

# On the Anvil NEWSLETTER

PHILIP SIMMONS ARTIST BLACKSMITH GUILD

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The October meeting was hosted by Heyward Haltiwanger and the great people of the Lexington county museum.

Our demonstrator was Todd Elder, one of our officers for the Guild. Over 40 people showed up from the Guild with passers-by coming and going.

Todd demonstrated chain making and had quite an impressive length of hand made links on display! Todd says he usually warms up at the forge by making a link or two when before he starts working. Sounds like a good way to get good at forge welding! You might want to brush up on your chain making if you plan to go to the ABA-NA Conference next summer. There will be a competition!

The Iron in the Hat went really well, Barry wasn't there for the usual fun but I think Ray and I did a good job! We brought in \$585.00 dollars, which as you know goes toward the scholarship funds and other expenses. Another thing that happened this month was that Todd and I Hosted a Hammer-in at the Jaco's farm near Hopkins S.C. I believe

we had about 12 in attendance. Todd also stepped up and taught tong making with forge-welded reins. I think the attendees learned a lot about fire management and forge welding basics as well as the structure and shape of a Blacksmith's Tongs.

Ray Pearre and Bill Creek taught a Beginner Class (pics on Page 9) at Magnolia Gardens. We had 9 students, all of which were nearly new to Blacksmithing. The students learned the 8 basic operations...Draw, Bend, Punch, Twist, Slit/Chisel, Drift, Upset, Forge Weld. They were able to complete 5 of the 6

planned projects...a punch, a nail hook, a drive hook, a fork, and a fire place poker with a fagot weld tip and hook. I had some great helpers to get each student some individual attention. Thanks to William Creek and Jesse Barfield, and Ed Berry. Thanks to Mickey Thompson for BBQ for Friday lunch and I did my vegetable soup for lunch Saturday.

We are at 228 members, that's an all time high! I am not sure all of you light a fire very often, but I am glad you are members.

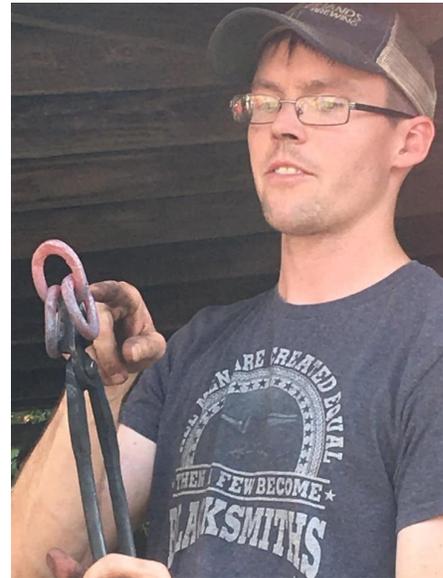
New Members since the last newsletter are Jack Brubaker, William Caughman, Dan Dupree, Danny Dyer, Nick Ferry, Jake Jones, Bryan Lemon, Ed Litoborski, Jonathan Mickle, Joshua Moore, Sage Morret, Jonathan Smidt, David Snider, Ben Stricklin, and Sumter County Museum. Sold a little more of our Sewell coal recently, just a reminder, to get coal, contact Mike Tucker, he may not help you, but he will watch you load it..

Hammer on!  
Jody Durham

IRON IN THE HAT

Item	Donated By	Won By
Gloves	Allan Phillips	Tony Etheridge
Hand made Hammer	Mike Tucker	Jesse Barfield
Scrolling Fixtures	Jesse Barfield	Johnny Marks
Rod Holder	Jesse Barfield	Paul Gazda
Fire Rake	Jesse Barfield	Dana Moberg
Electrode Holder	Jesse Barfield	Ben Stricklin
Tig Torch	Jesse Barfield	Walt Beard
Candle Holder	David Chambers	Tony Etheridge
RR Spike Knife	Lane Nordine	Cameron Rombilus
Earrings	Pam Etheridge	David Bush
Egg Flipper	William Rombilus	Tony Etheridge
Center Punch	Garret Still	David Chambers
Wrought Iron Rod	Ben Stricklin	Paul Gazda
Coil Spring	Rusty Osborne	John Frick
Band Saw Blade	Bob Kaltenbach	Bruce Hester
Plant Stand	John Tanner	Kim Hanson
Drive In Bracket	John Tanner	Clyde Umphlet
Bottle Opener	Duke Baxter	John Frick
Triangle	Dana Moberg	Johnny Marks
Ess Hook	Dana Moberg	Johnny Marks
Cross Keychain	John Frick	Bruce Hester
Door Knocker	Jody Durham	Bob Kaltenbach
Blacksmith Sign	David Bush	Tye Whitaker
Knife-Cleaver	David Bush	Bruce Hester
Steel Block Auction	Jody Durham	Ray Pearre

