membership in ABANA. This will allow your wives and children to come in under our insurance requirements and also introduce you to The Anvil's Ring and the other fine benefits. It will also give you a voice in voting at the General Membership Meeting to be held at the conference.

Francis Whitaker is joining the ABANA Switchboard. Please add his name, address, and phone number to your list: Mr. Francis Whitaker, 1265 West Bunny Court, Aspen, CO 81611. Phone: (303) 925-3844. Francis and Portia are doing much better and send their regards to all of you.

Freddie Haberman had a trip hammer accident. He lost three toes but is otherwise, none the worse for wear. Thank you, Jesus! Well-wishers can send a note or card to: Alfred Haberman, Wilhelm Diess-Strasse 8, 8346 Simbach Am Inn, West Germany.

(over)

Manfred Brehdol spent the better part of the past three months in the hospital recuperating from a heart attack. Reports are that he is better and in good spirits. Well-wishers to Manfred can be sent to: Manfred Brehdol, Ritterstrasse 23, 5100 Aachen, West Germany.

Don't forget about the Saturday Evening Auction and the ASMI nearest your chapter.

Most sincerely,


Dorothy Stiegler
ABANA President

DES/jrg
c: ABANA Board
Robert Owings
Bill Manly

1988 ABANA Conference Sloss Furnaces National Historic Landmark Birmingham, Alabama June 15-18, 1988

February 4, 1988

TO: ABANA Chapter Presidents
FROM: John Catchings, 1988 ABANA Conference, Iron in the Hat Committee
SUBJECT: Donations for the Iron in the Hat Drawings

I'm happy to report that the 1988 ABANA Conference plans are outstanding! Your chapter members should be receiving information and registration packets soon. The Conference should be memorable for all. Many thanks for your help and support!

As you know, the Iron in the Hat Drawing is an important fund raiser for ABANA. It helps generate funds to cover current conference expenses and helps provide future conference seed money. The Iron in the Hat will be an enjoyable part of the Conference. This year there will be six(6) drawings: two drawings each day for three days - one at the noon meal and one at the evening meal. I expect to have many quality items for each drawing.

Please solicit your members at your monthly meetings and in your newsletters for donations to the Conference Iron in the Hat.

They may wish to donate: -Tools
-Handmade Ironwork
-Iron Collectables or Antiques
-Books or Literature about Ironwork
-Individual Services
-You Name It!


Also point out that all donations are tax deductible - receipts will be provided. For those not able to attend the Conference, make a donation and be there in spirit! Members may either: 1) send items to: Iron in the Hat

c/o Randy Lawrence/Sloss Furnace
P.O. Box 11781
Birmingham, Alabama 35202

or: 2) bring items to the Conference - directions will be posted at the registration desk.

Let's have fun with this! May I suggest a group effort in addition to individual efforts? How about an inter-chapter competition for the most interesting, original, unusual, or spectacular donation? What can you and your chapter come up with? Thanks everyone! See you at Sloss in June!

Sincerely,


John Catchings
3524 Jefferson Township Pkwy.
Marietta, Ga. 30066
(404) 587-4004

Events

There will be a two day hammer-in at Lincoln's New Salem in Springfield, IL in April. We do not have the exact dates at this time. We will publish them as soon as we get the information. There will be a small fee for the hammer-in.

MAY 1988 -- Study in Prague, Czech., in an intensive training workshop under Vaclov Jaros. Two 14-day classes will be offered with "hands on" training as well as historical lectures and field trips. Five students per class.

Contact:

Luba Ruzicka
Luba Travel
103 W. 5th st
Taylor, TX 65474
(512) 352-8595

BAM member Tom Gipe is co-coordinator for the National Cast Iron Art Conference at Sloss Furnaces in Birmingham, Alabama April 27-30. Write Tom for further information.

Tom Gipe
Department of Art and Design
Southern Illinois University - Edwardsville
Edwardsville, IL 62026-1774

1988 WORKSHOPS

At the January meeting, Bert Elliot-Francis, Stan Winkler, and Jerry Hoffmann volunteered for a committee to develop ideas and search for a demonstrator for a major workshop.

