

The Anvil's Horn

Publication of: The Arizona Artist Blacksmith Association

Issue No. 138

May 2009



Charles' Gothic Table
By Dan Jennings

President's Message:

Thanks Fred, for having a beautiful ranch, and inviting us to meet there. Your hospitality and planning made it really special, as did the demos by Art Jones, you, Jay Kidwell and Grizz. Great food, and lots of it- thanks Grizz, Jason and Amber for the cobbler- I had 3 helpings of it Sat night and more for breakfast.

We had good attendance, which shows that we can have meetings in new, off the beaten path shops. And I'm happy to see that more of our get-togethers are weekenders; more time to swap lies and get to know people. It was good to see some new faces there, as well as spouses and kids.

Then, the next weekend, a few of us (Harold Hilborn, who organized it, Steve Fisher, Bill G, Clark Martinek and I) headed for Tombstone, as guests of the Good Enough Mine, to help celebrate The Town Too Tough To Die's Founder's Days. We were able to avoid gunfights, made friends with several Wyatt Earps, and got to see a hard rock drilling contest (also, ask Clark why he's now the Head Muckety-Muck!) We demo'd, sold stuff, and had a good time in their blacksmith shop. We may be able to establish an AABA presence there for get-togethers and sales. (*see page 14*)

Now, back to the future. Paul Dief is hosting a local demo at his home in beautiful Cave Creek on May 16. He'll demo on etching, flypress use, and other neat stuff, and we'll have a Board meeting in the afternoon. I'm sorry to miss this; I'll be in N.H. visiting my daughter. Hope it doesn't

snow! Then on to The Big One-Barry and Laurel's Skull Valley meeting on June 13-14. This would be my pick for the Best Meeting Of The Year Award, just on the hospitality, beauty, entertainment and food we receive there, and this year we have really special demonstrators, the Brazeal Brothers, the Dynamos of Blacksmithing. Their work was the cover story of the recent issue of The Hammer's Blow; the rounding hammer shown there will be made by everyone taking their Sunday Toolmaking Seminar, and they will demo on Saturday. Contact Doug Kluender for workshop info and signup, and thanks Doug for organizing this meeting.

We'd like to have a great turnout for both days, so please spread the word to friends and new smiths. It would really help to make fliers about the meeting from the Anvil's Horn, and distribute them to welding/metalworking business and classes. These are the kinds of things that keep our organization vibrant and growing. Also, we have scholarship money available for workshops like this one.

Thanks again to all those who have been working hard to keep our organization forging ahead; we're here to promote the craft we love, and I think we're doing a good job of it.

Ira

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May/ June Demo: June 13. Workshop June 14

Bar U Bar Ranch Skull Valley, AZ

Demo: 9 am to 5 pm Workshop: 9 am to 5 pm . Demo fee \$10

The Brazeal Brothers, Brian and Ed, will demonstrate on Saturday. Without a doubt, Brian and Ed are the best two man blacksmithing team you will ever have the opportunity to see. They use hand tools—no power hammers—to move a lot of material very quickly. If you haven't seen them before (or even if you have) you'll be blown away by how well they work together and how easy they make it look. They will do a number of projects including: forge weld bundle, horse head and other animals, and one heat tongs. For more info check out www.myspace.com/brazealbrothers

This year the actual demo is Saturday only. On Sunday Brian and Ed will hold a workshop (see below). Whether you sign up for the workshop or not, you are encouraged to spend the night and enjoy the campfire, music and bar-b-que on Saturday evening and breakfast on Sunday morning. For those who don't sign up for the workshop there will be forging activities or the opportunity to just hang out and enjoy the atmosphere, the weather and the company of fellow smiths.

- Lunch on Saturday: \$7.50 will be available for the first 75 people who sign up.
- Saturday evening Bar-B-Que: Bring your own meat, beverage and a dish to pass.
- Sunday breakfast: Jon DeMasi's blacksmith famous, good eats.
- Sunday Lunch: Bring your own or we'll send someone to Subway (*that's a threat if I ever heard one*).

“Forge to Finish” Hammer Clinic

Sunday June 14

Hands-on, one day workshop taught by Brian and Ed Brazeal. You will forge your very own custom-rounding hammer from 4140 steel. Everything from punching the eye, to heat treatment, final fit, grind and polish will be covered.

See page 18 for a reprint of the Winter 2009 edition of the “Hammers Blow” for photos and a detailed description of this clinic.

Tooling and Materials will be provided.

Workshop fee: \$200. Payable to AABA

Send to: AABA

C/O Rodger “Grizzly” LaBrash
1329 W. Lincoln St.
Phoenix, AZ 85007

Remember, Barry always has stuff to sell and he always buys stuff as do the rest of us. So, bring your stuff and bring your \$\$\$.

