PHILIP SIMMONS ARTIST BLACKSMITH GUILD

On the Anvil NEWSLETTER

INSIDE THIS ISSUE

Iron in the Hat 2
Railroad Spike Dragonfly 3
Tool Steels and Heat Treatment .. 4
Lee Sauder Hand..... 6
Weather Vane…… 9
For Sale//Upcoming Events 10
Alex Bealer Award 10
Next Meeting Notice 12

The meeting was held at Camden Historic Revolutionary War Site blacksmith shop. Jody Durham, one of the guilds accomplished blacksmiths, performed a demonstration of animal heads.

The first was a 3 dimensional version of a mule head as if viewing from the front of the mule. He used a piece of flat bar folded over and split through the fold to form the ears, after all shaping on the anvil was done he then used various tools that he had with him to shape the ears eyes and mane.

He made two more heads using a different technique that produced a one dimensional horse as if you viewed it from the side and an ibis! These were placed in the IITH drawing and generated lots of interest and tickets.

Jody performed a great demonstration interfacing with the aspiring blacksmiths by answering questions and sharing his skills. Thank you Jody!

It's always hot in August at the Camden shop but we had great attendance of approximately fifty people despite the heat (y'all are hard to count moving around so much). The main course was fried chicken with some really great sides provided by the good cooks of the Guild. The host did a fantastic job coordinating the effort. Oh, that was me!

Iron In The Hat: Our generous members donated items and bought tickets that increased our funds by $655! Thanks to all of you.

Speaking of scholarships, we were asked about the frequency on which a member can get one. While we have had no set written policy, we have established a requirement of a 5 year interim between grants. We will be amending our bylaws to reflect this.

New Members since last time are: Kennedy Bynum, David Bush, Adam Gilbert, John McPherson, and Patrick Walters Welcome to all of you!

On the good news front, Ray announced our membership totals are approaching 200 with the addition of these four. The bad news is that 40 of our members have not paid their 2016 dues. Please check your newsletter and to the right of your address you will see a note "Dues Paid For 20xx", if it says any year in the past, please Payest Thou Dues!

It was good to see Meck strong enough to come to the meeting. He reported that he is getting stronger each day and his weight is up as high as 145 pounds! Some one mentioned that he had cleared that in the 8th grade! Barry reported that Bob Hill was getting stronger but not yet back to work. He has been released by himself to work around the gun shop. Please remember those of our number that are sick and or shut in and can't come to our meetings with your thoughts, prayers, and visits. Let someone know and we may be able to arrange a visit.

We have scheduled a Tool Making Class for November 5th and 6th at Magnolia Gardens. There will be a charge for materials, but Ray hasn't yet figured out how much. Some of our more experienced smiths are teaching this class. This class is the result of the survey in which many of you participated.

Note that the October meeting will be held at Mr. Simmons shop! The College of the Building Arts didn't get the building ready. See the back page for details.

Some of our Board members are coming up for reelection. Nominations are open for those two seats. You can nominate yourself or some of your friends. The election will be held at the February meeting.

Many thanks for supporting the Guild and the art of blacksmithing. Thanks for your support of me, Jesse