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!



Duke Baxter photo



October meeting photo by Jody Durham

**Tony says “No, Really, BRING BACK YOU BOOKS!”**

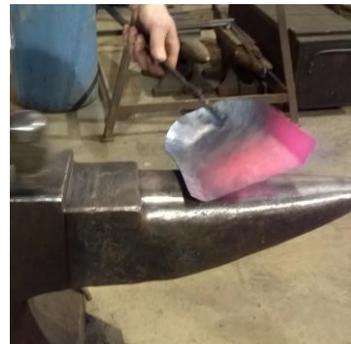
### PAABA/ABA Member Bob Elliott Knows How to Shovel It!

Talent and kind are the two words that first come to mind when speaking of Bob Elliott. Bob has been a successful blacksmith for many years and has tackled some challenging projects throughout the years. Decorative gates, many, many feet of custom railing, and just about everything in between has been in his shop. He is also an extremely talented tin smith just to add to his list of accomplishments. But, kindness and generosity are also part of Bob's make up. This past spring, Bob held the ABA Annual Business Meeting at his shop located in Fairmont, West Virginia. There were a number of newly interested members in attendance and Bob demonstrated how to make a fireplace shovel using a minimum of tools and equipment. His purpose was to demonstrate, but also encourage those in attendance that you don't need a lot of additional tools, fancy equipment or the latest blacksmith gadget to be successful...practice and developing your "eye" can be the best "tools" you possess!



1. Start out with a shovel blank shape made from 16ga. Use a ball pein hammer to begin hammer-ing out the back of the shovel over the hardie hole. Choose a ball-pein that is not real "pointy". The key to hammering this area in to NOT get any wrinkles. It is better to heat several times and progress slowly than to develop a wrinkle.
2. Start to "roll" the back up (curve) using the face of the anvil.
3. Change hammers to a rounding hammer and round out the back, keeping in mind symmetry. Match the left side to the right side. This is very good practice, because it helps train your "eye".
4. Change hammers to a flattening hammer to even out shape.
5. To establish the two sides use the anvil's heel to dictate the sides. (Bob's anvil was 4 1/2" wide which was the perfect size using 6 1/2" wide shovel blank. This measurement allowed one inch margin for each side. If you have a swage block, you can also shape it in the shovel indentation, but if not, this is good practice!
6. You have a general shovel, however, to add some style, move to the upper side of the shovel and develop a flare for a more attractive line. This can be done over the horn of the anvil.
7. Use the hardie hole to adjust. The trick to using the hardie hole successfully, is to make sure the hammer strikes IN the hardie hole not on the edges/margins of the hardie hole, this will disfigure the shape of your metal.

——The pattern outline of the shovel blank is on the address side of this newsletter!——



*Photo Left—Using the hardie hole to shape the back of the shovel, make sure your hammer strikes in the hardie hole to avoid dents or undesired markings. Middle Photo—Define your sides of the shovel by using the heel of your anvil. Bob's anvil measures 4 1/2" wide, the perfect size for a 6 1/2" shovel blank. To make yours work, you may have to make adjustments. Photo Right— Add a flare to each side to make the shovel more graceful, use the horn of the anvil to add flare. Keep in mind symmetry, match one side to the other the best you can!*

# Hard to Handle?....Not!

Adding a handle on a shovel may seem to be straight forward, and it is... in theory, but there are a few tips Bob Elliott offered to make your project more successful.

