The Anvil's Horn

A Publication of: The Arizona Artist Blacksmith Association

Issue No. 159 November, 2012

Joinery by Brett Motten.
See the finished demo project on page 5.

Photo by Bill Morris

President's Message:

This is the last, ... the last time I get a call from Dan, saying, "it's time for the President's message", This month I did forget, the open forge always has been a reminder, most of the time I just procrastinate cause I don't care to write. But this month I'm kind of sad, for I have decided it's time to step down and let new blood take over, get some new idea's flowing and move the association forward. This is my final presidents' message to you. Truthfully my plate is a bit full with life and I need to make a little more room for me to take on other challenges!

I know a bunch of you have been wondering, what's up with Grizz and the open forges?? I'll try to answer, Grizzly Iron has been hit hard, a bit by my hurting myself, and the economy has hit us really hard! The past couple years have been some of the toughest of times in the 25 years we have been open, we are pushing forward but time and a little help from God will only tell the story. We have been blessed lately to have been busy in the shop and have a few art shows coming up! Thanks to all of you who showed up at the open forges and helped to support us, they have been a blast to set up as well as put together. I looked forward to each and every one of them!! I am optimistic that we can get them going again.

What about that demo Bret Moten put on up in Camp Verde!! Bret is a master of reshaping metal as well as amazing design, it took me a while to figure out where he was heading when he started the forging! But by the end of the afternoon a gorgeous Oil lamp holder had taken shape and all done with the help of a couple strikers over the anvil! Great Job!! As always Bill and Karen, you two are great hosts. Thanks again for all your hard work!

The auction is in a couple weeks as of writing this, I hope you were all there, if not I know you missed a great time!

A great big THANK YOU to all the board members and officers that have been there with me these past three years, without you I could not have survived!

Keep the fires burning,

Rodger "GRIZZ" LaBrash

AABA OFFICERS and BOARD OF DIRECTORS

PRESIDENT: Roger LaBrash 1329 W. Lincoln Phoenix 85007 602-716-9660 grizz@grizzlyiron.com
VICE PRESIDENT: Paul Diefenderfer P.O. Box 8094 Cave Creek 85327-8094 602-509-1543 dief@phoenixrockgym.com
SECOND VP: Doug Kluender 73 W. Holly St Phoenix 85003 602-818-1230 DoungKluender@msn.com
SECRETARY: Terry Porter 2310 E Melrose Street, Gilbert 85297 480-988-2070 trp555@prodigy.net
TREASURER: Len Ledet 24200 N. Alma School Rd. #32 Scottsdale 85255 480-502-9498 lledet@earthlink.net
WEB MASTER: Paul Diefenderfer P.O. Box 8094 Cave Creek 85327-8094 602-509-1543 dief@phoenixrockgym.com
LIBRARIAN: Pat Clark 4149 E. Hampton Circle, Mesa AZ 85206 480-924-5582 pclark26@cox.net
EDITOR: Dan Jennings 2522 W Loughlin Dr. Chandler 85224 phone: 480-510-3569 danshammer@cox.net
DIRECTORS: Tyler Adams**,** Pat Clark, Chris Contos, Bill Ganoe, Sarah Harms, Harold Hilborn, Ivan Hill, Jason LaBrash, Zach Lihatsh, Kristin Loving, Bill Morris, Peter Sevin, Jim Sheehan, John Silvestre, Ira Wiesenfeld, Gordon Williams .

November 17th Demo: Clark Martinek

Location: John Silvestre's 4879 N. Monterey Dr. Apache Junction

Registration: begins at 8:00 am Demo at 9:00

Clark Martinek will be demonstrating several of the techniques used in his ABANA 2012 conference gallery piece. The piece he will be demonstrating will be an A-symmetrical style sculpture. It will include several joinery techniques; forge welding, and a variation of scroll ends. Be prepared for inspiration, laughter, and maybe even learning.

For those of you who know Clark you have an idea of what you're in for, he's always full of surprises! Clark is a fun and knowledgeable demonstrator and that comes from his years not only in blacksmithing but also the years of general metal knowledge he carries under his belt. Clark was a welder/ fabricator for more than 10 years prior to picking up blacksmithing. Working on small parts, trailers, and then on to structural iron. Once he found "the craft" he was hooked. He's been a full time professional blacksmith for several years now and has a successful blacksmith shop he runs with his wife Charola called Tough & Twisted. He has demonstrated hinges and tongs for us in Flagstaff, smithed for Saguaro Ranch, and is currently collaborating with the Dakota Discovery Museum, and Hansen Wheel and Wagon on the prairie plains of South Dakota. Over the last year he has found time to fine tune his more artistic nature and is always learning something new when it comes to smithing.

So, mark your calendars for this one of a kind sculptural event.

- Remember to bring something for Iron-In-The –Hat and Show & Tell.
- Tailgating desired, so bring your stuff and your money.
- Lunch on your own.

Directions to John Silvestre's
4879 N. Monterey Dr. Apache Junction

From US 60 in AJ take Ironwood Dr. (Exit 195).
Go north on Ironwood (4.5 miles) .
Turn Right on McKellips, go .5 miles.
Turn left on San Marcos, go .5 miles.
Turn right on Canyon, go .5 miles.
Turn left on Monterey. It's on the right.

As always, safety glasses are required.

September's demo Report:

Brett Motten
At Bill and Karen Morris'

What a great weekend! It started with the board meeting on Friday evening. I just go to those meetings for the food—Karen 's fabulous spaghetti and meatballs dinner. Thanks Karen and Bill, of course we know who really does all the work.

Brett's demo on Saturday was one of the few demos we have had recently that was geared to the more experienced smiths. While some of the novice smiths felt a little overwhelmed, the rest of us were waiting in anticipation for the next move; trying to figure out where it was going. Brett had some really great information on forging wrought iron as well as making the complex joint and forgings.

Saturday evening we had the bring your own meat and fixings BBQ followed by the "We take requests, but we play anyway" band. Bill, Wally and Peter were accompanied by new member, striker and mandolin player, Dillon.

Sunday, Karen had a great breakfast prepared; then we gathered to watch Brett show us how to forge a wrought iron bracelet. The hands-on forging workshop had about 17 participants.

Brett (In the middle) and strikers Zach and Dillon.
Ll: finished forgings
Lower R. Completed Oil Lamp

Left: : At most demos you'll see these two guys at the registration table. It's not like it is actually their job, they just take the responsibility to get that job done. Thanks Len and Terry.