Directions to Bar U Bar:

1. I-17 to Cordes Junction Exit
2. Exit at Prescott/ Cordes / Hwy 69. Travel West through Dewey to Prescott
3. Turn right at Sheldon
4. At the T, Turn right on Montezuma, which will become Iron Spring Rd. (8 mi)
5. Turn right on Conteras Road (3 mi).
6. At the T, turn right, go one mile. Bar U Bar is on the right.

GPS Location:

Bar U Bar Ranch, Skull Valley, AZ

As always, safety glasses are required.

March Demo Report: Saturday: Art Jones and Fred



Above: Saturday started with Art and Fred making a smaller version of the bolster we had seen the night before. Art talked a lot about "hand forging" using 100,000 ton presses and 20,000 pound hammers. His view of forging is a lot different than most of ours.

Below: Art's tooling to make bellied pickets in the hydraulic press



Art and Fred made the nearly completed ring seen being formed in the photo below. They started by tapering both ends (upper right). After it was tapered Art starts the bend cold with a horizontal hydraulic press rigged on a platen. They finished the beds cold on the 1100 ton press below.



Wow, what an incredible weekend! Fred Borchardt's Buckskin Ranch was built as a guest ranch in the late '20's or early '30's by the man who drew the Buck Rogers comics. There was an industrial kitchen and large dining room, a large lodge, with stone fireplace and billiard room, and several guest cabins. Of course, there was a huge shop complete with the big hammer and 100 ton forging press.

Many of us showed up Friday afternoon and were treated to a great dinner prepared by Lorelei Sims (yes, she can cook, too!). Friday evening Art showed videos of Mare Island Shipyard heavy forging shop.



March Demo Report: Sunday Jay B. Kidwell and Grizz

Sunday after Grizz and Jason cooked up a huge batch of biscuits and gravy, Jay started the day with an explanation/ demonstration of raising and sinking. Grizz followed with chasing and repousse on bowl forms. The afternoon was a hands-on bowl raising with several people working until well after 4:00.



Above: Jay's partial collection of vessels he has made over the years.

Far left: Jay smoothing up the copper disc the he started on the stump in the photo near left



Above: Grizz working at his spectacular Repousse Bench

Left: Bowls and other pieces Grizz brought.



Tooling From the March Demo



Jay had this very unique fish chasing hammer.



Grizz' pitch pot with a copper vessel



What is a group of stakes called? A bevy, a covey, or maybe a pride. Probably they come in herds.



Fred's tooling tree. Most of this tooling is used under the big hammer.



Below is a group of snarling irons. Left shows how they are used. The rounded end is hammering inside a vessel to push the material out.



The Anvil's Horn

Old and New Works by AABA Members



You may have seen these signs on the underpass at Central and Jackson. Jess Hawley cut these letters out of 1/4" stainless in 1939 with a jewelers saw. They are about 8" tall. *Photos and info from Peter Sevin*



Gate and trellis by Mary Ann LaRoche
The gate has some incredible jewel tone glass inserts that really make it unique.
(You can get a color version of the AH emailed to you—see page 10)



PUNCH DRUNK By Barry Denton

I was up in Carbondale, Colorado one day visiting with the late Francis Whittaker in his blacksmith shop about punches. He took me into a separate room off his shop and from floor to ceiling he had shelves filled with blacksmith punches. Each one that he pulled out of a box he had made and knew exactly what for and about what year. This is when he was in his early nineties. As you can imagine I had a great time discussing many of those punches with Francis. Where would we be without them?

Did you ever wonder just how many punches you have in your blacksmith shop? For instance: hot punches, cold punches, center punches, drift punches, forepunches, back punches, eye punches, flower punches, etc. The list could go on for several pages. With literally hundreds of punches needed for all the different jobs in the blacksmith shop I hope you are making them and not buying them. There are a number of good punch steels available today for every application.

Now you can go to the junkyard and pick up some old coil spring for punches, but that stuff is inconsistent in quality. Sometimes it can be forged into wonderful punches and other times it doesn't hold up worth a darn. My two favorite steels for forging punches are S-7 & H-13 air hardened tool steels. These are very tough to forge by hand, but make tremendous punches that can last for years. I tend to forge all my punches by hand as I feel I can control the situation better. If you are making punches that need to last for years of continuous use then S-7 & H-13 are the best. I grew up making my first set of punches from old horse rasps. I still have a num-

ber of them after 30 years of use. However, old rasps are even tougher to forge than tool steel.