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Ken Rehmer
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St. Louis, MO 63114

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Grady + Clarissa
C/O Grady Holley, Sr.
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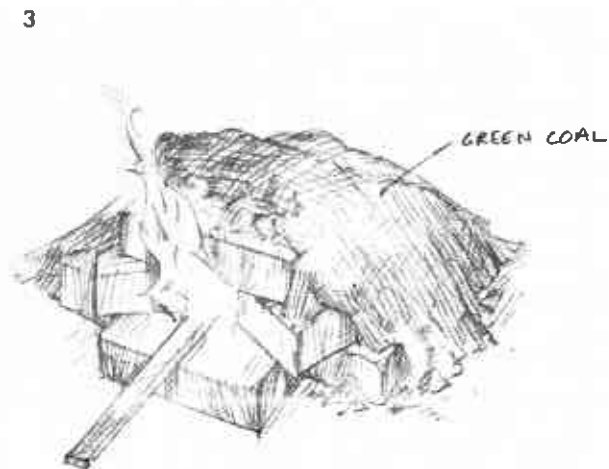
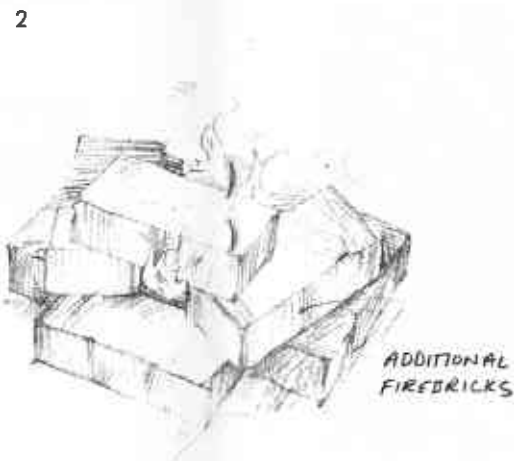
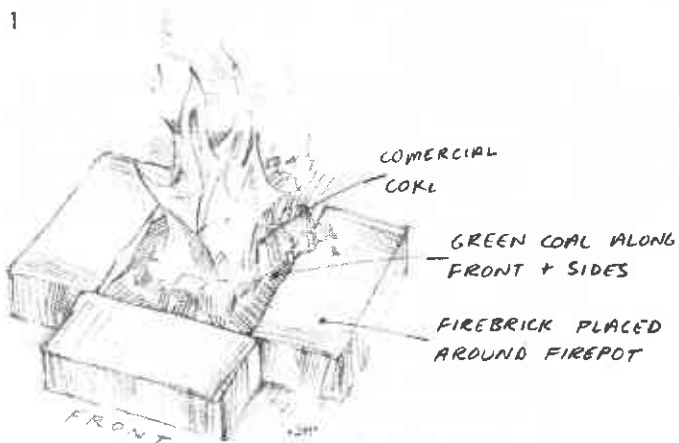


Daryl Meier Workshop

This report is a joint effort by Steve Austin, Jerry Hoffman, Walt Hull, Stan Winkler, Bernie Tappel and Doug Hendrickson.

BAM'S January meeting was held at Stan Winkler's shop in Ste. Genevieve. Daryl

Meier, recognized expert in pattern welded steel, was our demonstrator. Twenty-six people attended the workshop and were amazed and entertained by Daryl's knowledge and country wit. Daryl's careful instruction, patience, and carefully organized presentation made the craft of pattern welding seem easily within the reach of any smith with forgewelding capability.



We were taken from fire building to acid etching in six hours. Even though far more information was disseminated than could be totally absorbed, most in attendance agreed that many problems they have faced were solved. A spectacular show-and-tell of Daryl's knives followed lunch. The now famous blade with Daryl's name in the pattern was thoroughly explained as were several other beautiful patterns. The following notes are highlights of the workshop.

FIRE BUILDING

Daryl Meier prefers a gas forge. When he does use coal, as he had to at this workshop he builds an "oven" or "cave" fire using fire bricks to support and maintain the shape of the fire.