Sunday morning Brett showed how to forge a bracelet from wrought iron and then gave those interested some wrought iron and had them go about making their own. About 17 members were there forging away - probably the largest group of forgers we have had at a demo.

Clockwise: Wally Warnke, Clark Martinek, and Chris

Brett's Tips

A fix for hammer handles.

Finding a hammer handle to repair a broken one has become a real chore. It is hard to find any handles, much less a good straight grain hickey handle that will actually last for a while. When you can find one, they are huge and require a lot of rasping to get them down to a reasonable blacksmith handle size.

Of course, living where the humidity is often less than 10% means the handle dries out and won't stay tight in the hammer.

Brett solved the handle problem with a hockey stick. They are strong and nearly the right size and shape for a blacksmith's hammer. I found hockey sticks at Play It Again Sports for $20. Each stick would make 4 handles.

Brett uses a polyurethane adhesive called Sikabond to bed the handle in the head and seal the end grain of the handle. Sikabond is available at Home Depot and is usually found in the masonry/concrete section –not in with the adhesives. It remains a little flexible, unlike epoxies.

Brett made this hammer, used it during the demo and donated it to AABA for the auction. It has a hockey stick handle and is bedded with Sikabond.

Indexible Tooling

Brett had fullers cut-offs, punches and chisels that fit into this tooling system. One pair of tongs holds all the tools.

He forged a recess into the middle of the tools and made the tongs to fit the recess. A tong clip secures the tongs. Each tool can be indexed to any angle that is required for the job at hand.

Working by Hand (is in your mind)

by Peter Ross

When you hear that phrase "working by hand" do you think of the quiet days on your grandfather's farm, when work was done at a slow steady pace and the noise of a diesel was years in the future? Working by hand brings up an image of peaceful, careful work– something to dream about when you're rushing from one job to the next. Any one who has tried hand tools now and then knows that they are slower than power tools. How did anyone get things done? If they were farming by hand and washing by hand and cooking by hand how did they have the time to build the houses and barns that have stood in this country for 100 years? And build them without power tools.

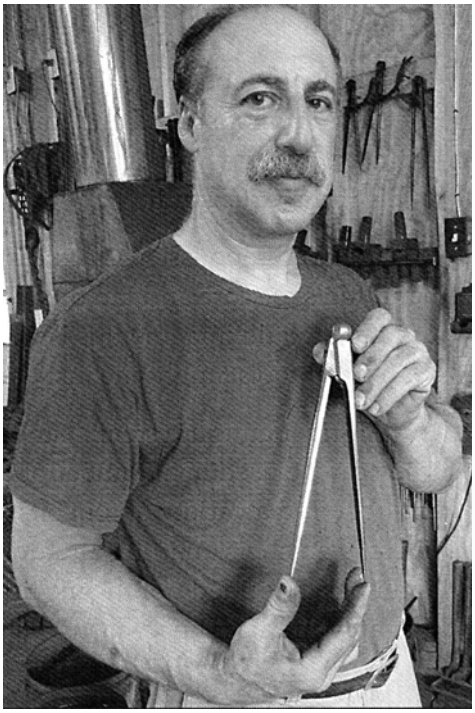
While some hand tools may be slow, there are ways to make the job go faster. One of these ways is to use fewer numbers. Good workmen back then could add or subtract or read a rule as well as anyone alive today, but they measured without using numbers. How do you do that? Caliper or dividers or a story stick are just as accurate as a tape measure but can be read instantly with no calculations. In some instances they simply held the piece up to the space and traced right on the board where to cut.

Another way to speed up the work is to eliminate accurate measuring whenever you can. A good example in the new blacksmith shop is the strap hinge for the big double doors. Instead of drilling the mounting holes in each hinge, they were punched at the anvil while the hinge was hot. Since the hinge was already hot in order to beat out the taper, punching didn't add much time. The holes are not perfectly spaced, but don't need to be. Since only an approximate spacing is needed quick eye judgment is sufficient and the holes could be punched without measuring.

Even the size of the hole can be approximate. To make a hole you drive a punch though the hot bar. By making the punch taper towards the tip you can make the hole bigger by driving it through farther. As long as you keep a sample bolt handy to check once in a while, you can make holes that fit without having to be precise. Again, no need for numbers.

The hinges themselves vary, too. At a glance they may seem like duplicates, but on closer inspection each is a different length and shape. To make them more alike would increase the time considerably, but not improve the function at all.

When you are in the habit of working this way you start thinking about which details matter in a piece and which ones don't. There are always a few things that do matter. The hinge eye should fit the hinge pin. The hinge should be flat so it mounts to the door. But it can be longer, or shorter, or the holes can shift. This is the key to working faster once you have the basic hand skills mastered. It allows you to concentrate on the details that are important without being distracted by the ones that are not. When you watch someone work this way, it can seem like the work comes out perfectly, with no measuring or figuring, as if by magic. Actually, it is just knowing what to focus on.



Peter Ross was master of the Colonial Williamsburg blacksmith shop from 1976 until 2006. He now has his own business in Siler City, North Carolina.

The Simple Nail

By Harold Hilborn

During the summer I was in Northern Michigan and had a chance to spend the afternoon in at Colonial Fort Michilimackinac, in Mackinaw City. This fort was built around 1715 as a trading post for the French explorers in the area. It was relinquished to the British in 1761 as a result of the loss of the French Indian War. It was mostly burned to the ground in 1783 by the British when they built a new fort on Mackinaw Island.

I have been there several times over my lifetime, but this time I was there to study all the hand forged ironwork used in the reconstruction and unearthed in the archeological digs which began in 1959. Among the hundreds of forged iron artifacts found were thousands of nails, which made me begin to think about the simple nail.

During the archeological digs there was a study done and report published entitled; "Colonial Nails from Michilimackinac." By, David J. Fruip, Russell Malewicki, and Donald P. Heldman. This study allowed the archeologists to determine at what time period buildings were constructed. They were able to do this by analyzing the slag trapped in the wrought iron nails from known buildings of a certain time period. They could then tell what smelting mills they might have come from and determine if the building was built by the French or British tradesman.

This book also explained how nails were made, before and all the way up to the cut nails of the 1830's. During colonial times, in England, France, and French Canada (colonialists here in America where not allowed by law to make finished products) iron ore from certain regional areas would go to a mill to be made into wrought iron billets, from there to a rolling, slitting or rod mill and then to a middle man called a "nail monger". He would then distribute bundles of rods to the "nailers". Nailers at the time were usually made up of families, wife, sons and daughters working in their homes or small shacks built alongside their homes; working six days a week sun up to sun down. Their economic status was extremely poor. An example of the rapidity: in a two week period a blacksmith made 40,800 flooring clasps, each made with a 2 pound hammer struck twenty five times including the welding of the end pieces of rod which amounted to 1,033,656 strikes, heated 42,836 times. They would be paid by the nail monger and who would sell them.