If I have a choice I would forge my punches in a coal forge as opposed to gas as it will make your job much easier. My feeling is that coal forges make any piece of steel move better and there will be less work. Consider that forging a punch from tool steel is a fairly long process with lots of hammering. When you work the two above mentioned steels in a coal forge all you need to do is forge to the desired shape and then cool slowly. I have found that in the gas forge you will have to keep packing the business end of the punch in order for it to maintain strength. Scientifically I can't tell you why there is a difference between the two forges, but there certainly is a BIG difference. What I mean by packing is hammering while turning your stock to give it a lasting strength. Normally I do this at a blue to black heat. I find my tool steel maintains plenty of strength without packing when I work in the coal forge. One of my favorite ways to slowly cool these punches is to hammer them hot into the ground at the base of my anvil. Of course, I always have the striking end protruding toward the vortex to give them added strength.



The question remains, "just how punchy are you?" Hopefully you realize that "punchy" is a cowboy term for authentic or real. If you are a hand on a ranch and you can fork a bronc, doctor a muley, nurse a doggie, and nail iron then you will be considered pretty "punchy". That is a term of respect from a cowpuncher. Now, cowpunches are an entirely different article.

A Night With Pima Community College By Harold Hilborn

Last Fall I was approached by Jason Butler the instructor for the beginning blacksmithing class at PCC. I had met Jason the year before through my step son who had him for a art teacher at his high school. He informed me he had taken the position at PCC and was going to try and do shop tours of local blacksmiths in the area. Fall 2008 semester he was going to Doug Thompson's shop and he would like to come to mine Spring 2009. I was immediately struck with a sense of fear. Your asking me to demonstrate? I thought. After all the demos over the years with all the great blacksmiths I have seen how could I do this. After a bit of coaxing I agreed to help.

In attendance there were about 24 people; Jason, 15 of his students, a few local AABA friends and invited guests from the Sculpture Resource Center.

To start the night I was asked to give a history of myself and how I came into blacksmithing, in which I explained the AABA and all it had done for me and if they were at all interested in blacksmithing they should join as it would pay off for them ten fold.

Next we went on to the first demo which involved lighting a coal fire and maintaining it, the different types of coal, what coke is and what a clinker looks like. While the fire was going we started to discuss steels and their carbon

content and how some junk yard tool steels were good for making tools. We went to the pedestal grinder with some samples and I showed them how to identify their carbon content by looking at there spark trail. Next we took a piece of 5/8 coil truck spring and made a hot cut chisel. While making the chisel I explained to them the difference between annealing and normalizing. Then we put a piece of steel in the fire brought it up to a burning temperature let it cool and talked about the colors and what temperatures are critical and non magnetic for hardening. We then put a chisel, that I had made earlier in the day in the fire and hardened and tempered it.

The second demo was on a large flower and its elements. We used the power hammer for the stem, leaves and the flower. We discussed different types of power hammers and showed different types of spring swage dies you can make.

At the end of the night I explained to them what an iron in the hat is. Then we threw some raffle tickets in a bag and drew for the chisel that we made earlier.

I would like to thank Jason and all the guests for a wonderful evening. It was great fun.



CALENDAR 2008-2009

May 16	Workshop Metal etching +++	Paul Diefenderfer	Cave Creek, AZ
May 16	BOD Meeting	Paul Diefenderfer	Cave Creek, AZ
June 13 & 14	Demo, Music and Stuff	The Denton's Bar-U-Bar	Skull Valley, AZ
July 18	Demo & Hands on Forging	Pioneer History Museum	Flagstaff, AZ
September 19	Demo Mark Finn	Bill and Karen Morris'	Camp Verde, AZ

Coming Events:

Paul Diefenderfer Hosts: Metal Etching & Flypress Workshop

May 16, Paul will share his techniques for etching metal. (You might remember the awesome forged and etched panels Paul brought to Camp Verde last year.) He'll be showing how to do the etching with techniques that are relatively safe and affordable.

The workshop will start at 9:00 am and will go until it's over. There are lots of great places for lunch in the area.

41816 N. Sierra Vista, Cave Creek

Directions ("Mapquest will get you lost:):

From Cave Creek Rd and Carefree Highway

Go north on Cave Creek Rd. into the town of Cave Creek.

Go north on School House Rd to Fleming Springs Rd.

Turn right; drive 3/4 mile to Echo Canyon.

Turn left. In 1/4 mile Echo Canyon narrows and becomes Sierra Vista.

Look for the sign and walk down the driveway on the left.

Questions? Dief@phoenixrockgym.com

Home: 480-488-1235 cell: 602-509-1543

Education and Workshops

This year we are off to a slow start in the education department, because of the multiple changes in chairs.

The notice in the last AH asking for input from members produced an underwhelming result. Not enough folks called to put together any workshops or classes.