IRON IN THE HAT

Item	Donated by	Won by
Coil Spring	Bill Burgess	Bruce Hester
Candle Stick	Layne Law	Johnny Marks
Bucket o' Coal	Layne Law	Heyward Haltiwanger
Bearded Tomahawk	Todd Elder	Duke Baxter
Keychain Fob	Perry Thomasson	Bruce Hester
2 Hammers	Guild Trailer	William Creek
2 Hammers	Guild Trailer	Jim Pender
Center scribe	Perry Thomasson	Walt Beard
Bush Hog Blade	John Tanner	John McPherson
Nut chopper	Barry Myers	Pete Bell
Cable Damascus Knife	Meck Hartfield	Ryan Glenn
Harness Hook	Jesse Barfield	Barry Myers
Basket Twist Fire Rake	Jesse Barfield	Todd Elder
Saw chains	Bruce Hester	Rick Thompson
Avon Anvil Bottle	Bruce Hester	Jim Pender
Steak Turner	Heyward Haltiwanger	Gerald Alsbrook
Candle Holder	Pete Bell	Bill Burgess
Bituminous Bits	Bruce Hester	Tony Etheridge
Fence Book	Bruce Hester	Jason Jaco
Braided Handle BBQ Fork	Walt Beard	Steve Allen
Horsehead Bottle Opener	Jim Pender	John McPherson
Cross	Steve Allen	Charles Meyer
Skewers	Steve Allen	Ray Pearre
Oyster Shucker	Duke Baxter	Rick Thompson
Wine Bottle Cover	Rick Thompson	Bill Burgess
Twisted Oyster Knife	Charles Meyer	Barry Myers
Knife Material	Charles Meyer	Johnny Marks
Knife Material	Charles Meyer	Rick Thompson
Rivets	Charles Meyer	Perry Thomasson
Three legged stands	Mike DuBois	Rick Thompson
2 Clevis'	Johnny Marks	John Tanner
Leaf and Bird	Jason Jaco	Jamie Herndon
Silver ring	Jason Jaco	Tony Etheridge
Copper Ring	Jason Jaco	Naomi DeRosier
Copper Ring	Jason Jaco	Jody Durham
Leaf fob	Jason Jaco	Barry Myers
Copper Bracelet	Tony Etheridge	John McPherson
CRKT Knife	Chuck Baldwin	Layne Law
Spatula	Gerald Alsbrook	Bruce Hester
Wall Flowers	Jamie Herndon	Gerald Alsbrook
Demo Horse Head	Jody Durham	Jamie Herndon
Demo Craine and Horse	Jody Durham	Clyde Umphlet

Not seeing the Content you want? Submit requests for the kind of info and articles you are interested in, or better yet, submit an article yourself!

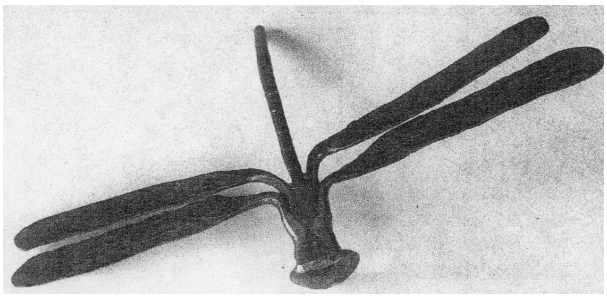
When I die, I hope my wife doesn't sell my tools for what I told her I paid for them. Al Jenkins.

Abraham Maslow: "If all you have is a hammer, everything looks like a nail."

"The wealth of a blacksmith is not shown in the number of power tools that may be possessed, but rather, how few power tools are needed." Anon 11th Century Welsh proverb

I saw this caliper/compass in some newsletter. Thought it was very nice and simple.

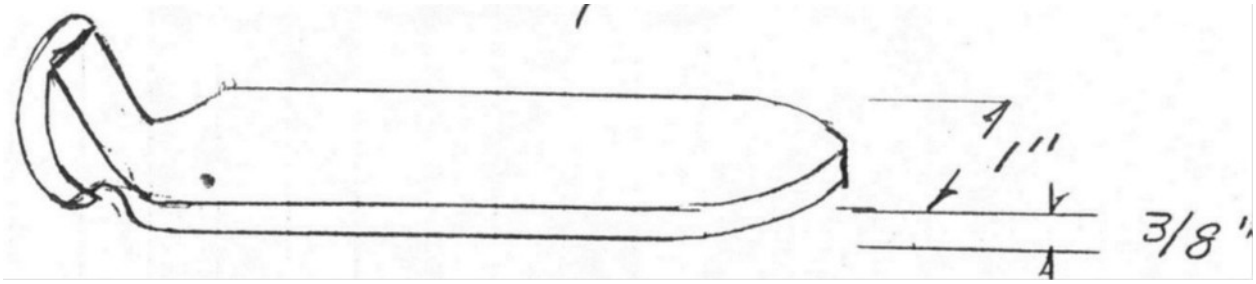
RR SPIKE DRAGONFLY

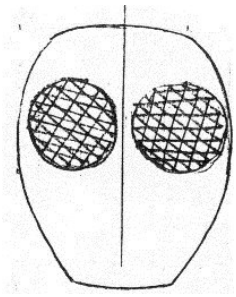


Author : Tony Austin, Dragon Iron Forge, Kimberly, BC. Reprinted with permission from the September , 2005 issue of the Clinker Breaker, the newsletter of the Florida Artist Blacksmith Association (FABA).