William Hutton, the subsequent historian of Birmingham, England, first approached the busy Centre of the iron manufacture in 1745. He was surprised to observe the great number of blacksmith shops on the road, and could not conceive how a country, so populated, could support so many people of the same trade. In some of these shops he remarked:

"I have observed one or more females, stripped of their upper garments and not overcharged with their lower, wielding the hammer with all the grace of the sex. The beauties of their face were rather eclipsed by the smut of the anvil, or in poetical phrase, the tenure of those lips which might have been taken by a kiss, struck with the novelty." He then inquired if any of these ladies shod horses? But the answer with a smile, 'They are nailers'

I have read and been told many times through the years about the village blacksmith making weapons and the tools of many trades, and all

items for survival of humans. Seems to me the nail has been overlooked. It was the building block that has held many buildings, ships, wagons, holding on horse shoes and one of the most valuable trade items in settlements throughout centuries.

When I began blacksmithing as a hobby in the mid 1990's I was told the best way to develop your skill was to learn to make nails. To me this seemed boring and too simple. I wanted to learn how to make fancier type items. What I did not realize at the time is you need to learn the basic forging techniques at the anvil, like how to point, draw a taper, hot cutting, upsetting, forge welding and many more. I skipped over this which still haunts me today with my skill at the anvil. As In most things in my life I have learned the hard way, not wanting to learn how to crawl before I walked. It has taken me into my 50's to learn this. It is much harder to go back and break the bad habits then to take the time and learn the right way at the beginning.

So go back, give some time, and thought to the "Simple Nail".

USDOT NUMBER (FYI)

By Harold Hilborn

I would like to share my experience with you while driving my truck and trailer across country this summer.

I was informed by a state trooper that I needed a USDOT number for my truck. I always thought it was for trucks over 10,000 lbs. Not so! If you are a business and your vehicle (any vehicle) or vehicle and trailer weights over 10,000 pounds. Even if your vehicle is in your name and not in your companies name you need one. It does not matter if you do not have any advertising on your vehicle. If you are conducting business like pulling a trailer to a craft show, and you weight over 10,000 lbs. You need one.

A commercial enforcement officer can pull you over if he suspects you, just to check you out. AZ requires you to have a USDOT number, some states do not. After further research, many states are cracking down (including AZ) on businesses as a way of getting more revenue. Fines can be stiff and can lead to the impounding of your vehicle if you cannot pay your fine on the spot if you are out of state.

If you would like more information you can go to www.fmcsa.dot.gov.
I was lucky and got off with a warning.

Video Recommendation

In a recent internet search for a project I came across this You Ttube video, I'm always amazed what you can find on the internet.
Forged Acanthus Leaf by Mark Aspery http://www.youtube.com/watch?v=YwZ31yHGRSA

Pat Clark

CALENDAR 2012 –2013

Nov. 17	Demo	John Silvestre's	Apache Junction
November 23 & 24	Demo for the public	Old Pearce Historic	Pearce
February 16 & 17	Southwest Regional Conference	Mickey's	Las Cruces, NM
September 21 &22	Demo Mark Aspery	Bill and Karen Morris'	Camp Verde

Kinyon Vise Workshops

Ron has done a few workshops, but it was hard to get folks together over the summer. Ron is up for a few more if anyone is interested.

The vise without a base built during the workshop is around $150. Ron is requiring a deposit to reserve a slot in a workshop. If you'd like to build a vise in a workshop, Ron's email is ronkinyon@aol.com

A lot of smiths have built their own and we have seen many innovative ideas, and we'd like to see yours –send photos.

Welcome New Members

Howard Foust	Mark Streck
Dylan Cook	Brett Moten

AABA Elections

In this issue you will find a ballot. Please vote for the officers and board members who you would like to serve in 2013.

Annual Business Meeting

AABA's annual business meeting will be held November 17, at John Silvestre's, 4879 N. Monterey, Apache Junction at 9:00 am. *This is an official notice as required of AZ corporations.*

Old Pearce Historic Days

We will be doing a demo at Old Pearce Historic Days in Pearce November 23, and 24 2012. Anyone interested in coming down to help man the forge and / or selling forged items should contact Harold Hilborn at (520) 603-6723. .

Deadline: December 6 for the January issue of the Anvil's Horn.

Articles, photos, notices, and ads can be emailed to: Dansham-

From Your Library by Pat Clark

I don't know when the AABA Library was created but it's been in existence for many, many years. Lots of our members take advantage of its resources but I would love to see all of you using it. As I say the books and tapes don't do anybody any good sitting in a box at my house. I try to bring the library to all the demos but, of course, that doesn't always happen. If I'm there, though, the library will be there. Any member is welcome to contact me by email or phone and come by my house if you can't make it to a demo.

Library Policy

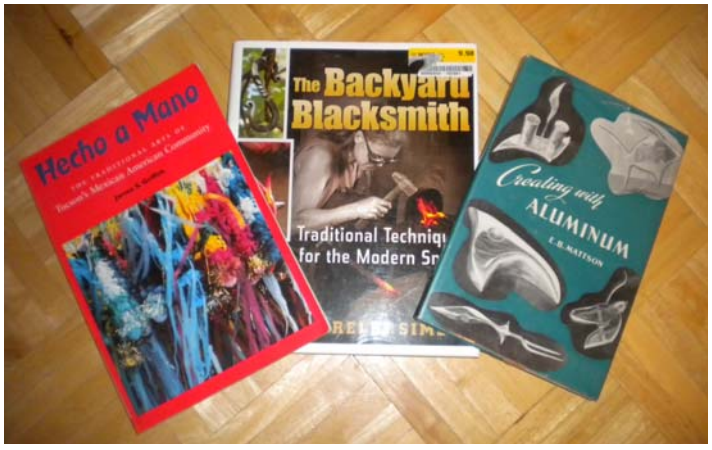
1) Library materials are available to current AABA members as a benefit of membership.

2) The loan period is from Demonstration to Demonstration, approximately 2 months.

3) If you damage or lose a book, tape or DVD you are responsible for the cost of replacement.

4) Library material can be mailed to member with agreement from the librarian. Shipping costs are the responsibility of the member.