If you are interested in taking class or building equipment in a workshop contact: Grizz (602-716-9660 grizz@grizzlyiron.com) or Richard Rozinski (602-803-7555 rrosinski@cox.net)

Welcome New & Returning Members

Jim Barker

Jerry & Ina Culberson

Anne Cutlip

Keith Dorsey

Jim Dunning

Paul Gaffer

Jose (Pep) Gomez

Antonio Luna

Emily McCall

Tim Monday

Sam Rivera

Anvil's Horn Via Email

This service is available to members only and we ask that you not forward the newsletter to non-members. (You will still get your hardcopy in the mail.) To sign up, email webmaster John Doss at: jdoss@rock-n-rod.com

Blacksmith Shop at Camp Verde Historical Museum

The Museum, located at Fort Verde, would like AABA to equip a small shop for demos. If you have a nice coal forge, anvil, vise, or other traditional blacksmithing tools you'd like to donate or if you'd like to participate, contact Bill Morris.

azmorris@aol.com or 928-576-2804

Deadline: June 7 for the July 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

2009 Dues were Due January 1
If you don't receive this issue, we haven't received your dues.

AABA Website: AZ-blacksmiths.org

AABA BOD Summary

March 28 Meeting at Buckskin Ranch

Auction: Bonnie Harvey has volunteered to chair the event again this year. There was discussion about the date. October has yielded nice weather, but December has yielded a better auction since folks were in the mood to buy Christmas presents. Bonnie and Jason will meet and recommend the 2009 Date.

May Demo: The cost to bring Brazeal brothers is too great for demo only. We can run the hammer making workshop on Sunday, with the proceeds going to Brian and Ed, without having to increase the cost of the demo.

A plan and help is needed to transport the bleachers from Bill Morris' to Skull Valley, back to Bill's; up to Flag and back to Bill's.

July Demo: Pioneer History Museum in Flag. Tentative demonstrators are Clark Martinek, Marc Larson and Ray Brown. With some hands-on in the afternoon.

September demo: At Bill Morris' in Camp Verde with Mark Finn as demonstrator.

Future Demos: Caleb Kullman and Lorelei Sims were discussed.

2008 tax return showed total revenue \$31,477. Dues were \$7045, Other revenue provided the remainder. A review of expenses showed we broke

even for the year.

Insurance: Farmers increased the premium to \$1045. Hartford quoted \$470. Doug will compare coverage. A motion was passed to authorize a change if all coverage is equal or better.

New Members Pamphlet: Will be updated and distributed by Bill Morris.

Education: John Doss resigned from the ed chair in order devote his attention to the Webb site. Grizz accepted the position along with his other duties as demo coordinator and VP. Richard volunteered to assist with education.

Advertising: Advertising on the website has started. Discussion about allowing ads in The Anvils Horn centered around increasing the newsletter by 4 pages so as not to take away from the content. Additional printing cost would be \$50 per issue. An advertising committee would need to be created to sell and collect money, to screen content, and to provide copy to the Editor.

Non-Profit Requirements : Doug presented three new policies that the IRS now requires of not-for-profit organizations: "Whistleblower Protection Policy", "Document Retention and Destruction Policy", "Conflict of Interest Policy". A motion was passed to accept these policies.

If you have questions , input , concerns or would like to volunteer, contact any of the officers or BOD members listed on page 2.

AABA New Member and Membership Renewal Form

NAME _____
ADDRESS _____ CITY _____ STATE _____
TELEPHONE _____ EMAIL _____ ZIP _____
PROFESSIONAL BLACKSMITH _____ HOBBYIST _____ FARRIER _____
INTERESTED IN THE ART _____ TEACHER _____ OTHER _____
OCCUPATION OR SKILL _____

PLEASE CHECK ONE:
REGULAR MEMBERSHIP (\$30) _____
FAMILY MEMBERSHIP (\$35) _____

Make Check Payable to AABA

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

Running A Small Business By Harold Hilborn

I have been a small business owner for 1 ½ years now and work by myself most of the time.

I have had the most difficulties trying to price my work. Am I charging too much or not enough? When you're done with the quote you look at it and say, that's too much they will never pay that because I would not. So you lower your price get the job, complete it. Then look back at it and feel you left some money on the table.

Figuring the costs of a job has always been easy as far as materials and time goes but when

it comes on how much to charge per hour is a different matter.

Looking on the internet I found this article which seems to work well for me. Just plug in your own numbers and maybe it will help some of you also.

It is by David Robertson @ artist blacksmith.com

Business of Blacksmithing

How to Price and Charge for Your Work. by David Robertson

Blacksmithing like any craft takes a lot of thought when you price your work. We all struggle with what we think should be a fair price. Often we enjoy the work so much it seems hard to price the work at what it should be priced to make a proper living.

Let's look at the reality of pricing your work when you work in a specialized, labor intensive craft. The numbers I will use may be a bit different for your country or location, but I am sure you will be able to adjust the numbers to your situation.

In my area minimum wage is about \$8.00 an hour. This gives a bare subsistence in quality of living. So what is a reasonable wage for the type of work we do?

