# The Anvil's Horn

A Publication of: The Arizona Artist Blacksmith Association

Issue No. 133

July 2008



Gate by Tidi Ozeri See page 18 for details

# **President's Message:**

The May demo at Barry and Laurel's was great! Jim Keith is a magician at the anvil (and he donated the cross he made to the Auction), the food was great (thanks Laurel and John De Masi), and the games and entertainment were wonderful. July's meeting should be just as good; they're predicting snow for our Xmas in July!

I want to be sure you all know that there will be a blacksmithing (along with printmaking) show at the prestigious Tubac Center of the Arts, this October. The Director, Annette Brink, is looking for Fine Art/Sculpture, esp. pieces that are contemporary in style. Now this isn't what most of us make; we're more often called on to forge functional/ornamental/decorative pieces. So here's an opportunity to think outside that box and do something new - to forge something that has a message (content), or is so unique and interesting that it can stand alone as valuable just to look at. Perhaps we can have an internet sculpture discussion group between now and than, with the AABA sculptors helping interested smiths to understand contemporary sculpture, and critiquing their ideas. If you're interested contact me. I can give you one example of what Annette is looking for; she commented how wonderfully forged iron can be made to look like softer materials, like cloth or leather, and how the textures lend themselves to our sense of touch. Also, pieces that make comments about human nature or the state of the world, perhaps using symbolism, would be considered contemporary sculpture. Annette also mentioned some websites that show this kind of work:

www.203fineart.com/sculpture\_paintings.html www.art-online.com/category.aspx?id=1413 www.chrisray.com/gallery/thumb/index.htm www.johnmedwedeff.com/news.htm

I'm writing about this show now because there are two other events in the Fall to make items for: the Auction and a vessel for Grizz's meeting in Nov. Speaking of the Auction, sadly we've lost April as Chair, and we're looking for a few good smiths or their spouses to run the show. Anna Marsolo, Paul Diefenderfer's wife, has stepped up to the anvil, so that's a good start.

Grizz (*Roger LaBrash*) is going to be setting up the '09 meetings, so if you have any ideas for venues or demonstrators, contact him. Although its good to return to the same shops each year, its also good to see new ones. Do you have a shop we can meet at?

See you all in July; keep hammerin', but slow down a little in the heat

Ira

## **AABA OFFICERS and BOARD OF DIRECTORS**

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## July Demo: July 19 & 20 Registration 8:30 Demo: 9:00 Arizona Historical Society Pioneer Museum In Flagstaff

2340 N Fort Valley Road, 86001

## **Christmas In July**

Demonstrators: **Bill Morris**: Napkin rings

**Steve Fisher**: RR spike letter opener/knife with pineapple twist handle. He may also do one of his forged puzzles.

Doug Kluender: Love knot and braided handles

Jim Sheehan: Jim's Holiday surprise (He has not told me what he is doing)

Each of the demonstrators will bring a forge, anvil & the necessary tooling so people can have hands on, guided practice.

#### Reasons to attend:

- Beat the summer heat in Phoenix
- See something new
- Learn something new
- Hang out with your friends in AABA
- Help the economy by spending your incentive check.
- An overnighter in Flagstaff in July in an AABA tradition.

These projects are designed to help the participants put together those last minute holiday gifts to impress family and friends.

No need to spend hours slaving over a hot forge. Something you can easily do in an afternoon.

We want to encourage others to bring their own setup so they can practice with their own stuff. We will have materials for use.

The plan is to have demonstrations on Saturday morning, with Saturday afternoon and Sunday hands-on.

There is dry camping on site. Rodger is supposed to arrange port-a- johns for the camping area.

Lunch & dinner on your own. Plenty of restaurants nearby.	
Bill is going to borrow a couple of extra forges, anvils & vises for use.	Directions:
Rodger has offered top bring the shade (also useful in case of rain)	I-17 toward Flagstaff
Members (and guests) who attend will also receive free ad-	Exit 23-B
mission to museum.	Merge onto S. Milton Ave
	To N. Humphrey's street/US180.6 mi
Go to Flagstaff. Take Hwy 180 like you are going to the	Left onto W. Columbus
Snow Bowl.	Follow US-180 1.3 mi
Look for the locomotive on the right. That is it.	To 2340 Fort Valley Road
It is before you get to the Museum of Northern Arizona.	

#### Remember to bring something for Iron-In-the – Hat and Show and Tell

### As always, safety glasses are required.

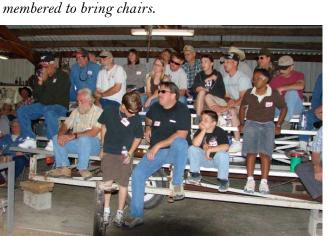
## May Demo Report: Hosted by the Bar-U-Bar with Jim Keith



L: Demonstrator Jim Keith working on his Dragon head. He started with 1" square stock and drew out the neck to create a handle for the shovel.