The coal mound cokes up and forms the oven. He feeds the fire with commercial hard coke through the port in front formed by the bricks. The iron is worked through this port also. As the fire consumes the coal roof more is piled on top carefully so that the oven roof is not broken down. Commercial hard coke lasts longer, is clean, and is the right size to chuck into the port. This type of fire takes time to build properly. It's important to allow the green coal enough time to glue together and form the cave. Clinker is removed through the port with a hook. This technique allows clinker removal while

maintaining the integrity of the cave fire structure.

BILLET PREPARATION

Use two metals that have different chemical makeup. Daryl uses A203E steel which has a 3 1/2% nickel content and W1 steel. The nickel content of the A203E, Daryl feels, gives him the degree of color contrast necessary to make a quality blade. The stock that makes up the billet should be ground clean and crowned on one side to squeeze out the flux when welded. Be sure to alternate the bars of carbon steel and mild steel.

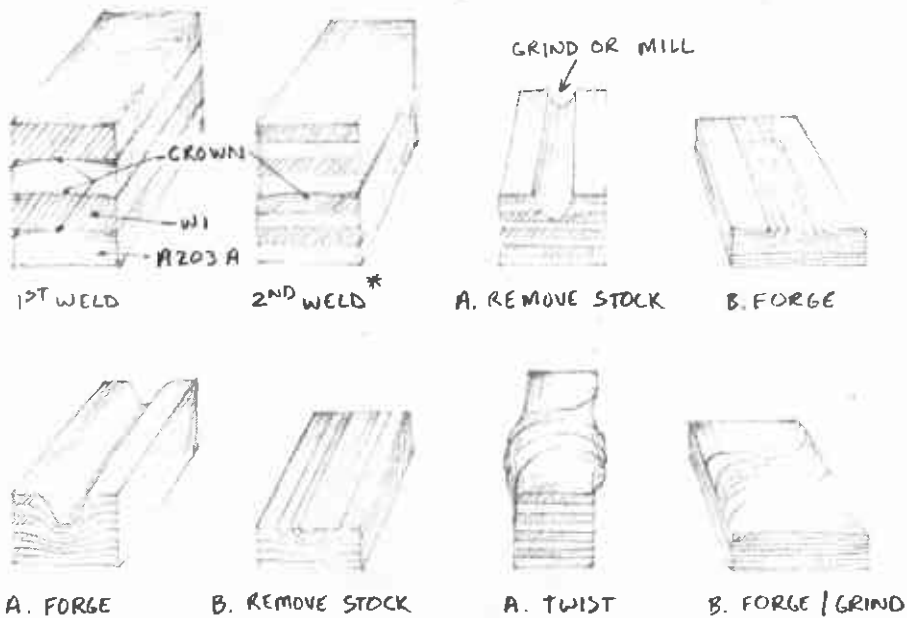
The billet is held in position with arc welds on each end. A porter bar is then welded on one end for ease of handling. Weld the porter bar in the center of the billet so it won't be squashed down during repeated weldings.

WELDING

The billet is put in the fire and fluxed with Crescent weld. Crescent weld melts at from 1700 degrees to 1800 degrees Fahrenheit. When the flux melts the billet is ready to weld with overlapping hammer blows. Make sure the whole billet is fluxed and that the spaces between the layers are filled. Watch to see that the flux in the groves is melted before removing from the fire. Remember to turn the billet in the fire for an even heat. Small crumbs of green coal may be tossed in the fire at this time to insure a reduction atmosphere. After welding, draw out the billet to the proper length so it can be cut, ground, crowned fluxed and welded again. Be sure to cut off the ends with the arc weld as it will screw up the pattern. Hammer the edge only to maintain proper thickness of the billet. Edge hammering may cause the layers to shear.