Let's look at the nature of our business first. We use specialized equipment to create precision pieces of metal work. We assemble our creations into complex shapes and functional items.

There is a high degree of skill, and planning involved in many of our projects. We also have to deal with customers and suppliers on a daily basis, solve problems and quote projects as well as do our own accounting and bookkeeping.

There are many hats that we have to wear as one person business operators.

The manual skills required in the blacksmithing business as well as the technical knowledge are closely related to the skills of a welder, or auto mechanic, or a machinist. There are some differences in each of these trades but the skill level is about the same.

In my area auto shops and machine shops charge \$75.00 to \$100.00 an hour. Individual mechanics and welders get paid \$25.00 to \$35.00 an hour.

So let's take an average of \$30.00 an hour over a 40 hour week. That gives \$1200.00 a week times 50 weeks (remember that you should be able to take a two week holiday and this is paid). So 50 weeks gives a total income of \$60,000.00. This is considered a good solid income in my country.

You only get paid for the work you sell. The time you spend consulting with your clients you are not paid for. The time spent designing the gate or grill is not paid time. The time spent getting materials and supplies you are not paid for. You are not paid to do your own bookkeeping. If someone else takes care of your bookkeeping then you have to pay them.

There are many areas that you have to spend time on that you do not get directly paid for. Everything is paid for by what you sell so you

have to take into account all the time spent other than smithing.

To calculate what your time is worth when you are working on actual blacksmithing you will need to at first keep strict records of how long it takes you to make your items. You must include the time to paint and finish your work. If you ship to your customers you need to include the time it takes to package it up.

You also need to keep a log of all the time spent that is work related but you can't charge for. You will need to keep your log-book very detailed so you can isolate what proportion of time actually brings income in, and what proportion supports your income but that you don't get paid for.

You also need to calculate all your consumable costs, electricity, rent, business insurance, vehicle costs, etc and add to your wage costs. This will give you the total that you need to bring in a year.

The next step is to calculate the number of hours used on non paying work. This includes the running around and consultations, or the sitting at the craft show selling your products. This should be part of your log book as well!

If you keep track of all the time spent on your business, and the time of actual making of the products you will probably find a 60 / 40 ratio. That is 40% of your time is actually working on salable products. 60% of the time is spent on related but unpaid work. You will have to determine this ratio from your own log book.

Lets take a look at some sample numbers in the equation. These are rough yearly totals.

Wage \$60,000

Shop Electricity \$1200

Shop Rent \$3600

Business Insurance \$1200

Vehicle Costs \$6000

Show Fees \$2000

Advertising \$2000

Equipment Repairs \$1000

Total \$77,000

You may have other expenses that you only incur since you are in business. These will need to be added to this list. Everyone is a bit different, and check with your accountant.

Our actual equation looks like this:

Hourly Shop Rate = $(\text{target yearly wage} + \text{busi-}$

ness expenses)

$(\text{ratio of paid hours per week} \times 40 \text{ hours a week} \times 50 \text{ weeks in a year})$

Now lets plug into our time ratio.

$0.40 \times \text{our a available paid hours} (40 \text{ hours a week} \times 50 \text{ weeks in a year})$

$0.40 \times 2000 = 800 \text{ smithing hours in a year}$

So $\$77000 / 800 = \96.25 per hour plus your material costs. This should be your shop rate. As you can see your actual wage is much less than what you have to charge.

Going back to the beginning of this article you can see why my local auto mechanic and machine shop is charging \$75 to \$100 an hour. Your blacksmith work is the same value!

Lets add another twist to this scenario.

Suppose you hire an employee. Obvious expense is wages and deductions. When I was hiring employees it would take a month before they had been trained well enough that they were making me significant money. It took a week before they would break even and I could use the components they were making. If you pay \$10.00 per hour, the first week they may just break even. The second week they may get up to \$20 per hour in production for you.

After a month I found that they could bring in about \$40.00 hour if I kept them busy. If you have the work rolling in this is when you start to make money. Remember you are still paying them \$10.00 an hour. If your work dries up, paying employees is a fast way of going broke.

In short you need to start keeping a log book of how much time you spend on each facet of your business. Time for everything. Then break it into time spent directly making your products and time spent on non-billable supporting hours. Do the simple calculations to find what you should be charging in your circumstances. It will probably be more than you guess.