Above:: A group of curmudgeons enjoying the shade and the company. Below: Great turnout! A lot of folks (not shown) remembered to bring chairs.





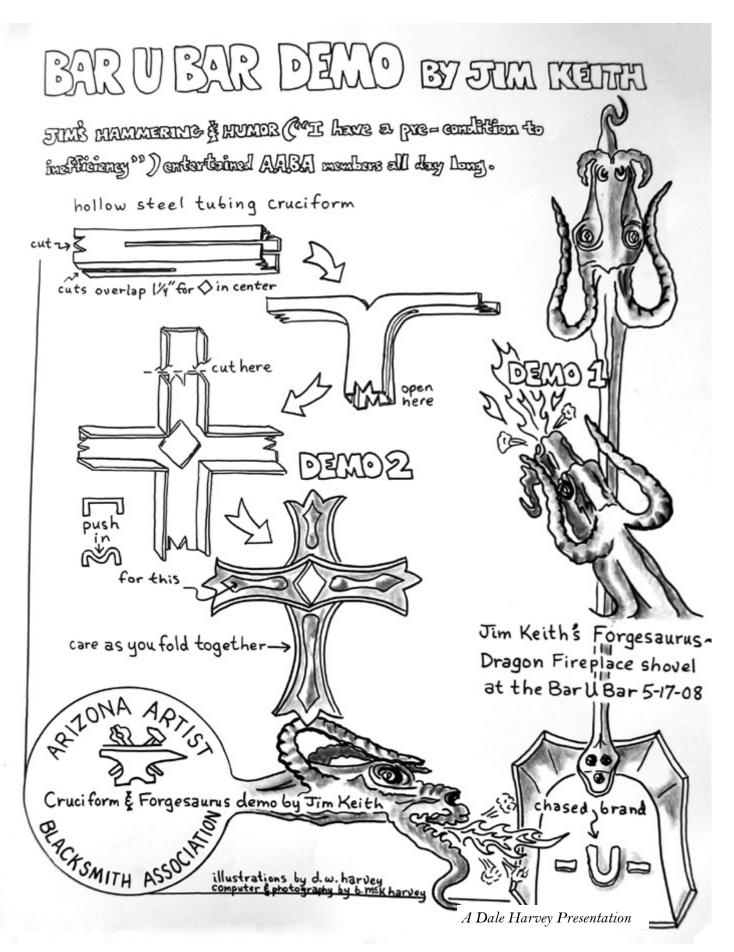
Above: Barry Denton watching as Jim Keith judges the afternoon "Eagle Eye " contest. Don Dumler won a \$75 pot, by making his shoe the closest to the pattern hoof.

Len Ledet received the following note : "AABA has been a big help to me in building blacksmith skills. I would like to donate my eagle eye winnings to the association. Keep up the good work. ...Please find a check for \$75.00" Don Dumler. Thanks Don for both the contribution and the kind words!

*R: Dragon with mustache, goatee and floppy ears –or are they horns?* 



The Anvil's Horn



## Member Profile: John Doss



**Birds into the Moonscape**, a John Doss creation, inspired by Dale Harvey.

The art piece was created with CNC plasma from a picture of birds in flight. The background is copper and the raised moon is a piece of 16 gauge steel and colored with gilders paste. The steel showing through the Gilders paste gives the moon the look of craters on the moon.

The patina of the foreground is a combination home made Japanese Brown and Sculpt Nuevo PC9 Blackening with a finish of a clear spray. The copper is sealed with Renaissance Wax.

Art Stand, by Keith Jones and John Doss

The art stand was created by CNC Plasma cutting 6 pieces (2 sides, 2 center boxes, top and bottom. Each side and center box then was bent 90 degrees and welded into the box shapes. The top was added. The welds were then sculpted smooth.

The patina is a formula given to us by Mike Sobrado. A home made version of Japanese Brown, made with 1 ounce of Hydrogen Peroxide to 1 drop of Muriatic Acid, is applied alternately with Sculpt Nuevo PC9 Blackening. A coat of Permalac finishes the process. This gave the piece a beautiful leathery look.



#### John's CNC Plasma Cutting

John is new to CNC plasma cutting, but has a lifetime of experience with computer tools. He can design, draw, and cut any picture or drawing, either in file format or a scanned image. His machine will easily cut sheets of cold roll up to 4' x 8' with a thickness of up to 1/2". Projects he has done include:

A variety of wildlife art pieces, signs, beam brackets, furniture, shelving, precision parts for residential structural components, precision pieces for machining, fireplace components door designs, architecture components that will be forged to add blacksmithing look.