1. Bob uses 3/8" round material for a handle, but you can use square. If you do use square, make sure you "think" in terms of what is up and what is turned down. Working with round material is a bit easier because to adjust round material is just a matter of a slight twist for correction.
2. When designing a handle, keep in mind, it can have multiple purposes for other projects such as a plant hanger, stand, or handle for other tools.
3. Bob made a leaf as his handle termination. Each person has their own style of leaf "making". Bob uses a rounding hammer to draw out the left and right side of his leaves leaving a ridge in the middle for added detail and strength. If you do make a leaf termination on a handle, make sure you have smooth edges and not knife-like perimeters. You do not want to grab a sharp metal edge. You can use a jig to round out the shape on your handle, but you do not need one. Shape your handle on the horn of the anvil.
4. If you would like to add a "knot" in the handle length, it is a quick procedure. Have your vise ready to size so you can capture metal length quickly. Set vise grips to get extra leverage and control of the metal length. Remove from forge, quickly set perpendicular to vise, bend 90 degrees AND turn /twist metal to form knot. Straighten horizontally in vise and adjust.



*Photo Left– When making a leaf, consider leaving a ridge in the center for a “vein” and to add strength. Photo Middle– Use the horn of the anvil to shape handle grip. If you make a leaf termination use caution while shaping the grip. Photo Right: Making a “knot” use a vise and quickly bend material 90 degrees then twist AND turn material to form a knot*

*Reprinted with permission from the Pittsburgh Area Artist Blacksmith Association*

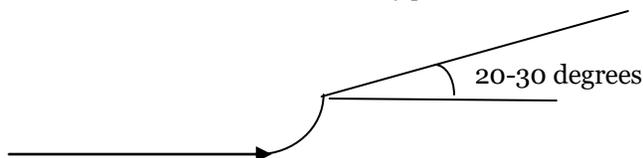
**Bob tells you more about leaf making than shovel handling. He uses round stock and I prefer square. When handling a shovel, whether using flat or round stock, make your finial on the end of the bar, then flatten about 4 or 5 inches of the stock behind the finial and bend the flattened stock to match the curve of the shovel. This is a double bend. I bend the top of the flattened area down across the edge of the anvil or the horn leaving the handle at a 20—30 degree angle. You can adjust this later if the angle doesn't suit.**

**Next, rotate the handle 180 degrees and complete the bend to match the lower part of the shovel. This bend may take several attempts... Sometimes maybe more than several, but you should endeavor to make the fit as good as you can, as this is a place where ashes might accumulate should the shovel ever be used!**

**Also, I try to remember to mark the center line on the shovel blank so that I know where to punch or drill the holes. I do the hole in the finial first, mark the shovel blade with the handle in place. Drill the hole for the rivet, then drill the hole for the second rivet on the upslope of the shovel blade, place a rivet in the first hole and mark the handle with the blade attached.**

**You could probably mark and drill the second hole after the finial rivet is installed, but I usually punch the holes. I know...**

**I have added a shovel pattern on the back page. The right side is for the shovel in this article. The left side is for a keyhole shovel Barry**



# FORGING A RECTANGULAR PASS-THROUGH

By Don Schad

It has been said that only a blacksmith can pass a one-inch bar through a one-inch bar. While other metalworkers might want to make an argument over this point, pierced joinery does highlight one very unique and distinctive feature of forge work. In the fall of 2012, I worked on a project during a traditional joinery class at the Campbell Folk School that required eight rectangular passthroughs. The following is the process that I used and found effective to create the necessary pass-throughs for my project. In particular this process is for passing a rectangular bar through stock of the same size.



Figure 1

The first step in creating a pass-through is to create a hole which will allow the walls of the bar to be thick enough to ensure that the amount of material in the cross-section of the hole is the same as the unmodified bar. The perimeter of this hole should be equal to the perimeter of the bar which is to be passed through it. To obtain this length the punched (or slit-cut) hole will be long and narrow, requiring that it be opened up and reoriented to accommodate the bar which will pass through it. In order to maintain equal material on each side of the hole, it should also be centered in the width of the bar.