PATTERN CONTROL

There are numerous methods of controlling the pattern in your final piece. Techniques for pattern development include twisting, fullering, drilling, punching, grinding and combinations of these and any other approach you can dream up. Daryl hammered home the



* AT LEAST 3 MORE WELDS REQUIRED TO REFINE PATTERN

point that "it works for me" and that each smith should develop patterns and techniques for himself. After forming and grinding the blade, it must be etched to show off the contrasting colors in the topography. Daryl uses 5% sulfuric acid in distilled water. The solution is heated slightly to the point where it just starts to steam. Remember when mixing water and acid ALWAYS add the acid to the water, never the reverse.

HEAT TREATMENT

Anneal the blade first. Then heat it up to the critical temperature and quench in light oil. Daryl tests for the critical temperature by touching a magnet to the blade. When the blade loses its attraction he quenches it. Tempering is done in the oven at 450 degrees for one hour. Then turn the oven off let it cool naturally.

CARBON DIFFUSION

The carbon migrates into the mild steel from the carbon steel. Daryl feels that after multiple welding heats the carbon is consistent throughout the billet. A series of photomicrographs Daryl has had taken support his theory.

GENERAL RULES

1. The thinner the stock the harder to weld.
2. The thicker the billet the harder to weld.
3. 6 to 1 is maximum relationship of width to thickness.
4. Using under 3/16" stock is not advised.
5. Hammer billets very gently on edge.
6. Welds get stronger as the process goes on.
7. Hammer from both sides with overlapping blows.
8. Flux has to be melted to get a weld.
9. Crescent flux melts at 1700 degrees to 1800 degrees.
10. E-Z weld melts at 150 degrees higher than Crescent.



Safety

by Walt Hull

Dear Professor Safety

I often grind without my goggles. My friend Scooter says this is dumb and I will get something in my eye and perhaps be blind. My friend Squint says it's O.K. to do it till I need glasses. Which is right? I'll be keeping an eye out for your answer.

Dear Eye

I bet you have one of those little 4" angle grinders that turns about 10,000 RPM. The outside edge of that stone, at 10,000 RPM, is going $(10,000 \times 4 \times \pi)$ 125,664 inches per minute, which works out to 119 mph. So is any particle being flung off that edge, and that particle may also be hot enough to weld. I don't think it will do your eye any good. The last time I got something taken out of my eye it cost me \$67.00. I was lucky. Mine was not steel, so it didn't rust and leave a permanent scar on the cornea. Goggles, face shields, or safety glasses with sideshields are a really good idea. Sparks and such get around those devices, but by the time they get to your eye they have taken a couple bounces and aren't going so fast, so they will do less harm.

I'm not going to tell you what type of eye protection to wear. I wear prescription

eyeglasses all the time and Selstrom goggles over them when I grind. If you don't wear prescription glasses, safety glasses (with side shields) are good because you will probably wear them all the time. Face shields are cumbersome, and, according to OSHA, don't give as good impact protection as safety glasses, but they do cover the whole face, and they let you see.

Besides wearing eye protection, there are some other things you can do to avoid sparks in the eyes. When you grind, be conscious of the direction of the spark stream. Throw it on the ground when you can. If it must go to the side, try to keep it at waist level, not eye level. Look to see what the sparks may bounce off of (e.g. other parts of the work, equipment on the bench). The ones that bounce may still hurt you. Position your head out of the plane of the wheel. Be aware of other people in the shop. Don't spray sparks in the back of your partner's glasses. Good help is hard to find.

Don't forget, either, that sparks are not the only things that come off the wheel. If you grind aluminum, wood, plastics, etc., you won't see a spark stream, but there's still stuff coming at you. Pieces of the wheel can come off. Wire brushes are especially bad, since the bristles have more mass than the average particle and can stick in you. So wear the damn goggles, O.K.?

Prof. S.

Dear Professor Safety

Is the stuff that the grinder puts in the air dangerous to your lungs?

Concerned

Dear Concerned

You betcha. Another reason to aim the sparks at the floor.

We'll be doing more on lungs in a later column.

Prof. S.

Please send your safety questions, concerns, tips, or corrections to Walt Hull, 2043 Mass., Lawrence, KS 66046. Neither the author, the newsletter, or the Blacksmith's Association of Missouri pretends to be exhaustive or infallible. It's your shop and your safety, and you are responsible for them. We only hope to help by increasing awareness of hazards and steps to avoid them.