John has time available to cut your project. Give him a call at 623-229-8335 or email: trailrunneraz@yahoo.com



Gate by Ivan Hill



#### "I made this and a friend from church made the wood backing. The wood is mesquite and the cross is mounted on 1 inch stand offs."

Ivan Hill

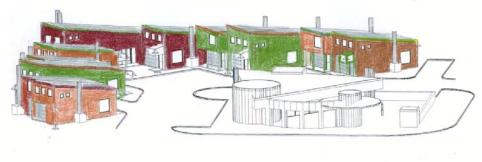
## **ANOTHER BOLT SUPPLY**

Another place to get bolts, especially if you are in the Phoenix area is Mark's Bolts
6710 W. Belmont Ave.
Glendale, AZ 85303 (NW corner of 67th Ave & Belmont.)
Phone: 623-939-9312
Fax: 623-939-0927
http://www.marksbolts.com/
I've always been able to find the nuts, bolts and the weird joints for shade systems, drift pins or whatever I've needed. If you are in the Phoenix area he's worth checking out.

Scott Sweebe

## Metal Arts Village in Tucson: Opportunities for Blacksmiths

The Metal Arts Village is a collection of eleven individual art studios devoted to metal artisans. The 10,000+ square feet of studio space will house artists creating within those disciplines. The studio space is complimented



by a 2,000 square foot art gallery and a 3,000 square foot sculpture garden. Completion of the project is scheduled for fall 2008 but already a number of prominent local artists have signed up for studio space. This includes awardwinning artists Lynn Rae Lowe, Everett Grondin, Pattie and Mark Johnson and Stephen Kimble.

This asset to the Ft. Lowell Furniture District is located on an acre lot ½ block north of the Dodge / Ft. Lowell intersection. The actual site is in the Binghampton historic district, which has had a long tradition of community cooperation dating from its beginnings as a Mormon neighborhood. This spirit of cooperation will continue as an integral part of Village's mission.

#### Metal Arts Village Fact Sheet

- The Metal Arts Village (MAV) will be a resource center benefiting the consumer, design industry, arts education community and the artist. Located on Dodge (1/2 block North of Ft Lowell) the Village will house up to a dozen artisans and function as a one-stop shop for your metal needs, from design and fabrication, start to finish.
- Phase I will be 9,000 sq ft of fabricating space dedicated to the metal arts industry, complimented by an outdoor sculpture garden.
- · Phase II will be a 2,000 sq ft metal arts

#### gallery.

- There are plans for a sand-casting foundry, metal fabrication and blacksmithing areas.
- There will be on-site support services of metal cutters, CAD designers and patina experts.
- MAV aims to nurture a symbiotic relationship between artists, educators and designers by creating a unique retail presence as well as a destination of interest to the community and tourists.

Steve Kimble, Lynn Rae Lowe, and Everett Grondin lead the list of talented metal artisans looking into joining the Metal Arts Village.

3230 N. Dodge Blvd. Tucson, Arizona, 85712 520.975.9792

## **Board of Director's Report:**

AABA is a very wonderful and special organization. Hopefully, many of you have been to a demonstration or two in the past. It takes a lot of energy to make this group come together and find ways to keep us united collectively. With that in mind, we thought it might be time to keep all the members involved with what is discussed at our board meetings.

I would also like to encourage each and every member to step up to the plate and be more of an ACTIVE member. The board puts a lot of effort into finding ways to keep interest, offer continuing education, and open our eyes to new and better methods of blacksmithing, for everyone. We are passionate about sharing ideas, and invite the rest of you, the ones who make up this terrific association, to be heard. We are glad that interest has continued in this once dying field, but we need oth- Pat Clark agreed to become the librarian. ers to join in and be responsible. So, take this as an invitation to think about helping out, we would love to have your input.

#### Highlights of the: Board of Directors Meeting May 17, 2008

In keeping with the "Outreach Program" Ira would like to have the board consider allowing first comers in without a fee. He is also passionate about finding solutions to reach schools that would relate to our demos, as well as any other businesses that might promote or let us put out a flyer mentioning our upcoming demos, and what it is the association does.

MaryAnn (secretary) brought up Len Ledet's (treasurer) concern about the number of members who were not renewing their memberships. Annual dues collected in the past have been around \$9500, instead we are currently around \$5400. Several board members agreed to make phone calls, as a gentle final reminder.

Roger LaBrash will take over the Demonstration committee chair. The board thanked Doug Kluender for stepping in to take that position on an interim basis. Doug will retain the Education committee chair.

Changes in the bylaws have been made, but not yet adopted. Ron Unger will get information to the Secretary, so that process can proceed.