I recently added 3 new books :
Hecho a Mano The Traditional Arts of Tucson's Mexican American Community by James S. Griffith
The Backyard Blacksmith by Lorelei Sims
Creating with Aluminum by E.B.Mattson



AABA Website: AZ-blacksmiths.org

Open Forge: Tucson

On November 3, Peter Sevin will do belt buckles. He will be doing the demo on Kevin Potter's (Potter USA) newly designed 100 ton bench top hydraulic press. Demo starts at 9am.
Harold Hilborn's Holy Hammer Ironworks
Tuller School 5870 E 14 St. Tucson
Questions Harold 520-603-6723 or Hhiborn@aol.com

Northern Pioneer College

will be offering a credited Metal Arts Program in Show Low, AZ for the Spring 2013 session. The program features an introduction to basic blacksmithing and three-dimensional metal shaping using a variety of techniques and tools.

Beginning Blacksmithing workshop. Six weeks on Saturdays 1/19/13 - 2/23/13 from 9:00 a.m. -4:00 p.m., non-credit class. Cost: $120.00 + $45.00 materials fee. For further information go to www.npc.edu or call: 1-800-266-7845.

Mesa Arts Center Classes

New classes start in January, sign up now.
Classes can be searched and registered for at: www.mesaartscenter.com or 480-644-6500.

Yavapai College Metals

Jewelry I, Jewelry II, and Advanced Projects are offered on Monday and Wednesday with many open lab hours during the week. New classes start in January. Contact Chris Contos with any questions:
christopher.contos@gmail.com

Pieh Tool

Beginner/Intermediate Blacksmithing Classes with Gordon Williams
November 9-11
December 7-9
More classes are scheduled for 2013

$455 per 30 hour class. All materials and equipment are provided.
Bill Pieh Resource for Metalwork at Pieh Tool in Camp Verde, Arizona. Contact: 928-554-0700 or www.piehtoolco.com

MCC Blacksmithing & Welding

Sign up now for spring

The MCC blacksmithing program is one of the best deals around - over 60 hours of instruction for just under $450 and that includes material and propane! Saturday (Jaime Escobedo instructor) and evening classes (Dan Jennings instructor) are available. Blacksmithing is WLD103.

TIG, MIG, Arc, Gas, and Art classes are all available, as is certification in any of those welding methods at Mesa Community College, Southern and Dobson in Mesa.

If you try to register for any Welding Department classes on line, you might find all classes are closed (full). Contact Dan at danshammer@cox.net with the class number (time and days) of the class you'd like to take—I'll get an override number so you can sign up.
For more info go to: www.mesacc.edu

AABA New Member and Membership Renewal Form

Name_____
Address _____
City_____State_____Zip_____
Phone_____ Email_____
Professional blacksmith____ Hobbyist____ Farrier____Blade smith _____
Your main blacksmithing interest_____
Occupation or skill_____
Please check one:
Regular membership ($30)____
Family membership ($35)____

Mail to: Terry Porter
2310 E. Melrose St.
Gilbert, AZ 85297

Make Check Payable to AABA

Ask The Old Fart

Hey Old Fart: *At the last demo I overheard two women refer to you as fetching. They didn't look blind to me so what gives?*

This is why I recommend folks wear ear protection. They were asking me about my electrical "etching" process. I told them I'd write an article about it.

This process uses electrolysis to create a very organic pitted texture on steel. I "discovered" this process when I was using this method to remove rust from some metal sconces. After doing one successfully I hooked the clamps up backwards and created a mess. The sconce was covered in thick rust overnight. After cleaning the rust off I was amazed at the deep pits that were created. It was a texture unlike anything you can create with fire and hammer. I was hooked. I really opened up new ways to create solid privacy gates and wall hangings.

Here's what you need to get started: 12 volt 10 amp battery charger. Plastic bucket or tank. 3/8 rebar. Washing soda. Water.

I started with a 5 gallon bucket, then moved up to a 55 gallon drum. As my addition to etching increased I switched to a 250 gallon plastic water hauling container that is supported on the exterior with an aluminum frame. I've also built a custom single use tank from 2x12 lumber and plastic sheeting to etch a 4 ft by 8 ft picture frame.

Step 1: Line the inside of your plastic tank with vertical rebar spaced about 3 inches apart. These can be secured to the tank by drilling a small hole on each side of the rebar (at the lip of the tank) and using wire to "twist tie" the rebar in place. My 250 gal tank has a curved lip on top that overhangs the interior. I drilled 3/8 holes through this lip and pushed the rebar down through the holes so nothing else was needed to secure the rebar.

Step2: Connect all the rebar pieces together in a loop. For temporary tanks I use copper wire wrapped around each piece of rebar. Over time the copper and rebar oxidize and the electrical connection between the wire and rebar will deteriorate. For my permanent tank I welded horizontal pieces of rebar across the tops of the vertical rebar. This ensures a great electrical connection. You basically have a rebar cage hanging inside of your tank.

Step 3: Fill the tank with water. Add 1 tablespoon of washing soda per gallon of water. This is not a critical measurement so when in doubt, add too much soda. I use a whole box for my 250 gal tank. You will find washing soda (Arm & Hammer is the most popular brand) next to the laundry soap in any grocery store.

Step 4: Place a wood 2x4 across the top of the tank. From this 2x4 suspend your iron work in the tank so it is completely submersed. It must not have any direct contact with the rebar cage! If it does you will short your charge out. For small pieces I use hooks made from 1/8 round stock. For larger heavier pieces I bolt or weld on a piece of rebar. Note: if you use 1/8 stock and leave the piece in the tank for more than 3 days you risk having the hook rust away and break sending your ironwork to the bottom of the tank. A magnet bolted to the end of a stick is handy for getting small flat pieces out of a 250 gal tank – not that yours truly has ever had to do this.

Step 5: Connect the negative clamp of the battery charger to the rebar cage. Clean the rebar of any rust so you get a good connection. Clip the positive clamp of the charger to the piece of metal your iron work is suspended from. Note: Do not immerse the battery charger clamps in the water. This etching process also works on copper and you don't want to have to keep replacing the clamps.

Step 6: Double check that there is no direct contact between your ironwork and the rebar cage. If your

charger has amp settings set it on the 10 amp trickle charge. Do not use the 50 amp "Quick Start" option. Plug in the charger. You should notice a ghostly blue white film develop around your piece with in minutes. You will then notice lots of little bubbles coming off the piece and the rebar cage. Now leave it alone for about 2 days. Note: this process produces oxygen and hydrogen gas! Needless to say this should not be done indoors where these gasses could accumulate.