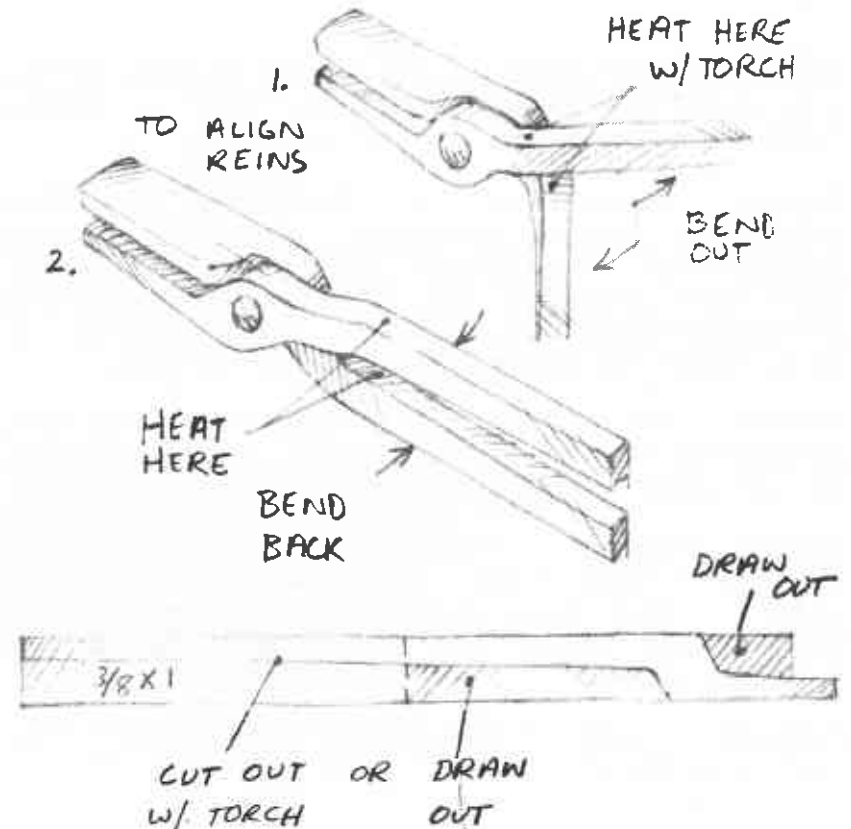
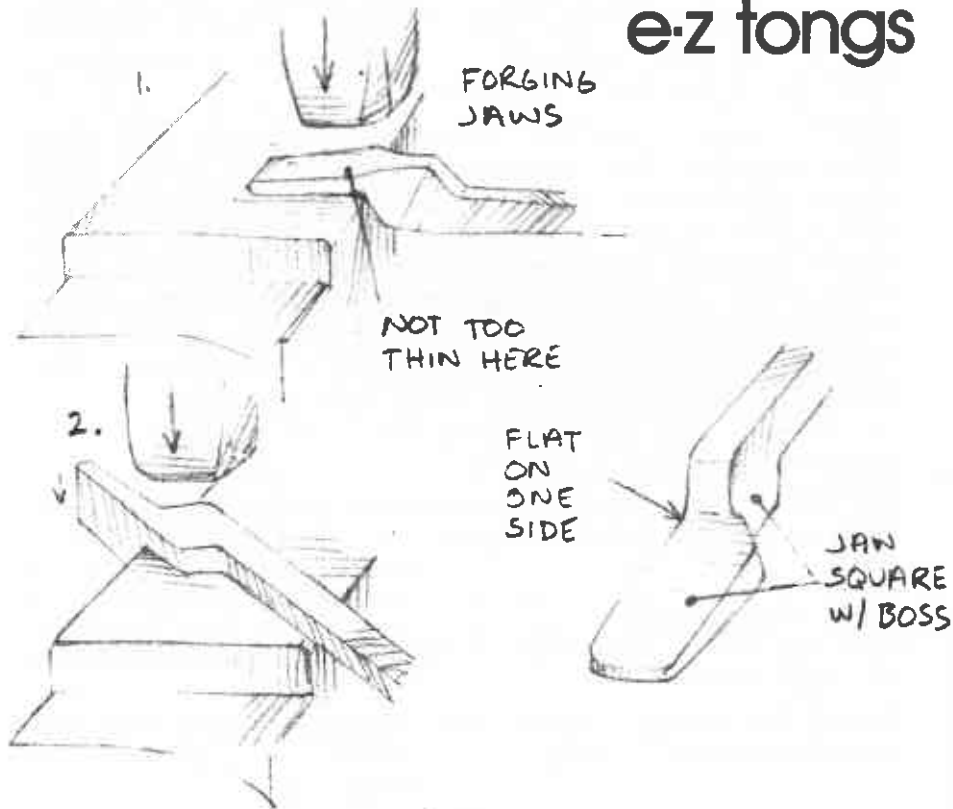
Members and guests attending our January meeting:

Rodney Pinson
 James Thomas
 Bernie Tappel
 Zeno Amschlen
 Bert Elliot-Francis
 Cliff Henderson
 Jim Waller
 Hank Knickmeyer
 Steven Baker
 Dan Whitmore
 George Kaul
 Walt Hull
 Jerry Hoffmann

Bruce Gibbar
 Chris Thomas
 Doug Hendrickson
 Al Dippold
 Emil Bubash
 Al Stephens
 Lance Cuckler
 Ken Markley
 Bob Crecelius
 Maurice Ellis
 Steve Austin
 Stan Winkler
 Roger Lewis

Tips & Techniques

e-z tongs



TECH TIPS

from Francis Whitaker

When laminating, layering or appliqueing pieces that will be subject to weather (outside), always prime the inside surfaces thoroughly. A good example is a railing with a flat bar capped with half round or half oval. If a painted finish is desired, I prime the inside surfaces with two coats of latex metal primer, if natural finish is desired, I use two coats of Valoil No. 30 Sealer. If possible put the pieces together when the primer is still tacky, it will really seal the inside against corrosion. So often one sees this type of rail where water has gotten in between and the ensuing rust has separated the pieces. One can NEVER get at those inside surface again, so do it right.

Silver Dollar City is currently searching for qualified craftsmen the fill the following full-time positions:

Master Blacksmith - Position requires designing and creating products using traditional blacksmith tools and methods. Must have ability to perform entertaining demonstrations and explain the history of this craft as it relates to the Ozarks.

Master Knifemaker - Position requires designing and creating knives characteristic of the 1880's and performing demonstrations.

Master Toymaker - Position requires designing and producing toys characteristic of the 1880's. Must have ability to operate antique woodworking tools and perform entertaining demonstrations.

Contact the Personnel Office at (417)338-8121.

BLACKSMITH'S POTIONS

Browning Solution

6 ml. Hydrochloric acid
7 1/2 ml. Nitric acid
1 tsp. iron filings
25 ml. distilled water

Mix acids into water. Add iron filings. Let solution sit until iron filings are dissolved.

Thoroughly degrease metal. Apply solution to metal at about 4 hour intervals, until desired color is obtained (usually 4 to 6 coats). Metal may be lightly rubbed with steel wool between applications. When metal reaches desired color, steel wool and apply linseed oil.

Treat this solution with the usual respect given to nitric and hydrochloric acid.

Paint Remover

Mix one can of lye with about four gallons of water. Apply this solution to painted surface with a stiff bristled brush or broom. After a few minutes the paint will begin to bubble up and can be removed with the brush and additional solution.

DO NOT let this solution come into contact with your skin! It can cause severe burns. Read the warnings on the lye can.

To remove the cadmium coating from screws, bolts, etc. drop them into a jar of muriatic acid until the coating is removed (usually not more than a couple of hours, depending on the strength of your muriatic acid).

BAM

R.R. 1 BOX 16D

LESTERVILLE, MO 63654

ADDRESS CORRECTION REQUESTED