Policies established by the BOD are recorded in the minutes, then filed away, making it difficult to find out what the policies are at a later date. A Policy Manual needs to be established and kept current. A motion was passed to have Ron Unger research the minutes from the last 5 years and compile the policy decisions. New policies will be added as they are established.

Richard Rozinski will now take over for Lucy, and become the new greeter for new members.

Debbie Devine (webmaster) has moved to Louisiana and will be resigning at the end of 2008. John Mary Ann LaRoche, Secretary Doss is going to take over the website when Debbie is finished.

#### Announcements Tuba Center for Arts is having a Holiday Show, items for gift shops fine art for the gallery

Tubac will do a show on blacksmithing, details are unsure. This is open to not just AABA, but individual smiths. Ira will get info as to details, and then pass this onto Debbie and to Dan for the newsletter.

Respectfully submitted, Mary Ann LaRoche AABA Secretary

## **CALENDAR 2008**

July 19 & 20 July 19 September 20 & 21 November 15 January Demo: Christmas Gifts BOD Meeting Demo Verde Valley Smiths Demo Fred Zweig Demo Henry Pomfret Pioneer Museum Pioneer Museum Bill & Karen Morris' Grizzly Welding Sahuaro Ranch

Flagstaff, AZ Flagstaff, AZ Camp Verde Phoenix, AZ Glendale, AZ

## **Coming Demos**

**Camp Verde in September.** Bill & Karen Morris host the event. The September Demo will be at Bill Morris' and Gordon Williams will demo steel pine cones, and copper and steel coat racks. Chris Contos will demo on Sunday, and there will be a map of 5 other shops to go to that day, and the hours that they will be open. Bill will talk to Pieh Tool about being open and participating.

**November at Grizzly Iron, Inc**. Fred Zweig will demonstrate facing in repousse. Fred is a repousse and jewelry artist and resides in Tucson, AZ. He has been teaching classes for many years in Tucson. He is the moderator of the chasing and repousse site on ArtMetal.com. Don't forget to bring a vessel for the Vessel Challenge

January Demo: Look for another British invasion. Henry Promfret is scheduled to show his skills at Sahuaro Ranch.

## **Vessel Challenge!**

For the November Demo we are encouraging all members to create vessels for another exhibition. A vessel can be anything that can hold or contain something. It must have metal in it but does not have to be entirely metal.

Look for more in the next Anvil's Horn

## The AH Needs your Photos, Articles and Shop Tips

We really need some great color photos of your work for the front and back page. Send'em in along with your articles, tips and photos! Your newsletter is only as good as your input. Danshammer@cox.net

## **AABA Needs Your Help**

- Any video techies out there? We need someone who with the ability and interest to set up and operate video equipment for upcoming demos.
- We need a new Auction Chairperson.
- Volunteers are needed to help out setting up and organizing the Auction.

If you can help Contact Ira at treeira@hotmail.com or 520-742-5274

**Deadline: August 7** for the September issue of the Anvil's Horn. Earlier would be greatly appreciated. Articles, photos, notices, and ads can be emailed to: Danshammer@cox.net or mailed to AABA 2522 W. Loughlin Dr. Chandler, AZ 85224

## **Anvil's Horn Via Email**

This service is available to members only and we ask that you do not forward the newsletter to non-members. (You will still get your hardcopy in the mail.) To sign up, email

webadmin@AZ-blacksmiths.org and type "Yes-AABA newsletter" in the subject.

## Library

Pat Clark has volunteered to be the new librarian. "When they told me the books and videos would live at my house, I jumped at the opportunity".

More info in future issues..

# Website: AZ-blacksmiths.org

## **AABA Publications**

<u>Most of the Best Tips Project Ideas Patterns from</u> <u>ABANA Chapter Newsletter</u>, aka The Tips Book, is 29I pages of all those things organized so you can find them. It is bound in a 3-ring binder so you can add info as you get it. Available at demos for \$25. <u>The Blacksmith and His Art</u> by Jess Hawley. Many feel this is still the best basic blacksmithing book available. Plus it's got pictures and a bit of history. Available at demos for the wholesale price of \$12, Or from Pieh Tool or Blue Moon Press for \$20.00

The Skills of a Blacksmith Vol.1 Mastering the

Fundamentals by Mark Aspery

Mark has finished and published the book and it is arguably the new "best" blacksmithing book available. He has put in writing all those things you learned in class and are trying to remember. But he didn't stop there, there is plenty more help to keep you advancing.

The book is available from AABA and can be purchased at the July demo. Cost is \$55.00

Or purchase directly from Mark's website: Markaspery.net

## **Referral on the Website.**

The AABA board has a Referral page for our members who would like to be listed. Our website attracts a lot of people looking for iron work. To be listed on the Referral page check the website for the form or email:

webadmin@AZ-blacksmiths.org. and type Referral in the subject.