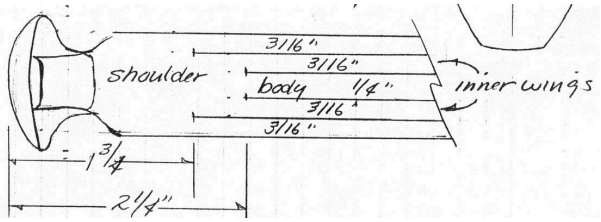
This project uses a standard railroad spike (5/8” x 5/8” x 6 3/4”)

1. Turn the head up and spread the spike with a cross peen to approximately 1” x 3/8”, then smooth with a flatter.



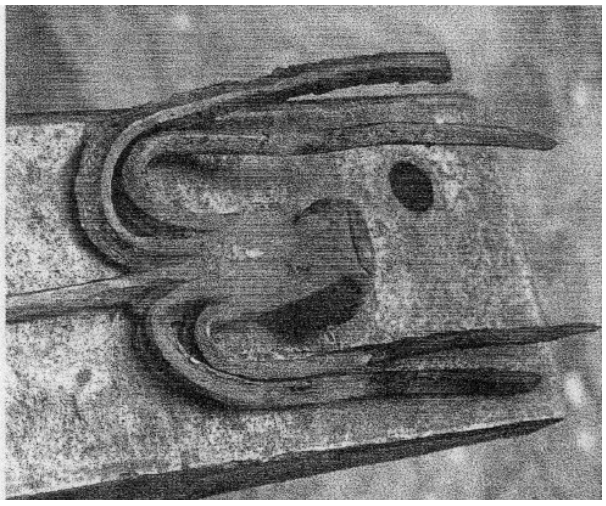


2. Punch the eyes with a 1/2” hollow point punch, and cross-hatch using a small chisel



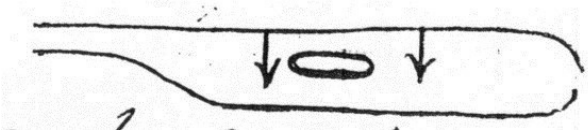
3. Split the wings from the body.

4. Clean up the shoulder area just below the head



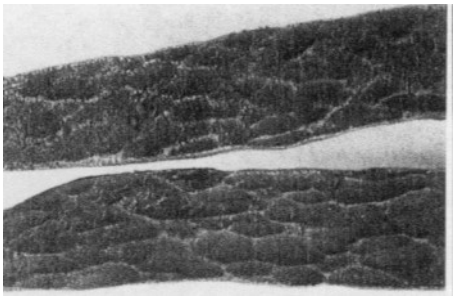
5. Fold the wings above the head and round body. Upset or cut of the spike point.

6. Fold down the inner wings and spread with a cross peen from the top edge. Texture with an oval punch or hammer



7. Fold down outer wings and repeat step six.

8. Wire brush, temper color and wax or lacquer.



A36 vs Hot Rolled

by Bob Menard

I want to spend some time discussing that greatly maligned material we all seem to love to hate good old A36 hot rolled steel. What is it? Where does it come from? How is it different from other common steels? You know, that stuff you call junk. I have heard some tales about someone who once knew someone who found a ball bearing in one piece. I have heard others swear about how bad it is compared to the good old steel we used to get. Others complain because they say it is imported. And how it is really hard to forge weld the stuff. Why is it called A36 anyway? Why not one of the 4 number steels?

First, it isn't a tool steel so the A doesn't stand for air hardening as it would if it was an A-2 tool steel. The correct name for this steel is ASTM A36. The steels listed by the Standard Specifications of the American Society for Testing and Material (ASTM) are those carbon and alloy steels that are commonly used, but have not been assigned AISI/SAE numbers. I quote from Engineering Properties of Steel by the American Society for Metals. Data that I present in this article is also mostly from that book.. The common 4 digit numbers we use for many steels are the AISI/SAE numbers a unified system developed by the American Iron and Steel Institute (AISI) and the Society of Automotive Engineers (SAE). Why the ASTM specification and number system haven't been worked into the more common AISI/SAE number system, I don't know. Do any of you? As far as I know the 36 in the A36 is just a sequence number. One thing it isn't is a value for the carbon content, although I have seen that stated in a number of places. It does happen to be equal to the yield strength minimum in psi, but I can't find a good technical reference that states this as the source of the 36. As I said, it may be just a sequence number.