Mark the stock with a punch mark in the center of the material at the location where you want one end of the slot to start. As an aid in keeping the slot parallel to the edges, a second mark at the mid-point of the slot can be helpful as a guide when placing the punch. Additionally, a very light punch at a low heat can be used to verify that everything is in position. The low heat and lack of scale allows the punch marks to be readily located, and a shallow punch mark can be corrected if necessary.



Figure 3

Heat the material a yellow heat and engage the end of the slot-punch in the punch mark where the slot is to start. Bring the punch square to the material, taking care that the punch is exactly parallel to the long axis of the material being punched and properly centered. Drive the slot-punch until you can feel the anvil resistance and stop, cooling the punch every couple of hits (figure 1). Do not drive too far as you can easily bend or mushroom the end of your tool. Having reached the anvil, flip the stock over and locate the slot from the back side by looking for the flat spot/line on the back (figure 2) and back punch, breaking the slug from the bar. Move to the hardy-hole or bolster and clear the slug from the slot (figure 3).



Figure 2

After the slot has been created, it needs to be transitioned from a long skinny oval to a shorter, wider rectangle, and rotated 90 degrees. To start this process, take a very high yellow heat which is localized around the slot, and drive the end of the bar back into itself as if you were upsetting at the center of a bar. This will upset the sides of the slot and cause the long narrow slot to take on an oval as the sides move outward and the ends of the original slot become closer (figure 4).



Figure 4



Figure 5



Figure 6



Figure 7

In the process of transitioning from a slot to an oval, the opening may take on an amorphous shape (figure 5). When this begins to happen, slightly drift the hole to round, drifting only the minimum required to obtain a smooth hole (figure 6). Drift from the front and back to keep the insides of the hole even. Resume upsetting until the hole becomes an oval which is smaller than the bar which is to pass through the hole in both dimensions (figure 7).

If while trying to reorient the opening, the unforged bar on the far sides of the hole fall out of alignment, stop and correct as soon as possible. Corrections can be made by taking a localized heat around the opening and supporting one side of the bar on edge on the anvil while striking the other side (figure 8). If the bar is really far out of alignment, inserting a mandrel and using fullers to drive the bar into alignment can be effective.

Once the hole is smaller than the drift, the outside edges should be worked, if desired. If the final drifted hole is to have flat sides on the outside instead of the rounded sides naturally produced by the upsetting/drifting, the outside edges should be forged flat before drifting. Additionally, the outside corners can be cleaned up at this time using fullers or other suitable tooling (figure 9).

Once the outside edges of the bar have been shaped the hole is ready for final drifting. Take a rectangular drift and at a high heat drift to final size. Make sure that the drift is at a right angle to the edge of the stock. Drift from both sides and flatten on the anvil (figure 10) and your pass-through should be ready for assembly (figure 11).

Acknowledgements:

Thanks go to Clay Spencer and The Campbell Folk school for a great class and learning opportunity and wonderful week in the mountains of North Carolina. The class was funded in part by a Francis Whitaker Blacksmith scholarship.



Figure 8

Reprinted with permission from the New England Blacksmith



Figure 9



Figure 10



Figure 11

# Bill Apple: hammer handle install, hinges, and door pulls.

Finished pieces from Bill's demo: various door pulls and hinges, including premade samples and tools. Tool for forming the off set hinge. Tool for tucking in the opening of the hinge knuckle. Lining up the cut barrel. Rolling the hinge barrel. Rolling barrel on off set hinge. Bill Apple gave a very full demonstration of making hinges, door pulls and setting hammer handles. Here are just a few photos and some very brief notes from a demonstration of his experience, useful techniques, tips and tricks. Thank you Bill for sharing your knowledge and skill with your fellow



NWBA mem- Rolling the hinge barrel.  
bers.



Finished pieces from Bill's demo: various door pulls and hinges, including premade samples and tools.

Tool for forming the off set hinge.



Tool for tucking in the opening of the hinge knuckle.



Lining up the cut barrel.