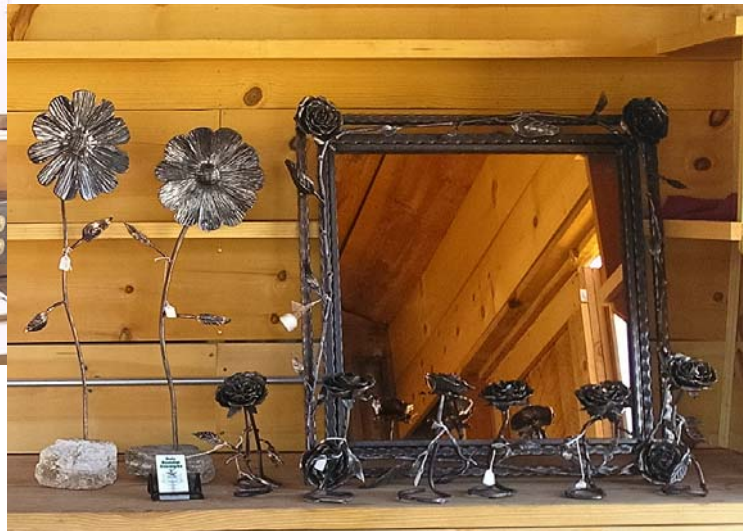
Reprinted with the permission of the author.

A Tombstone Experience at the Good Enough Mine

Clark Martinek entered the mucking contest at Founder's Day Celebration in Tombstone on April 5 and won some prize money. He and a partner had to fill a mine car with rocks using shovels. Their time was 1 minute 22 seconds. The winners filled the car in 56 seconds. We also set up shop there and sold a few things over the weekend. If there is any further mucking we will forward the evidence also.



Left: Clark took some stuff
Below: Harold's stuff



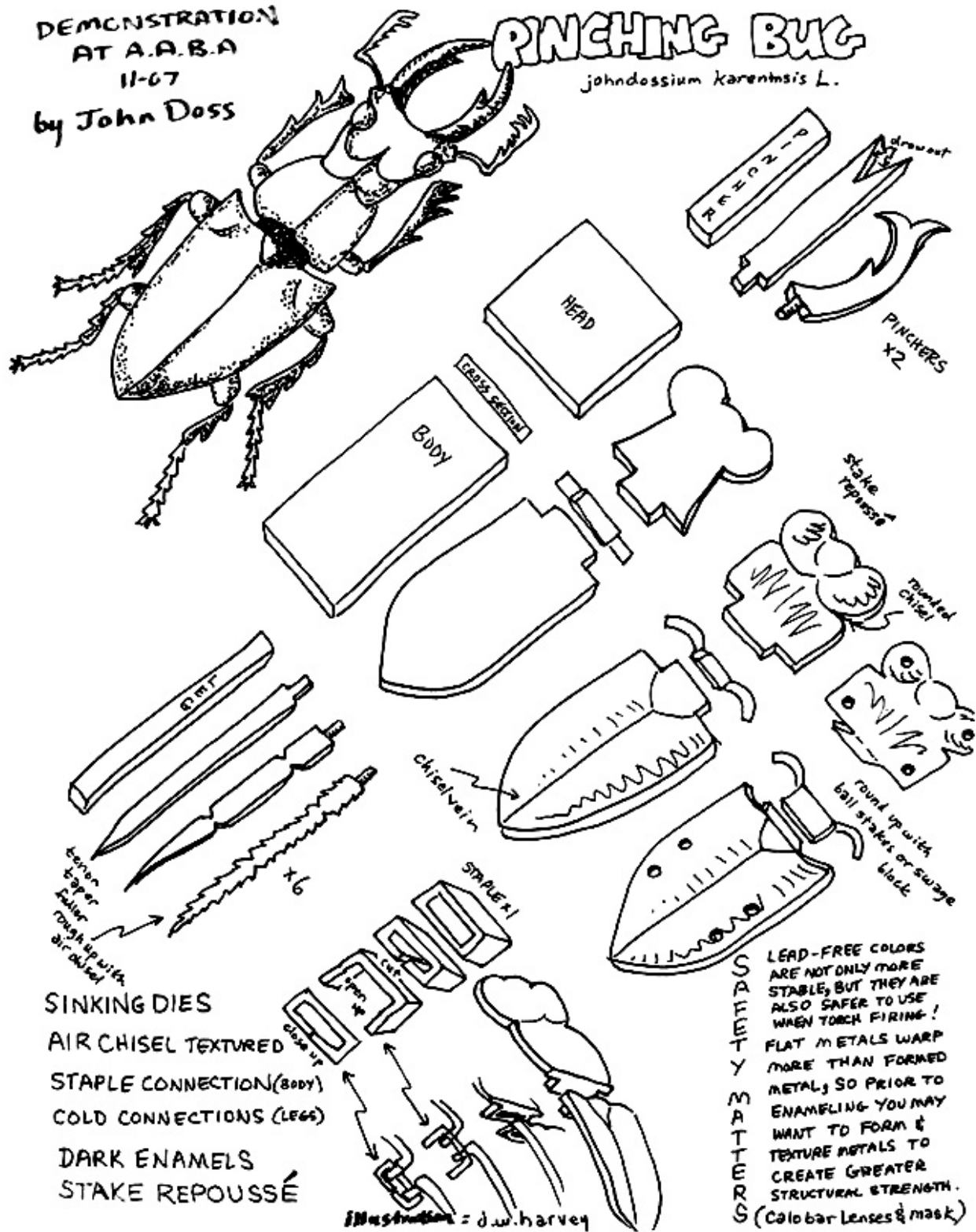
Ira and Harold setting up shop

Harold Hilborn organized the event with the folks from the Good Enough Mine. Ira, Clark, Bill and Steve Fisher also made the trip. If you are interested in attending or need a venue to market your wares in the future contact Harold.