Well, what is this A36 stuff anyway? ASTM A36 describes carbon steel shapes, plate and bar of structural quality for use in riveted, bolted, or welded construction of bridges and buildings, and for general structural purposes. Interesting quote doesn't say for use by blacksmiths or for general forging work, does it? What it is, is the most common hot rolled steel for structural use by common fabricating methods. It is also low cost, not because it is junk, but because it is produced in very high volumes.

What does it have in it? What are its properties and how does it compare to 1018 or 1020 low carbon steel? Have a look at table 1 below. What this table shows is that the ASTM A36 family has more carbon, more manganese, silicon, and copper. Why? Lets take a look at the properties:

Name	Carbon	Mn	P max	S max	Si	Cu
	%	%	%	%	%	%
ASTM A36 Shapes	0.26 max	0.85-1.35	0.04	0.05	0.15-0.40	0.20
ASTM A36 Plate	0.25-0.29	0.85-1.20	0.04	0.05	0.15-0.40	0.20
ASTM A36 Bar	0.25-0.29	0.85-0.90	0 .04	0.05		0.20

More numbers. What do they all mean to me as a blacksmith anyway? Lets start with a review of the meaning of tensile strength and yield point. Tensile strength is the load value at which the material fails (breaks) in pounds per square inch based on the original cross sectional area, Yield point, on the other hand, is the load at which we exceed the elastic limit and the material becomes permanently deformed or yielded. Below the yield point the material acts like a spring. Above the yield it bends or deforms.

Above the tensile strength we have more than one piece. When we hammer cold steel and it changes shape we have gone past the yield point. When we heat steel and get it good and hot, then we greatly lower the yield point or yield strength, so it is very easy for us to change its shape.

OK, back to the numbers. What do they tell us? That A36 is stronger in both its tensile strength and its yield strength than either 1018 or 1020 steel in the hot rolled state. And for many structural applications this is what the end user is looking for. A36.

Fabricators can weld the hot rolled material and have a higher strength final product than if using 1018 or 1020. This means that for many things they could use less material, which translates into lower cost. Not that it makes much difference to us as small time users because it is very difficult to find either 1018 or 1020 hot rolled material today.

Name	Tensile Strength Psi (pounds/sq. in.)	Yield Point Psi
ASTM A36 Shapes	58,000-80,000	36,000
ASTM A36 Plate	58,000-80,000	38,000
ASTM A36 Bar	58,000-80,000	36,000
1018 (hot rolled)	55,000	30,000

Now look at the numbers for the 1018 and 1020 in the cold worked state, either from drawing or from cold rolling. This material is quite a bit stronger than the A36 in terms of yield point because of the effect of the cold working of the material. This makes the product good for many applications where someone is going to do machining on the steel.

If we take the cold rolled 1018 or 1020 and heat it in our forges and use it for forge work then it will look very much like it was at the hot rolled state if we let it air cool when we finish our hot working of the item. I like to use cold rolled 1018, 1020 and buy it in the smaller sizes and find that it is easier to work with than the A36. But pound for pound it does cost more. In very small sizes, under an, inch cold rolled is almost all you can find and it is very easy to find in round sizes.

The numbers also tell us that the A36 will not forge weld quite as easily as the 1020 because of the higher carbon content and the higher Mn and the addition to the Si and Cu. Also the A36 will harden more if we quench it from above the transformation temperature because of the higher carbon and the alloy content. Unless you are making tooling, etc., this is something that good practice would tell you not to do.

Well, where do all those tales of how bad A36 is come from anyway? I'm not sure, but I do know that when we are having a bad day it is easy to blame the steel. Also there is some non-spec material that does find its way into the hands of blacksmiths. They have closed their retail sales now, but Knox Metals here in Knoxville used to sell off spec steel at their junkyard. As I best understand how this worked, it is that on start-up or if a mill ran an off spec product, rather than scrap it and send it back to the melting furnace they would sell it if it was close as non-spec second grade material to folks like Knox Metals. (Knox Metals never claimed it was A36, just that it was some hot roll, not sure what it is.) Sometimes this material was also off dimension. I have bought 1/4 by 1 inch material that ran anywhere from 1/4 by 7/8 to ¼ by 1 & 1/8. This material might be right from the standpoint of the steel properties but again was sold as seconds and came from the start-up of a run where the mill was being adjusted for size.