AABA can not and will not recommend any individual blacksmith or company. This listing is for AABA members only.

## AABA Website.

Webmaster Debbie Devine does an amazing job keeping our website vibrant and new. There is always a new link, new story, and new photos. Be sure to check it often. And send her your information, photos, ads, links or whatever you think should be available for other members. Thanks for the great ich. Dabbie

Thanks for the great job, Debbie.

AABA New Member and Membership Renewal Form					
NAME					
ADDRESS	CITY	YSTA	.TE		
TELEPHONE	EMAIL		ZIP		
PROFESSIONAL BLACKSMITH_	HOBBYIST	FARRIER			
INTERESTED IN THE ART	TEACHER	OTHER			
OCCUPATION OR SKILL					
PLEASE CHECK ONE:		Mail to:	Mary Ann LaRoche		
REGULAR MEMBERSHIP (\$30)					
FAMILY MEMBERSHIP (\$35)_					
Make Check Payable to AABA			Phoenix, AZ 85016		
REGULAR MEMBERSHIP (\$30) FAMILY MEMBERSHIP (\$35)		Mail to:	Mary Ann LaRoche AABA Membership 1775 E. Ocotillo Rd. Phoenix, AZ 85016		

## Sucker Rod: A Tool Steel Alternative for Blacksmiths?

By Doug Kluender, Training & Education Coordinator

The purpose of this article is to provide some factual information on the suitability of sucker rod for making blacksmiths' tools. The focus of this article is on the metallic sucker rod that is commonly available as used material at steel and American Petroleum Institute (API). API salvage yards. This is a material that is often used by blacksmiths for making struck tools such as drifts, punches and chisels. This article will also attempt to dispel some of the myths and mysteries surrounding this material and to provide some useful information on how to identify and select used sucker rods that may be suitable for making blacksmiths tools.

#### Background

I was first introduced to using sucker rod for making hand tools when I attended classes at the Mark Aspery School of Blacksmithing at Springville, CA. There we forged a variety of drifts, punches and chisels for use during the classes. Tools were forged then fully annealed by overnight burial in lime after heating the tool to critical temperature. Following the cold work of filing and shaping the tools, the working end was heated to critical temperature, water quenched, and tempered to a straw color in a single operation. The struck end was left in the annealed state for safety. Proof of the tool's durability came when we took our newly formed chisels and used them to shear a piece of 12gauge steel to test the cutting edge.

#### What is Sucker rod?

Sucker rod is used to move fluids from underground to the surface of the earth. The Aero-Motor windmills and hand well pumps both use sucker rods to bring water to the surface. The gently genuflecting horse head pumps often seen across the prairies of Texas and Oklahoma use sucker rods to bring petroleum to the surface. Sucker rod is used world wide for the purpose of moving fluids from underground to the surface of the planet. Regionally it is widely used in petroleum well operations in Texas, New Mexico and California. This has resulted in Sucker is commonly manufactured in fractional large quantities of this material being readily available at modest prices in steel and salvage yards throughout the southwestern United States.

#### **Material Properties**

Metallic sucker rods as used in the petroleum industry are manufactured from alloy steels in four grades according to the specifications of the grades and designations are:

Grade C: Carbon steel

Grade K: Nickel Molybdenum alloy steel Grade D: Chrome Molybdenum alloy steel Grade KD: Special Service alloys

The API standards specify the minimum percentages of the various Alloying elements. Manufacturers may add greater quantities or additional elements to enhance their products. Some manufacturers employ special heat treatments, coatings and other proprietary processes designed to gain a market advantage.

Conventional wisdom among blacksmiths is that carbon content is the most important factor in hardenablilty and therefore the suitability of a particular alloy for making tools. However, Carbon content is only part of the story. The addition of chromium, molybdenum and nickel, all impart additional qualities, such as toughness and red hardness, that are traits of good blacksmith's tools.

In addition to the individual effects of these chemicals they often have a synergistic effect when used together. Grade C sucker rods are medium carbon steel without the desirable allovs.

Some of the major manufacturers are Norris, Weatherford and Upco. There are also a number of companies that reclaim and recondition sucker rod.

Two good sources for detailed information on the alloy content of sucker rod are www. weatherford.com and www.norris.com. They have both published charts that list the chemical analysis of sucker rods manufactured by them as well as their competitors.

#### Sizes

inch sizes ranging from 5/8 through 1-1/4 inch diameter. It is usually made in 25-foot lengths although shorter "pony" rods are sometimes found. Rods have a larger diameter upset end

with a shoulder, a square journal, and rolled male threads. When purchased used, one end often has a threaded female coupler attached. ¾ inch Sucker rod weighs approximately 38.5 pounds per 25-foot length without the coupling. 5/8 and 3/4 are good sizes to use for tools, but 5/8 is somewhat difficult to find.