Step 7: Turn off the charger and remove your piece. I find that 48 hours gives a good deep pitted texture on 1/8 thick or thicker steel. Longer time means more pitting. Thinner stock will develop holes so a shorter time may be in order. Hint: lots of small holes makes for an interesting light sconce.

Step 8: Your beautiful iron work is covered in a heavy coat of gooey rust. Most of it will come off using a scrub bush and water. I follow this up with a twisted wire brush on my grinder (wear a full face shield as these buggers throw off eye seeking wire strands). Using a wire brush by hand is usually not aggressive enough to get all the rust out of the pits. I have also used a sand blaster to remove the rust. This will give the iron work a very uniform flat finish so I prefer the wire brush. Cleaning the rust off with the wire brush throws up a bunch of fine rust dust so do this in a well ventilated place.

Step 9: I use several coats of Permalac lacquer to seal my ironwork. Add solvent dye to the lacquer for some great color effects. The pits take more lacquer/ color for a wonderful organic look.

Step 10: Have Fun! Experiment and report back to me with your discoveries.

Notes: The rust off of your iron work collects on the bottom of your tank. You will need to periodically drain your tank and clean this sludge out. It is iron oxide. Experiment and find some cool uses for it. Do not let your metal hang down into this sludge. It prevents the metal from etching.

This is an electrical process and thus you need good electrical connections. I have found that as the copper wire on the battery charger clamps oxidizes the clamps heat up from the resistance. Take a few minutes and solder the wire to the clamps.

In general, electrons are lazy little buggers and take the shortest route in any circuit. What does this mean for you? Hang your piece in the center of your tank. If you hang it to one side, that side will get a heavier etching. This also means that if you hang a large flat piece from corner to corner in a square tank the edges of the piece near the corner will etch a lot and the center will etch very little. This is because the center of the piece is father away from the rebar cage – remember electrons are lazy and always take the short route.

You can etch more than one piece at a time if they are flat and hung edge to edge. If you hang them back to back the side facing each other will not etch. This may not be a problem if you are etching a wall hanging and don't care about the back side.

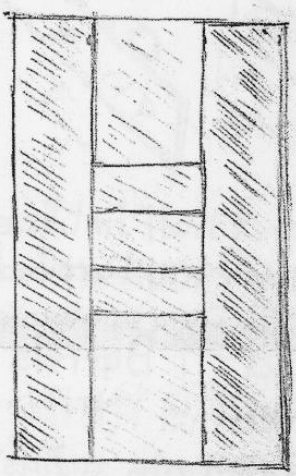
If you mask off areas of the steel they will not etch. This allows for all sorts of design option. I use two things to mask the steel. For crisp edges on your design use latex sticker material (scraps available at any sign shop). Peel off the backing and stick the material on to your clean steel. Use an X-Acto knife to cut out the design and peel off the latex on the areas you want to etch. If you have a design already drawn (or printed) on paper use spray adhesive to glue the paper to the latex. For fuzzier edges in my designs I use oil based paint. Apply it as thick as possible using a dabbing technique instead of brushing as brushing applies the paint too thin. The paint along the edge of the design will be thinner and thus will create softer fuzzy edge to the design.

As you turn the water in your tank into oxygen and hydrogen and it also evaporates just add more water. No need to add more washing soda as it stays in the tank.

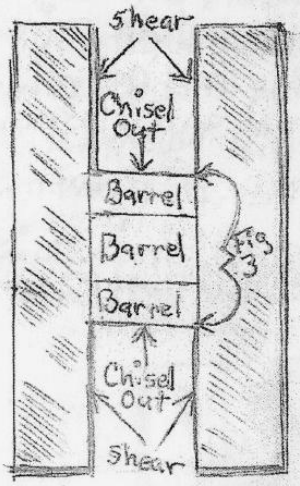
This article will be on the AZ-blacksmiths.org (AABA web site). As I and others learn more the new info will be posted.

H Hinge From 16ga Sheet Metal

By E. W. Ratliff



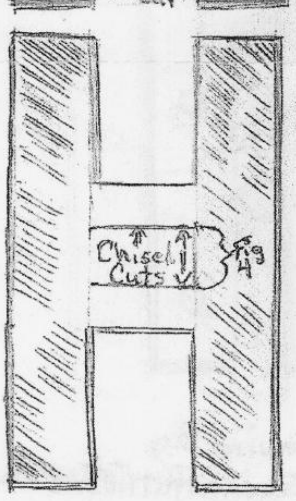
① Measure and Layout H Hinge Fig 1st 16 ga Sheet Metal



② Shear Four Cuts To Barrel Center Fig 2

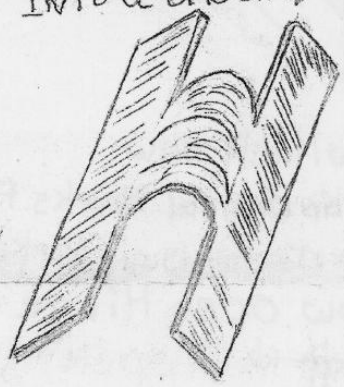
③ Chisel across Barrel and Cut out Fig 3

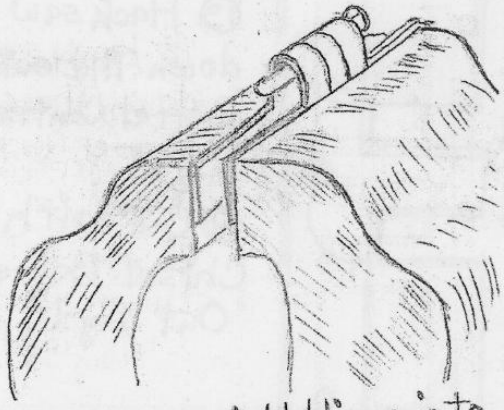
④ File all Cuts Smooth



⑤ Mark inside Barrel With Light Chisel Cuts Fig 4st

⑥ Form H Hinge Blank Into a U Bend





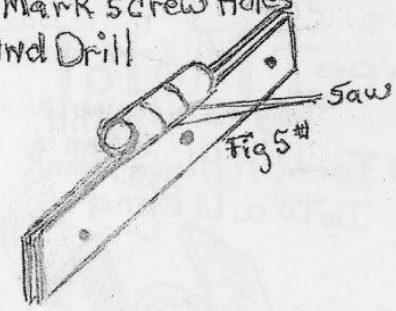
⑦ Insert H Hinge into Vice and Close Hinge Up. But Not all The way

⑧ Insert Barrel Pin and Close Hinge all The way closed.