Also, A36 gets a bad rap sometimes by some folks because it is made mostly by the mini mills and almost 100% from electric arc furnace melting of scrap steel. Does this make it bad? In my opinion, no. The finest tool and bearing steels are also made almost 100% from scrap

Now they do use very tight controls on the chemistry of these steels, but just because a steel uses scrap as the material source doesn't make it junk. A36 does have broad ranges in its chemistry and I think that this is one reason it sometimes seems to be different from batch to batch. What about the story of finding the ball bearing in the bar of steel? Yes, it is possible to have a ball bearing in the steel but it didn't come by way of the liquid steel coming out of the electric arc furnace.

If it got there it is because it came out of a bearing in some of the equipment over the hot rolling mill. It fell on the steel and was rolled in, It is rare, but can happen. This is why, in the mills (aluminum) I worked in, we wire tied all bolts on equipment above pass line. Good old A36, the stuff most of us will use for most things because we like the price even if it really is intended for the weld/fab shop

Reprinted from the newsletter of the New England Blacksmiths

Forging a hand by Lee Sauder

I saw this on Facebook, I think, and thought that some of you might enjoy Lee Sauder's work. If you have questions, look at that thing on the end of your arm, no your other arm. That one is holding the hammer.



For each finger- a quick loop in 5/16 square bar. Square up the loop Open the loop



.

Forge the finger,- a really. skinny hardy fuller under the knuckles was helpful

Four fingers tacked together and then lightly forge-welded


Now, the thumb from 3/8" square

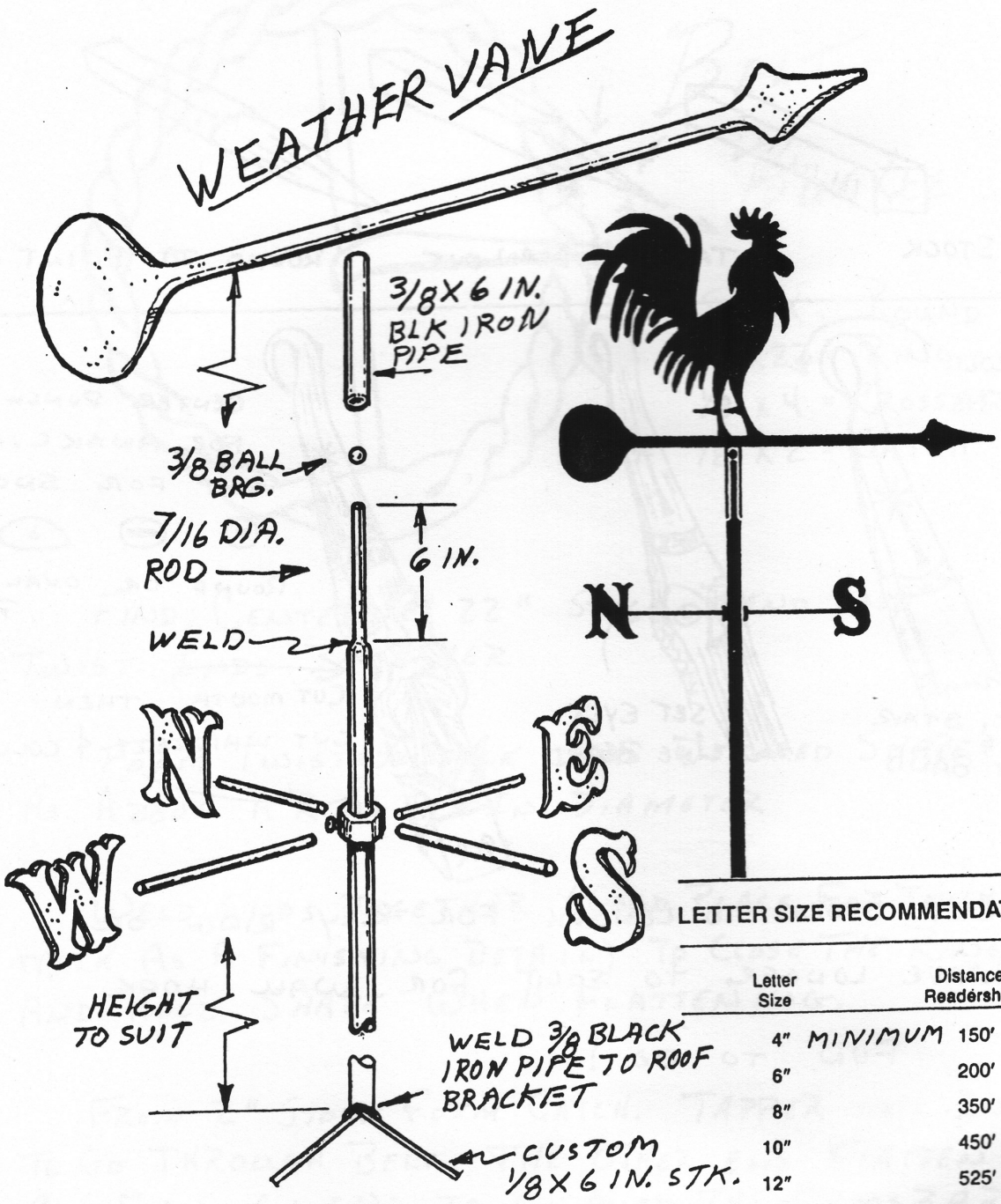
Build up the palm and heel, grind smooth