#### Identification

Various stamps usually found on the journal are used to identify new sucker rod. They usually include the manufacturer's name or logo, size, and often the API grade designation. In addition, color codes are often used. Other numbers may be found that appear to represent the date of manufacture or installation.

Another clue to the identification is the location where the rod comes from. According to people I spoke with at the Weatherford Company, most of the sucker rod sold for use in northern New Mexico and central California is grade D, chrome molybdenum alloy.

#### Why is used sucker rod available?

Sucker rod is replaced and becomes salvage material for several reasons. Stress is one reason. Rod strings are typically thousands of feet long. They are subject to elongation and high stress loads, often in a corrosive environment. This can lead to failure and it is very expensive to remove a broken rod string. Some well operators inspect and measure the rods to determine when to replace them. A side effect of the high stress loads is magnetism. Used sucker rod is often magnetic, sometimes highly so. This makes it difficult to weld and subject to cracking.

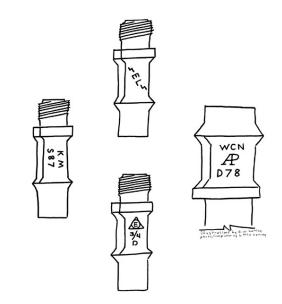
Abrasion is another common reason for replacement. This is often found on the rod couplers and may be evident on the rod itself. Sucker rod may be Grade C (carbon steel): S-60, C and 30. removed from inoperative wells for its' salvage value. It is a convenient and easily processed source of scrap necessary for the manufacture of new steel.

#### **Recommendations and conclusions**

A reliable method for the average blacksmith to consistently and correctly identify the chemical content of used sucker rod does not exist. Manufacturer's markings provide some clue as to the content.

- Buy rods that look similar in color and texture.
- Try to buy full lengths with the journals intact.

# PENTRAL Sucker Rol



- Treat it like mystery metal. Test a sample
- Mark your supply after testing
- Try to find grades K,D, or KD

Sucker rod is low enough in carbon content that it can be safely heat treated by water quenching and tempering at the forge. It works well for tools that are used for hot work such as punches and drifts.

Sucker rod should be stress relieved before use as a tool. One of the main reasons it gets replaced is due to stress. Make it a habit to fully anneal your sucker rod tools before hardening and tempering them. This will also help you get consistent results in your heat-treating.