DEMONSTRATION
AT A.A.B.A
11-67
by John Doss

PINCHING BUG

johndossium karentnsis L.

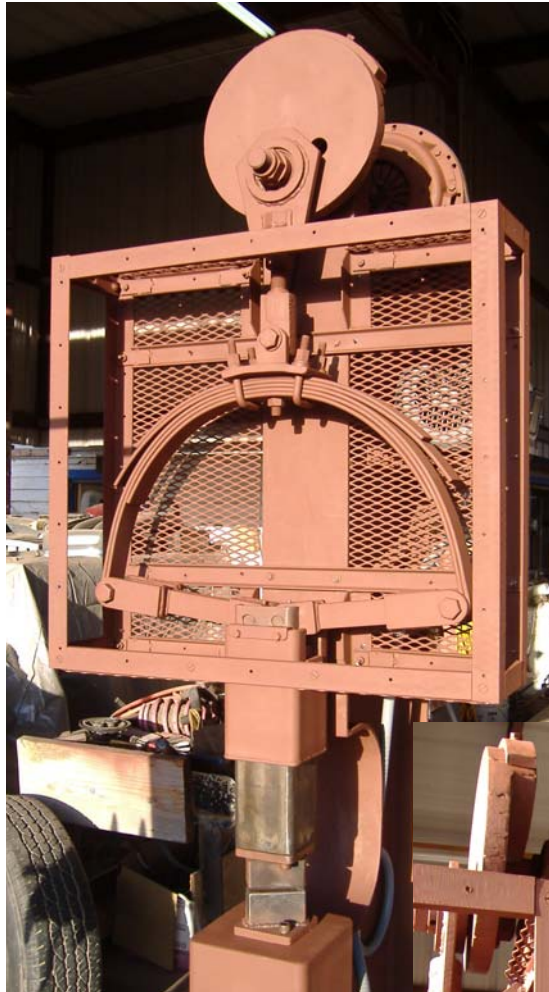


Steve Fisher's Power Hammer

The drive train utilizes a 10" ford flywheel/clutch disc assembly. The clutch runs normally in the unengaged position. The flywheel spins until the foot pedal is depressed to release the spring tension of the pressure plate and then the drive line begins to turn. It works opposite from its application in an automotive transmission.

The hammer is a combination of ideas. Originally the hammer head traveled in a slide channel. I liked the idea of the square hammer tube utilizing the UHMD guide bushings so I reworked the "plan". There really was no plan except some crude drawings without many dimensions or specifications. I had to trial and error my way through it. I made most of the parts two or three times each until I got them to work. Doug Kluender machined several of the pieces for me.

I bought the partially assembled "hammer" from Ralph Montenegro in Tucson. The I-Beam was welded onto the base and the anvil was welded in place. John Kruger and Ralph went in together and each made a hammer. Ralph got side tracked on his and decided to sell. I did not know exactly what I was looking at, but Doug thought I could complete the project. We both thought it was just a matter of assembling parts together. That was not actuality. And then when I changed the head design that complicated matters even more but it was for the better.



Ivan Hill Gate

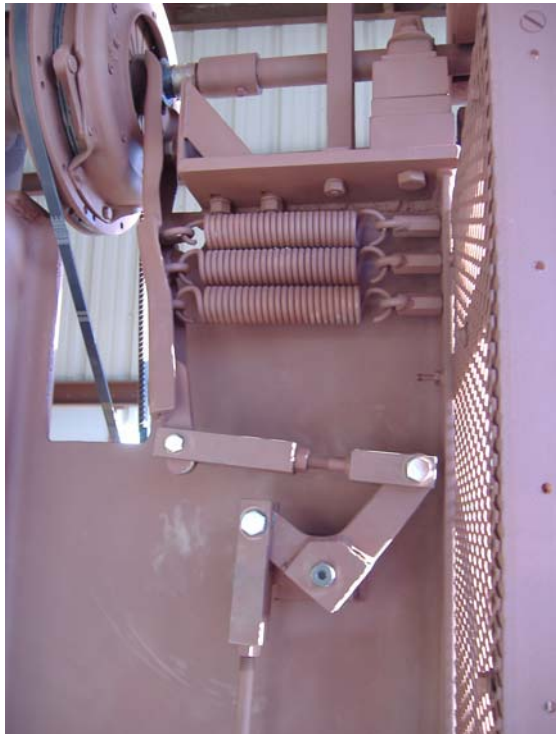
One day when Ivan came by my house, I had my trailer filled with 2 tons of “scrap” iron. I told him he could have anything he wanted, so he picked out a few bits and pieces.