All welded. Then I took a good welding heat to stick it all together good, and then a few heats to dress and tinker with bends.

The finished hand. I actually want some smaller ones for a project, but this seemed like an easy size to figure it out with.
Let's give Lee a hand! Okay, that may have been just too much. Sorry. Barry

REDUCING THE SIZE OF A HOLE
by: Tommy Ward
Here are a couple of tricks for reducing the size of a drilled or punched hole that is found to be slightly larger than desired.
One method is to find a ball bearing with a diameter larger than the hole and drive it against the opening with a hammer to push the metal around the lip into the hole. This technique can be done cold, but may require heating the piece to a forging temperature if more material is to be moved or if the work is particularly hard. Repeat the process on the reverse side.
Another approach is to heat the area around the hole to a bright red and then carefully quench the "bottom" side of the work (the hole should be perpendicular to the water) while leaving the "top" part outside of the water. The submerged area will cool rapidly and shrink somewhat, but the portion of the metal remaining outside of the water will be drawn in more as it slowly air-cools - resulting in the "top" half of the hole being reduced in size. Reheat the piece and repeat the proc-ess on the opposite side. I have found it easier to hold the work precisely half-submerged by bend-ing up some coat hanger supports that span my slack tub. Make a couple of dry runs to get things adjusted, and then quenching will be a simple matter of laying the heated material on the hangers that have been preadjusted for the correct depth. If you're really curious about how the shrinkage of the metal can be influenced, play around with the leaving the piece in the water until it cools to room temperature, or taking it out of the water and allowing it to air-cool after the initial quench. Both of these techniques work better, of course, on thicker pieces of metal, and with a little practice can reduce the size of a hole by a surprising amount.

Reprinted with permission from the Upset, Mississippi Forge Council. The Upset announced that Tommy Ward passed away. I didn't know him, but he published some really good articles over the past years.



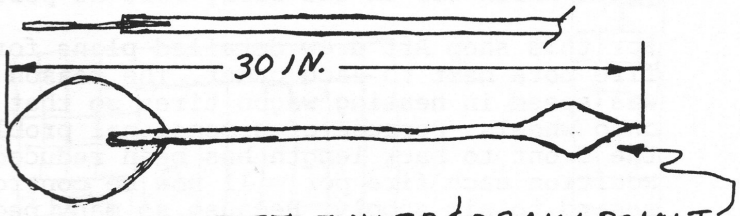
LETTER SIZE RECOMMENDATION!