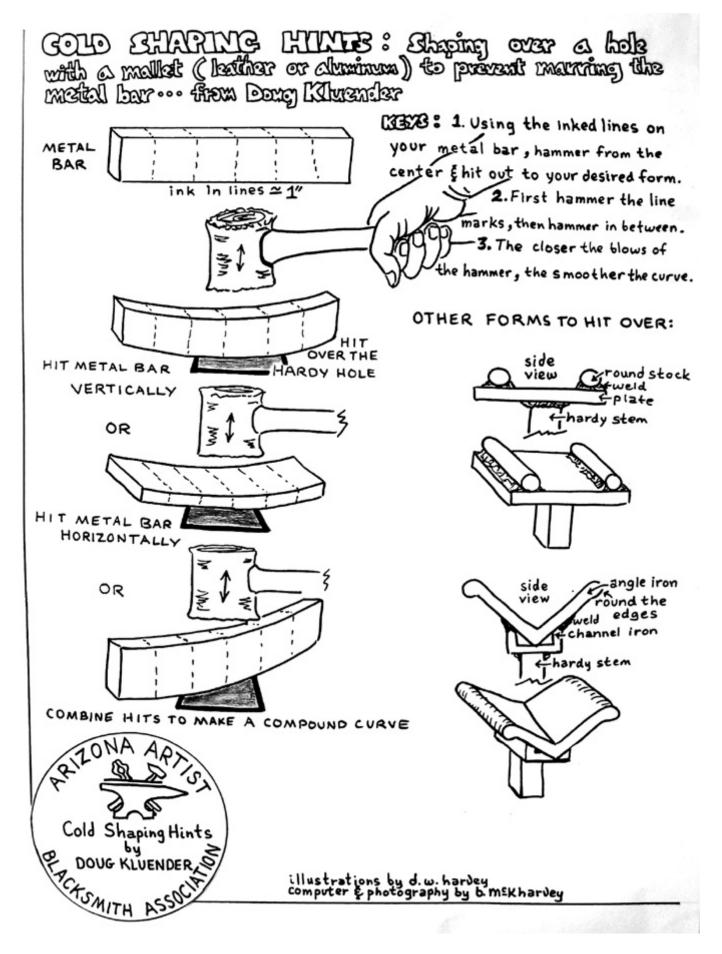
#### **Common Markings**

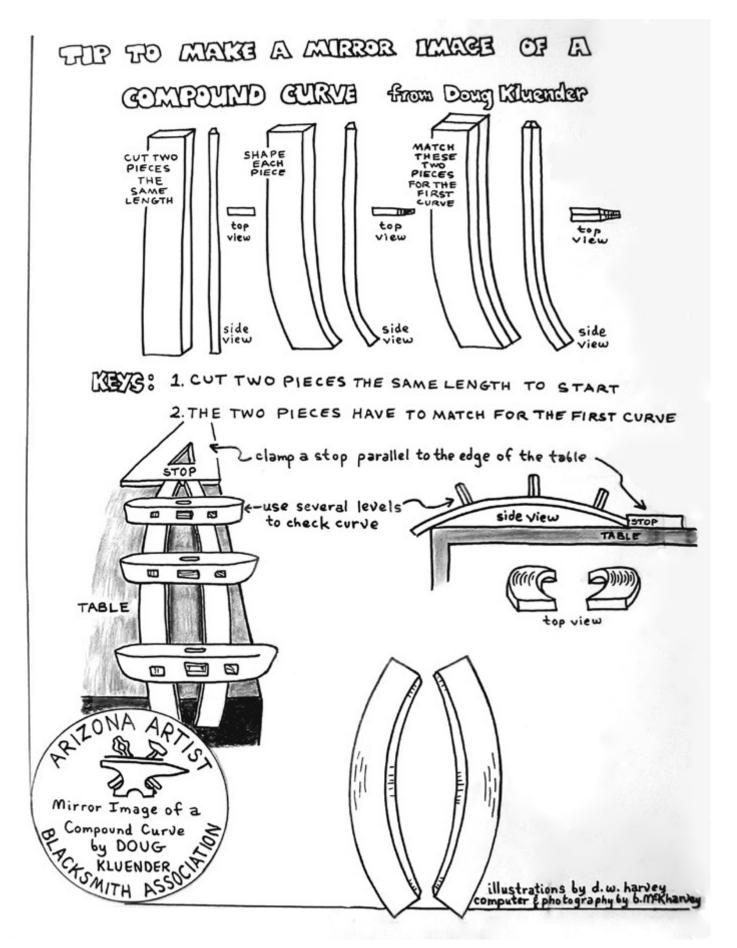
Grade K (Nickel-moly): S-59, K and 40 Grade D (Chrome-moly): S-67, D, MD, KD, 54,78, 90. AD

Misc: (Nickel-chrome) S-88

(Chrome-moly) EL, T66/XD, 966

Grade C is the least desirable, but is a medium carbon steel that will work well for tongs, drifts and larger punches. All the others should work well for hot cutting chisels and punches as well as drifts and tongs.





## **Education Report: Level 1 Class Has Started** "What, No Power Hammer?" by Bonnie McKenna Harvey

At first I wondered if I had lost my mind to sign up for a blacksmithing class in May and June? When I realized that there would be no power hammers and very few power tools, I knew for sure that my friends were right, I am crazy. However, I am having a great time. The class is fun, and it is not that hot with two big swamp coolers blowing air over the forging area. At least not until you have to work in front of a 1900 degree forge!

The Level 1 course developed by Dan Jennings, Doug Kluender and the AABA training committee began in May. (The intention of the AABA blacksmithing course is to promote safety and good work habits; to share knowledge and skills; and to create a helpful supportive environment within the blacksmithing community.) From my point of view, Level 1 has been quite a "smash". The class filled up quickly with students ages 13 to 60. From that first night we created a bond know- dougkluender@msn.com ing that we share a passion to make things using fire and metal.

Dan Jennings, an excellent instructor, is thoughtful and thorough. We notice his skeptical benevolent look when we show him our achievements. Dan has that special ability to break operations into understandable parts. We know how to do it, even if achieving it will take some practice.

Doug Kluender's input is crucial. He is able to analyze what we are doing and gives practical advice. One of the best things about this class is the support from the other blacksmiths who come to help. For example, one night in addition to Dan and Doug, there were 7 very accomplished blacksmiths ready to assist. John Doss, Mary Ann LaRoch and Len Ledet have come to nearly every class to provide their assistance to students.

Another advantage of this course is the extra Saturday sessions. This past Saturday, Dan and Doug demonstrated torch forging and helped us build a stand for a gas saver device.

We also had a chance to finish our first project, tongs.

One thing that I have learned from taking this class is how important taking a class is. No matter what level you are, you can always learn something. My experience is in art and metalsmithing. Any blacksmithing I have done has been accidental. In this class I am learning to swing bigger and with rhythm. I like it. I like the accomplishment of making my own tools. I now look at tongs a little differently.