When He sent me these photos he told me I’d get a kick out of some of the details. The horseshoes weren’t from my trailer, but its nice to see someone put the other bits to use.

Ed



Below: another detail of Steve’s Hammer



Forged Rounding Hammer *Reprinted from the "Hammer's Blow", Winter 2009*

by Ed and Brian Brazeal

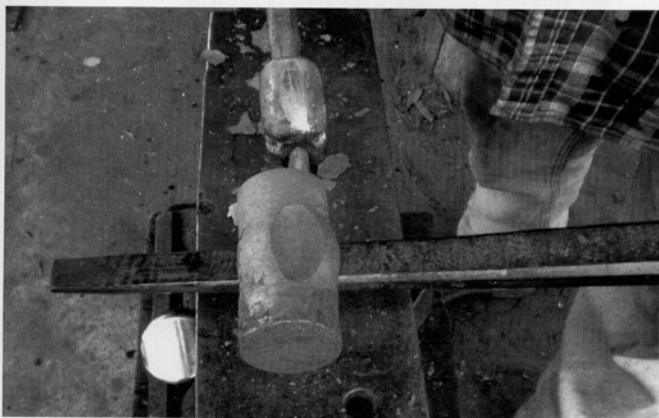
Tulare, California

We started with 3 1/2" by 1 3/4" 4140 round stock. First we punch the hole with a slitting punch, not a chisel. Note the plug in the photo. This is done in the first heat.

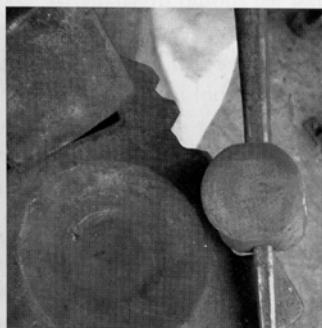
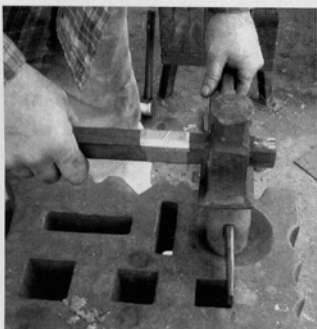


Note the face of the punch... this helps keep the hole centered.

Next heat we fill the eye with the drift, then fuller with a 1 1/2" top and bottom fuller from the center toward the large side of the drift.



Initial fullering the sides with a 1-1/2" fuller.



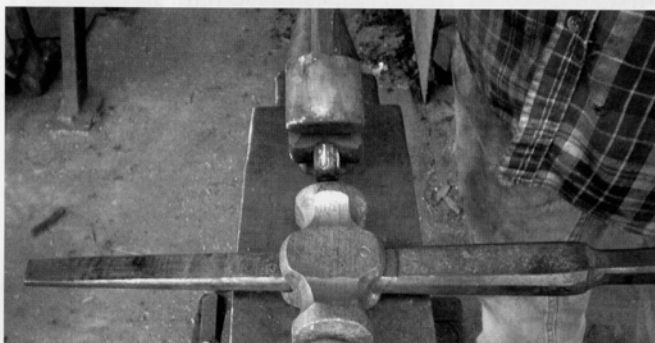
Releasing the drift and forging the rounded face.

We release the drift by using a flatter on top and the dish of the swage block on the bottom. This forges our faces. Every time we release the drift we do the same, being mindful to brush off any scale. Then repeat in the next heat from the other side.



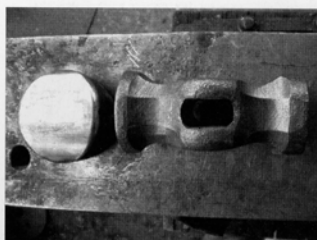
Fullering the body of the hammer.

In the fourth heat, fuller with the same 1 1/2" fullers between the eye and the face of the hammer. Repeat on the other side in the next heat.



Fullering the sides of the hammer with a 3" fuller.

Next heat, we go back into the eye with the drift and finish fullering the cheeks of the hammer with a 3" radius, top and bottom fuller. First one side then the other. On this last heat we sign the hammer.



The completed rounding hammer.

Finally grind, polish and heat treat.

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Sources

Rocky Mountain Smiths have videos available of their conference demonstrators. Most of these are high quality edited, multi-camera videos. For more info go to: www.rockymountainsmiths.org

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