Letter Size	Distance Readership
4" MINIMUM	150'
6"	200'
8"	350'
10"	450'
12"	525'
15"	630'
17"	710'
24"	1000'

WEATHER VANE

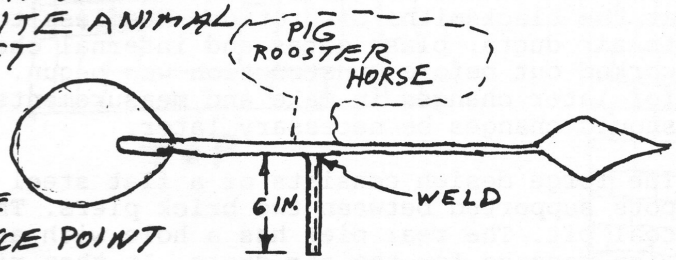
½ IN. SQ. STOCK FOR ARROW SHAFT LAP WELD TO GET MATERIAL TO DEVELOP PADDLE END (POWER HAMMER RECOMMENDED)

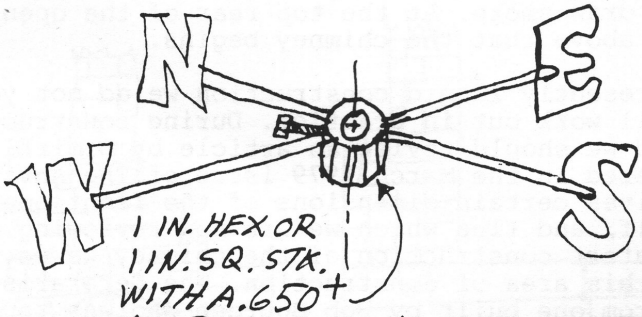
IF YOU HAND FORGE! A DISC OF SHEET STEEL CAN BE INSERTED & WELDED



DETERMINE LOCATION OF YOUR FAVORITE ANIMAL ON ARROW SHAFT

FIND BALANCE POINT & MARK THEN WELD A 3/8 BLACK IRON PIPE BELOW THE BALANCE POINT AS SHOWN.





PAUL HUBLER SHOWED US SOME OF HIS IDEAS AT GEORGE SAUCERMAN'S SHOP NOV. 6th 1993 THANX PAUL FOR BRINGING THE ARROW.

HWILLIAMS

Reprinted from the Traditionalist, Vol 3, 1994 via the Bituminous Bits, Journal of the Alabama Forge Council

For Sale:

Fire Bricks – Brand New, Industrial Grade. $1 ea. Ed Sylvester 803.414.2487
Tire Hammer Plans: Send a check or money order for $30US or send $32US to Paypal.Me/ClaySpencer. clay@otelco.net. PDFs will be e-mailed outside US.
Beverly shear blades sharpened. Remove your blades and send in USPS small flat rate box with check for $41US Clay Spencer 73 Penniston Pvt. Drive, Somerville, AL 35670-7103.
Blacksmith Classes: Beginner to Advanced. Glenn Owen, Hemmingway. Contact Glenn at forgeontheridge@yahoo.com or www.forgeontheridge.com.
Forklift tine sections for striking anvils, $30. Jody Durham, 864-985-3919 ironsmith@gmail.com

Upcoming Events

Oct 7th. Informal hammer-in at Magnolia Gardens, contact Ray Pearre

Oct. 8th and 9th Autumn on the Ashley Craft Fair at Magnolia Gardens, contact Ray Pearre

Oct 14, 15 and 16. State Fair Demonstration. Contact John Tanner

Oct. 22nd, NOTE THE CHANGE! PSABG Meeting, Mr. Simmons shop, 30 1/2 Blake St, Charleston

Nov 5 and 6, Tool Class at Magnolia Gardens, Contact Ray Pearre

Nov 12 and 13, Renaissance Fair hammer-in and demonstration, Myrtle Beach, Ray Pearre contact.

Nov 19 Hammer-in at the Living History Park. North Augusta. Jared DeRosier will head an ax making class. Contact Barry Myers or Bob Kaltenbach if you plan to come.

Dec. 10, PSABG Meeting, Jeff Hatfield's shop in Woodruff, SC.

Feb 11 (probably) PSABG Meeting at the JC Paul Living History Farm, Conway.

2nd Saturdays Blacksmith demonstrations at Roper Mountain Science Center, Greenville, SC

3rd Saturdays Blacksmith demonstrations at Hagood Mill, Pickens, SC

Philip Simmons Wins Alex Bealer Award!!!

Mr Simmons has been awarded this honor for "service to the field of blacksmithing" by the Artist Blacksmith Association of North America (ABANA). The Alex Bealer Award is the most significant and prestigious award given by ABANA. The award covers a broad range of activities within blacksmithing and serves to keep Alex Bealer's name alive in the blacksmithing world.