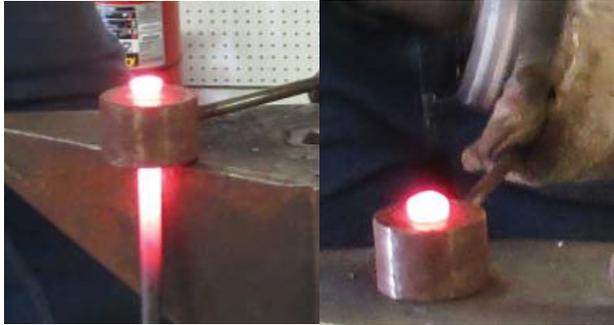
Rolling barrel on off set hinge.

Some notes on hinge eyes.

On Tee hinges, I notch out the center before turning the eye. I make the width  $\frac{1}{16}$ " wider than the material that fits into the butt part. In forging the eyes, the material widens a little, thus leaving enough to file to make a good fit.

Measurements for both regular and half mortise hinges are:

Material Thickness	Size pin	Regular eye,	Half mortise
$\frac{1}{16}$ "	$\frac{1}{4}$ "	$1-\frac{5}{16}$ "	$1-\frac{1}{8}$ "
$\frac{3}{16}$ "	$\frac{5}{16}$ "	$1-\frac{7}{8}$ "	$1-\frac{3}{4}$ "
$\frac{3}{16}$ "	$\frac{3}{8}$ "	$2-\frac{1}{16}$ "	$1-\frac{7}{8}$ "
$\frac{3}{16}$ "	$\frac{7}{16}$ "	$2-\frac{1}{4}$ "	$2$ "
$\frac{1}{4}$ "	$\frac{7}{16}$ "	$2-\frac{1}{2}$ "	$2-\frac{1}{4}$ "
$\frac{1}{4}$ "	$\frac{1}{2}$ "	$2-\frac{3}{4}$ "	



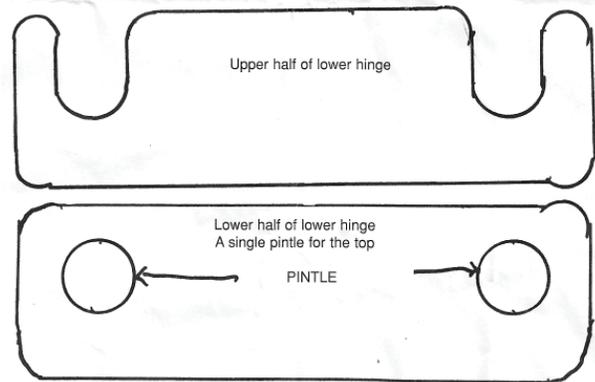
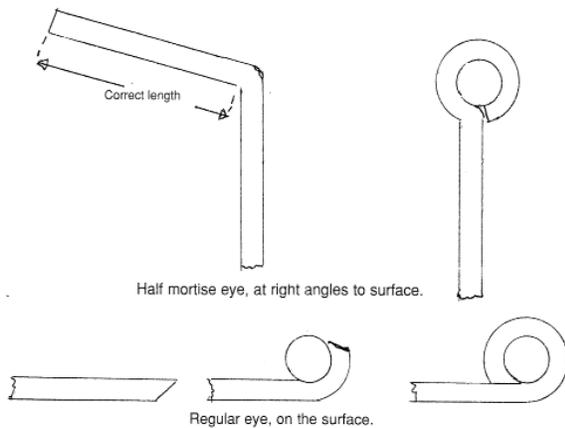
Heading up the hinge pin: Short heat on end. Start upset off anvil. Heat and upset in vise then use heading block.

For the regular eye, bevel the end @ 45 degrees, then turn it for the first part so it fits the pin exactly BEFORE going further, then finish the eye.

For the half mortise, bend @ 80 degrees, then turn the eye. The center of the eye should align with the inside edge of the material, that is the side flush with the wood when the hinge is mortised in.

For self closing hinges, here is a drawing of the parts.

Futher notes on hinge eyes. The eyes are made in this fashion.



## Pull Handle

Material: 10  $\frac{1}{4}$ " x  $\frac{5}{8}$ " sq.

- Bright heat.
- 1  $\frac{1}{4}$ " on anvil, half face blows.
- Fuller to 1  $\frac{1}{2}$ " wide, approx.  $\frac{1}{4}$ " thick.
- Hold at 45° angle to forge the diamond.
- More fullering to final shape.
- Bend diamond up with shearing blow off the end of the anvil to get 90° bend.