⑨ Work Hinge eye while in Vice with a small Hammer

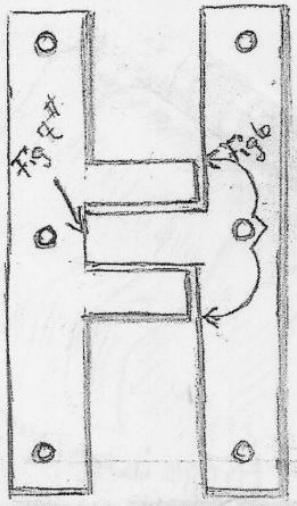
Reprinted from New River Forge Council Newsletter

(10) With Hinge Closed Mark screw Holes And Drill



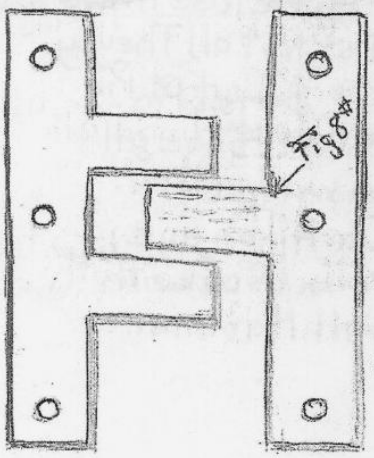
(11) Now Hack saw Center Barrel Marks Fig 5#

(12) Now open Hinge out Flat



(13) Hack saw down The outer Barrel Centers. Fig 6#

(14) Cut with Chisel Barrel Out Fig 7#

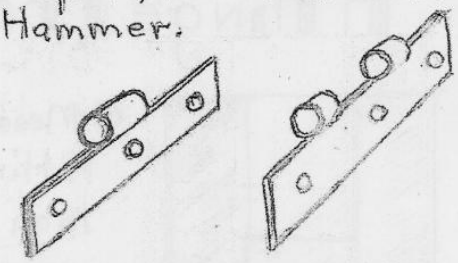


(15) Now you have Two halfs of The H Hinge

(16) When you sawed The barrels out, you lost Barrel Material

(17) Now cross peen Fig 8# Center barrel File and Fit

(18) Put one Hinge Half in vice and roll Barrel around The pin, work with small Hammer.



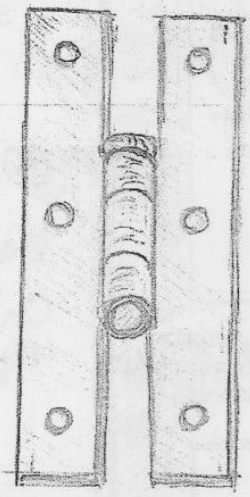
(19) Put second half in Vice and Work Barrel around Pin

(20) File and Fit Barrels Together

(21) Now insert pin adjust Barrels and pin, Opening and Closeing

(22) Peen pin Top and Bottom.

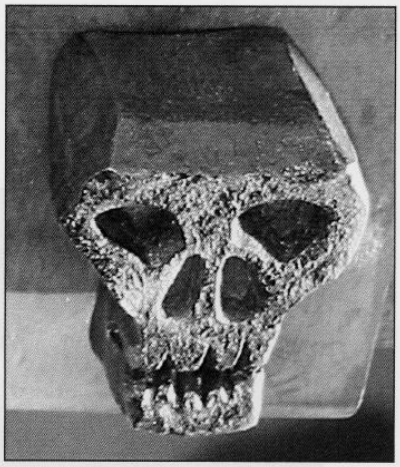
(23) Finish H Hinge paint, beeswax ect.



Drawing By Eugene Ratliff 5-2012

Forging a Skull

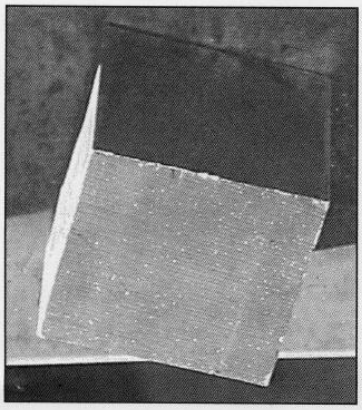
by Jim Riddle, San Jacinto

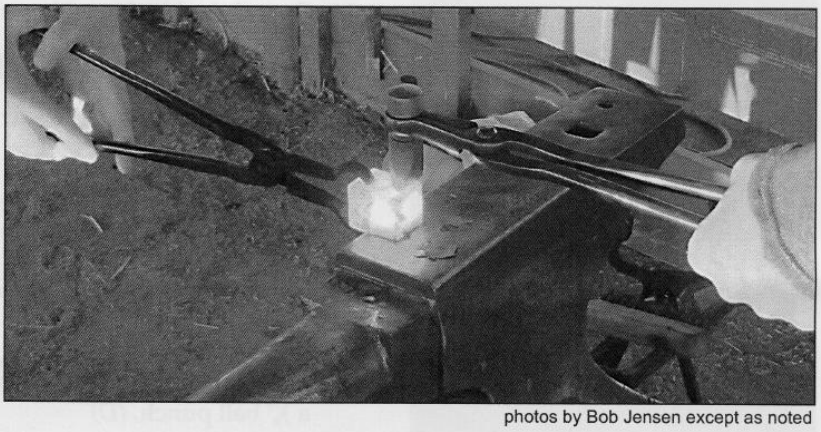


On the back cover of the January/February 2012 issue of *California Blacksmith*, we had an interesting photo of a skull, as forged by Jim Riddle. During Spring Conference, Jim showed how to forge the skull, forming the basis for this article.

Material. The stock is mild steel, 1½" x 1½" x about 1⅜".

First, get the initial stock into roughly the correct shape.





photos by Bob Jensen except as noted

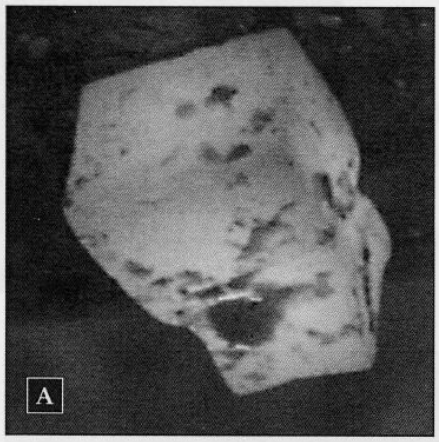
1. Upset the short dimension, growing the 1½" dimension to about 1⅝" x 1⅝".
2. Forge one side down, thinning to about 1⅜" x 1½" x 1 1/16". At this point, try to get the stock into the rough shape of a skull.
3. Clean up as necessary, squaring up the skull.