Bealer was one of the Charter members when ABANA was formed in 1973. He wrote the Art of Blacksmithing in 1969, one of the first modern written blacksmithing books in the United States and one with which almost every blacksmith started his library. His favorite tool was not a hammer, and when he had his fatal heart attack he was indeed using a froe to split shingles, one of his favorite pastimes.

Thus, a froe was chosen to represent this award which has been given to some of the true giants of modern blacksmithing - Albert Paley, Manfred Bredohl, Peter Ross, Francis Whitaker, Daryl Meier, Clay Spencer and thirty others since the award's inception in 1982 when Frank Turley received the first one. The froe was forged by the smiths of Colonial Williamsburg and engraved by Scott Kerschener.

ABANA looks for people who have served in the field of blacksmithing and made a significant impact and contribution, viewed from a long range of time. ABANA looks to see how the field has progressed, grown, and developed, due to the recipient. It is not awarded to the most popular person in the field on a given year, nor even something some one can try to "win." The award is earned and time is the key to showing who the candidates should be.

Mr. Simmons' beautiful, innovative work; his mentoring of so many smiths over his lifetime; his mentoring of those members of the Philip Simmons Artist Blacksmith Guild who were lucky enough to know him, qualified him as a worthy recipient of the Alex Bealer Award.

Philip Simmons Artist Blacksmith Guild

http://philipsimmonsartistblacksmithguild.com/

President: Jesse Barfield
2423 Stribling Circle, Lancaster, SC29720
803-287-0929
jesstersforge@gmail.com
Vice President: Jody Durham
767 Lynnhaven Dr., Seneca, SC29678
864-985-3919 ironsmith@gmail.com
Librarian: Meck Hartfield
623 Poston Rd., Johnsonville, SC29555
843-625-9118
thartfield@me.com
Secretary/Treasurer: Ray Pearre
4605 Durant Ave.,
N. Charleston, SC29405
843-860-0532/pearrecr@att.net
Newsletter Editor: Barry Myers
1847 Pisgah Rd, N. Augusta, SC29841
803-640-5504/ blmyers647@gmail.com
Webmistress: Jamie Herndon
414 Henry Stabler Rd, Swansea, SC 29160
803-665-7083 herndonblacksmith@gmail.com
Board Members

John Tanner
208 Copeland Rd., Swansea, SC 29160
803-568-5534
blacksmith@comporium.net

Ryan Calloway
12 Andrews St. Greenville, SC 29601
864-386-5546
Ryan@creativeironworks.net

Jason Jaco
29 Woodpine Ct
Columbia, SC 29212
803-799-1865/texasstreet@hotmail.com

Josh Weston
6925 Tanner Hall Blvd.
Hanahan, SC 29410
734-709-9677/josh.a.weston@gmail.com

Membership Application

___ New Member___ Renewal

Name: _____Address: _____

City: _____ State: _____ Zip: _____Phone: _____

email: _____ Sponsor_____

Dues are $15.00 per person/family, per year. Please remit to: C. Ray Pearre, Jr.
4605 Durant Ave.
North Charleston, SC 29405

ACKNOWLEDGEMENT AND ASSMPUMPTION OF RISK

I acknowledge that blacksmithing and related activities are inherently dangerous and involve risks and dangers to participants and spectators that may result in serious injury or death. I have considered these risks and I knowingly assume them. I agree that I am responsible for my own safety during Guild events, including wearing appropriate clothing and protective gear and remaining a safe distance from all dangerous activities. I agree to hold Philip Simmons Artist Blacksmith Guild and guest demonstrators of our craft harmless from liability and expenses arising from of my actions and/or omissions.

When was the last time you paid dues?

There is a note below your address on the last page of our newsletters.
It will say something like…
"Dues Last Paid – 2016"or"Dues for 2016 are due" or "Dues paid 2016"
This note is updated for each newsletter. We appreciate your prompt payments.

Oct. 22nd10 AM

30 ½ Blake St., Charleston, SC

The demonstrator is as yet undetermined. We promise that there will be one.

Rossie Coulter and the Philip Simmons Foundation will be our hosts.

Bring a side or dessert and something, maybe something forged for Iron in the hat!

See you there!