- Then start chamfer.
- Repeat for the other end.
- Then start the handle taper, from the bottom working up to the top.
- Chamfer, and clean up the transition from tapered handle to diamond head.
- Bend using bending forks.
- Punch  $\frac{1}{4}$ " holes in center of diamonds.



Reprinted from the Hot Iron News, Voice of the Northwest Blacksmith Association

Pictures from the November Beginners' Day at Magnolia Gardens



Even the masked singer showed up



Pat Walters and Bryan Lemon at the PirateFest



Tony at the Quad State



Barry and Bob Kaltenbach at the Living History Park

## For Sale:

**Fire Bricks** – Brand New, Industrial Grade. \$1 ea. Ed Sylvester 803.414.2487

**Tire Hammer plans** by Clay Spencer. Send Paypal for \$30US to [clay@tirehammer.com](mailto:clay@tirehammer.com). Or check/money to 73 Penniston Pvt. Dr., Somerville, AL 35670. I can mail a copy or email PDFS.

**Beverly shear blades sharpened.** Remove blades, mail in small Flat Rate box, include check/money order for \$50, includes return postage. [clay@otelco.net](mailto:clay@otelco.net), 256-558-3658 .

**Forklift tine sections for striking anvils,** \$30. Jody Durham, 864-985-3919 [ironsmith@gmail.com](mailto:ironsmith@gmail.com)

**Sewell Pea Coal,** washed, \$11 per 5 gallon bucket. Will also sell in bulk at lower prices. Derice Hochstetler, Aiken, [803-508-1326](tel:803-508-1326)

**Todd Elder is offering Beginning Blacksmithing and Knifemaking Classes.** Contact him at (864-978-7232)

**Guild Coal:** 3 buckets, \$30; 6 buckets or 30 gal barrel—\$45.00; 11 buckets - 55 gal barrel - \$ 60.00; 15 buckets - 1/4 ton - \$70.00; 30 buckets - 1/2 ton - \$140.00; 60 buckets - 1 ton - \$280.00. Contact **Mike Tucker** [803-316-3707](tel:803-316-3707)

## Upcoming events:

**2nd Saturdays** Blacksmith demonstrations at Roper Mountain Science Center, Greenville, SC, Anthony Palacino. contact.864-386-5546

**Griz Hockwalt** is demonstrating at the Bart Garrison Agricultural museum of South Carolina for special events and tours. The museum is located off of highway 76 in Pendleton S.C, across from Tri-County Tech. Watch you email and this space for the next demo!

### 2020 Meeting Schedule:

**February 22, J.C.Paul Living History Farm, Conway,** Contact Walter Hill, 843-344-3969

**April XXX Magnolia Gardens, Charleston,** Contact Ray Pearre

**June XXX Roger and Gail Marcengill, Westminster**

**August XXX Historic Camden**

### Philip Simmons Artist Blacksmith Guild

<http://philipsimmonsartistblacksmithguild.com/>

**President: Jody Durham**

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803-287-0929/jesstersforge@gmail.com

### Membership Application

\_\_\_ New Member \_\_\_ Renewal

Name: \_\_\_\_\_ Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_ Phone: \_\_\_\_\_

email: \_\_\_\_\_ Sponsor \_\_\_\_\_

Dues are \$15.00 per person/family, per year. **Make checks out to PSABG** 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 – 2018”or“Dues for 2019” are due” or “Dues paid 2019”**

**This note is updated for each newsletter. We appreciate your prompt payments.**

**Meeting, December 7, 10AM**

**Artistry Workshops and Gallery**

**12 Andrews St., Greenville, SC**

**Bring a side, dessert, or drinks and something I might want for the iron-in-the-hat**

**Ryan and Timothy Chorbadjian will be doing dual demos in their respective station in the shop.**

**Tim will be demonstrating knife work and Ryan will be demonstrating iron and aluminum pipe forging and power hammer work with tooling**



Our host,  
Ryan Calloway

Keyhole Shovel Pattern

The keyhole is about 5 1/2" wide and 7 1/2" long

Straight Shovel Pattern

Bob's pattern is about 5 1/2" wide and 8" long.