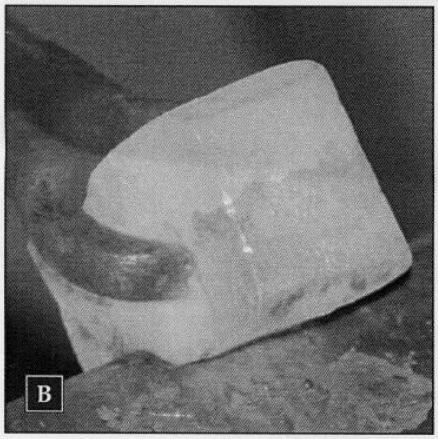
Now, begin to create the jaw shape.

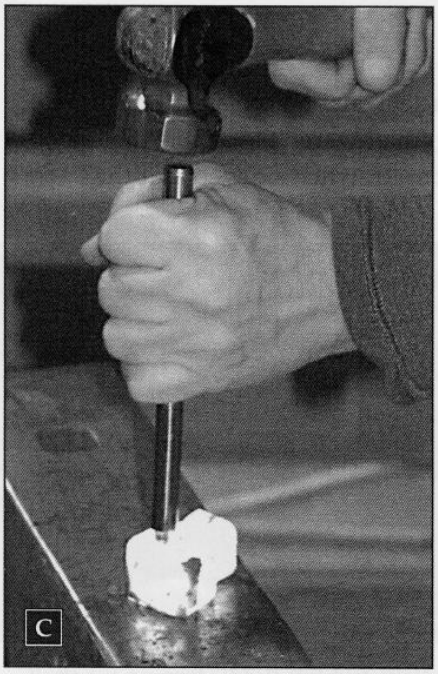
4. Begin fullering in the sides. You want a fullered crease about ½" back, even on both sides. In this demonstration Jim used a tong-held fuller. A guillotine or a spring fuller weren't available that day, but could have been used as well. With a tong-held fuller, remember to switch sides so that the fullered section is even on both sides.
5. Clean up the fish lips on the front and back. Then fuller more. At this step, the fullered groove should be about ¼" deep.
6. Again, clean up any fish lips or other bulging places.
7. Deepen the fullered groove a bit more.
8. Draw out the chin – clean any swelling, fish lips or hammer mishits.
9. Rework the fullered grooves.
10. Clean bulges and fish lips.

Lance Jensen (left) and Jim Riddle forging the skull.

Forging a Skull





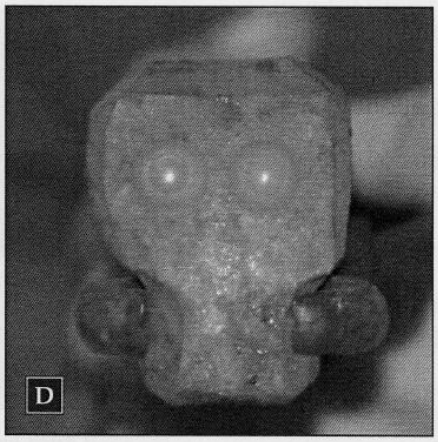


Begin to shape this into a general skull shape. *(A)*

11. Set down the corners. Begin to shape this into a head shape. By chamfering the corners, you soften the squarish mill-finished block. Round the outer corners as desired.
12. Round the chin.
13. Look for fish lips. Clean up as necessary. Do more rounding on the chin.
14. Round the head outside corners.
15. Chamfer the bottom of the jaw. *(B)*
16. Start the brow. Use the side set to create broad, smooth transitions. *(C)*
17. Chamfer the sides of the head. The front should have more slope than the back.

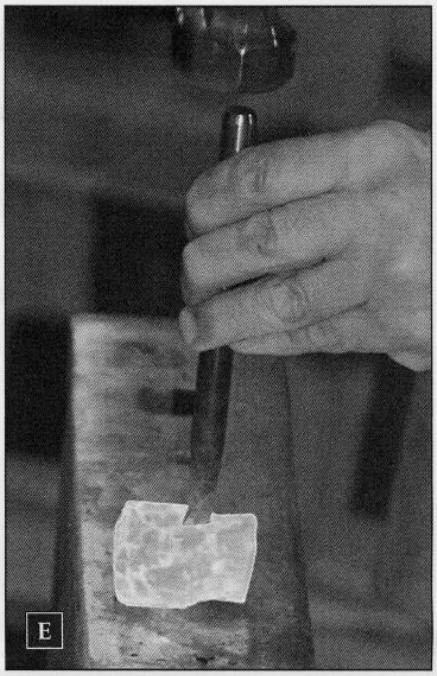
At this point, you've roughed out the shape of the skull. Next, put in details that will bring the sculpture to life.

18. Locate the eye locations, and then start them using a ⅜" ball punch. *(D)*
19. Deepen the eye sockets.
20. Deepen more. Repeat as many times as needed so that you create your skull as desired.
21. If it scales up, that's OK. Leave it alone. That becomes interesting patina.



Forging a Skull

22. Use a semi-triangular punch to start the nostrils. Repeat as needed in order to obtain the desired depth.
23. Make the initial mouth cut using a hot chisel. Cut all the way across the stock, to a depth of about ¼". *(E)*
24. Deepen more, and bring the cut out to the side.
25. Use a chisel to cut the teeth. *(F shows the skull before cutting the teeth.)*
26. Tweak, adjust the jaw. Add touchmark. Wire brush and wax the skull. ♣