In Arizona and the Southwest we have many wonderful teachers. There are lots of great classes available. If it's been awhile since you took a class you might want to take one. For additional info about AABA classes, or to be put on a waiting list contact:

Doug Kluender 602-181-1230 or email



L: Jerry Brink Forging the business end of his chisel. We held the class on Wednesday evenings so working folks could attend Turns out Jerry is the only one with a real job. (He's also the only one with the high buck hammers.)

Photos by Katie Fleck, Bonnie and Dale Harvey



R: Peter Jonassen straightening a tong he made. He claims to be just 13, but no one believes him. He is already becoming a very accomplished smith.



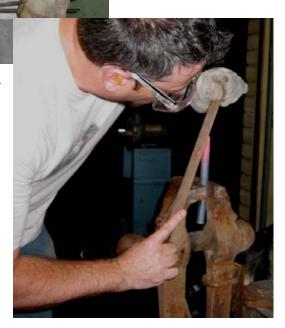
Above: Bonnie Harvey wasn't smiling for the photo-she's always smiling! R: Pat Clark working over the horn with a rounding hammer to draw out her chisel. You can hear the metal screaming for mercy when she hits it –what power!



Below: Paul Indelicato hot files his hot cut chisel. He rapidly decided he would rather use a grinder. Paul claims to have never done much with his hands, but from his work, you'd never know it.



L: Katie Fleck working tool steel on the horn with the rounding hammer. The ear protection was definitely required.



## From the Cover: A new sculpture by Tidi Ozeri

## "Passages" – in memory of Susann Rachell Salmon

Tucson Hebrew Academy, 3888 E. River Road, Tucson, Arizona

T idi designed this sculpture together with Howard Salmon, in memory of his daughter Susann. She was a student at the Tucson Hebrew Academy, where a plaza has been built in her memory at the entrance to the school. The main structure represents stone, timeless, eternal, and firmly rooted in the present, symbolizing a strong foundation in values. This stone forms a gate, a Passage, a symbol of moving from one place to another. Just as Susann has moved from where her friends, teachers and family knew her, to where she is now. This gate is also a door to new opportunities and milestones in our lives.

The Passage through this gate is designed for children – it is a tight squeeze for an adult – emphasizing the enormous potential and opportunity our children have. In sharp contrast to the eternal timelessness of the stone, the vines, birds and insects on the arch and the door represent growth and life. The colorful flowers are taken directly from Susann's own drawings, a tribute to her vibrant personality.

In a sense, Susann is a collaborator on the gate and her presence will always be a part of it. The contrast in color between the stone and the vines represents the contrast in what we are now, to what our growth and our future hold. The vines of the door keep it open, as the possibilities and opportunities that await us are always open.

Materials: Steel and stainless steel

Dimensions: 69 x 100 x 35 inches

# **From the back Page:** "Sewing with Iron" Buffalo Scull by Dale Harvey and John Doss

The Buffalo skull was created by combining 15 pieces of pipe of 9 various sizes. Each pipe was either sliced to spread or sliced to draw, then joined with a mated pipe to form the head, eyes, or horns. The head consisted of 3 pieces of pipe, each eye socket consisted of 1 piece of pipe. The horns were formed by 11 various sizes of pipe.

Once the head was roughed out, we forged, plasma cut, welded, and sculpted (ground) to accomplish the buffalo shape.

The final step was using an acid etch and a feather duster to texture the appropriate parts to give the buffalo a more natural look.



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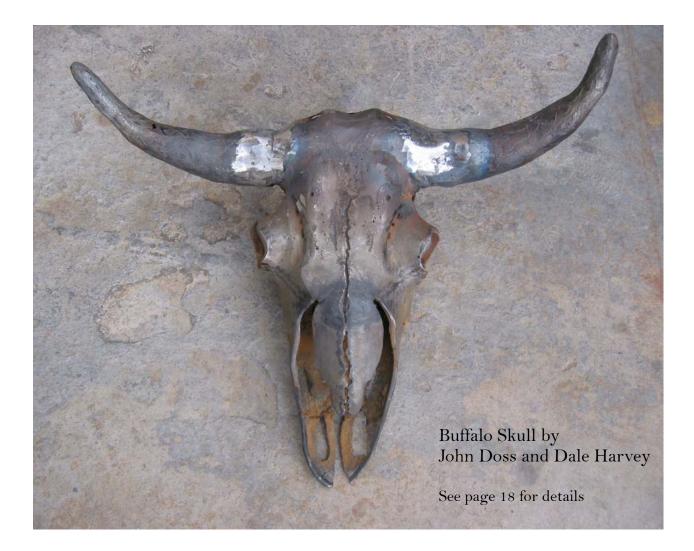
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