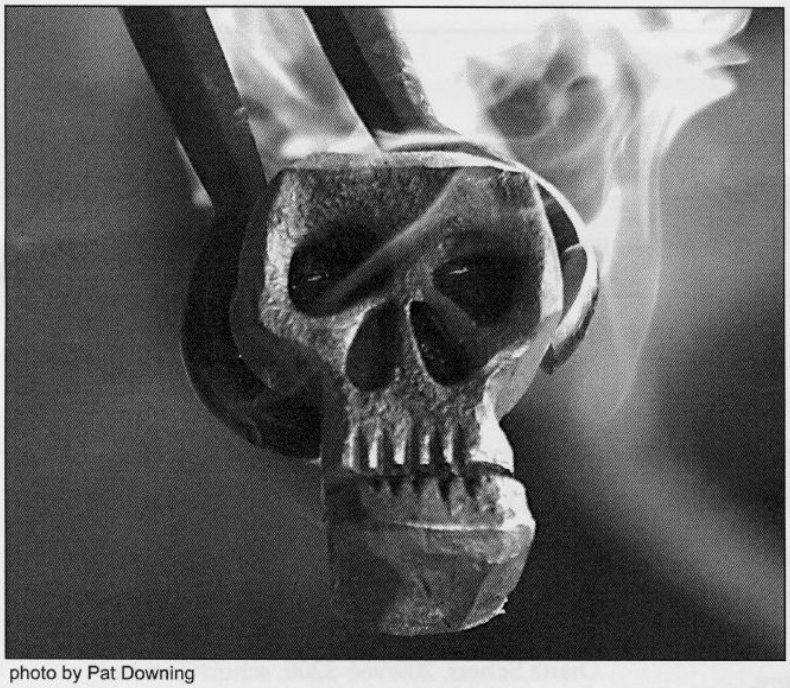
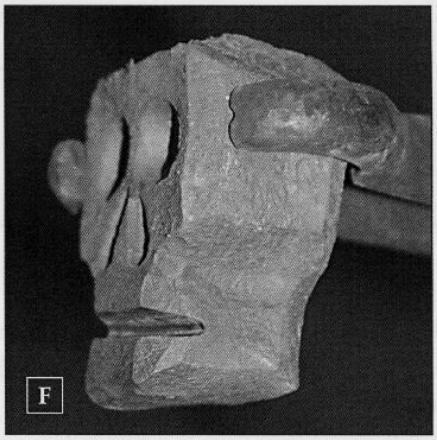


photo by Pat Downing



About Jim Riddle

Jim owns and operates Mojave Southern Machine Works, a contract machine shop which also offers blacksmithing and forge supplies. He enjoys making tools for the craft, such as the various chisels and punches he offers in his shop. Jim conducts blacksmithing demonstrations at various California venues, including historical reenactment events.

Reprinted from the September 2012 issue of the California Blacksmith, newsletter of the California Blacksmith Association

Classifieds

Classified ads are free to members and can be submitted by email to: danshammer@cox.net

Little Giant - 25# hammer for sale. I bought this hammer several years ago from Brent Baily, and I have used it very little. This is a newer model and I believe it's from around 1947. 220v single phase. $3000 (which is just a little less than I paid).

I also have a hydraulic press , with a hydraulic pump and tank unit. I never got around to making this a functional unit--its very heavy duty. Mike Perry, Tucson 520-750-0420,

Will buy your unwanted blacksmith or horseshoeing tools and supplies. Call Barry Denton 928-442-3290 any day before 7:00 pm.

Wanted: Wanted- disc plows, low carbon RR spikes, small RR spikes, rototiller and snow blower tines, large horseshoes, wrought iron. Will pay bottom dollar!
Ira 520-742-5274
treeira@hotmail.com

80 pound Kinyon Mark 11 power hammer. Contact Ron for info.
Ron also has air hammer pneumatic kits. Includes cylinder, valves, fittings and hose.
Ron Kinyon 602-568-8276

Satin Shield Quarts
One quart ready - to - use for $12.00 each. Doug Kluender 602-818-1230.

Picture Rock Arizona Sierra Banded Sandstone makes the perfect base for all your forged iron pieces. Awards, plaques memorials, water features, furniture or anything you can imagine.
Mined in North Eastern Arizona, cut and shaped to your specifications.
Contact AABA member:
Terry Horne
602-672-7085
Www.arrowzonastoneworks.com
500 E. 38th Ave.
Apache Junction 85119

Sources

Tucson Iron and Metal
Steel, aluminum, stainless, copper and brass for sale by the pound.
Open Monday– Friday 8 –4:30 and 1st and 3rd Saturdays 6:30 to 8 am
690 E 36th St, Tucson 85713
phone 520-884-1554

Bar U Bar Supply
Several 65 lb. & 85 lb. swage blocks for sale. Your source for anvils, post vises, and other new & used blacksmith tools.
Barry Denton ph 928-442-3290
email: barubarranch@gmail.com
website: www.barubar.com

A Copper Rose Metal Art has Chasing / Repousse Pitch
http://www.chasers-pitch.com
Debra Montgomery

Pieh Tool Company Inc.
Blacksmith Supplies, Blacksmith Classes with Gordon Williams, Milwaukee, Wilton & JET Tools,Coal, Coke, Air Hammers, Hand Hammers, Tongs and Books.
661 Howards Road Suite J
928-554-0700 ,www.piehtoolco.com

Scottsdale Farrier Supply
Mostly farrier supplies, but has hammers, tongs and other blacksmith goodies. Ph. 480-838- 4455 NW corner of Power and Williamsfield Rd. Mesa

MSC Industrial Supply Co. is a mail-order supplier of all kinds of industrial & metalworking supplies. You can get a 4500+ page catalog by calling 1-800-645-7270.

IMS Full service supplier of Steel, Stainless, Brass, Aluminum, Copper. 5150 S. 48 ST. PHX. 602-454-1500

Brent Bailey. A blacksmith in California specializing in custom tools and ornamental forgings for artisans.
www.brentbaileyforge.com

Pacific Insulation Company
Supplier of high temp insulating materials. Bricks, Kaowool and other refractories. 215 S. 14 St. Phoenix. 602-276-1361

Blue Moon Press, Ltd.
Metalwork books, some of which are only available through them.
Bluemoonpress.org
Toll free ph. 866-627-6922.

Vern Lewis Welding Supply,
Discount pricing for AABA members. Just tell them you're an AABA member
Various Valley locations
602-252-0341 or for tech support: Dan 602-316-4140

Arizona Artist Blacksmith Association
Attn: Dan Jennings
2522 W. Loughlin Dr.
Chandler, AZ 85224
Address Service Requested

NONPROFIT ORGANIZATION
U.S. POSTAGE PAID
PHOENIX, AZ
PERMIT NO. 5531

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 $30 for individuals; $35 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, its officers or editor 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 newsletter submissions, corrections, etc. should be addressed to the editor: Dan Jennings 2522 W. Loughlin Dr. ,Chandler, AZ 85224 Tel: 480-510-3569 Fax: 480-839-6339 Danshammer@cox.net

For membership info or address change, contact: Terry Porter 2310 E Melrose Street, Gilbert 85297 480-988-2070 trp555@prodigy.net

Details from Brett'Motten's September demo project.

See page 4 for more demo coverage and the completed lamp.

Lower right: That's Jim Sheehan looking quite impressed

Photos by David Bridenbaugh